SAMSUNG

WASHING MACHINE

B1445AVGW/YLW
B1245AVGW/YLW
B1045AGW/YLW

SERVICE **Manual**

WASHING MACHINE
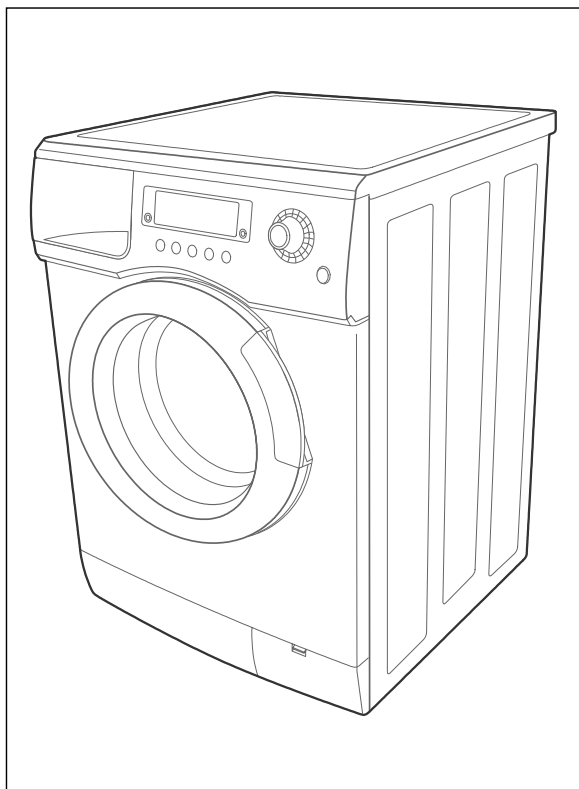
CONTENTS

⚠ **Caution for the safety during servicing**

1. SPECIFICATIONS

2. SAFETY DEVICES

3. OVERVIEW OF THE WASHING MACHINE

4. OVERVIEW OF THE CONTROL PANEL

5. MAIN FUNCTION

6. TECHNICAL POINT

7. GENERAL ERROR FUNCTION

8. TROUBLE DIAGNOSIS

9. TEST MODE

10. DESIGNATION OF MAIN COMPONENTS

11. PCB SCHEMATIC DIAGRAM

11-1. PCB CIRCUIT DIAGRAM

12. SETTING UP A WASH MACHINE

13. ASSEMBLE AND DISASSEMBLE

14. TOOLS FOR DISASSEMBLY AND ASSEMBLY

15. EXPLODED VIEW AND PARTS LIST

⚠ 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.

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	78 kg		
	NET	75 kg		
WASH and SPIN CAPACITY		6.0 kg (DRY LAUNDRY)		
POWER CONSUMPTION	WASHING	220 V	180 W	
		240 V	180 W	
	WASHING and HEATING	220 V	2000 W	
		240 V	2400 W	
	SPIN	MODEL	B1445AV	B1245AV	B1045A
		220-240V	550 W	500 W	500 W
	PUMPING	34 W	34 W	34 W
WATER CONSUMPTION		54 ℓ (STANDARD COURSE)		
SPIN REVOLUTION	MODEL	B1445AV	B1245AV	B1045A
	rpm	1400	1200	1000

2. SAFETY DEVICES

※ We adapt 6 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 dehydrating process.

2) Door locking device (DOOR-LOCK S/W)
   → Door isn't open during operating
   For safety. even after pause or finishing operating, the door of wash machine which uses the
   button to open the ass'y door can be opened when the water level is over 24.8 kHz
   (i.e anti-water flow level) and the temperature inside of tub is under 55℃.

3) 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, Over -flow error (OE) is displayed on the panel

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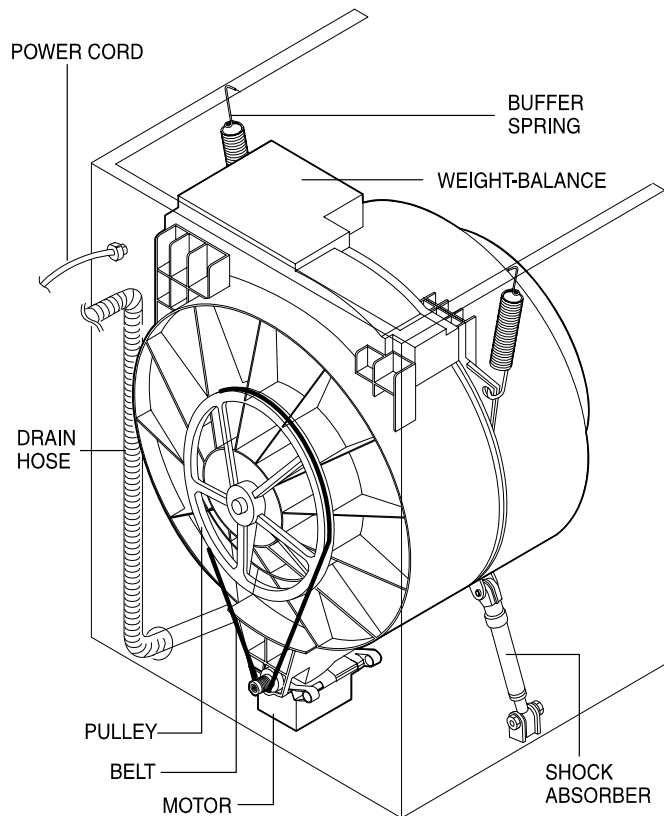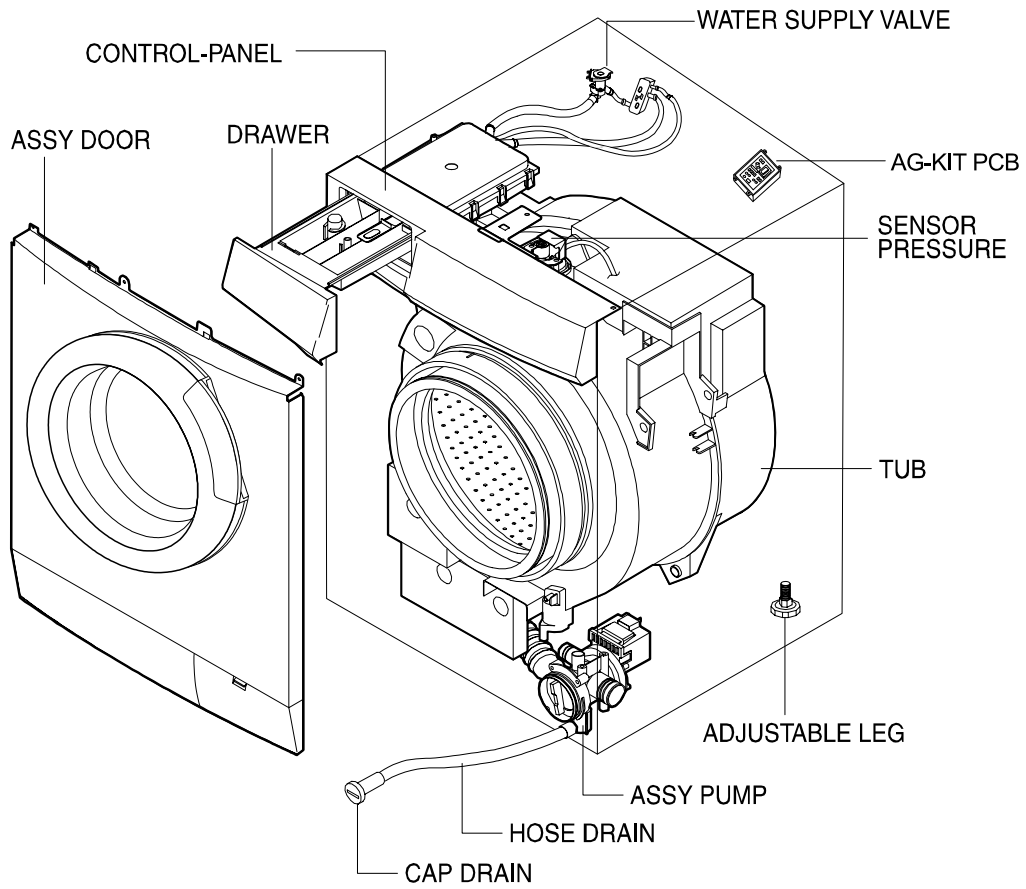
5) Overheating- controlling system
   → Under the circumstances of THERMISTOR inferiority or abnormal condition, if wash-heater is
   overheated, automatically, ass'y -thermal fuse cuts off the power supply to protect the machine to
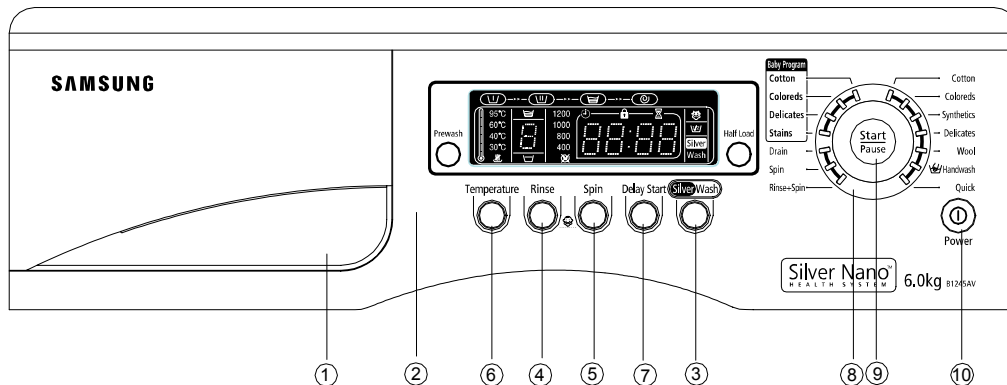   keep it safe.

6) 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 display abnormal water temperature on the panel , after draining the
   water.

3. OVERVIEW OF THE WASHING MACHINE

WATER SUPPLY VALVE

CONTROL-PANEL

AG-KIT PCB

ASSY DOOR

DRAWER

SENSOR
PRESSURE

TUB

ADJUSTABLE LEG

ASSY PUMP

HOSE DRAIN

CAP DRAIN

POWER CORD

BUFFER
SPRING

WEIGHT-BALANCE

DRAIN
HOSE

PULLEY

BELT

MOTOR

SHOCK
ABSORBER

4. OVERVIEW OF THE CONTROL PANEL

1. Detergent dispenser
2. Display panel
   Displays the remaining wash cycle time and error messages.
3. Silver Nano selection button
   Silver Nano water is supplied in washing as well as the last rinse, featuring sterilization and antibacterial coating.
4. Rinse selection button
   Press the rinse button to add rinse cycles. Maximum number of rinse cycles is five.

