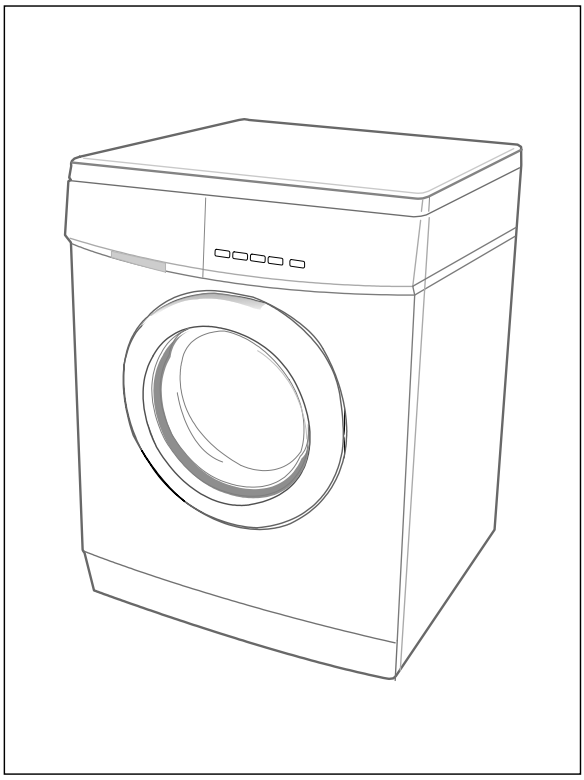
SAMSUNG

WASHING MACHINE

P843GW/YLP

ERVICE Manual

WASHING MACHINE



CONTENTS

⚠ Caution for the safety during servicing

1. Do not allow the customer to repair the product.

☞ The person may be injured or the product life may be shortened.

2. Execute A/S after unplugging the power supply unit.

☞ Be care of the electric shock.

3. Do not plug several plugs in the same outlet.

☞ It may cause the fire due to overheat.

4. Check the damage, pressing or burning of the power plug or outlet.

☞ Replace it promptly if it has problem.((may cause the electric shock or fire)

5. Do not clean the main body with the water.

☞ It may cause the electric shock and fire and shorten the product life))

6. The wiring of the harness shall be free from the moisture and tightened during serving.

☞ It shall not be deviated by certain impact.

7. Remove any dust or filth on the housing section,wiring section,connection section during servicing.

☞ Protect the cause of the fire such as the tracking,and etc.

8. Check any mark of the moisture on the electrical parts, harness section and etc.

☞ Replace the parts or remove the moisture.

9. Check the assembly status of the parts after servicing.

☞ Maintain the status before servicing.

10. Pull out the power cord with holding the plug.

☞ Be care of the electric shock and fire when the cord is damaged.

11. Unplug the power plug from the outlet when the wash machine is not used.

☞ Be care of the electric shock and fire due to the strike of the lightening.

12. Do not use or store the spray or flammable materials(including gasoline,alcohol and etc.) around the wash machine.

☞ Be care of the explosion or fire due to the electric spark.

13. Do not put the bowl of water or wet laundry on the wash machine.

☞ If the water is penetrated to the wash machine, this may cause the electric shock or fire.

14. Do not install the wash machine in the place where the snow or rain falls.

☞ It may cause the electric shock and fire and shorten the product life.

15. Do not push the control buttons with the awl,pin, or sharp materials.

☞ It may the electric shock and trouble.

16. Check the wash machine is leveled horizontally and installed properly on the floor.

☞ The vibration may shorten the product life.

17. Joint the wire by the connector correctly.

☞ When the wire is jointed by the tape, this may cause the fire due to the tracking.

18. When the wash machine is to be laid for the service, put the pad on the floor and lay the product at side slowly.

☞ If the wash machine is laid front, the relay may be damaged by the tub.

19. When the wash-heater is replaced, check it is inserted in the bracket-heater and screw the nut.

☞ If the wash--is not inserted in the bracket-heater properly, this may cause the noise and leakage since it is contacted to the drum.

7. General Error Function

ı When an error occurs, this function starts to keep generating error melody sounds and displays error indicators as shown in the followings per corresponding error by blinking in 0.5sec interval until the error status is completely cleared out. In this case, all the driving devices are turned off until the error is cleared out.

1. WATER SUPPLY ERROR
- Display shows ' E1' .
- Water Supply Error occurs when water level frequency does not show changes more than 100Hz or water is not supplied up to the water level presetting for 20 min or more at the time of initial water supply.
- The error status can be cleared by turning POWER S/W OFF and resuming the POWER ON initial status.

2. WATER DRAIN ERROR
- Display shows ' E2' .
- In case the water level frequency is 25.5KHz or less in the initial phase of UNB-detecting cycle.
- Water Drain error can be cleared by turning POWER S/W OFF and resuming the POWER ON initial status.

3. OVER-FLOW ERROR
- Display shows ' E3' .
- Over-Flow error occurs when the water level is in abnormal operation. It can be cleared by turning POWER S/W OFF. Water is drained prior to POWER S/W OFF and it is forced to be drained for 2 min if a frequency of more than 25.24 KHz is detected.

4. DOOR OPEN ERROR
- Display shows 'Ed'
- Door Open error can be cleared by closing the door.

5. UNBALANCE ERROR
- Display shows ' E4' .
- Laundry load is unbalanced; loosen any tangled laundry.
- If only one item of clothing needs washing, such as a bathrobe or jeans, the final spin result might be unsatisfactory and an "E4" error message will be shown in the display window.
- Unbalance error is cleared by POWER S/W OFF and by resuming the POWER ON initial status.

6. WATER HEATER ERROR
- Display shows ' E5,E6' .
- In case the water temperature rises by 7°C or more in 1 min. or by 2°C less in 10 min after heating is started.
- It can be cleared by turning POWER S/W OFF.

7. ASS' Y PRESSURE S/W ERROR

* Generated Frequency Signal of WATER LEVEL(W/L) S/W (KHz)

Level	Low Level	High Level
Abnormal W/L Frequency	30.00 KHz	15.00 KHz

- If the same signal as the above table is detected for more than 5 seconds, it is a PRESSURE S/W Error.
- When the error occurs, water drain pump will operate for 3 min. and then turn off the water drain pump. Then the display shows ' E7' indicating a pressure s/w error indicator.

8. ABNORMAL WATER TEMPERATURE ERROR

Course	Water Temp
Delicate	50°C or more
Wool	50°C or more

- In case the water temperature is 50°C or more in Delicate and Wool course.
- At the time of initial water supply, if the water temperature is not appropriate, water starts to be drained and it is forced to be drained for 2 min when the abnormal frequency of 25.24 KHz is detected.
- Display shows ' E8' .
- This error can be cleared by POWER S/W OFF.

9. WATER LEAKAGE ERROR (E9)
- Water Leakage error occures when water is drained naturally after washing program starts.

7. General Error Function

10. Tacho Error
- This error occurs in case motor tacho is out of order or tacho siganals inputted are fewer than 2
- "EA" displayed
- This error can be cleared by power s/w off

11. Motor Triac short Error
- This error occurs in case over 300 per 1 sec tacho signals are inputted power S/w should be off.
- "Eb" displayed.
- This error can be cleared by power s/w off

12. Thermistor error
- This error occurs, when Thermistor circuit is abnormal or the detected electrical volt is 0.2v below or 4.5v over
- "Ec" displayed
- This error can be cleared by power s/w off

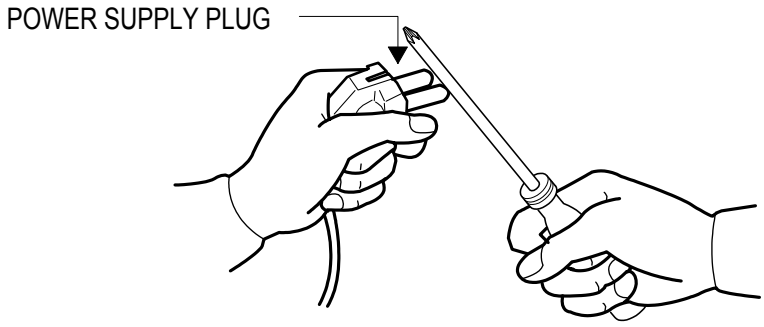
8. Trouble Diagnosis

- As the micom wash machine is configured of the complicate structure, there might be the service call. Below information is prepared for exact trouble diagnosis and suitable repair guide.

Caution for the Repair and Replacement

Please follow below instruction for the trouble diagnosis and parts replacement.

1) As some electronic components are damaged by the charged static electricity from the resin part of wash machine or the human body, prepare the human body earth or remove the potential difference of the human body and wash machine by contacting the power supply plug when the work contacting to PCB is executed.



2) Since AC220~240V is applied to the triac T1 and T2 on P.C.B, the electric shock may occur by touching and be careful that the strong and weak electricity are mixed.

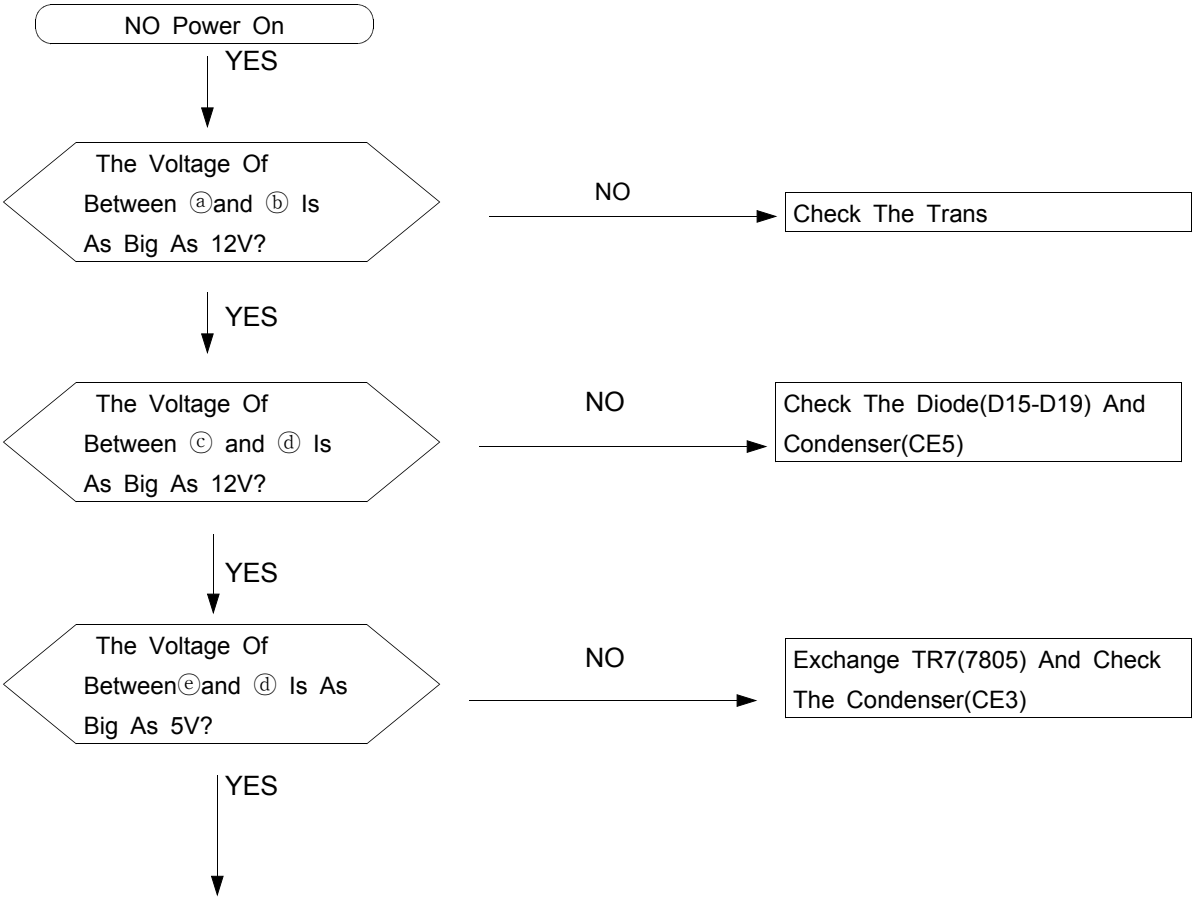
3) As the P.C.B assembly is designed for no trouble, do not replace the P.C.B assembly by the wrong diagnosis and follow the procedure of the trouble diagnosis when the micom is not operated normally.

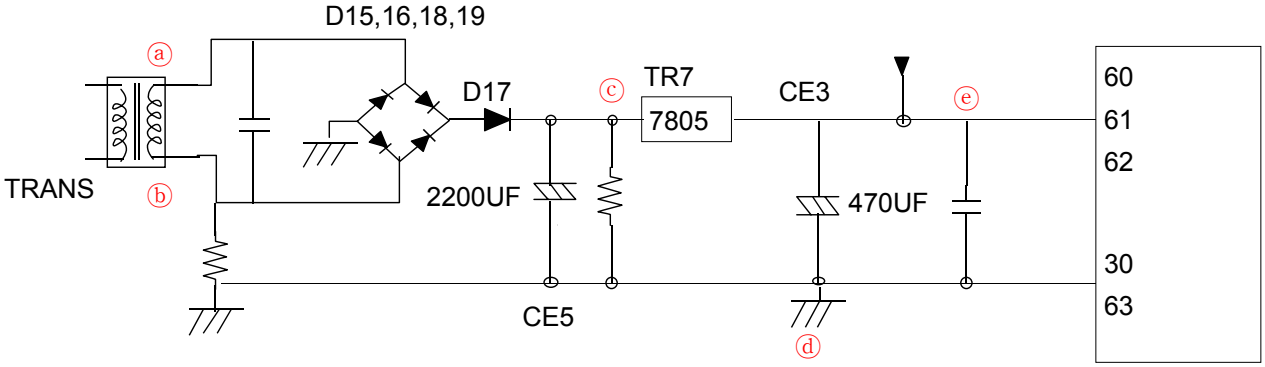
8-1. Trouble Diagnosis

No	Item	Cause and treatment
1	The power is not supplied	- Is the PCB connector connected well? - Is the voltage normal? - Is the power supply plug connected well? - Is the noise filter connected well? - Is the secondary output of the power supply transformation normal? - Is the fuse disconnected? (option) • If above points are not found, the PCB assembly is out of order. Replace it.
2	The water is not supplied.	- Is the knob open? - Did you push START/PAUSE button after selecting the course? - Is the water supply valve connected well? - Is the winding of the water supply valve continuous? - Is the connection and operation of the pressure switch normal? • If above points are not found, the PCB assembly is out of order. Replace it.
3	The wash does not start though the water supply is stopped.	- Is the connection and operation of the pressure switch normal? - Is the pressure switch hose damaged so that the air is leaked? - Is the pressure switch hose bent? - Check the operation of the water level switch. • If above points are not found, the PCB assembly is out of order. Replace it.
4	The drum does not rotate during washing.	- Is the belt connected well? - Is the winding of the motor continuous? (Rotor winding, stator winding, generator) - Is the motor protector normal? • If above points are not found, the PCB assembly is out of order. Replace it.
5	The drum rotates by one direction during washing. (The drum rotates to one direction for SPIN.)	- The PCB assembly is out of order. Replace it. (Inversion relay open trouble)
6	Drainage problem.	- Is the drainage hose bent? - Is the winding of the drainage pump continuous? - Is the drain filter clogged by the waste? • If above points are not found, the PCB assembly is out of order. Replace it.
7	Dehydration problem.	- The unbalance is detected. - Put in the laundry uniformly and start again.
8	Abnormal noise during SPIN.	- Is the pulley nut loosen? - Is the transport safety device removed? - Is the product installed on the level and stable place? (Little noise may be generated during the high-speed SPIN.)
9	Leak breaker or current/leak breaker is down during washing.	<When the leak breaker and current breaker is installed separately> - When the leak breaker is down, check and make the earth of the outlet. - When the current is down, the current is leaked. <Is the breaker down when the leak/current breaker is combined?> - Check the rated capacity of the current and leak breaker. The current breaker may be down due to the lack of the current when the wash machine and other apparatus are used. In this case, execute the cold water wash to check whether the current capacity is lack.
10	The heating is not executed.	- Is the wash heater terminal unplugged? - Is the wash heater normal? - If above points are not found, the PCB assembly is out of order. Replace it.