5. Spin selection button
   Press the button repeatedly to cycle through the available spin speed options.

B1445AV	⊔ , ⊠ , 400, 800, 1200, 1400 rpm
B1245AV	⊔ , ⊠ , 400, 800, 1000, 1200 rpm
B1045A	⊔ , ⊠ , 400, 600, 800, 1000 rpm

   ⊠ : no spin,
   ⊔ : rinse hold

   No spin

   The laundry remains in the drum without being spun after the final drain
   Rinse Hold

   The laundry remains soaking in the final rinse water.
   Before the laundry can be unloaded, either "Drain" or the "Spin" program must be run.

6. Temperature selection button
   Press the button repeatedly to cycle through the available water temperature options
   (cold water(❄), 30℃, 40℃ , 60℃ and 95℃).

7. Delay Start selection button
   Press the button repeatedly to cycle through the available delayed start options (from 3 hour to 24 hours in one hour increments).
   Displayed hours means the time of finished washing-cycle.

8. Fuzzy Control dial
   Turn the dial to select one of the 14 available wash programs.

   Cotton, Coloureds, Synthetics, Delicates, Wool, Hand wash, Quick,
   Rinse+Spin, Spin, Drain, Baby Program(Stains, Delicates, Coloreds, Cotton)

9. Start/Pause selection button
   Press to pause and restart programs.

10. ① (On/Off) selection 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.

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
● Door just can be opened at water level 24.80 KHz over, water temperature 55℃ below, motor off, if power is off door is not opened (only auto-door model)
● If door is open during the operating, all operating is halted, and door error message will be displayed (2-digit panel displays "dE" 4-digit panel displays "door") 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) Drain function
● Drain function is over, after pumping out the water for 2 minutes , without motor rotating

6) Pre-washing function
● Pre-washing function can be selected ,when you choice the following mode; cotton, coloreds, synthetics, delicates, baby cotton, baby coloreds, baby delicates, baby stains
● Water level/reverse time is the same with the selected course
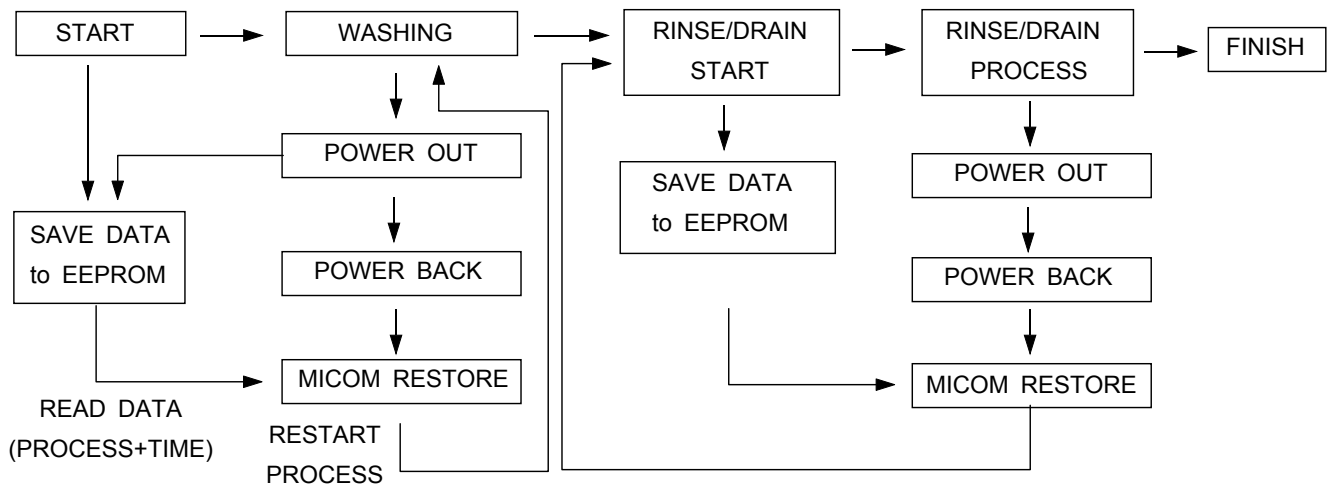● Pre-washing takes about 16 minutes

7) Rinse+ function
● This function practises rinse process once more

5. MAIN FUNCTION

8) 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

```
┌─────────┐      ┌─────────┐      ┌──────────┐      ┌──────────┐      ┌────────┐
│  START  │ ───► │ WASHING │ ───► │RINSE/DRAIN│ ───► │RINSE/DRAIN│ ───► │ FINISH │
└─────────┘      └─────────┘      │  START   │      │ PROCESS  │      └────────┘
                      │           └──────────┘      └──────────┘
                      ▼                 │                 │
              ┌─────────────┐           ▼                 ▼
              │  POWER OUT  │     ┌──────────┐      ┌──────────┐
              └─────────────┘     │ SAVE DATA │      │ POWER OUT │
┌─────────────┐     │            │ to EEPROM │      └──────────┘
│ SAVE DATA   │     ▼            └──────────┘            │
│ to EEPROM   │ ┌─────────────┐                          ▼
└─────────────┘ │ POWER BACK  │                   ┌──────────┐
                └─────────────┘                   │POWER BACK │
                      │                           └──────────┘
 READ DATA            ▼                                 │
(PROCESS+TIME) ┌──────────────┐                         ▼
               │MICOM RESTORE │              ┌───────────────┐
               └──────────────┘              │ MICOM RESTORE │
                 RESTART                     └───────────────┘
                 PROCESS
```

9) 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 minute late, the variance of temperature(Y) is less than 2℃, "HE2"message is displayed on the panel.

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 40℃, "HE1"message is displayed on the panel.

④ At this time heater, Error "HE2 (heater do not work), HE(overheated)" is displayed 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

10) 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 over 2 times
the function is going at default condition (high water level), if 1 time 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-20 min	Default-10min	23.80KHZ
Low	Default-30 min	Default-15min	24.10KHZ

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

11) 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 24.50KHZ, 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 24.50KHZ below or
during main dehydrating, water level data is 24.50KHZ below Bubble-detecting function thinks there are
bubbles and add the bubbles-removing rinse 1 times, needing hours are above hours and 5 min 50 sec.

Bubble-detecting function operating process

500rpm

220rpm

18 sec
laundry scattering

draining &reverse
50 sec

unbalance
detecting range

bubble detection
(default water level 24.50KHZ below)
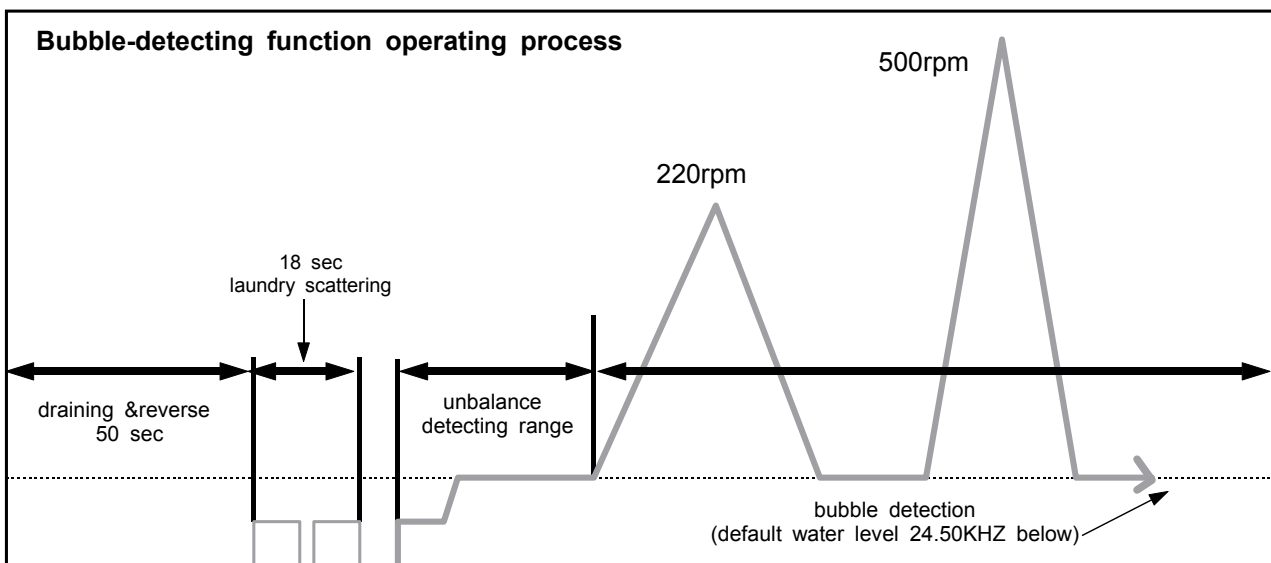
5. MAIN FUNCTION

12) 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 12 sec, the rotation increases the speed from 50 rpm to 95 rpm slowly

④ During the next 8 sec, drum rotates at the speed of 95 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 3 times
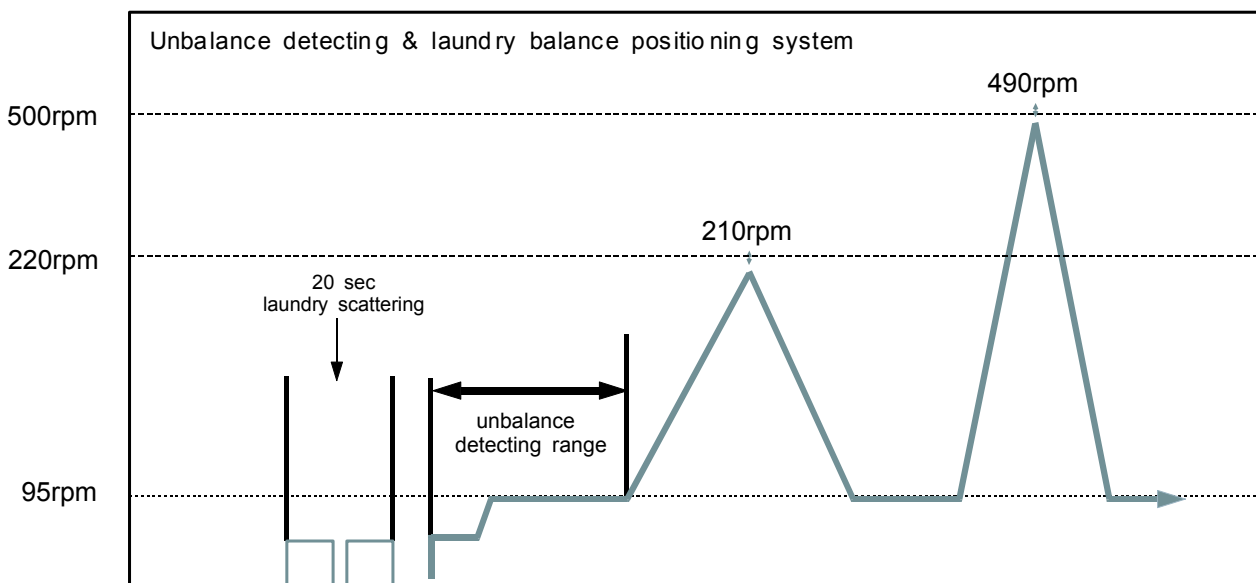
13) R.P.M control

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 rectangular wave generating circuit, the waves reaches MICOM and micom controls r.p.m with the pulse, count and cycle inputted by program.
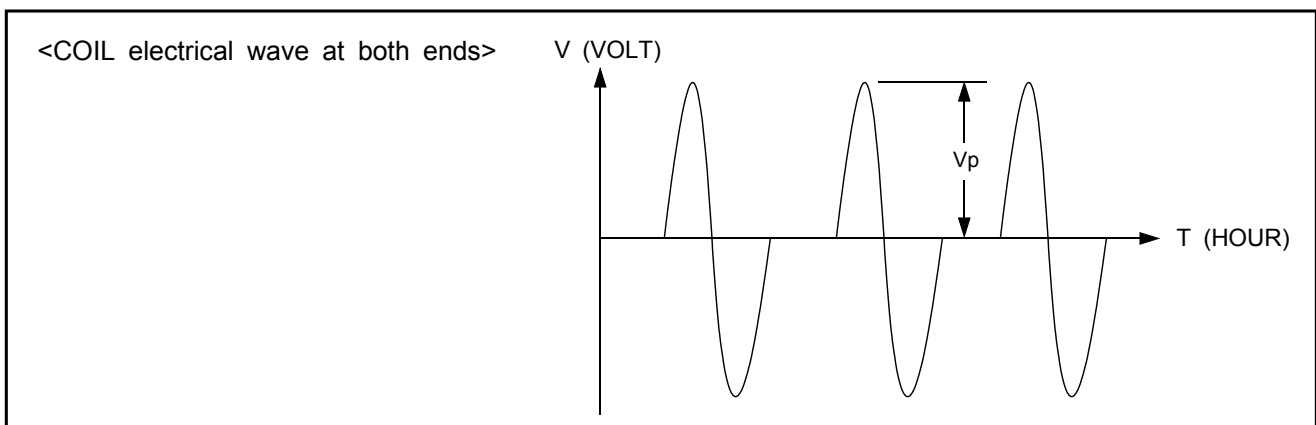
6. TECHNICAL POINT

1) Motor on/off time at each course

unit:sec

Course	Washing				Motor r.p.m
	Cw	Off	Ccw	Off	
Cotton	13	4	13	4	52
Coloureds	12	8	12	8	50
Synthetics	7	8	7	8	40
Delicates	5	10	5	10	40
Wool	2	48	2	48	50
Handwash	2	58	2	58	50
Quick	12	8	12	8	50
Pre	10	10	10	10	50
B-Cotton	**8**	12	8	12	45
B-Coloureds	10	10	10	10	45
B-Delicates	5	10	5	10	40
B-Stain	10	10	10	10	45

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

Model / Course	B1445AV	B1245AV	unit:rpm B1045A
Baby Cotton	1400	1200	1000
Cotton	1400	1200	1000
Coloureds	1400	1200	1000
Synthetics	800	800	800
Delicates	800	800	600
Wools	400	400	400
Quick	1400	1200	1000
Handwash	400	400	400
B-Cotton	1400	1200	1000
B-Coloureds	1400	1200	1000
B-Delicates	800	800	600
B-Stains	1400	1200	1000

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

6. TECHNICAL POINT

3) The water supply control at each process cycle

Model Process cycle	B1445AV,B1245AV,B1045
Pre Washing	Cold water 5L/min
Washing	Cold water 10L/min + (Hot water 10L/min)
Rinse	Cold water 10L/min
Final rinse	Cold water 10L/min + Cold water 5L/min

4) The water level data at each course

unit:Khz

Course	Water level	Default water level (kHz)	Supplementary water START (kHz)	Supplementary water End (kHz)
Cotton	Washing	24.25	24.90	23.60
	Rinse	23.60	25.00	24.60
Coloureds	Washing	24.25	24.90	23.60
	Rinse	23.60	25.00	24.60
Synthetics	Washing	24.40	25.00	24.75
	Rinse	23.60	25.00	24.60
Delicates	Washing	23.80	24.55	24.30
	Rinse	23.65	24.55	24.30
Wools / Handwash	Washing	23.45	24.35	24.00
	Rinse	23.15	24.35	24.00
Quick	Washing	24.40	25.00	24.70
	Rinse	23.80	25.00	24.70
B-Cotton B-Coloureds	Washing	24.25	24.90	23.60
	Rinse	23.50	25.00	24.60
B-Delicates	Washing	24.25	24.90	24.60
	Rinse	23.50	25.00	24.60
B-Stains	Washing	24.25	24.90	24.60
	Rinse	23.50	25.00	24.60

6. TECHNICAL POINT

5) The other water level data

unit:Khz

The water data unter each conditon		B1445AV , B1245AV, B1045A	
1st water supply (only preparation)	25.50	1st water supply level to washing tub
Overflow error	21.50	The water supplied reach 2/3 of door
Bubble detectingatwashing/rinse/dehydrating	24.50	Bubble -detecting water level
Bubble detecting rinse water level	23.00	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.

7. General Error Function

1. An occurrence of an Error will make a sound of error melody for 5sec and continuously show one of the Error Displays from the following errors. (But, Fault Check Led will flash for 0.5sec.)

2. All of the steering parts will be off at that time until that error was released.

3. Water Supply Error

 - If there is no higher change in water frequency than 100Hz for 2 minutes during the initial time of water supply and if water level doesn't reach the preset level in 10 minutes, this error will occur.
   This error will be released using Start/Pause button, which performs the initial condition of operation.
 - Display : **"4E"**

4. Water Drain Error

 - If water level frequency is still lower than the reset level frequency (25.20kHz) in 10 minutes after starting of water drain, this error will occur.
   This error will be released using Start/Pause button, which performs the initial condition of operation.
 - Display : **"5E"**

5. Over Flow Error

 - If an abnormal water level frequency is sensed (for occurrence of Over Flow :21.00kHz), Auto Power Off may release this error and continuously progress water drain until the frequency reached 25.00kHz.
 - If Over Flow is also sensed even after the following check of water level frequency indicating that error, it functions to progress water drain.
 - Display **: "OE"**

6. Door Open Error

 - This error will be released by closing Door.
 - Display : **"dE"**

7. Unbalance Error

 - This error will be released by pressing start/pause S/W.
 - DISPLAY : " **UE"**

8. Water Heater Error

 - This error will be released by turning off Power S/W.
 - Display : "**HE1"(Over Heat),**
 - Display **: "HE2", indicating no operation of HE.**

9. Pressure S/W (Single Part Trouble) Error

※ Frequency signals(kHz) generated by water level S/W

Water Level	Low	High
Abnormal Frequency	30.00 KHz	15.00 KHz

 - If the above frequency signals are displayed longer than 5sec, it indicates Pressure S/W Error.
 - Drain water for 3 minutes for that Error, and turn OFF water drain pump. Pressure S/W Error display " **IE"** will be shown. .

10. Abnormal Water Temperature ERROR

 - Water drain begins if abnormal water temperature is sensed at the initial time of water supply. If the frequency higher than 25.20KHz is sensed, water will be drained by force.
 - Display **: "CE"**
 - This error will be released by turning off Power S/W.

7. General Error Function

11. Natural Drain/Water Leak Error

- If more than 4 times of water supply and safe water level of Heater are sensed for each course, this error will occur.
- Display : "**LE**
- This error will be released by turning off Power S/W.

12. Tacho Error

- If Motor Tacho is abnormal, this error will occur.
- If Tacho signals are inputted less than 2 for 2sec after Motor started, this error will occur.
- Display : "**3E"**
- This error will be released by turning off Power S/W.

13. Motor TRIAC Short Error

- If Tacho signals are inputted more than 300 every 1sec in the operational interval less than 90RPM, this error will occur.
  Turn off Power S/W at that time.
- Display **: "bE**"
- This error will be released by turning off Power S/W.

14. Thermistor Abnormal Error

- If Thermistor circuit is abnormal, this error will occur.
- If Thermistor is lower than 0.2V or higher than 4.5V, this error will occur.
- Display **:"tE"**
- This error will be released by turning off Power S/W.

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.

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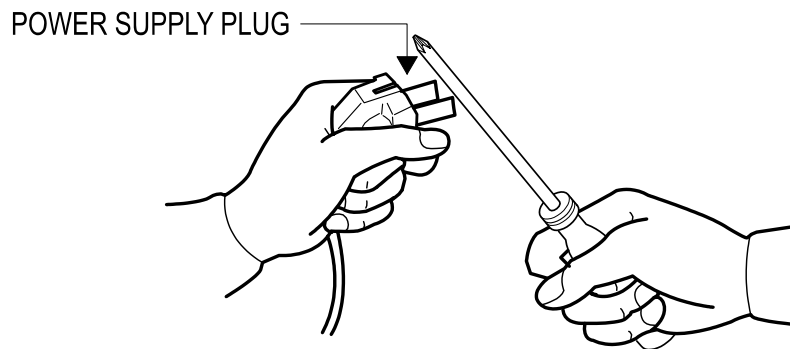
2) Since AC220~240V is applied to the triac T1 and T2 on P.C.B, the electric shock may occur by touching and be careful that the strong and weak electricity are mixed.