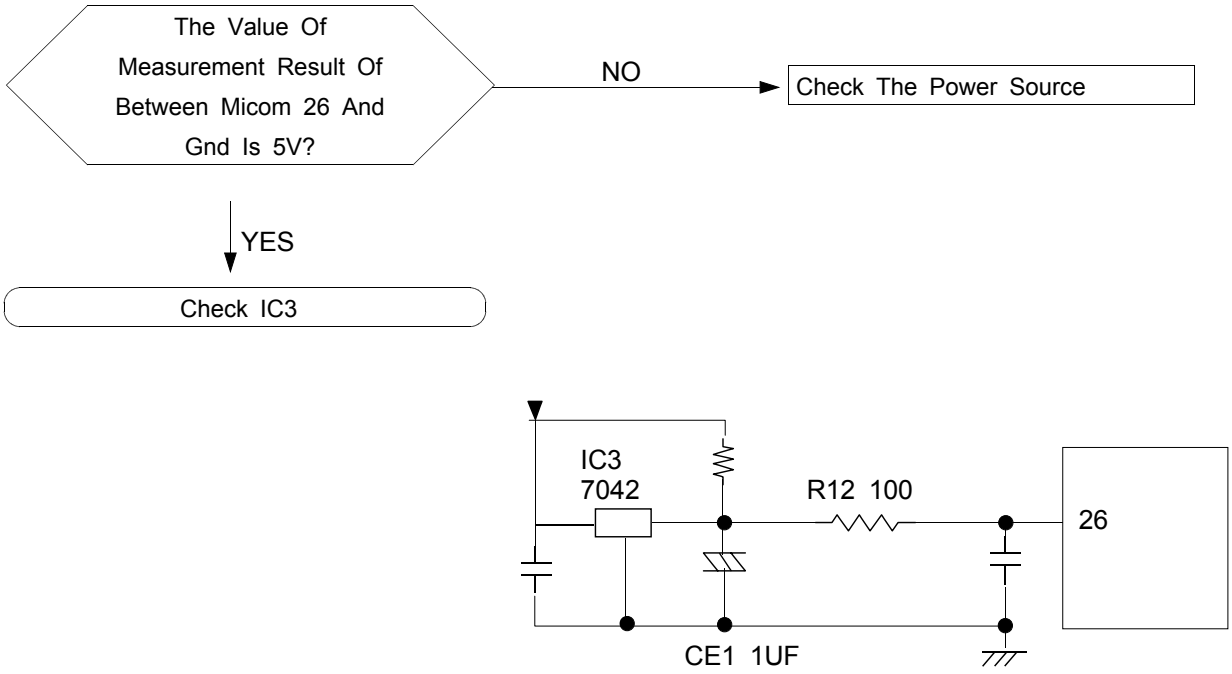
8-2 . Problem Checking And Method Of PCB

8-2-1 The Part Of Power Source

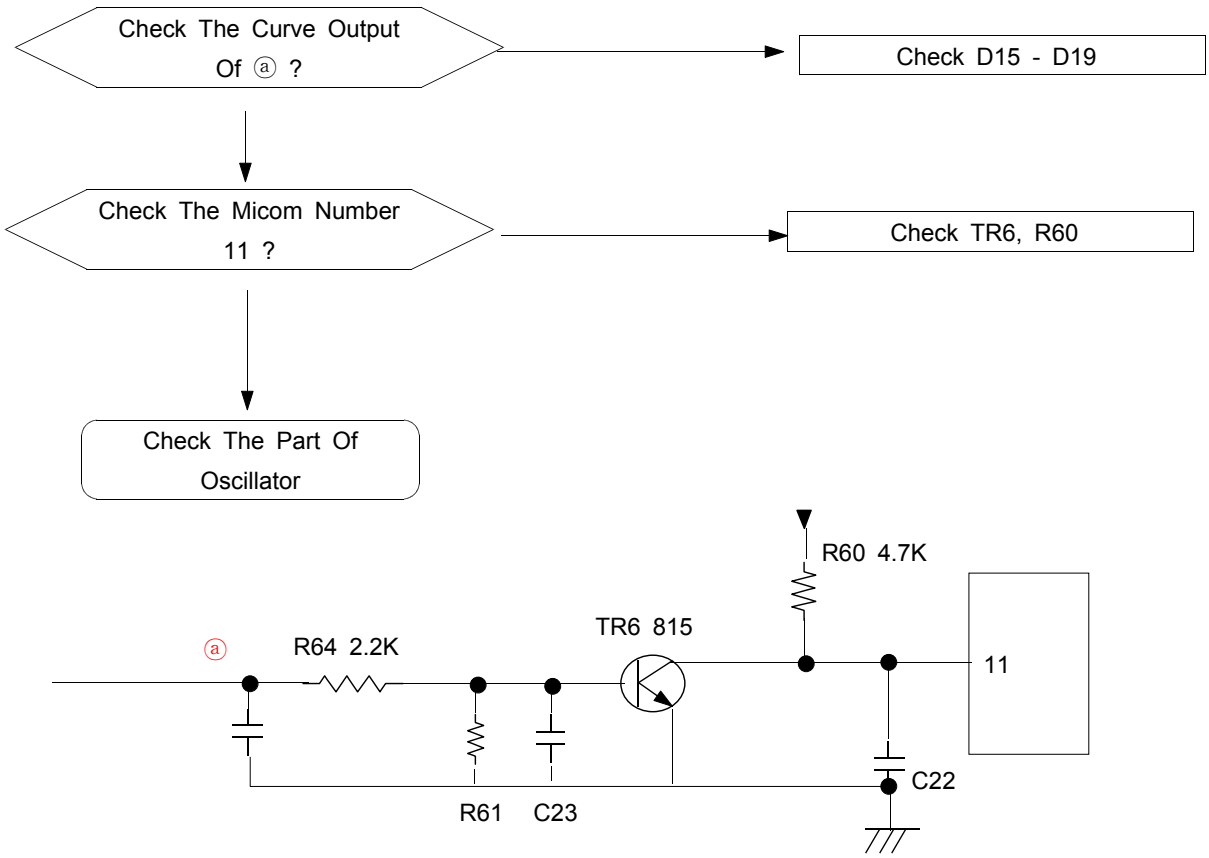




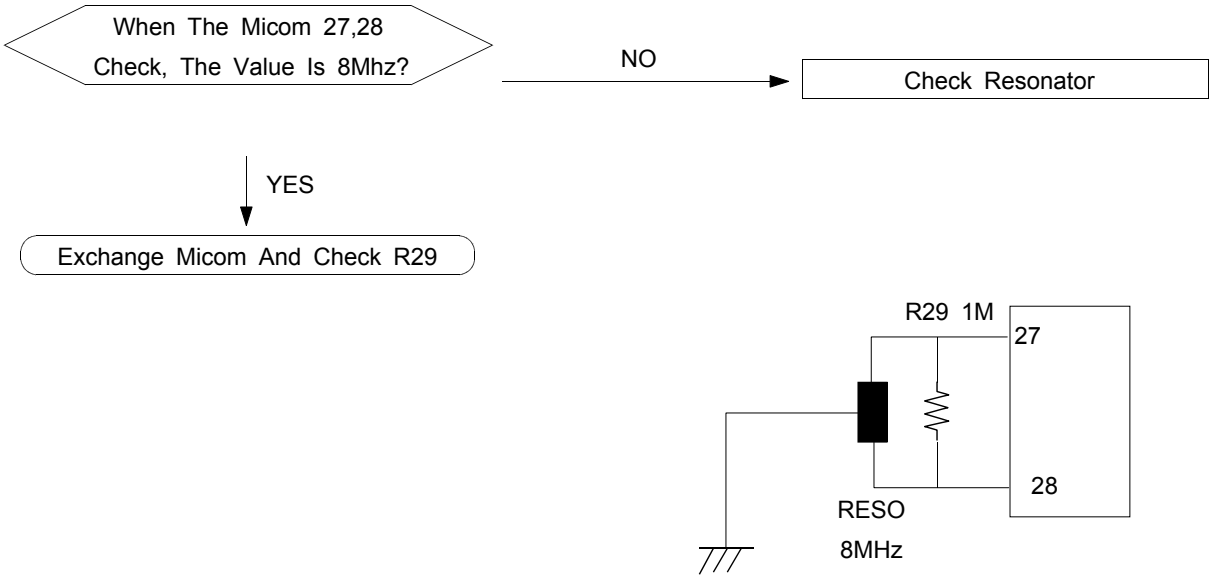
8-2-2. Reset Part



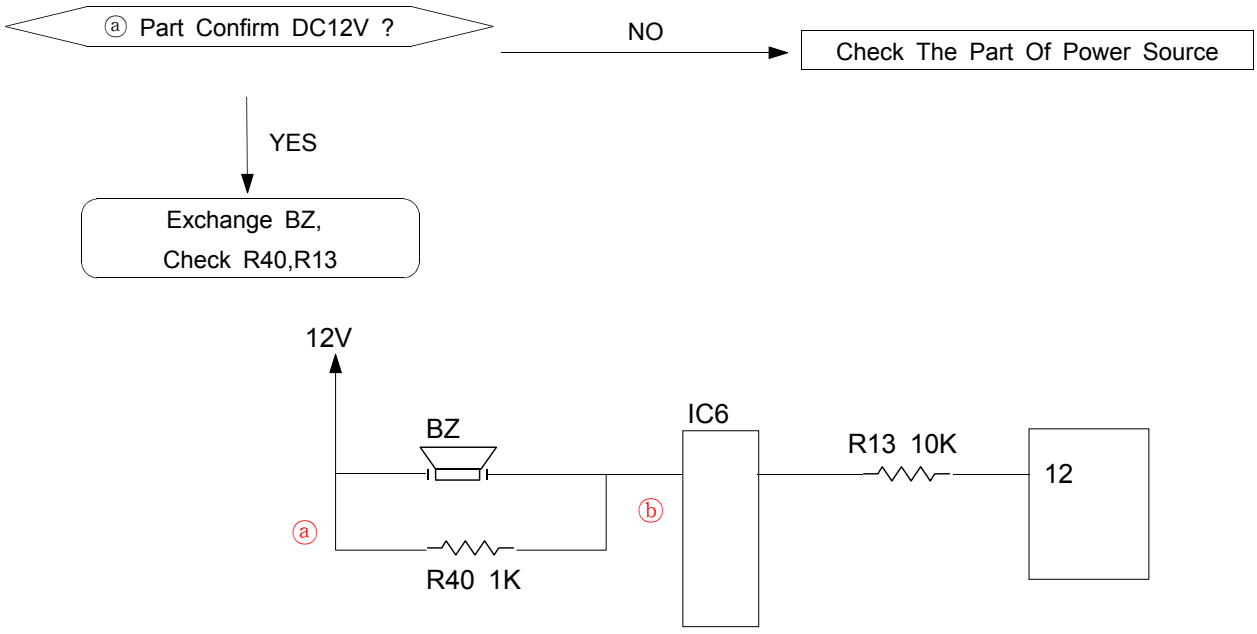
8-2-3. Interrupt Part



8-2-4. Checking The Part Of An Oscillator



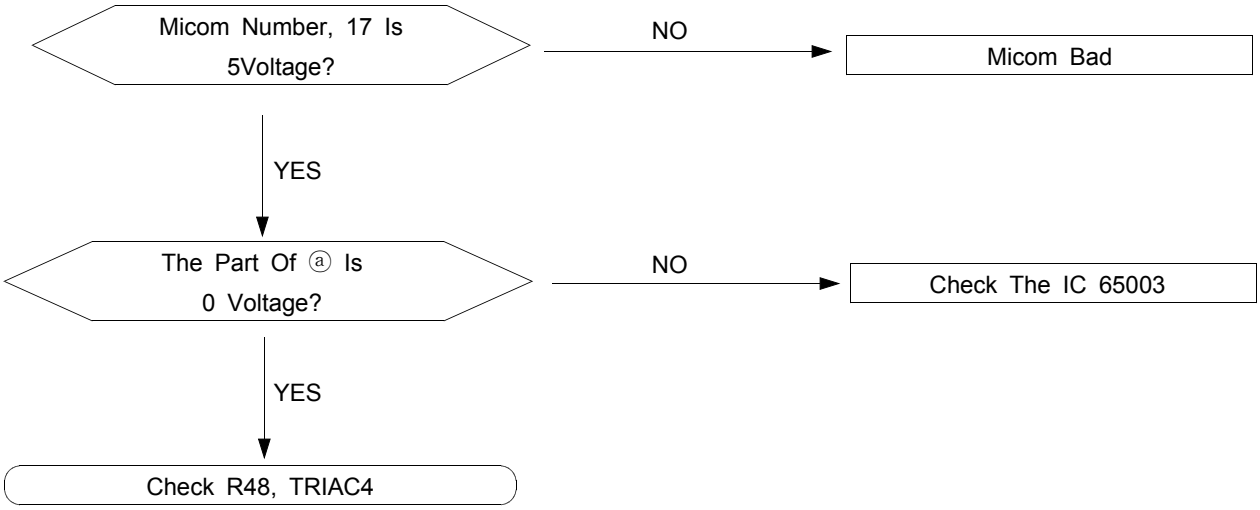
8-2-5. Check The Part Of Buzzer

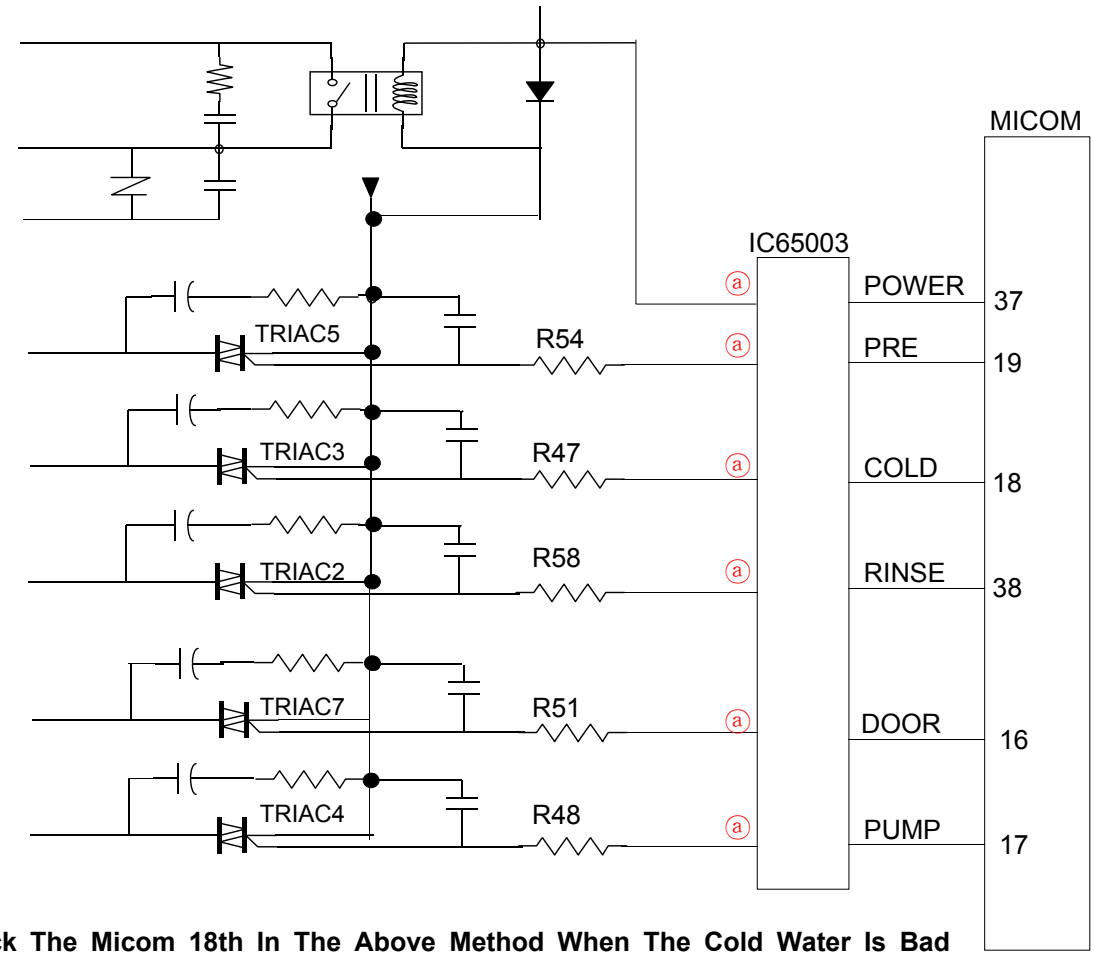


8-2-6. Driving Part Checking

◆ Confirm The Output Of DC5V, When The Every Part Of Micom Number Check, According To The Some Problem Condition