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.

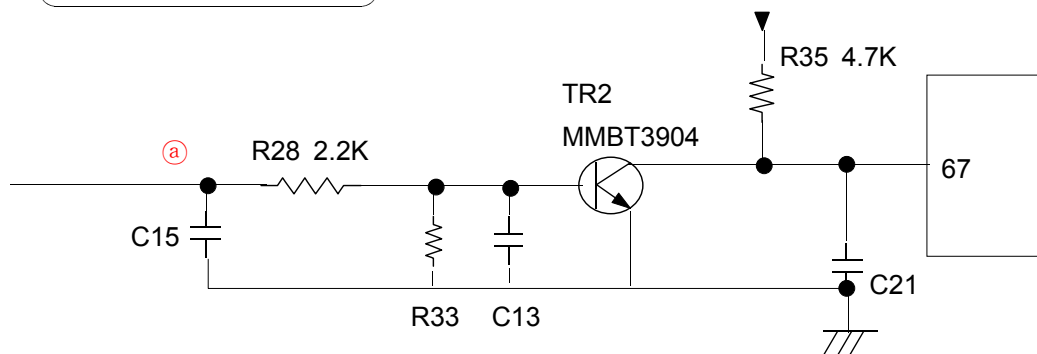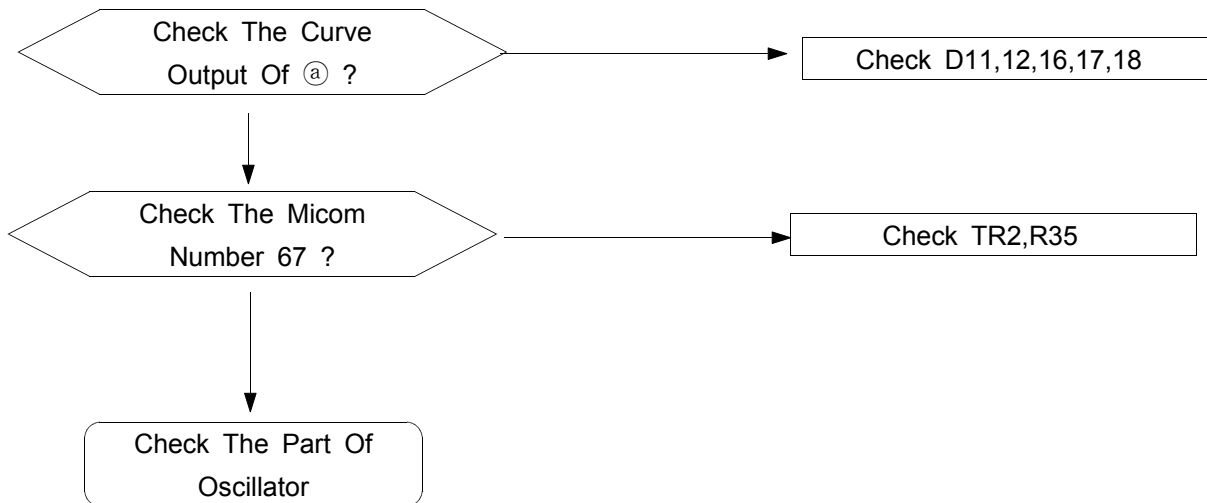## 8-2 . Problem Checking And Method Of PCB
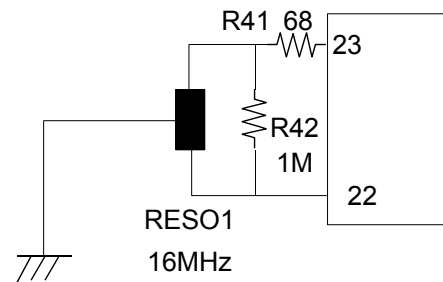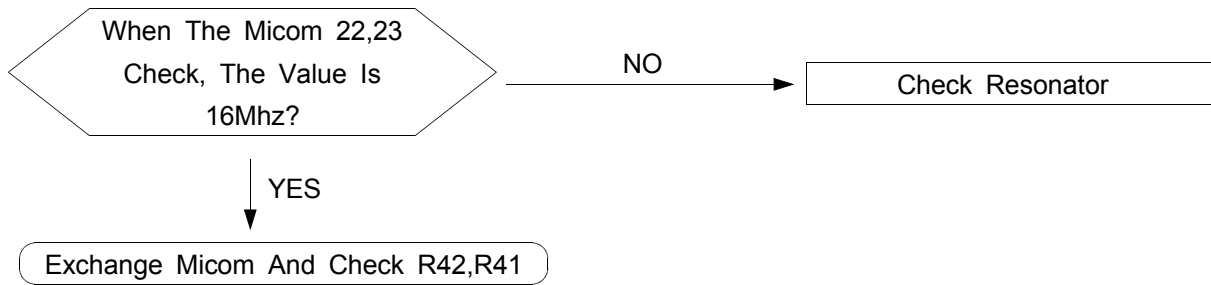## 8-2-1 The Part Of Power Source

```
        ┌─────────────────────┐
        │    NO Power On       │
        └─────────────────────┘
                  │ YES
                  ▼
     ┌─────────────────────────┐
     │    The Voltage Of       │        NO      ┌──────────────────────┐
     │  Between ⓐ and ⓑ Is     │ ──────────────▶│  Check The Trans     │
     │    As Big As 12V?       │                └──────────────────────┘
     └─────────────────────────┘
                  │ YES
                  ▼
     ┌─────────────────────────┐                ┌──────────────────────┐
     │    The Voltage Of       │        NO      │  Check The Diode     │
     │  Between ⓒ and ⓓ Is     │ ──────────────▶│  (D11,D12,D16,D17,D18)│
     │    As Big As 12V?       │                │  And Condenser(CE3)  │
     └─────────────────────────┘                └──────────────────────┘
                  │ YES
                  ▼
     ┌─────────────────────────┐                ┌──────────────────────┐
     │    The Voltage Of       │        NO      │  Exchange IC3(7805) And│
     │  Between ⓔ and ⓓ Is     │ ──────────────▶│  Check The           │
     │    As Big As 5V?        │                │  Condenser(CE5)      │
     └─────────────────────────┘                └──────────────────────┘
                  │ YES
                  ▼
```

D11,12,16,17

ⓐ   D18   ⓒ IC3   CE5   ⓔ   30
                      7805   57
TRANS   72
ⓑ   75
        2200UF   470UF   13
                                          31
        CE3   ⓓ   73
                                          74

8-2-2. Reset Part

The Value Of Measurement Result Of Between Micom 25 And Gnd Is 5V? — NO → Check The Power Source

YES ↓

Check IC4

IC4 7533 · R40 100 · 25 · CE7 1UF

8-2-3. Interrupt Part

Check The Curve Output Of ⓐ ? → Check D11,12,16,17,18

↓

Check The Micom Number 67 ? → Check TR2,R35

↓

Check The Part Of Oscillator

ⓐ · R28 2.2K · TR2 MMBT3904 · R35 4.7K · 67 · C15 · R33 · C13 · C21

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

When The Micom 22,23 Check, The Value Is 16Mhz? ──NO──▶ Check Resonator

│ YES

Exchange Micom And Check R42,R41

R41 68 ──▶ 23
R42 1M
RESO1
16MHz
22

8-2-5. Check The Part Of Buzzer

ⓐ Part Confirm DC12V ? ──NO──▶ Check The Part Of Power Source

│ YES

Exchange BUZZER1, Check R5,R46

BUZZER1   IC2   R46 10K   65
ⓐ   ⓑ
R5   1K
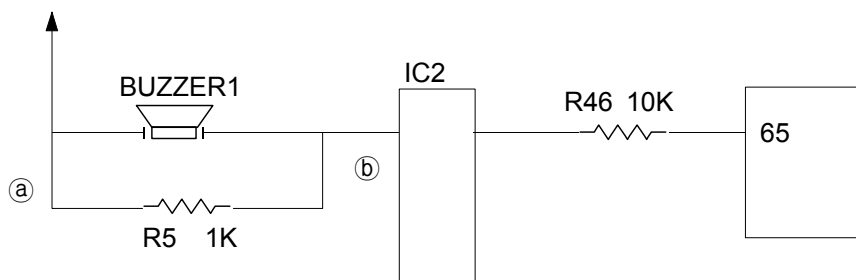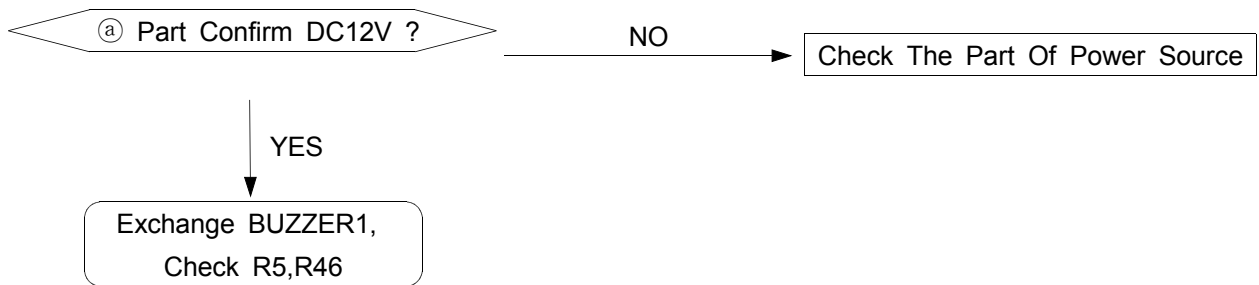
8-2-6. Driving Part Checking

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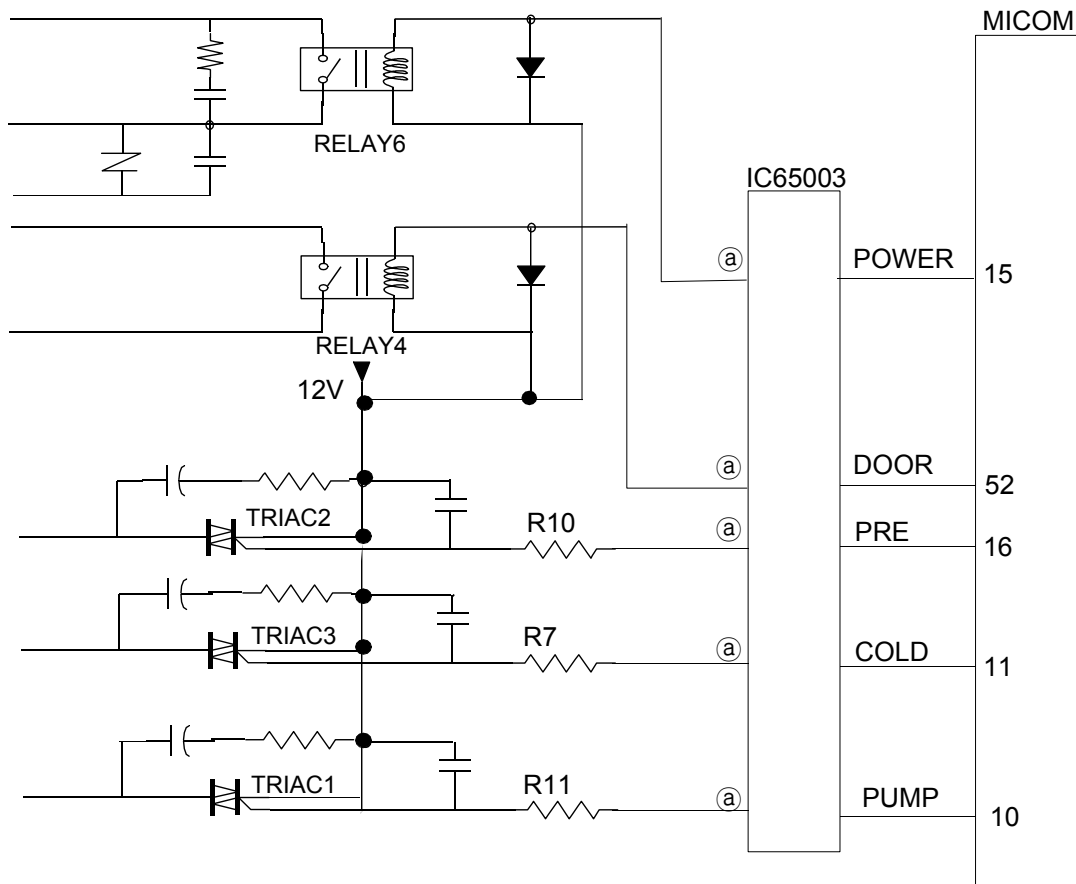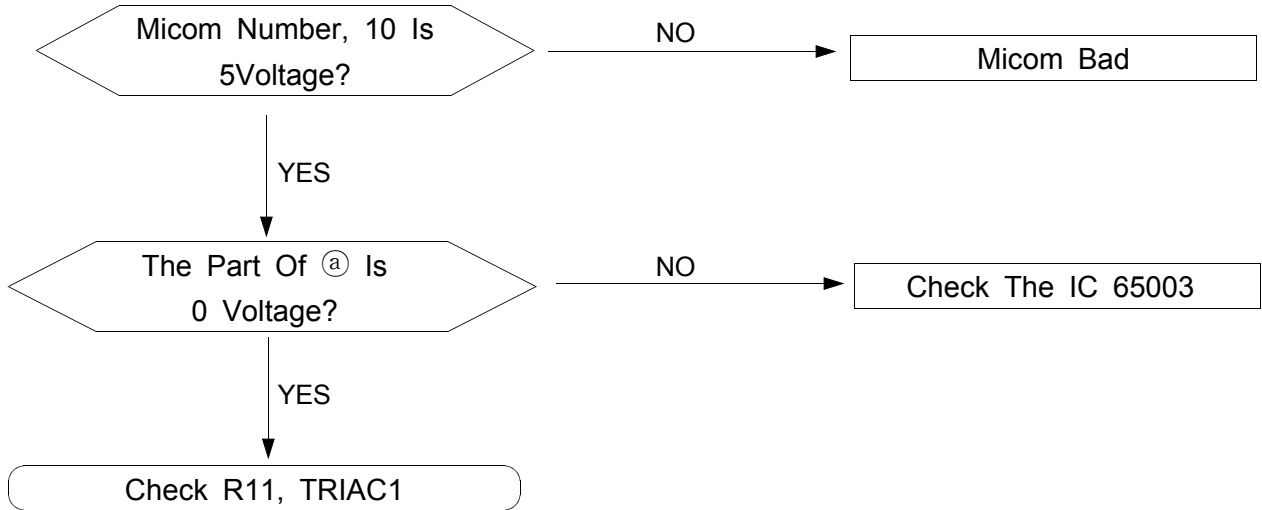
※ **Check The Micom 18th In The Above Method When The Cold Water Is Bad**

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

Motor Is Not Spinning ──YES──▶ Check BD1, TRIAC5

│ NO
▼

Motor Is Not Turning Right And Left ──YES──▶ Check RELAY1

│ NO
▼

Check The Tacho Part
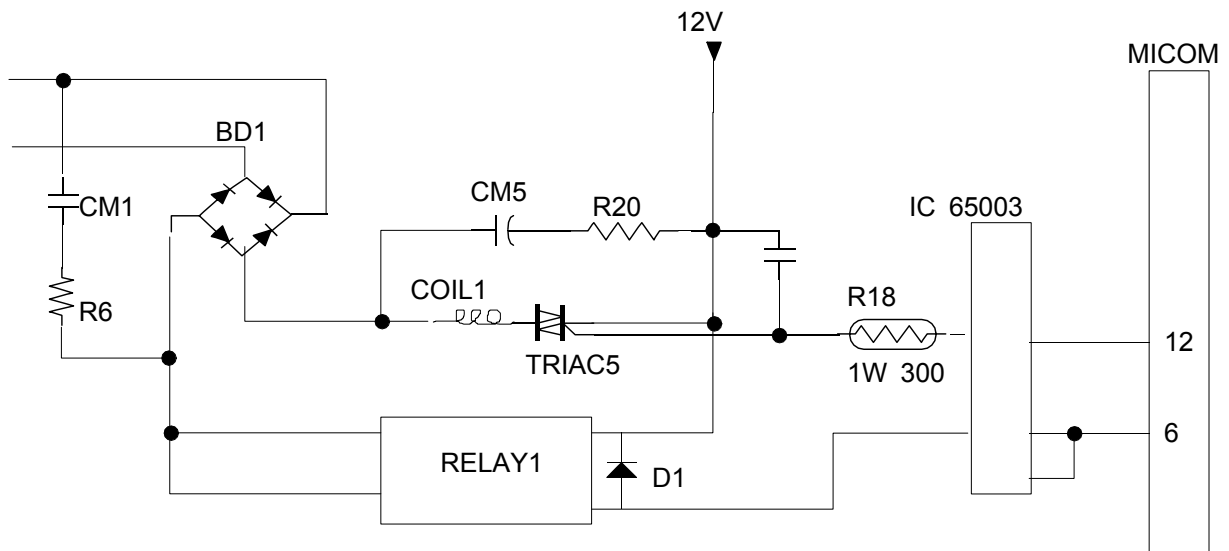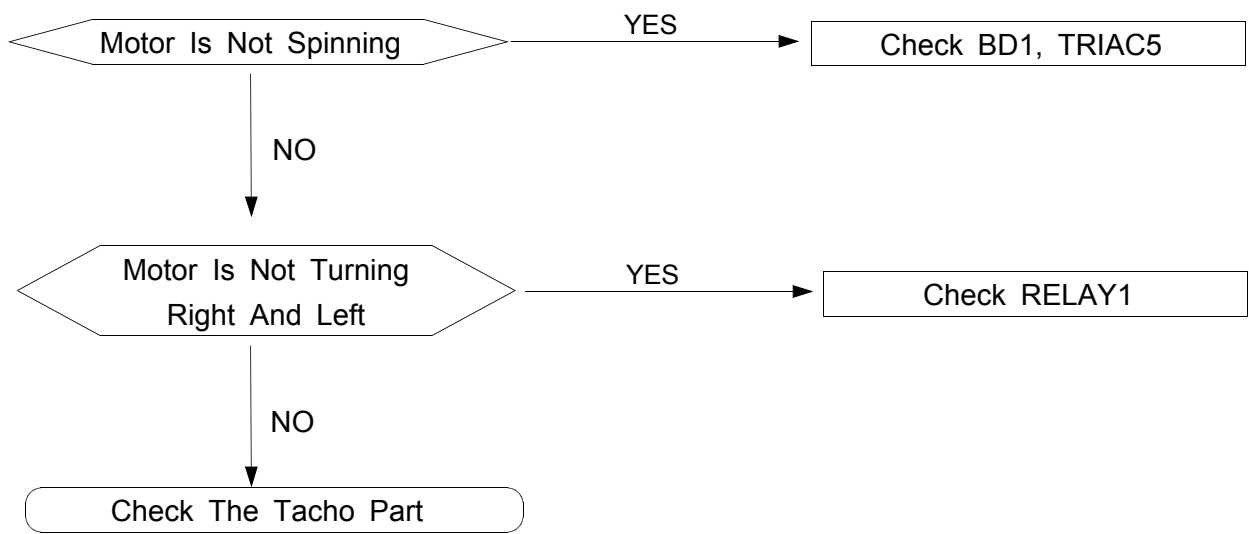
8-2-8. Checking The Tacho Part

```
┌─────────────────────────────────┐
│  Have The Motor Turn In Hand    │
└─────────────────────────────────┘
                │
                ▼
        ╱─────────────────╲                      ┌──────────────────────────┐
       ╱  Is The Rectangular ╲      NO            │  Check The Surroundings  │
       ╲ Curve In The Micom 66? ╱ ──────────────► │  Circuit And TR1,IC7     │
        ╲─────────────────╱                       └──────────────────────────┘
                │
                │ YES
                ▼
┌─────────────────────────────────┐
│      Exchange The Motor         │
└─────────────────────────────────┘
```
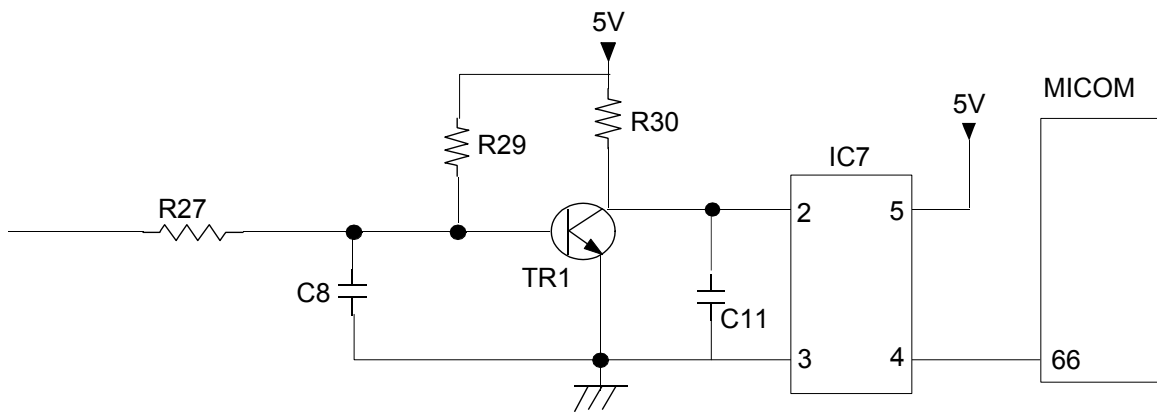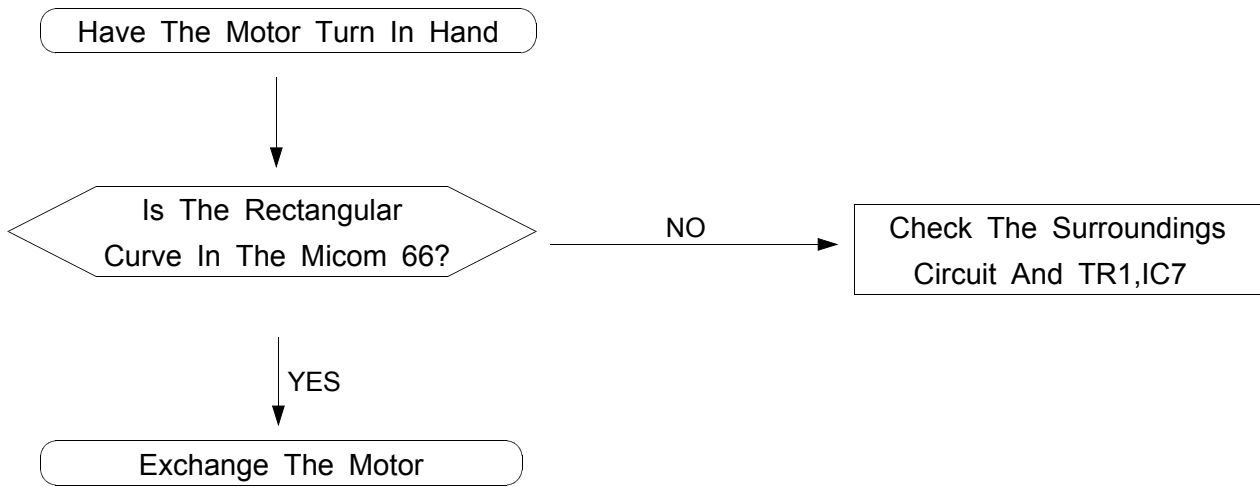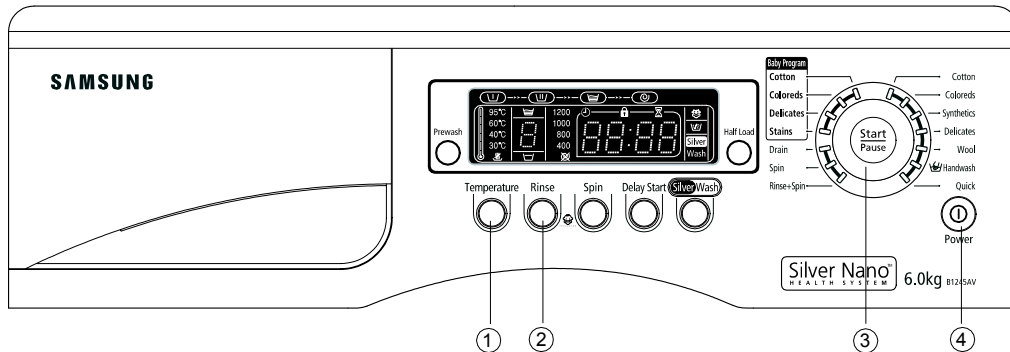
9. TEST MODE