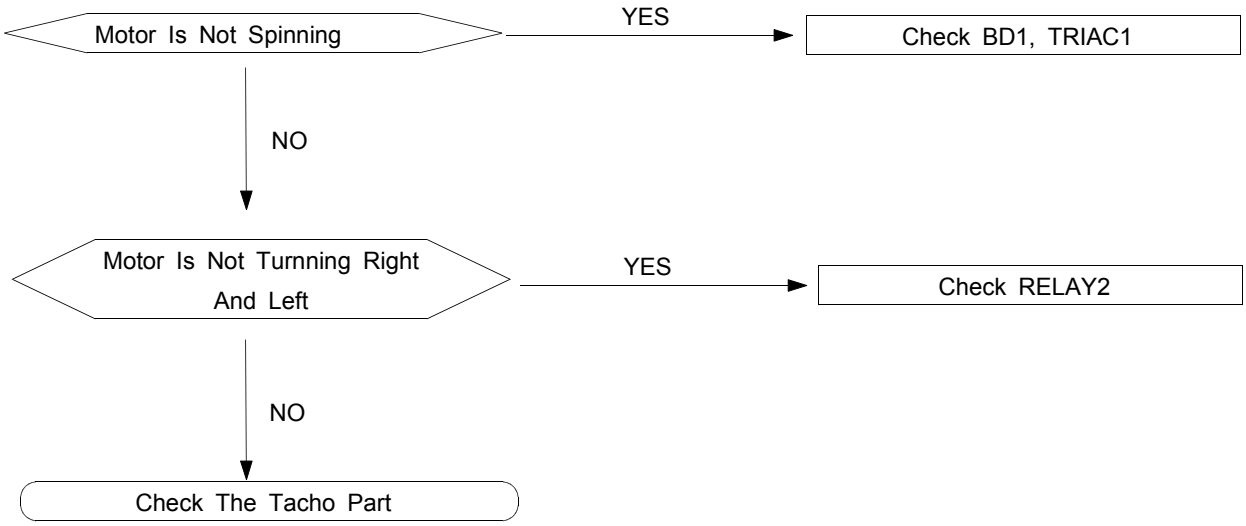
ex) When The Drain Is Not Operating But Pump Motor Is Operating, Check The 5Voltage Of Micom

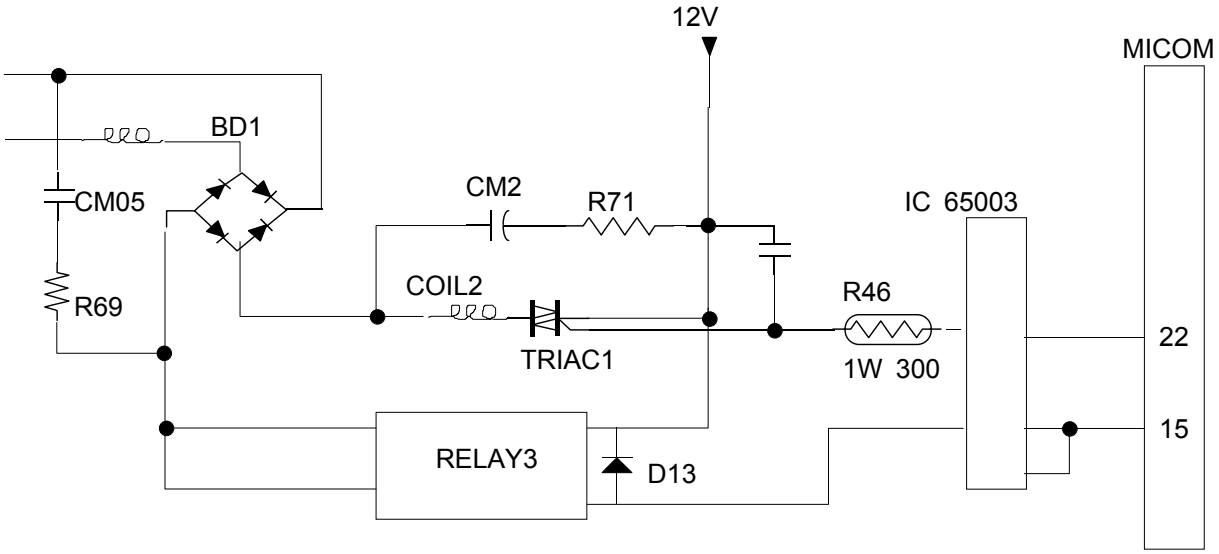




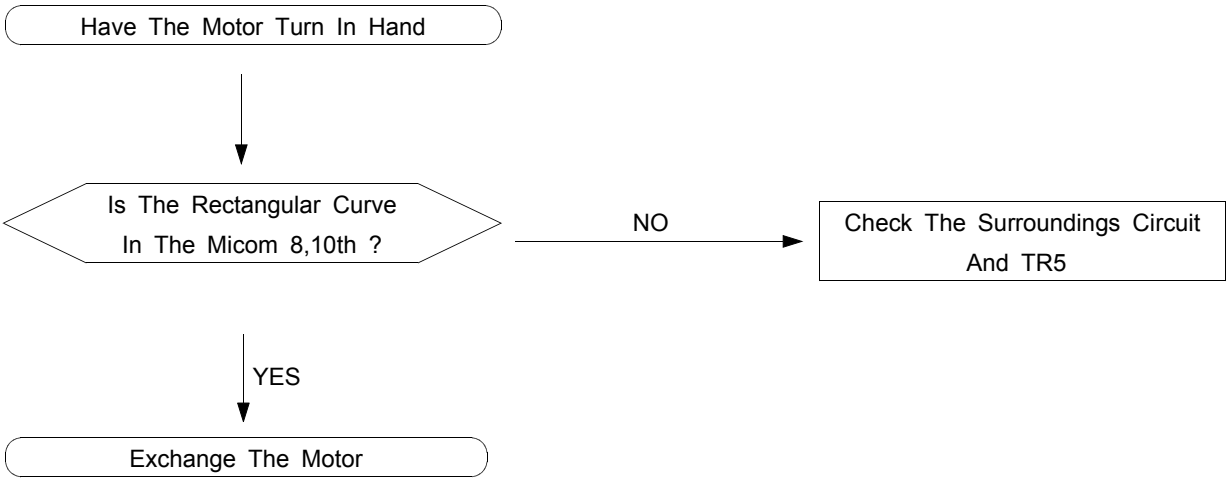
※ Check The Micom 18th In The Above Method When The Cold Water Is Bad

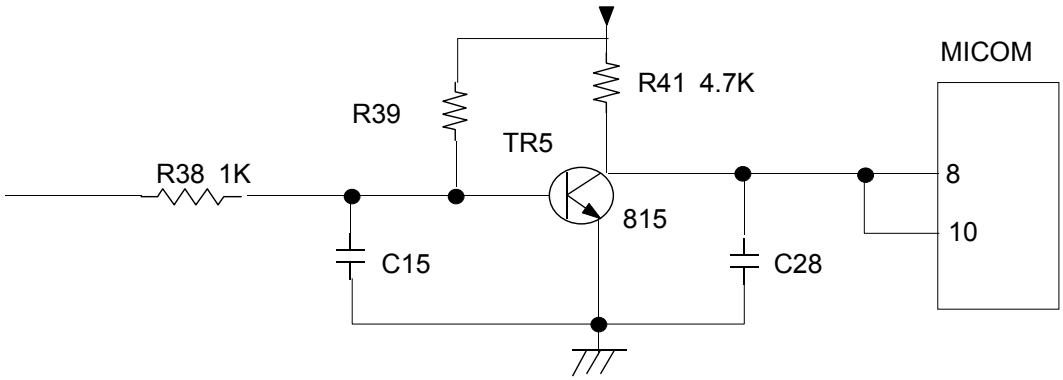
8-2-7. Confirm The Driving Part Of Motor



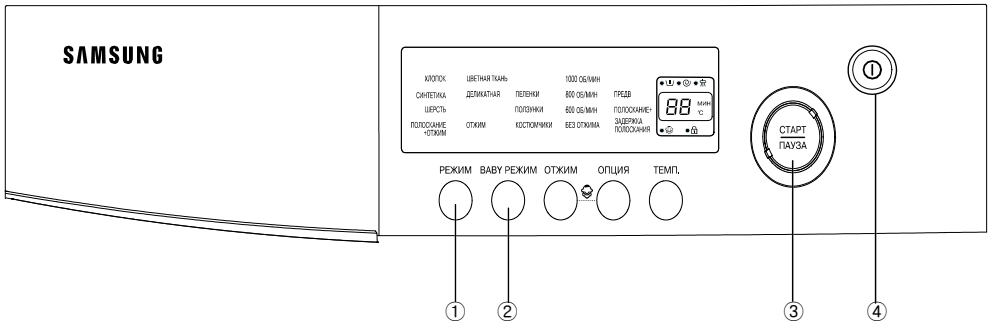


8-2-8. Checking The Tacho Part





9. Test Mode



1. Driving Compartment Test Mode

A. Hold down “1” and “2” keys simultaneously and then press POWER S/W “4” on.

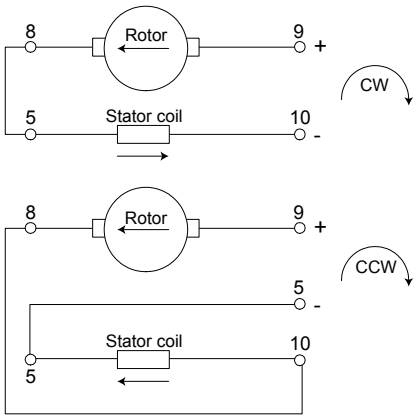
B. The driving compartment can be tested when you press “3” key right after entering into the initial stage of the TEST MODE.

- **Driving Compartment Test**

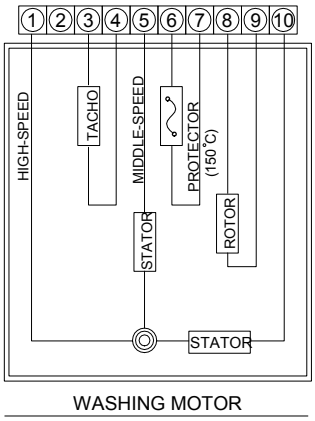
PRE VALVE ON(0.3sec) → OFF(0.3sec) → COLD VALVE ON(0.3sec) → OFF(0.3sec) → Pump MOTOR ON(0.3sec) → OFF(0.3sec) → MOTOR Left (0.5sec) → OFF(0.5 sec) → MOTOR Right (0.5sec) → OFF(0.3sec) → HEATER RELAY ON(0.3sec) → OFF(0.3sec)

10. Designation of Main Components

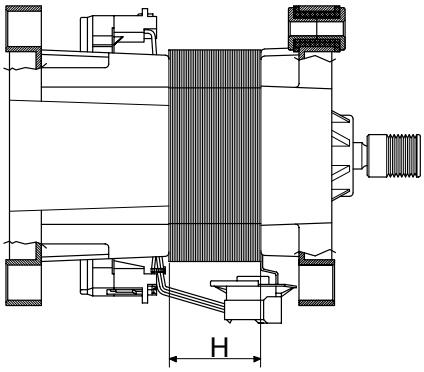
10-1 Normal / Reverse Revolution of Motor and R. P. M. Control



<Figure1>



<Figure2>

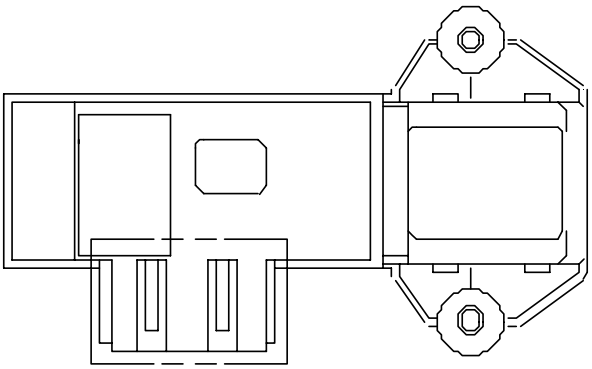


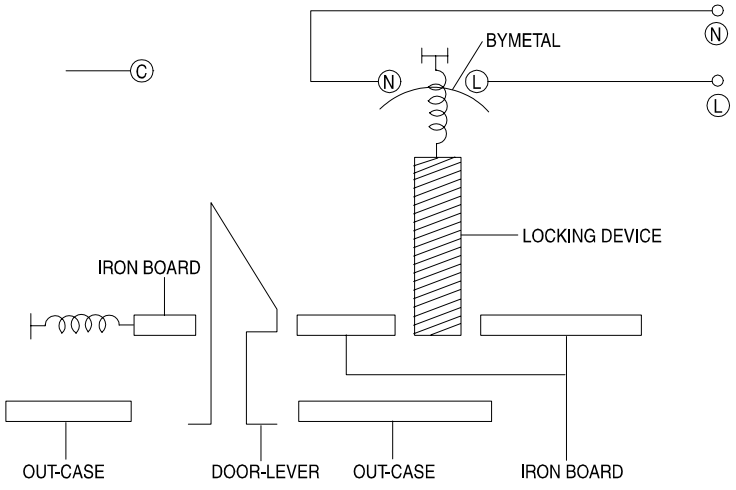
<Figure3>

(± 7%)	STATOR(5.10)	STATOR(5.1)	ROTOR(8.9)	TACHO(3.4)	PROTECTOR(6.7)	"H"(mm)	Code-No.	Remark
Resistance value	–	1.592Ω	2.094Ω	38.8Ω	0	39	DC31-00002E	P843
Rated value	220~240V/50Hz							

10-2 Door safety Device

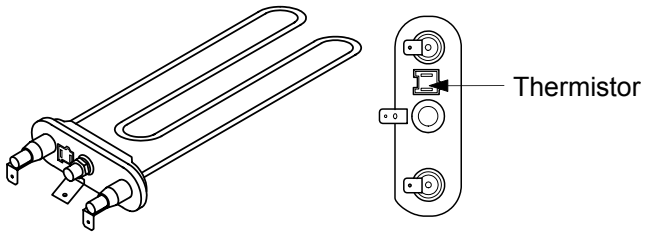
When Door is closed, door stay closed. if "set" is operated, power supplied to , wires have by metal keep the door closed, and electronical power flows between and make it operate.





10-3 Heater

1) Capacity : AC 230V/2000W
2) Location : Bottom of TUB
3) Function : Raise the water temperature
supplied at the wash process.
4) Resistance value : 23~29
5) Thermal Fuse : 128°C



10-4 Detergent tub and water supply value

A Detergent tub is composed of housing and 3 drawers . supplied water flows into the 3 drawer-detergent tub by way of classifier at each washing process.

three open drainage way with detergent and supplied water by way of connector located under the housing flows into washing tub.

the water supply valve is composed of a hot water valve(1 way) and a cold water valve(3way) and water flow per min in the valve is below.