1. Driving Compartment Test Mode
A. Hold down "1" and "2" keys simultaneously and then press POWER S/W "4" on.
   (Whole lamps turn on and display show "t1" after 3 Seconds.)
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-wash VALVE ON(0.3sec) → OFF(0.3sec) → COLD VALVE ON(0.3sec) → [OFF(0.3sec) →
   HOT VALVE ON (0.3sec) : *OPTION*] → OFF(0.3sec) → Rinse 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) → DOOR OPEN
   (Function continues when door is closed)

2. THERMISTOR TEST MODE
A. Hold down "1" and "2" keys simultaneously and then press POWER S/W "4" on.
   (Whole lamps turn on and display show "t1" after 3 Seconds.)
B. Press the "1" key and display shows "t2"
C. Press the "3" key and display shows the inside temperature of tub.

10. DESIGNATION OF MAIN COMPONENTS

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

<Figure1>

<Figure2>

WASHING MOTOR

<Figure3>
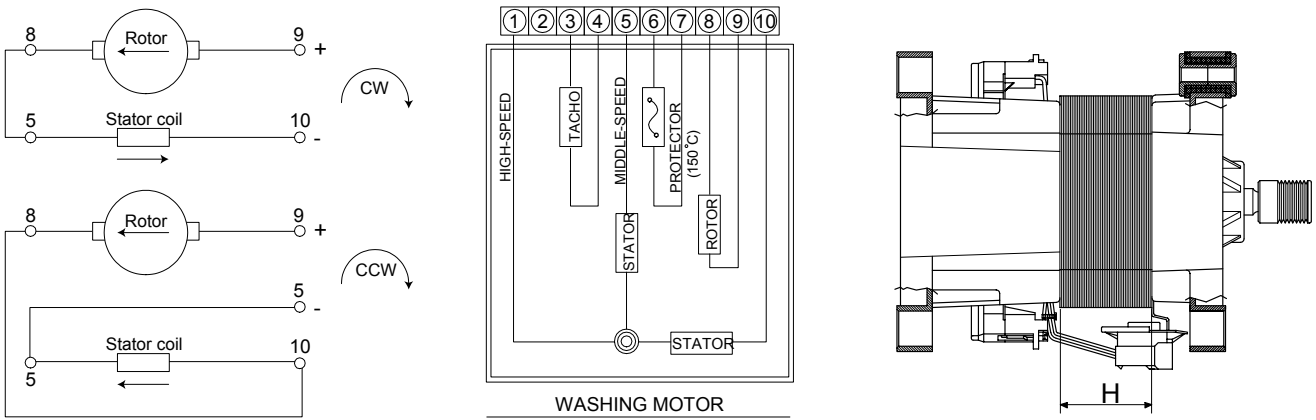
(± 7%)	STATOR(5.1)	STATOR(5.1)	ROTOR(8.9)	TACHO(3.4)	PROTECTOR(6.7)	"H"(mm)	Code-No.	Remark
Resistance value	2.07Ω	0.90Ω	2.35Ω	34.3Ω	0	45	DC31-00002F	B1445AV,B1245AV, B1045A
Rated value	220~240V/50Hz							

10-2 Door safety Device

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

OUT-CASE   DOOR-LEVER   OUT-CASE   IRON BOARD
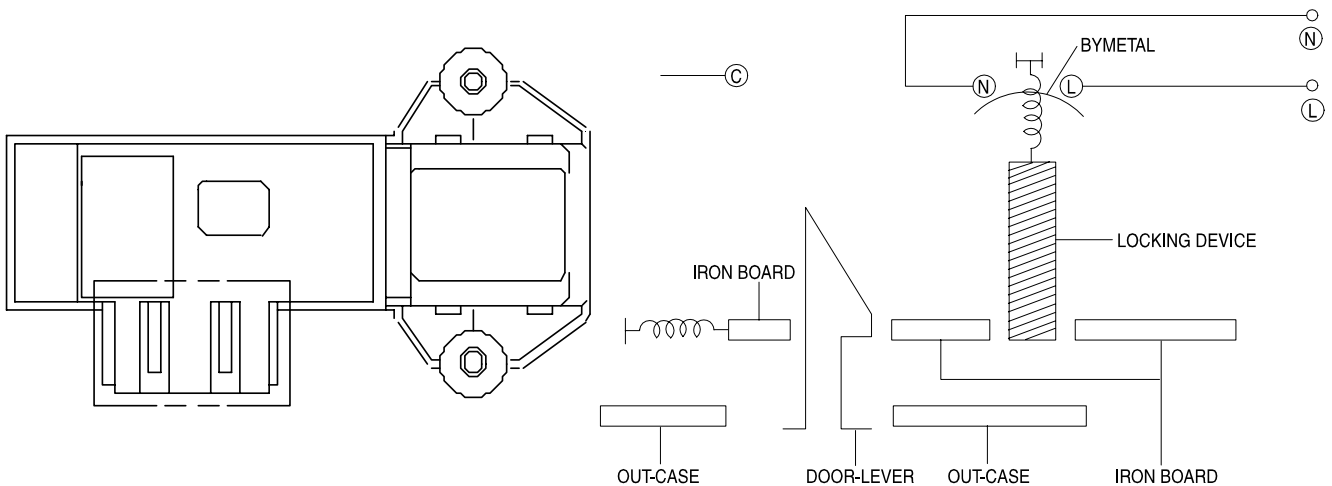
10-3 Heater

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

Thermistor
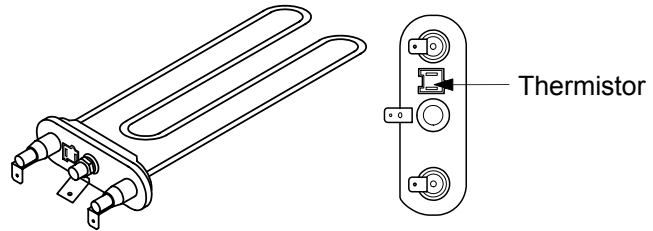
10-4 Detergent tub and water supply value

  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(2way) and water flow per Min in the valve is below.