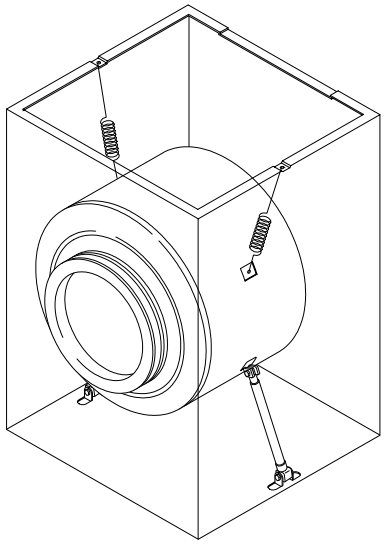
	Hot water valve(1 way)	**Cold water valve(3 way)**		
		V1	V2	V3
water flow(L/min)	5 L	2 L	10 L	4.5 L
resistance value	4.3 kΩ	4.2 kΩ	4.2 kΩ	4.2 kΩ
power consumption	AC 220v ~ 240V 50/60㎐			
usable water pressure	0.5 ~ 8 kg/㎠			

10-5 Shock absorber and buffer spring

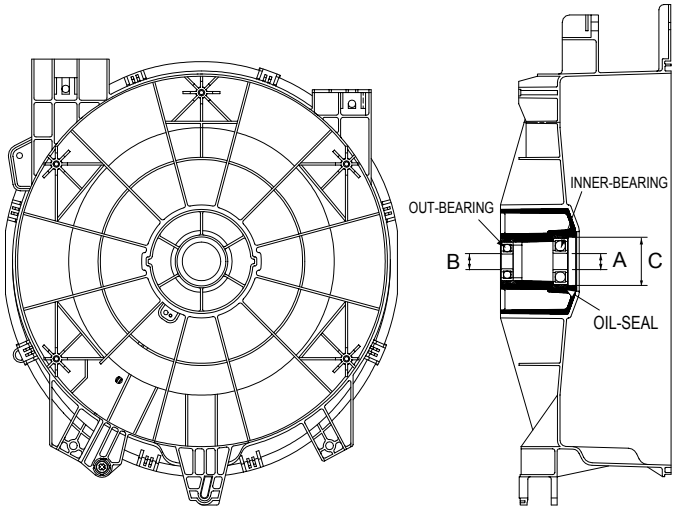
This wash machine is equipped with 2 Shock absorbers with same capacity and with 2 buffer springs. 2 Shock absorber are placed under the tub and outside case , 2 buffer springs are placed on the right and left of the upper side of outside case.

Shock absorber function: during wash, dehydration absorb the shock.
buffer spring: buffering the vibration

device	capacity of Shock absorber
Shock absorber	8±2kg



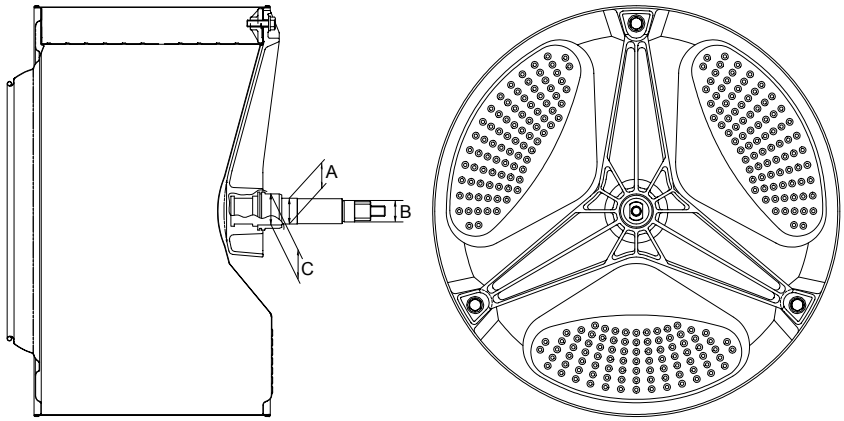
10-6 ASSY-TUB BACK



(unit : mm)

TYPE	INNER-BEARING(A)	OUT-BEARING(B)	OIL-SEAL(C)	Assy-Tub Back	REMARK
I	ø 20	ø 17	ø 24.3	DC97-00214K	P843

10-7 ASSY- DRUM

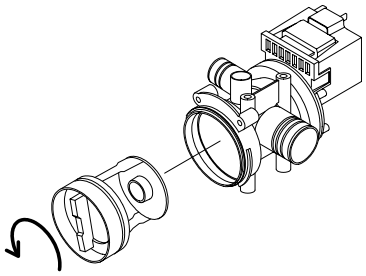


(unit : mm)

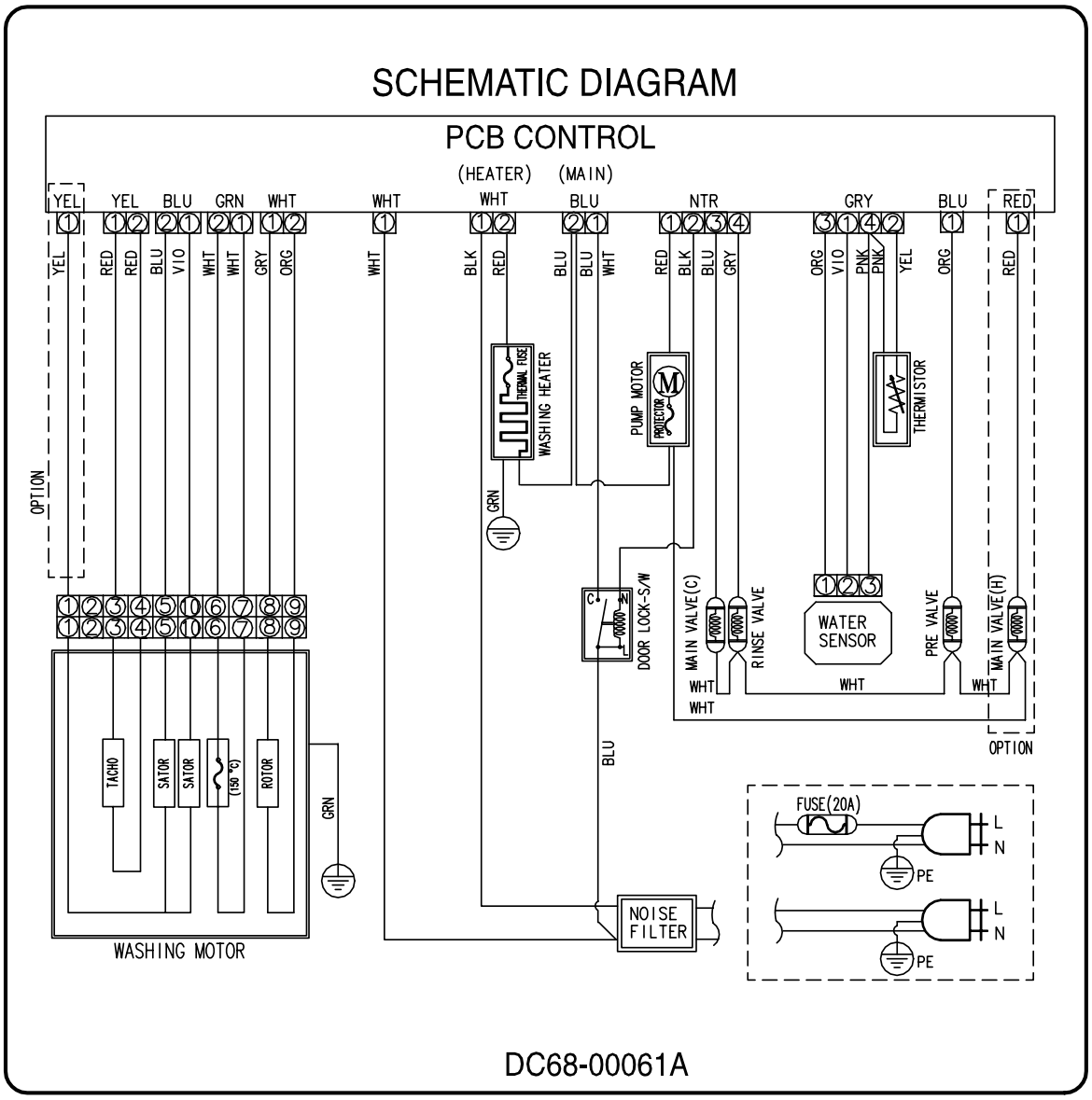
TYPE	(A)	(B)	(C)	CODE-NO.	REMARK
I	ø 20	ø 17	ø 25	DC97-01463E	P843

10-8 ASSY-PUMP DRAIN

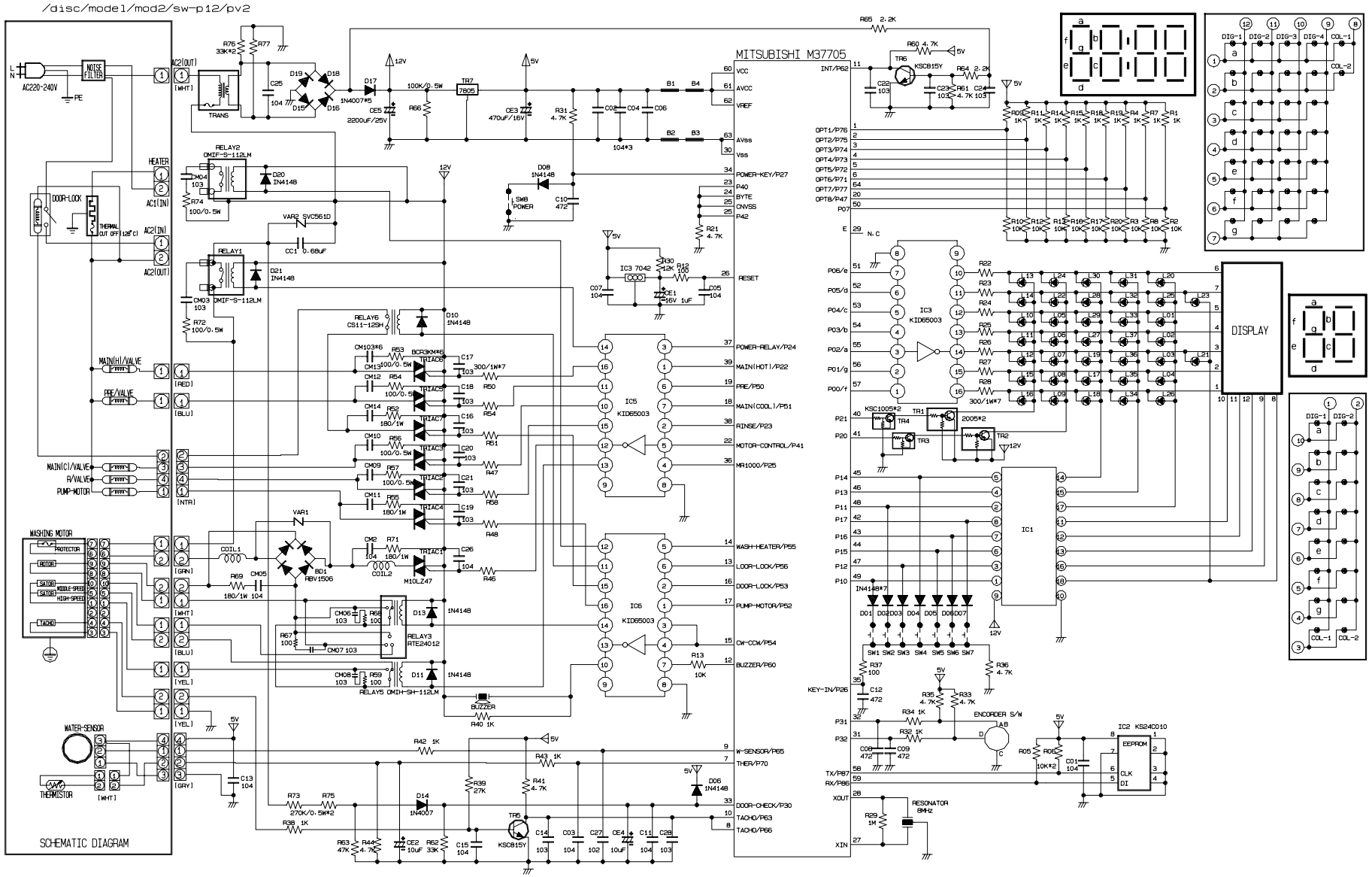
1) Capacity : AC 230V 34W
2) Location : Front bottom(R)
3) Resistance : 15Ω ~ 18Ω



11. PCB Schematic Diagram



11-1. PCB CIRCUIT DIAGRAM



12. Setting up a wash machine.

12-1 Remove the safety device for carriage

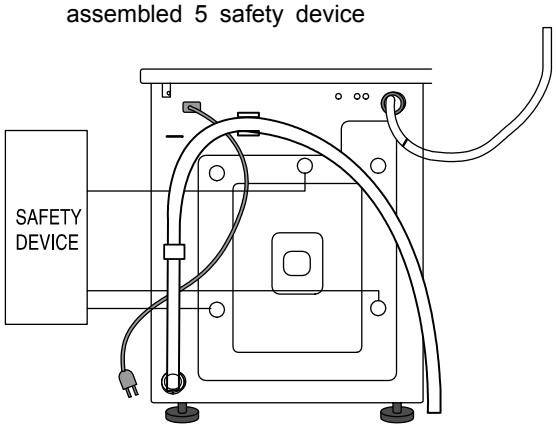
1) Remove 5 safety device volts with a enclosed wrench for safety device remove
2) Plug the 5 holes with 5 caps after removing the 5 safety device volts.

* Take care of 5 safety device volts and a wrench , you need these when you move wash machine safely.

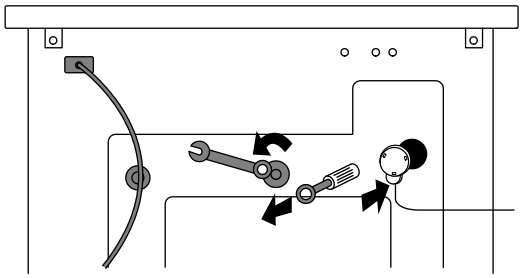
Caution

You must remove safety device before use , if not, you have much vibration or much load can br impacted on the machine.

1. Remove safety device behind of machine
   - To protect the machine, remove the assembled 5 safety device



2. Plug the 5 holes
   - Plug the 5 holes after safety device with the caps enclosed inside of washing tub



12-2 Install the wash machine on the leveled place.

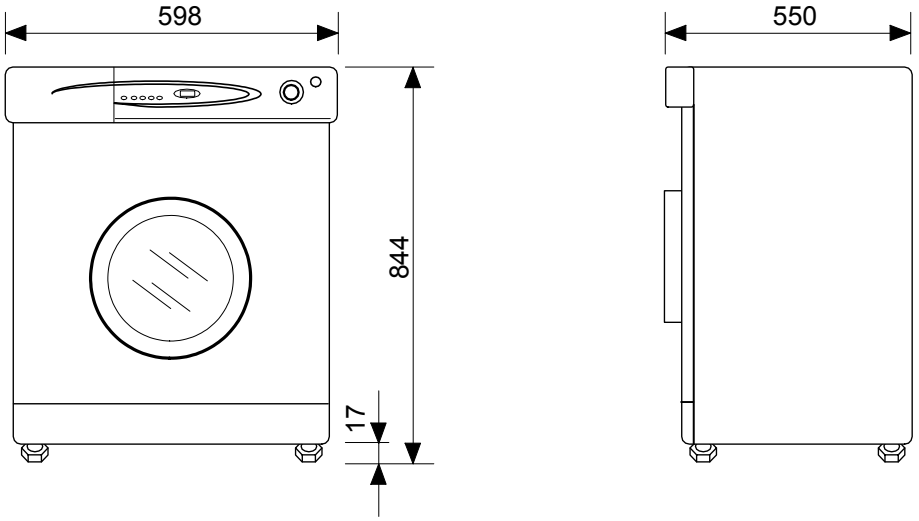
With the water level adjustment device, adjust the 4 adjustment legs to install the machine leveled on the right, left, front and rear side. machine's install condition and size is following.

12-2-1 Initial assembled condition (ass'y cover top)

1) Adjustment legs are stick to the bottom of the machine, when the machine comes out of factory. this condition is ideal for vibration and noise.
2) When you install the machine initially or move the machine in use, unscrew the 4 legs to the left and place the machine level and spin the locking nuts and tighten it strongly.

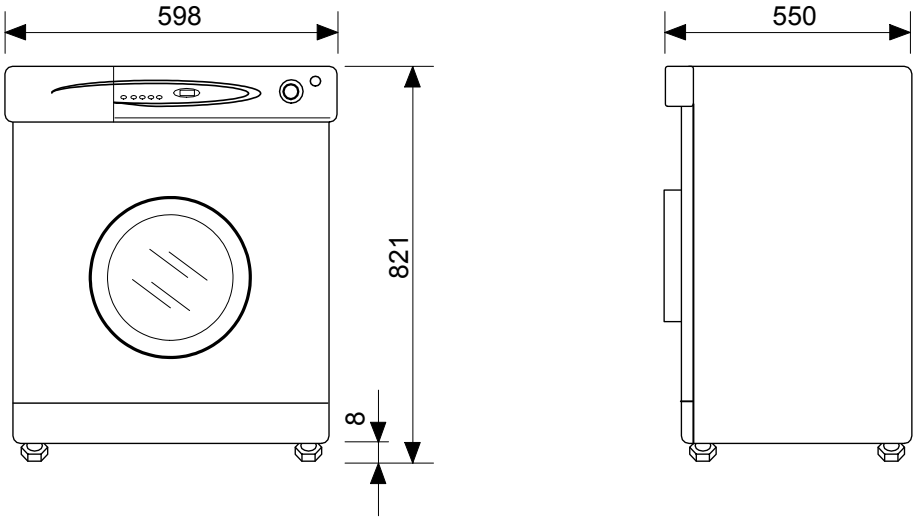
12. Setting up a wash machine.

3) Even though adjustment legs came out all the way, if machine is not leveled , prop up the machine with the wood or brick to make it even.
(Do not use fragile material or slippery material such as laminated paper)



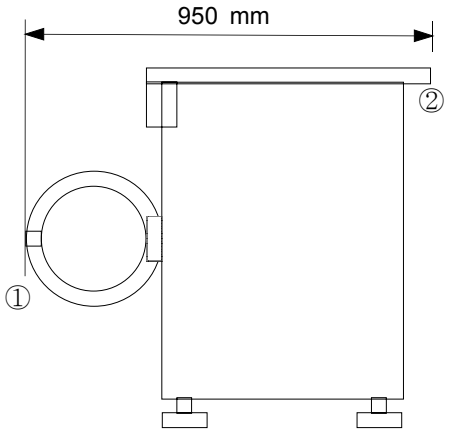
12-2-2 The condition of setting up sink(Disassembled Ass'y- Cover Top)

1) Spin the adjustment leg to the left and remove them from the front and rear side of the machine.
2) Remove the 4 locking nuts from adjustment legs, and put only adjustment legs back whert those were.
3) After removing the fixing screws(each on right, left side) from the machine which is behind ass'y- cover top, disassemble the assy-cover top.
4) Install the sink.



12. Setting up a wash machine.

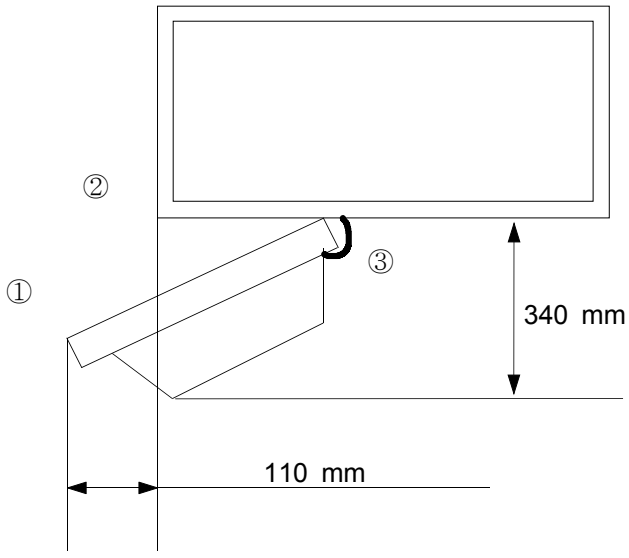
12-3. Door Opening Dimension



Side

● (When The Door Vertically Open)

The distance between door ① and the rear side ② is 950mm



Upper

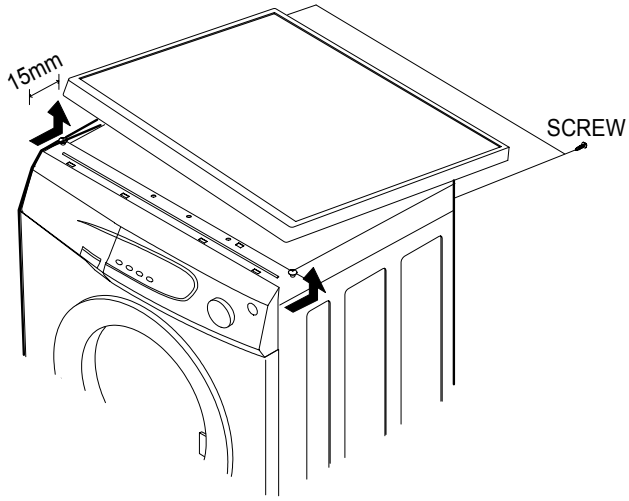
● (When the door extremely open ※)
The distance between the door edge (①) and the left side of washing machine (②) is 340mm

※ Maximum door angle (③) is 130°

13. Assemble and Disassemble

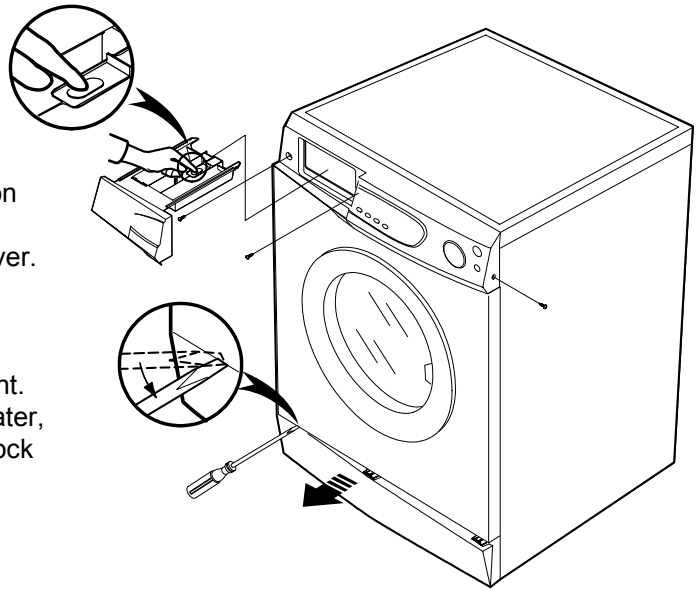
1. ASS' Y-COVER TOP

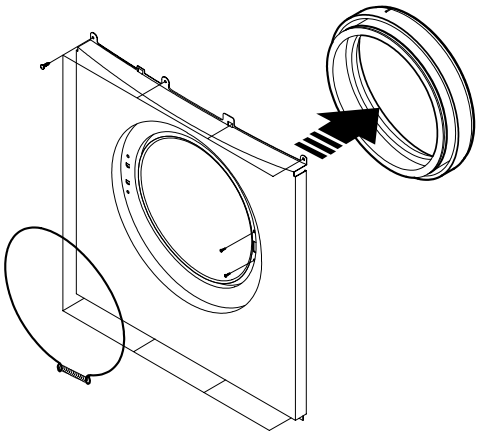
1) Remove two screws fixing the top-cover on back side.
2) Push the top-cover back about 15mm and pull it up.
3) It' s possible to exchange and service Assy-Panel (PCB), the pressure-sensor, the noise-filter, the water valve and trans(option).



2. FRAME FRONT

1) Remove the top-cover and the ass' y drawer.
2) Remove two screws fixing the control-panel on front side and the screw on right side.
3) Remove the cover-front(L) by using the (-)driver.
4) Pull the lever and open the ass' y-door.
5) Part the diaphragm and the wire diaphragm away from the frame-front.
6) Remove the eight screws fixing the frame-front.
7) It' s possible to exchange and service the heater, the pump, the shock-absorber and the door lock s/w.

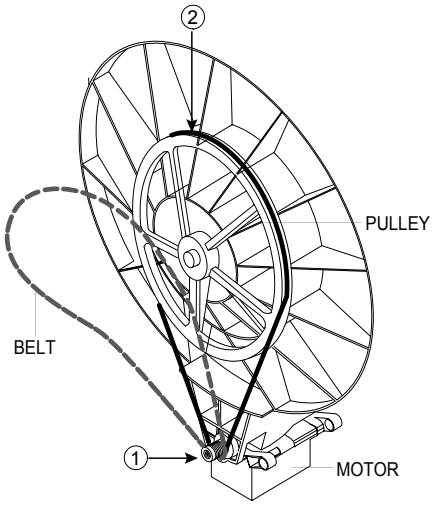




13. Assemble and Disassemble

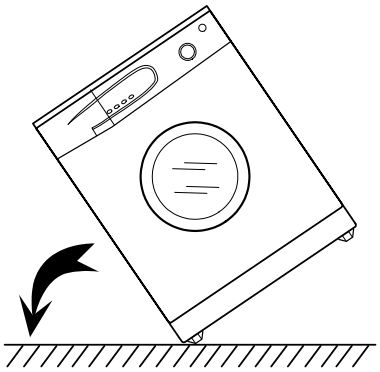
3. BELT

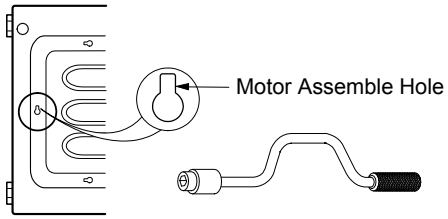
1) Remove the top-cover.
2) Disassemble and assemble the belt.
3) Check the belt is located at center of the motor-pulley.
   <When assemble the belt>
   Hook the belt on the motor pulley 1) and place it around the pulley 2).



4. MOTOR

1) Lay down the washer on left side.
2) Remove the wire housing from the motor.
3) Remove the bolt fixing the motor with the box drive on back side.
4) Remove the motor.



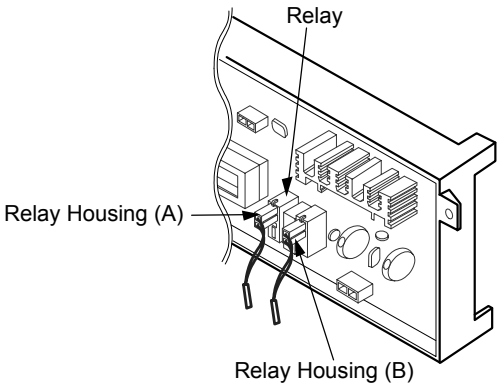


5. How to Assemble the RELAY Housing.

<CAUTION>
Insert the Relay Housing to the Relays on the opposite direation each other.

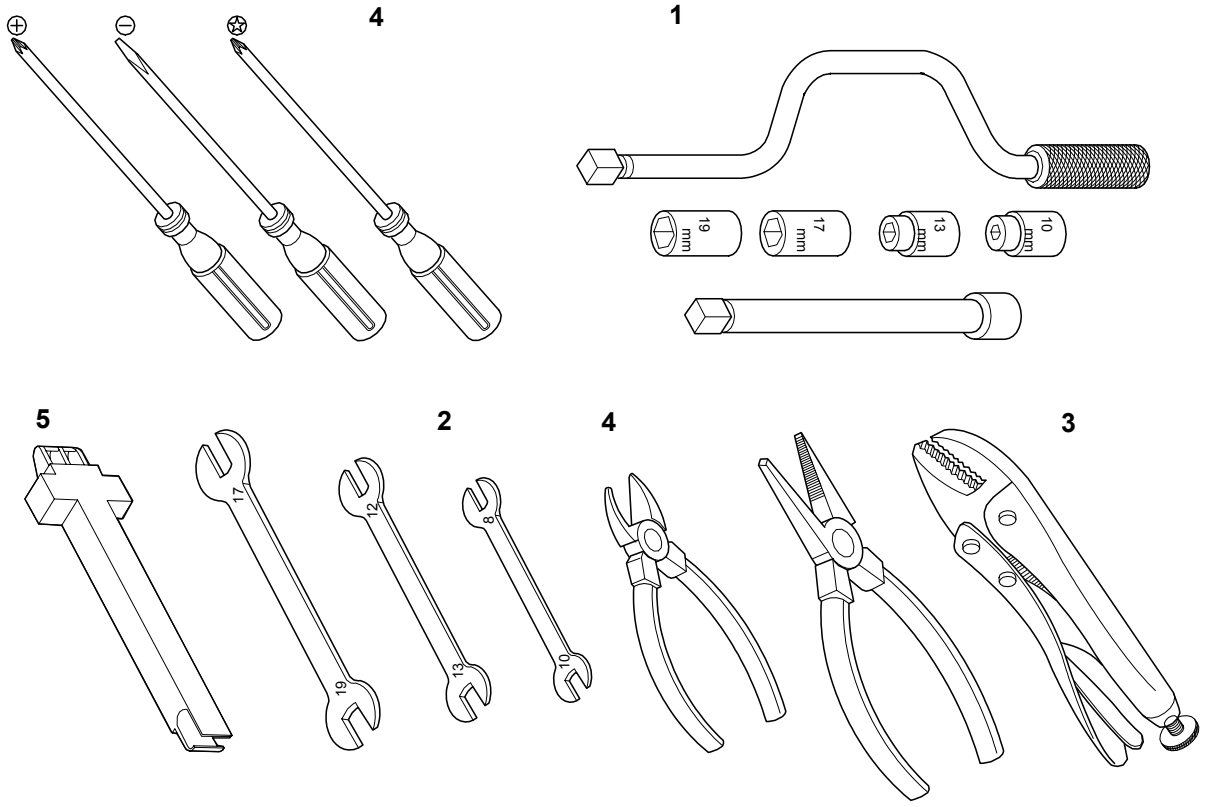
[Relay Housing Color]