	Hot water valve(1 way)	Cold water valve (2 way)	
		V1	V2
water flow(L/min)	10 ℓ	10 ℓ	5 ℓ
resistance value	4.4kΩ	4.2 kΩ	4.2 kΩ
power consumption	AC 220v ~ 240V 50/60㎐		
usable water pressure	0.5 ~ 8 ㎏/㎠		

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.
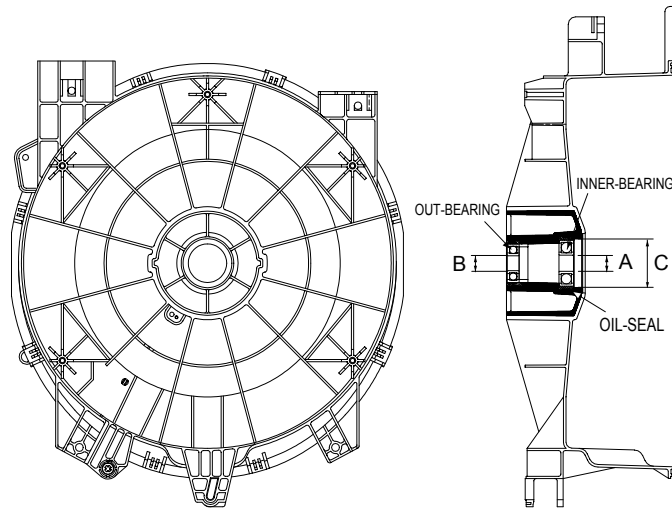
Shock absorber function: during wash, dehydration absorb the shock.

buffer spring: buffering the vibration
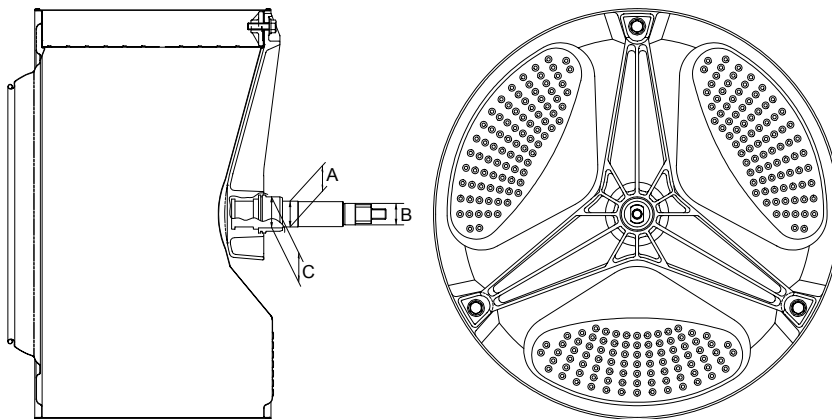
device	capacity of Shock absorber
Shock absorber	8±2 kg
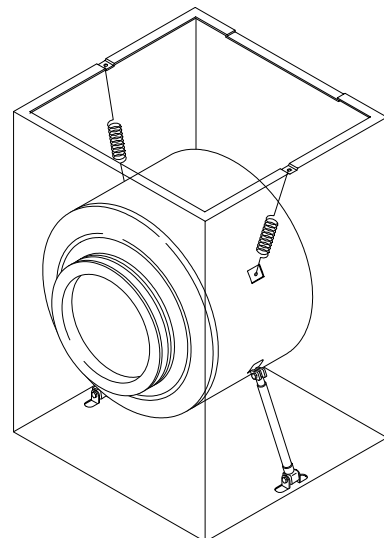
10-6 Assy-tub Back

(unit : mm)

TYPE	INNER-BEARING(A)	OUT-BEARING(B)	OIL-SEAL(C)	Assy-Tub Back	REMARK
I	ø 30	ø 25	ø 34.1	DC97-00214E	B1245AV,B1045A
II	ø 30	ø 25	ø 34.1	DC97-00214D	B1445AV

10-7 Assy- Drum

(unit : mm)

TYPE	(A)	(B)	(C)	CODE-NO.	REMARK
I	ø 30	ø 25	ø 35	DC97-01463F	B1445AV,B1245AV,B1045A

10-8 Assy-pump Drain

1) Capacity : AC 230V 34W
2) Location : Front bottom(R)
3) Resistance : 160Ω ~ 190Ω
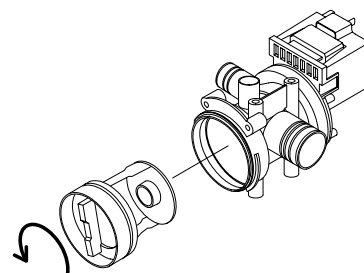
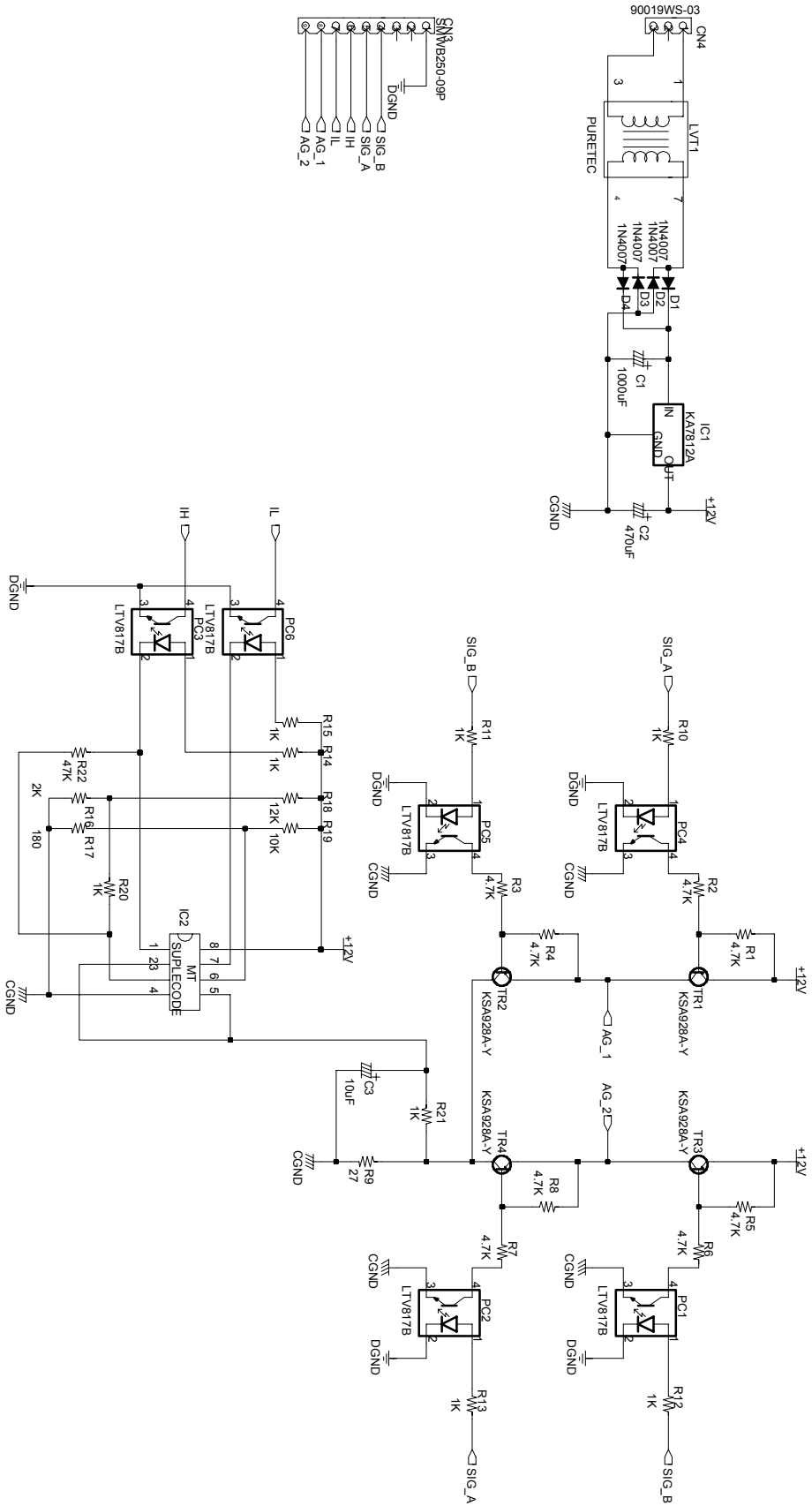# 11. PCB SCHEMATIC DIAGRAM