A	B
WHITE	BLUE

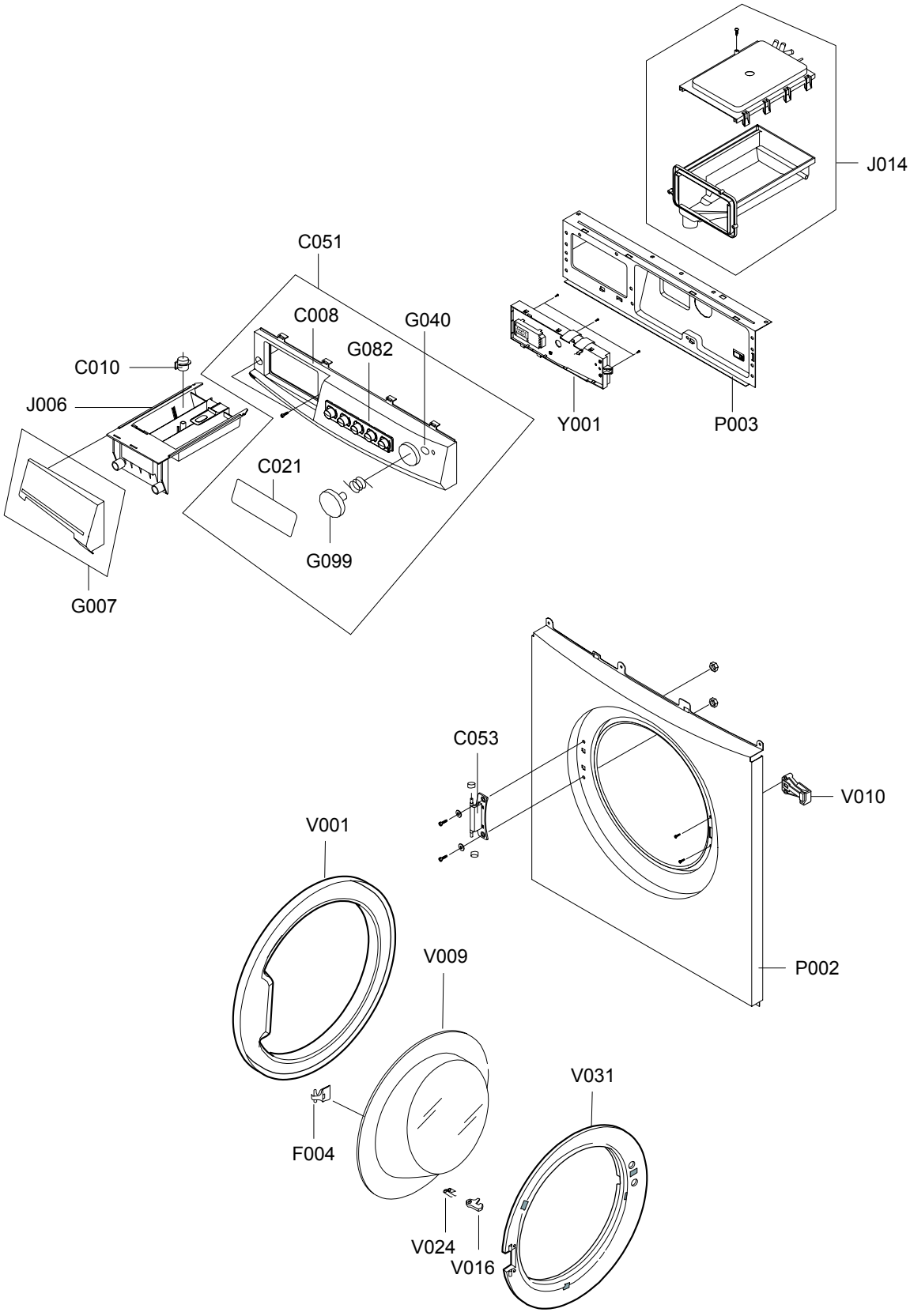


14. Tools for Disassembly and Assembly

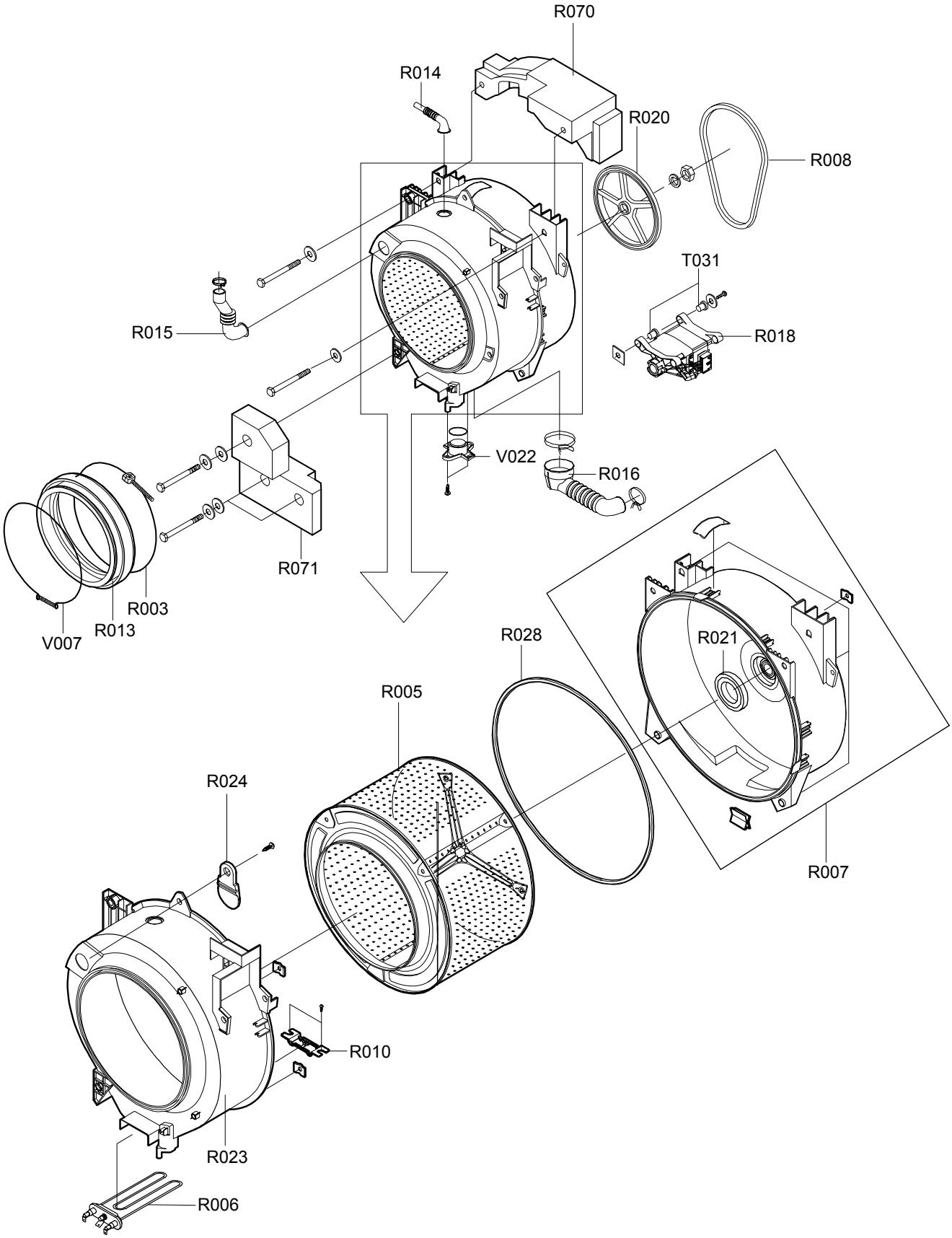
NO.	TOOL		
1	Box driver	10mm 13mm 19mm	Heater (1) Motor (1), Balance (5) 2 holes of each left and right of the shock absorber 1 Pulley hole
2	Double-ended spanner	10, 13 17,19mm	Replaceable for the box driver. Since the bolt runs idle when the box driver is used, use the box driver 17mm.
3	Vice pliers		Tool to protect the idle and abrasion of the bolt for the box driver.
4	Other(Driver, Nipper, Long nose)		General tools for the after service.
5	JIG for the Tub		1 (Disassemble and Assemble)



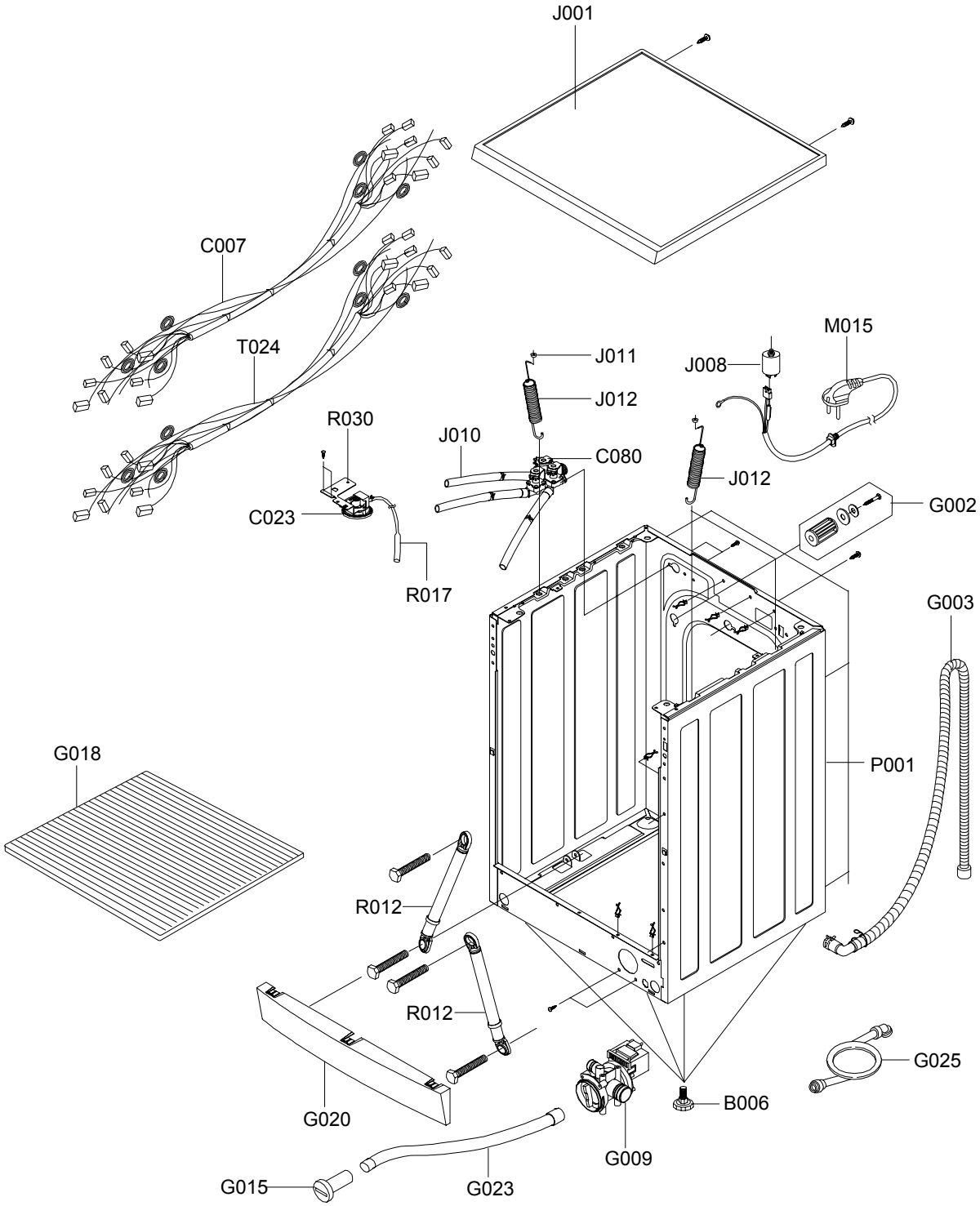
15. TOP(FRONT) - Exploded View



15. TUB - Exploded View



15. CASE - Exploded View



15. Parts List

NO.	CODE NO.	DESCRIPTION;SPECIFICATION	QTY
B006	DC91-12292A	ASSY-LEG;SWF-P12,-	4
C007	DC96-00777A	ASSY-M.WIRE HARNESS;P1043,CIS-M 55cm	1
C008	DC64-00814J	PANEL-CONTROL;P843GW/YLP,ABS,-,-,-,-,WHT	1
C010	DC61-10687A	CAP-RINSE;SWF-P12,PP,-,-,-,WHT,-,	1
C021	DC64-00864B	INLAY-PANEL;R(P/F/S)843,PC,T0.5,-,-,WHT,	1
C023	DC32-30006P	SENSOR PRESSURE;DN-S14(P1291),TERMINAL-T	1
C051	DC97-07427J	ASSY-PANEL CONTROL;MID-PJT/P843,WHT/RUSS	1
C053	DC61-00889A	HINGE-DOOR;HAUZEN(DOM),ZNDC,-,-,-,-,-,18	1
C080	DC62-00024F	VALVE-WATER;B1215J,NYLON66/250TRMN,-,-,N	1
F004	DC64-00646A	HANDLE-DOOR;SD455-PJT,POM,-,-,-,-,WHT,RO	1
G002	DC91-12102A	ASSY-FIXER TUB;SWF-P12,-	5
G003	DC97-00139F	ASSY-HOSE DRAIN(O);P-PJT,PP/L1970/CHINA	1
G007	DC97-05469Z	ASSY-PANEL FRONT;MID-PJT/P1043~P843,WHT/	1
G015	DC61-10673A	CAP-DRAIN;SWF-P12,PP(TB53),-,-,-,WHT,-,	1
G018	DC61-20235A	SHUTTER;DANPLA,PP(BB110),WHT,	1
G020	DC61-10672A	COVER-FRONT(L);SWF-P12,PP(BJ-730),-,-,-,	1
G023	DC62-10302A	HOSE-DRAIN;SWF-P12,EPDM,ID5.5,-,-,L220,B	1
G025	DC62-10289B	HOSE-WATER(C);WIP4013SRW,PVC+NYLON,ID10.	1
G040	DC64-00812A	BUTTON-PUSH(P);P/R/F/SLIM,ABS,-,-,SNOW-W	1
G082	DC64-00813A	BUTTON-PUSH(F);P/R/F/SLIM,ABS,-,-,SNOW-W	1
G099	DC64-00811A	BUTTON-PUSH(S);P/R/F/SLIM,ABS,-,-,SNOW-W	1
J001	DC97-00851F	ASSY-COVER TOP;P-PJT/MDF,WOOD/WHT	1
J006	DC61-30348A	BODY-DRAWER;-,PP,-,-,-,-,-,-	1
J008	DC29-00009A	FILTER-EMI;DFC-2715R,P/PV/P2,250V,15A,PI	1
J010	DC67-00051A	HOSE-DRAWER;S1093~S6093,EPDM,-,-,-,-,BLK	0.46
J011	DC61-60180A	SLEEVE-PLUG;NYLON#6,SEW-720DR,-,-,NTR	3
J012	DC61-70216C	SPRING-HANGER;P1291,HSWR,CD3.5,-,-,L175,	1
J012	DC61-70217C	SPRING-HANGER;P1291,HSWR,CD3.2,-,-,L175,	2
J014	DC97-06572E	ASSY-HOUSING DRAWER;BIG-WASH,P2-PJT,2WAY	1
M015	DC96-00146A	ASSY POWER CORD;UCP2,-,250V/16A,-,-,-,-,	1
P002	DC97-00702A	ASSY-FRAME FRONT;P6091,ROUND-TYPE	1
P003	DC97-00417A	ASSY-FRAME PLATE(U);SWF-P12,FRAME-PLATE(	1
P007	DC99-00060A	ASSY-PAINT FRAME;P1091,COLD/P-HOLE-LOWER	1
R003	DC91-12077A	ASSY-CLAMP DIAPHGRAM;SWF-P12,TUB	1
R005	DC97-01463E	ASSY-DRUM;P801(800RPM)KRNJM,LEFTER TYPE/	1
R006	DC47-00007A	HEATER;-,DRUM-MDL,SUS316L,-,-,230V,20,-,	1
R007	DC97-00214K	ASSY-TUB BACK;SWF-P8/P6091,LOW-RPM/NO.3	1
R008	6602-001072	BELT-TIMING GEAR;POLYURETHAN,L1270,J5,ME	1
R010	DC61-00856A	BRACKET-HEATER;SB-PJT,STS430,-,-,-,-,-	1
R012	DC66-00320A	DAMPER-SHOCK;SB-PJT,ABS,-,-,-,-,WHT,AKS-	2
R013	DC61-20219A	DOOR-DIAPHRAGM;EPDM,-,-,-,-,-,-,GRY,SWF-	1
R014	DC62-10303A	HOSE-AIR;-,EPDM,ID24,-,-,L130,BLK,SWF-P1	1
R015	DC62-10305A	HOSE-DRAWER TUB;-,EPDM,ID35,-,-,L158,BLK	1

15. Parts List

NO.	CODE NO.	DESCRIPTION;SPECIFICATION	QTY
R016	DC62-10304A	HOSE-FILTER TUB;-,EPDM,ID65,-,-,L151,BLK	1
R017	DC67-00107A	HOSE-PRESSURE;S821,PE-BLOW,ID13.2,OD6.2,	1
R018	DC31-00002E	MOTOR-DRUM;HXGN2I.02,SFW-P8,-,50Hz,-,-,L	1
R020	DC66-10176B	PULLEY;ALDC,-,D297,P1291,ID12.5	1
R021	DC62-00007A	SEAL-OIL;-,NBR(SD25),BLK,-,-,-,P6091/NBU	1
R023	DC61-30346C	TUB-FRONT;P1405J,FRPP(FRPP15%)SAMBACK,-,	1
R024	DC62-20311A	VANE-CHECK;SWF-P12,EPDM,-,-,BLK,-,	1
R028	DC62-40183A	PACKING-TUB;SWF-P12,EPDM,-,-,-,-,-,BLK,-	1
R030	DC61-40345A	BRACKET-PRESSURE;GI or GA,SWK-P12,T1.0,-	1
R070	DC66-60153A	WEIGHT-BALANCER;SWF-P12,CONCRETE,UPPER,	1
R071	DC66-60154A	WEIGHT-BALANCER;SWF-P12,CONCRETE,LOWER,	1
T024	DC96-00779A	ASSY-WIRE HARNESS;P1043,CIS-M 55cm/SUB	1
T031	DC61-00041A	CUSHION-MOTOR;SWF-6V,BUTYL,-,-,-,ID16/OD	1
V001	DC63-00391A	COVER-DOOR;HAUZEN(DOM),ABS,-,-,-,-,-,WHT	1
V007	DC91-12078A	ASSY-WIRE DIAPHRAGM;SWF-P12,FRAME-FRONT	1
V009	DC61-00013A	DOOR-GLASS;GLASS,NTR,SWF-P12	1
V010	DC64-00653A	DOOR-LOCK S/W;DA,PA6-G,-,H82,W50,-,BLK,2	1
V016	DC66-00358A	LEVER-DOOR;SEW-HW105,ZNDC,-,-,-,-,CR-COA	1
V022	DC61-10676A	CAP-TRAP;SWF-P12,PP(TB53),-,-,-,-,-,	1
V024	DC61-00890A	SPRING-HANDLE;HAUZEN(DOM),STS304,CD1.0,-	1
V031	DC61-00888A	HOLDER-GLASS;HAUZEN,ABS,-,-,-,WHT,AUTO+M	1
Y000	MFS-P843-00	ASSY PCB PARTS;P843 55CM 5.5KG 800RPM	1

15. Screw/Bolt List

CODE NO.	DESCRIPTION	SPECIFICATION	REMARK	QTY
6001-001773	SCREW-MACHINE	TH,+,M5,L12,	HINGE+FRAME	2
6002-001006	SCREW-TAPPING	TH,+,2S,M4,L12,-,STS410	DOOR-S/W	2
6002-001006	SCREW-TAPPING	TH,+,2S,M4,L12,-,STS410	-	11
DC61-00013A	DOOR-GLASS	GLASS,NTR,SWF-P12	-	1
6002-000213	SCREW-TAPPING	TH,+,1,M4,L12,ZPC(YEL),SWRCH18	CLAMP-HOSE+FRAME	1
6002-000239	SCREW-TAPPING	TH,+,2S,M4,L8,ZPC(YEL),SM20C	FRAME+FRAME-FRONT	7
6002-000239	SCREW-TAPPING	TH,+,2S,M4,L8,ZPC(YEL),SM20C	FRAME+PLATE-UPPER	4
6002-000525	SCREW-TAPPING	FH,+,1,M4,L12,PASS,STS304	C-PANEL+FRAME	1
6002-000554	SCREW-TAPPING	PH,+,2S,M4,L12,ZPC(YEL),SWRCH1	PCB+C-PANEL	3
6002-001006	SCREW-TAPPING	TH,+,2S,M4,L12,-,STS410	PUMP+FRAME	2
6002-001327	SCREW-TAPPING	PWH,+,1,M4,L12,NI PLT	SHUTTER	2
6006-001170	SCREW-TAPPING	WS,TH,+,M4,L10,ZPC(YEL)	E/W(SUB)+FRAME(F)	1
6009-001343	SCREW-SPECIAL	PH,TORX,,M4,L10,PASS	P/CORD	1
DC60-40144A	BOLT-HEX	M10,L41,ZPC2(YEL),SM10C/DAMPER	DAMPER+FRAME	2
DC60-40146A	BOLT-SPANER	-,-,OD36,T2.5,L52,FE,FZY,-,P12	ACCESSORY	1
DC60-40142A	BOLT-HEX	SM10C/FIXER,HEX,M7,L88.4,-,ZPC2(YEL),-,-	-	1
DC60-60040A	WASHER-NYLON	-,ID10.5,OD32,T2,-,PBSP-1/2H	FIXER	1
DC60-60044B	WASHER-PLAIN	SBC,ID8.4,OD30,T3,-,-,-	FIXER	1
6002-000239	SCREW-TAPPING	TH,+,2S,M4,L8,ZPC(YEL),SM20C	MAIN PCB1	1
6002-000239	SCREW-TAPPING	TH,+,2S,M4,L8,ZPC(YEL),SM20C	MAIN PCB2	1
6002-000630	SCREW-TAPPING	PH,+,2S,M3,L8,ZPC(YEL),SWRCH18	BD1	1
6002-000630	SCREW-TAPPING	PH,+,2S,M3,L8,ZPC(YEL),SWRCH18	TRIAC1	1
6002-000213	SCREW-TAPPING	TH,+,1,M4,L12,ZPC(YEL),SWRCH18	HOUSING-DRAWER	1
6002-000445	SCREW-TAPPING	TH,+,2S,M4,L18,NTR,STS304	PANEL+FRM+HOUSING-D	2
6002-000554	SCREW-TAPPING	PH,+,2S,M4,L12,ZPC(YEL),SWRCH1	HOUSING-DRAWER	1
6002-001327	SCREW-TAPPING	PWH,+,1,M4,L12,NI PLT	C/TOP+FRAME	2
6003-000226	SCREW-TAPTITE	TH,+,S,M4,L8,ZPC(YEL),SWRCH18A	W/V(C)+FRAME	2
6006-001170	SCREW-TAPPING	WS,TH,+,M4,L10,ZPC(YEL)	B/K-PRESSURE+FRAME	1
6006-001170	SCREW-TAPPING	WS,TH,+,M4,L10,ZPC(YEL)	P/CORD(E/W)	1
6009-001342	SCREW-SPECIAL	TH,+,,M5,L11,ZPC(YEL)	FRAME(TOP)	2
6002-000630	SCREW-TAPPING	PH,+,2S,M3,L8,ZPC(YEL),SWRCH18	B/K+PRE-S/W	2
6002-000470	SCREW-TAPPING	TH,+,1,M4,L10,ZPC,SCRCH18A	B/K-C.T	2
DC60-40141A	BOLT-HEX	SM10C/DAMPER,HEX,M8,L66,-,ZPC2(YEL),-,-	DAMPER+TUB	2
DC60-50148B	NUT-HEX	SM20C(NYLON),M12,-,-,ZPC3(YEL),-,HEX,P-PROJECT	PULLEY	1
DC60-60040A	WASHER-NYLON	-,ID10.5,OD32,T2,-,PBSP-1/2H	WEIGHT/L	3
DC60-60044A	WASHER-PLAIN	-,ID10.5,OD30,T3,-,STS304	DAMPER+TUB	2
DC60-60049A	WASHER-SPRING	-,ID10.5,OD18,T2.5,-,SIR	PULLEY	1
DC61-00201A	BRACKET-NUT	SBHG-R,P1291,T3,-,-,-,NO-PAINT/MOTOR	MOTOR	1
6006-001170	SCREW-TAPPING	WS,TH,+,M4,L10,ZPC(YEL)	-	1
DC61-40348B	BRACKET-NUT	SBHG-R,P1291,T3,-,-,-,NO-PAINT	-	2
6002-000213	SCREW-TAPPING	TH,+,1,M4,L12,ZPC(YEL),SWRCH18	CAP-TRAP	2
6002-000444	SCREW-TAPPING	TH,+,2S,M4,L14,NTR,STS304	B/K-HEATER	2
6002-000471	SCREW-TAPPING	TH,+,1,M4,L12,PASS,STS304,-	VANE-CHECK	1
6002-001327	SCREW-TAPPING	PWH,+,1,M4,L12,NI PLT	-	1
DC61-40348B	BRACKET-NUT	SBHG-R,P1291,T3,-,-,-,NO-PAINT	-	5
DC60-40005A	BOLT-HEX	M4,L60,ZPC2(YEL),SS41C,-,-,-,-	-	1
DC60-50010A	NUT-DIAPHRAGM	EGI,M4,-,-,2.5TX20X8	-	1
DC60-50010B	NUT-DIAPHRAGM	EGI,M4.2,-,-,2.5TX20X8	-	1
6011-001492	BOLT-FLANGE	M8,L25,PASS,STS304,NYLOCK,P1.25	-	3
DC97-02412A	ASSY-BOLT	SWF-P12,MOTOR, M8*L62	MOTOR	1
DC97-02412A	ASSY-BOLT	SWF-P12,MOTOR, M8*L62	WEIGHT-BALANCER(U)	2
DC97-02412B	ASSY-BOLT	SWF-P12,WEIHGT(L)/M8*L147	WEIGHT-BALANCER(L)	1
DC97-02412B	ASSY-BOLT	SWF-P12,WEIHGT(L)/M8*L147	WEIGHT-BALANCER(U)	1
DC97-02412C	ASSY-BOLT	SWF-P12,WEIHGT(U)/M8*L215	WEIGHT-BALANCER(U)	1
DC99-00040A	ASSY-PAINT	P6091,COLD	-	1

ELECTRONICS

Printed in Korea

Code No. : DC68-02161A

1. Specifications

WASH TYPE	FRONT LOADING TYPE			
DIMENSION	GROSS		W 680mm X D 665mm X H 890mm	
	NET		W 598mm X D 550mm X H 844mm	
WATER PRESSURE	50 kPa ~ 800 kPa			
WEIGHT	GROSS		75 kg	
	NET		71 kg	
WASH and SPIN CAPACITY	5.5 kg (DRY LAUNDRY)			
POWER CONSUMPTION	WASHING		220 V	180 W
			240 V	180 W
	WASHING and HEATING		220 V	2000
			240 V	2400
	SPIN	MODEL	P843	
		220-240V	430W	
	PUMPING		34 W	
WATER CONSUMPTION	49 ℓ (STANDARD COURSE)			
SPIN REVOLUTION	MODEL		P843	
	rpm		800	

2. Safety Devices

※ We adapt 5 safety devices for users to use this wash machine safely.

1) Balancing device (ASSY-Main PCB)
   → When the laundry is out of balance, to prevent the noises and vibrations, the unbalance detecting sensor helps the laundry laid even and continue the dehydating process.

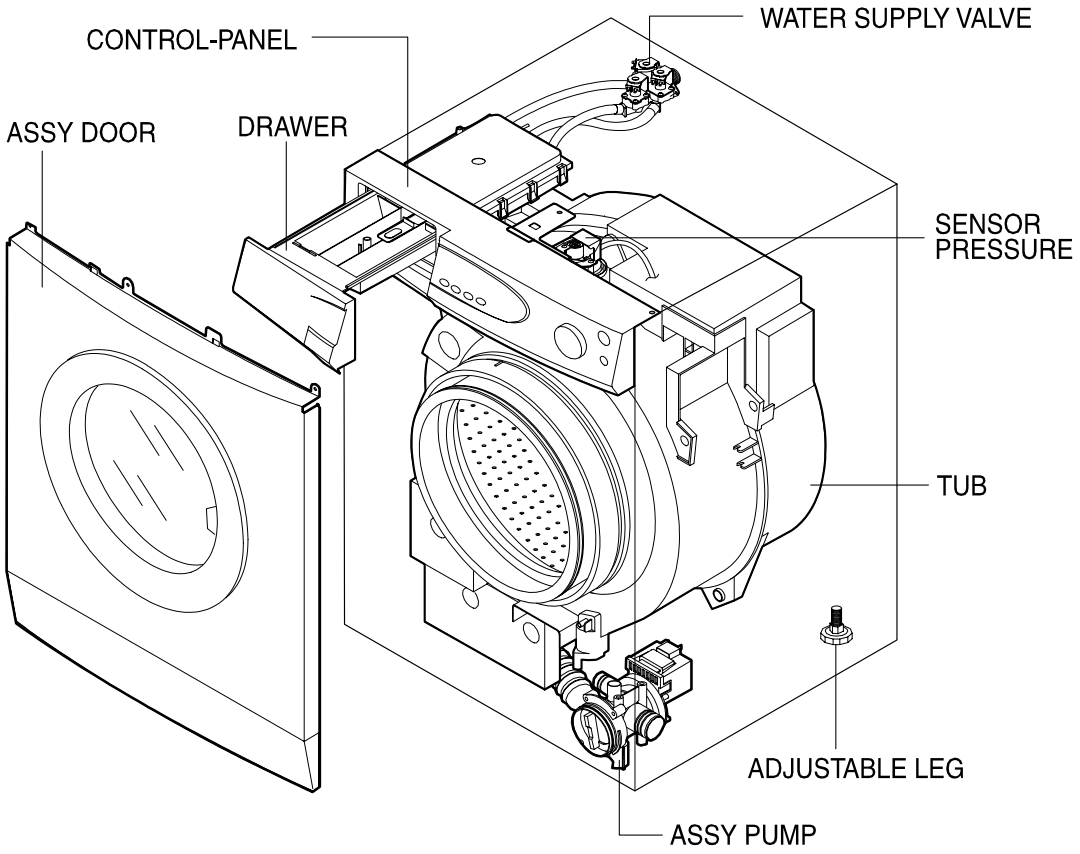
2) Anti-over water supply device
   → Because water supply value is broken, once water is supplied to the 2/3 level of the door, the water supplied is drained automatically.

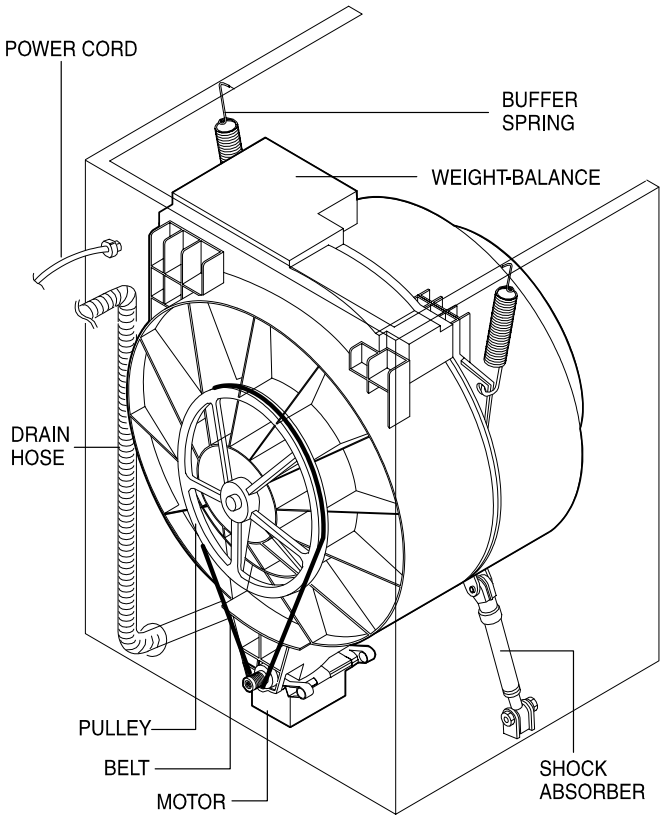
3) Temperature-regulating device(thermistor)
   → To prevent over-heating over the temperature set up, THERMISTOR senses the temperature of the machine continuously and helps the wash machine to work at the temperature given by users.

4) Overheating- controlling system
   → Under the circumstances of THERMISTOR inferiority or abnormal condition, if wash-heater is overheated, automatically, assy -thermal fuse cuts off the power supply to protect the machine to keep it safe.

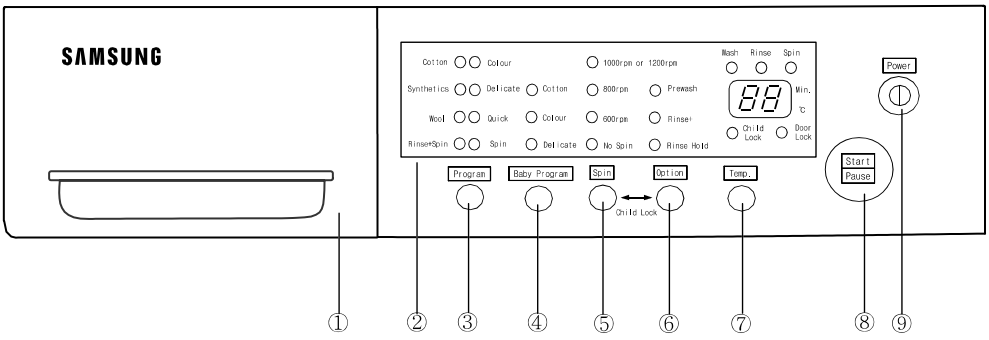
5) Delicate clothing safeguard function(ASSY-Main PCB)
   → To protect the clothings which is weak to high temperature, the wash machine senses the temperature inside the washing tub. if the temperature rises over 50℃ wool washing course and Delicate washing course drain the water.

3. Overview of the Washing Machine





4. Overview of the control panel



1. **Detergent dispenser**
2. **Display panel**
   Displays wash cycle and error messages.
   During execution of the program, the program indicator blinks.
3. **Program Select button**
   Press the button repeatedly to select one of the six available wash program.
   {Cotton → Colour → Synthetics → Delicates → Wool → Quick → Rinse+Spin → Spin}.
4. **Baby program button**
   Press the button to select one of the three available Baby programs.
   Cotton → Colour → Delicate
5. **Spin selection button**
   Press the button repeatedly to cycle through the available spin speed options.

R1043	no spin, 600, 800, 1000 rpm
R843	no spin, 600, 800 rpm

   When pressing this button during operation, you can see the selected spin speed in the display panel.
6. **Option button**
   Press the button repeatedly to cycle through the available partial wash options
   Prewash → Rinse+ → Rinse Hold → Prewash +Rinse+ → Prewash +Rinse Hold →
   Rinse+ +Rinse Hold → Prewash +Rinse+ +Rinse Hold → Cancle
   Note : Prewash is only available when washing cotton, synthetic or delicate.
7. **Temperature selection button**
   Press the button repeatedly to cycle through the available water temperature options (cold , 40 C , 60 C and 95 C).
   When pressing this button during washing, you can see the selected temperature in the display panel.
8. **Start/Pause button**
   Press to pause and restart programs.
9. **ⓘ (On/Off) button**
   Press once to turn the washing machine on, press again to turn the washing machine off.
   If the washing machine power is left on for longer than 10 minutes without any buttons being touched, the power automatically turns off.

What is the Child Lock function?

- If you press the "Child Lock" button(Spin+Option button) longer than 2 sec during operation, this function is selected.
- If once this function is selected, no change can be done until the end of laundry.
- Press the "Child Lock" button(Spin+Option button) longer than 2 sec to cancel the function.

5. Main function

1) Auto power S/W off function

- After power on, the auto power S/W off function automatically switches power off for you if you do not press selection button for 10 minutes.
- After selecting the function, the auto power S/W off function automatically switches power off for you if you do not press start/pause button for 10 minutes.
- until 5 minutes past, After finishing the last function, the auto power S/W off function automatically switches power off for you if you do not re-select the course button or manual button.

2) Door open function

- If door is open during the operating, all operating is halted and error melody will coming out.
- Door open error can be cleared by closing the door. the operating keeps going on.

3) Rinse hold function

- If rinse hold function selected, the operating is finished , the machine do not drain the water after last rinse.

4) No spin function

- If no spin function selected, the operating is finished after last rinse.

5) Pre-washing function

- Pre-washing function can be selected ,when you choice the following mode; cotton, coloreds, sythetics, delicates, baby cotton.
- Water level/reverse time is the same with the selected course.
- Pre-washing takes about 15 minutes.

6) Rinse+ function

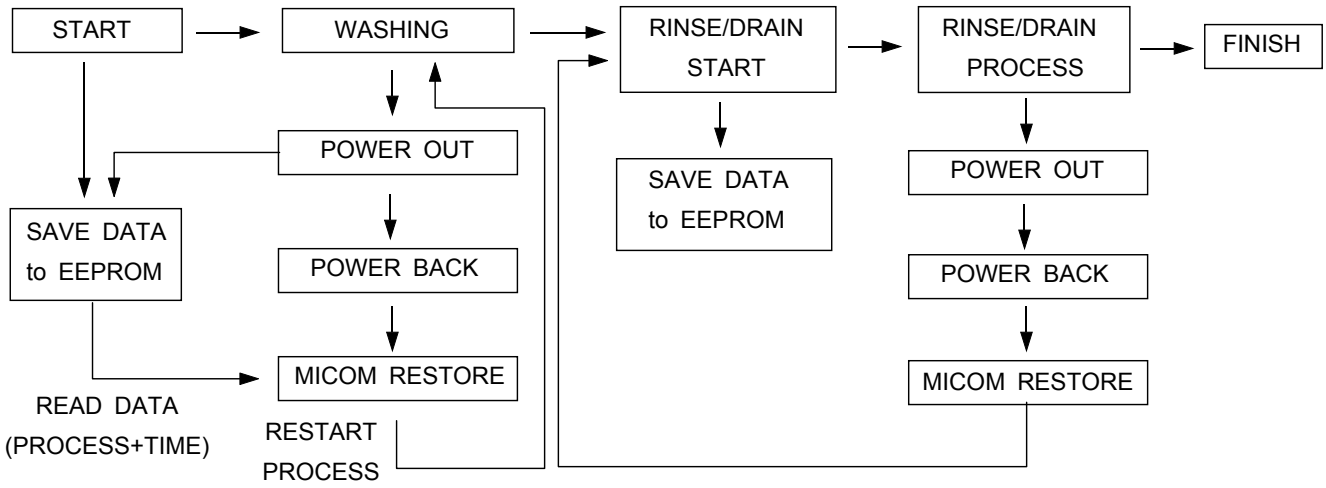
- This function practises rinse process once more

5. Main function

7) Power-out compensation function

- If power is out on selected process, the process before power out is stored to EEPROM, once power is back the process before power out continues.
- When power is back, washing process starts from the process at the point of the power out, rinse/drain process starts from the initial process.

POWER-OUT COMPENSATION FUNCTION PROCESS



8) Water heater Error function

① This function starts working, when the heater works abnormally.
(this function begins sensing the heater 2 minutes later, after the heater operating)

② The value of the initial thermistor(A1) is compared with that of the thermistor(A2) in 2 minutes (Y=A2-A1)
- For 10 minutes late, the variance of temperature(Y) is less than 2℃.

③ The value of the initial thermistor(A1) is compared with that of the thermistor(A2) in 11 minutes (Y=A2-A1)
- For 1 minute the variance of temperature(Y) increases more than 7℃(0.3V).

④ At this time heater, error melody will coming out and all working process off

⑤ The heater operating continues during heating hours, if washing hour is left over, the residual washing process keeps going without heating.

5. Main function

9) Fuzzy washing function (weight-sensing)

☞ After finishing initial water supply, when the fall of the water level needs supplementary water supply, Sensing function perceives the weight with the supplementary water supply numbers and starts to work. Under the course of Cotton, or Coloureds, if the supplementary water supply numbers become 3 - 4 times the function is going at default condition (high water level), if 1-2 below that is going at middle level, if 0 below low water level, heating hours and rinse hours depend on the above data.

ECO PRE mode is selected, the process going on at default condition.

	Washing hours		Rinse water level
	Cotton	Coloureds	
High	Default	Default	Default
Middle	Default-12 min	Default-7min	22.80 KHZ
Low	Default-25 min	Default-15min	24.10 KHZ

※After sensing weight, above hours is decreased from above default hours

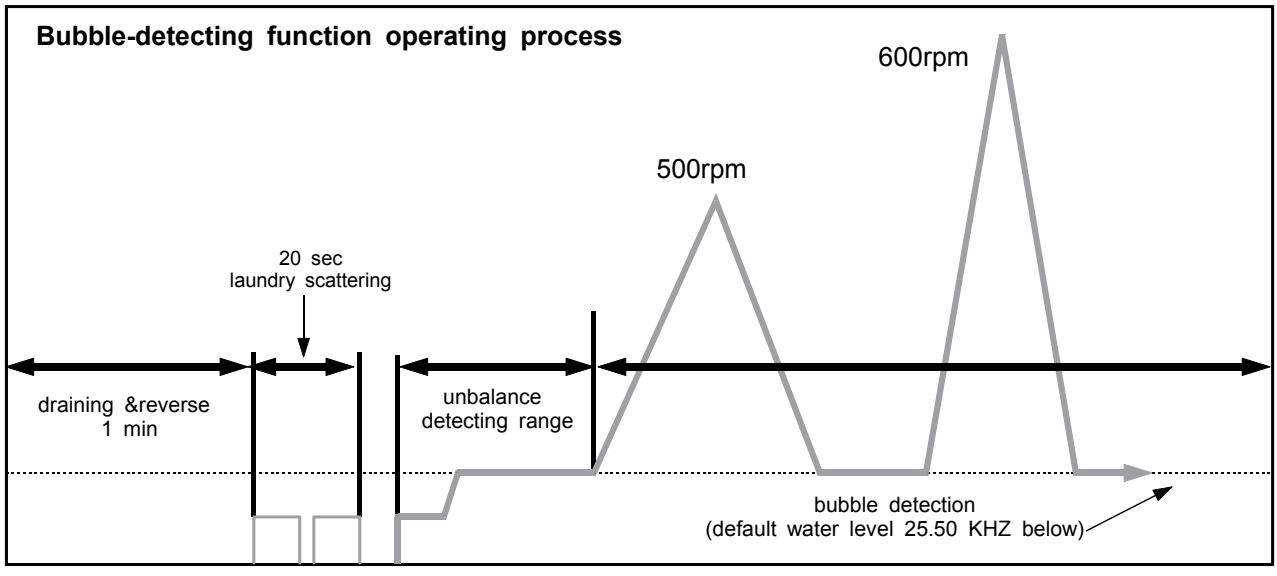
10) Bubble -detecting function

At the each condition of washing&dehydrating , rinse&dehydrating , hydrating, bubble-detecting function works, this function works 5times normally, if the function detects bubbles at 6 times , the bubble-detecting function stops and go on to the next process.

● The bubble-detecting function during washing & dehydrating to rinse & dehydrating
after 2 times instant dehydrating and before main dehydrating, if the water level is under 25.50 KHZ, Bubble

→ Detecting function thinks there are bubbles and add the bubbles-removing rinse, needing hours are above hours and 8 min 40 sec.

→ The bubble-detecting function during single hydrating process
after 2 times instant dehydrating and before main dehydrating , if the water level is 25.50 KHZ below or during main dehydrating, water level data is 24.30 KHZ below Bubble-detecting function thinks there are bubbles and add the bubbles-removing rinse 1 times, needing hours are above hours and 5 min 55 sec.



5. Main function

11) Unbalance detecting & laundry balance positioning system

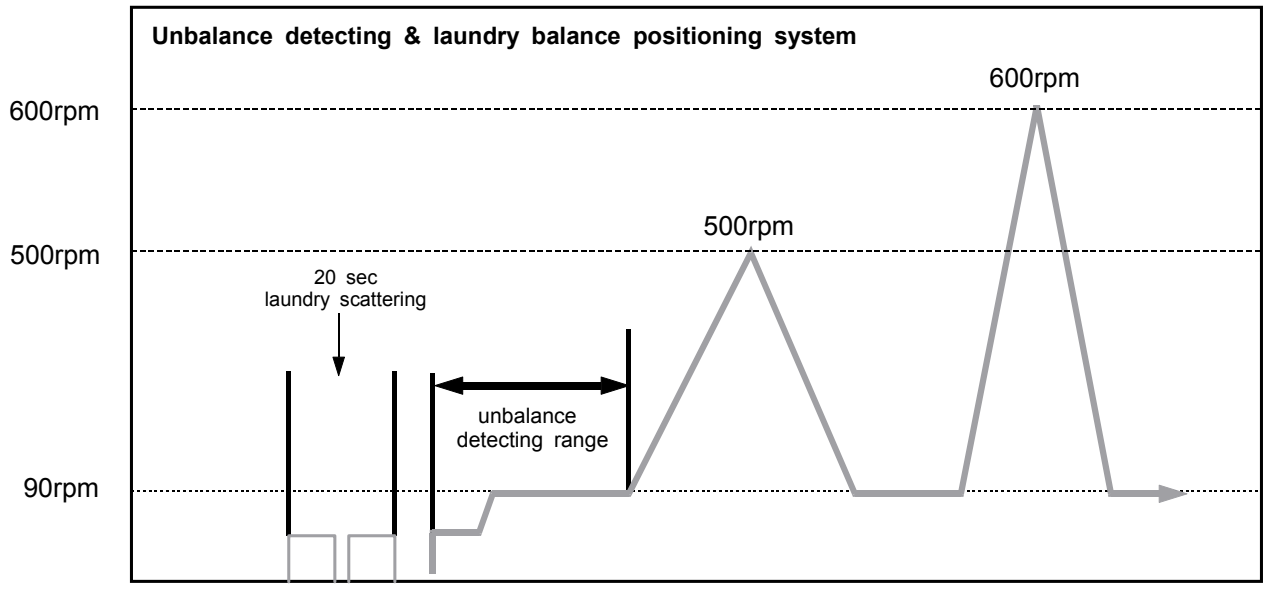
① Just before the hydrating process and just after reversal rotation for balancing laundry position, this function is carried out

② The initial 6 sec is the period of reversal rotation for balancing laundry position , Drum rotates 50rpm for initial 6 sec

③ Next 10 sec, the rotation increases the speed from 50 rpm to 90 rpm slowly

④ During the next 18 sec, drum rotates at the speed of 90 rpm, the sensor decides the degree of laundry unbalance with TACHO data which is attached to motor

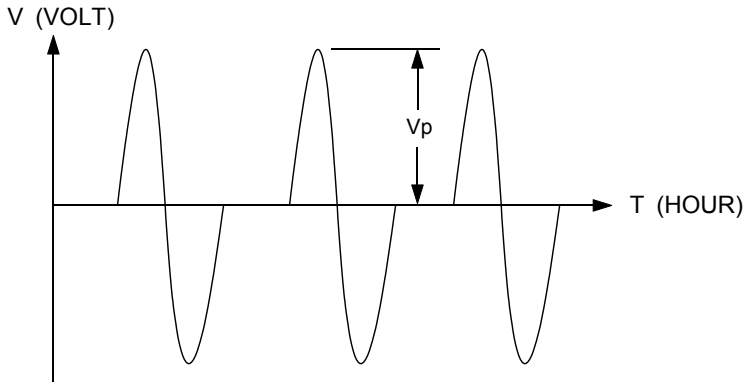
⑤ If the degree of unbalanced laundry is over 6 times to default value, laundry balancing system carryies out feed back process 6 times



12) R.P.M control

The rotating motor enables the magnetics(i.e generator) to generate magnetic flux in proportion to r.p.m, magnetic flux induced by coil sensor in the opposite side produces the wave like the figure below to dΦ/dt and via rectangual wave generating citcuit, the waves reaches MICOM and micom controlls r.p.m with the pulse, count and cycle inputted by program.

<COIL electrical wave at both ends>



6. Technical point

1) Motor on/off time at each course

unit:sec

Course	Washing				Rinse				Motor r.p.m
	Cw	Off	Ccw	Off	Cw	Off	Ccw	Off	
Cotton	11	4	11	4	10	5	10	5	50
Coloureds	11	4	11	4	10	5	10	5	50
Synthetics	7	8	7	8	7	8	7	8	40
Delicates	5	10	5	10	5	10	5	10	30
Wools	2	58	2	58	2	28	2	28	25
Quick	9	6	9	6	10	5	10	5	45
Pre	9	6	9	6	-	-	-	-	40

※ Motor on/off time is measured in cold water, in heating time motor on/off time is 10 sec on and 5sec off in the cotton course, beside cotton course, in the other course motor on/off time is the same with that of cold water use.

2) Final dehydrating r.p.m at each course

unit:rpm

Model / Course	P843
Cotton	800
Coloureds	800
Synthetics	800
Delicates	600
Wools	400
Quick	800

※ You can change the r.p.m to the above a table by use spin button under no spin situation.

3) The water supply control at each process cycle

Model / Process cycle	P843
Washing	Cold water 4.5L/min + cold 10L/min
Rinse	Cold water 4.5L/min + cold 10L/min
Final rinse	Cold water 4.5L/min + cold 10L/min + cold 2L/min

6. Technical point

4) The water level data at each course

unit:Khz

Course \ Water level		Default water level(khz)	Supplemetary water START(Khz)	Supplemetary water end(khz)
Cotton	**Washing**	24.40	25.00	24.75
	Rinse	23.60	25.00	24.80
Coloureds	**Washing**	24.40	25.00	24.75
	Rinse	23.60	25.00	24.80
Synthetics	**Washing**	24.40	25.00	24.75
	Rinse	23.60	25.00	24.80
Delicates	**Washing**	23.80	24.55	24.35
	Rinse	23.65	24.55	24.35
Wools	**Washing**	23.45	24.35	24.00
	Rinse	23.15	24.35	24.00
Quick	**Washing**	24.40	25.00	24.75
	Rinse	23.80	25.00	24.80

5) The other water level data

unit:Khz

The water data unter each conditon		
1st water supply (only preparation)	25.60	1st water supply level to washing tub
Overflow error	21.50	The water supplied reach 2/3 of door
Bubble detectingatwashing/rinse/dehydrating	25.50	Bubble -detecting water level
Bubble detecting rinse water level	23.60	The water level which can detect bubbles
Water level which can open door	24.80 over	It is possible to open the door
Water level which can drive heater	25.50	Safety water level of wash heater
Water level which can reset the drain	25.50	The water level can be detected after 1st draining

※ If water level is 15KHZ below or 30 KHZ above , sensor-pressur is out of order so needs changing.