SCHEMATIC DIAGRAM

PCB CONTROL
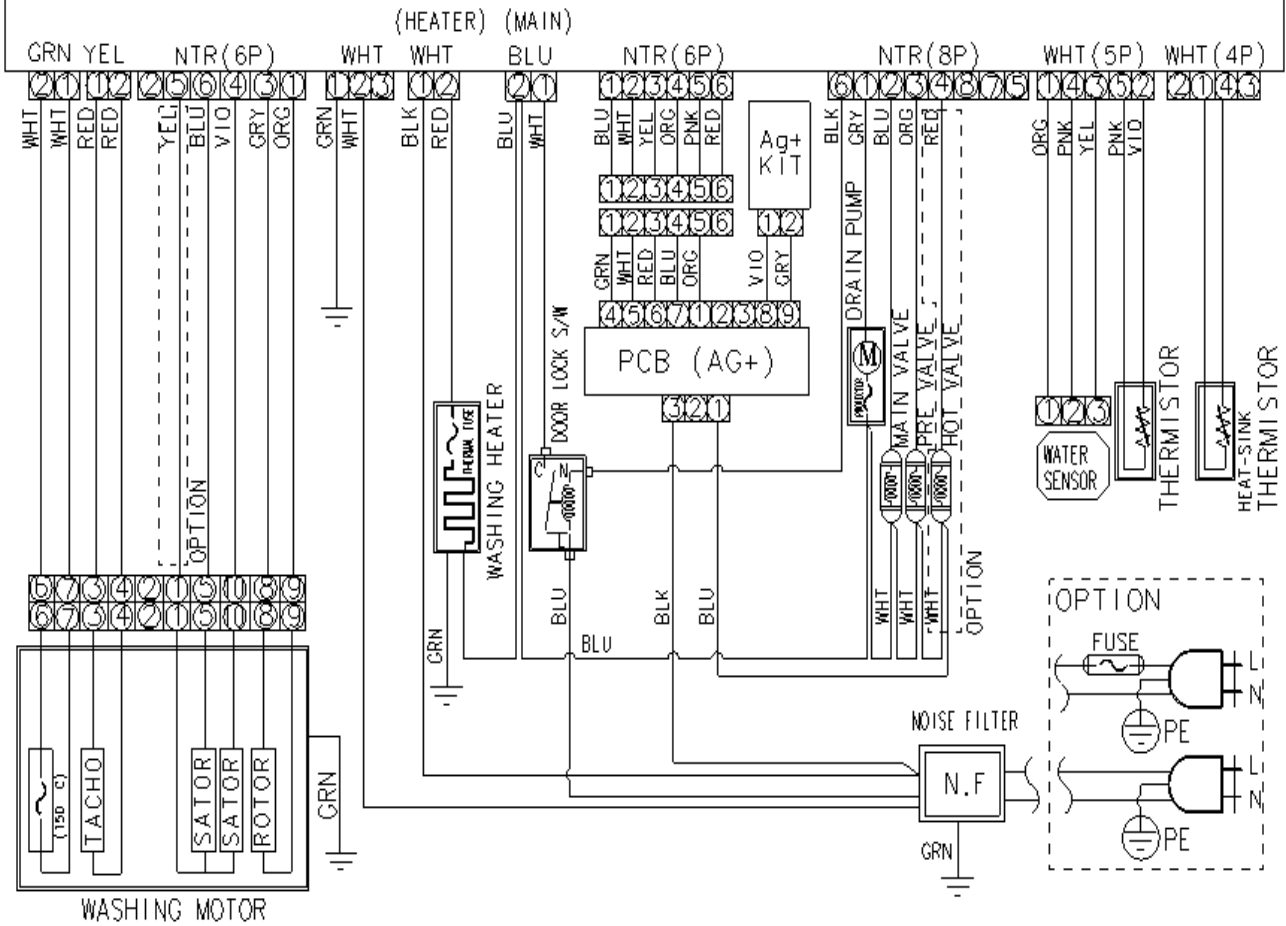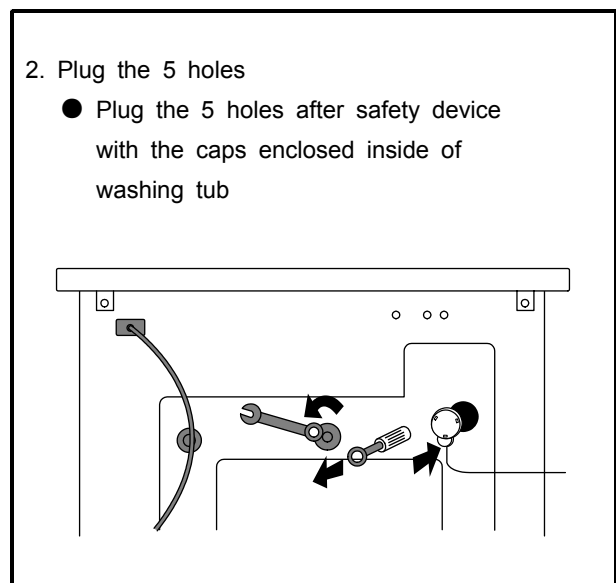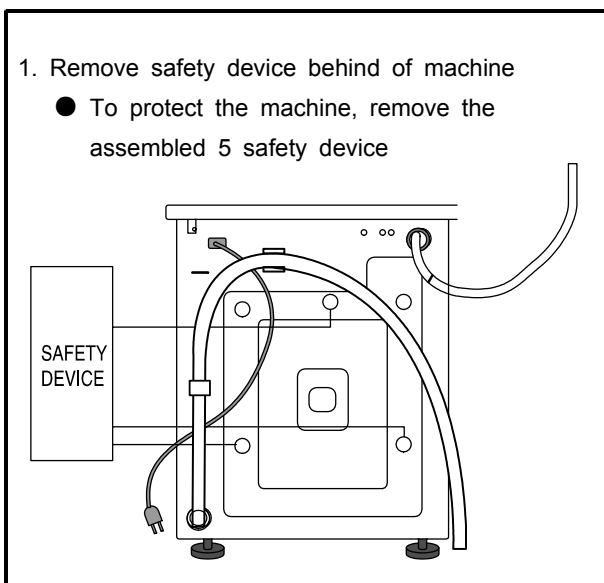
(HEATER) (MAIN)

28
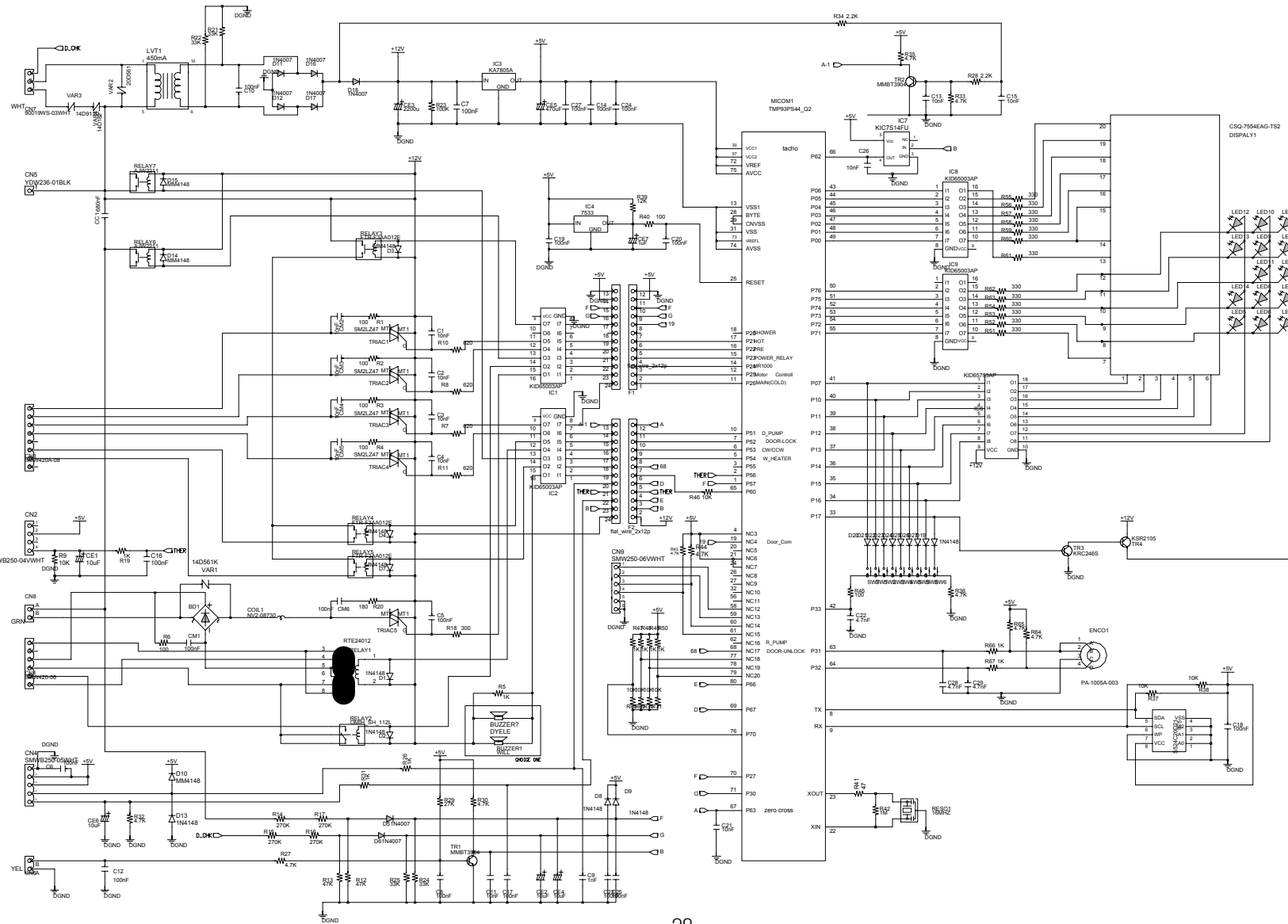
12. SETTING UP A WASH MACHINE

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 by impacted on the machine.

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

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.

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.

NUT
LEG

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)
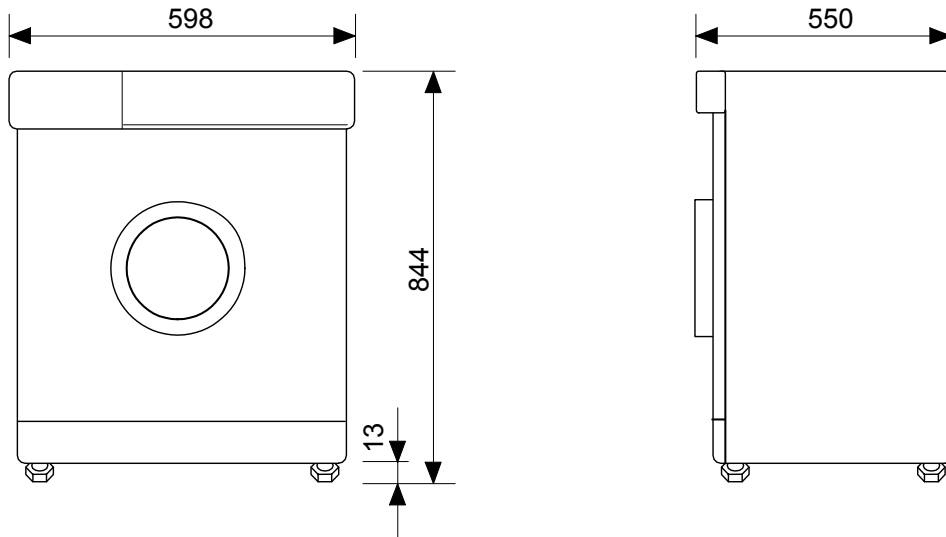
12-2-2 The condition of setting up sink(Disassembled Ass'y- Cover Top)
1) Spin the adjustment leg to the left and remove them from the front and rear side of the machine.
2) Remove the 4 locking nuts from adjustment legs, and put only adjustment legs back when those were.
3) After removing the fixing 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.
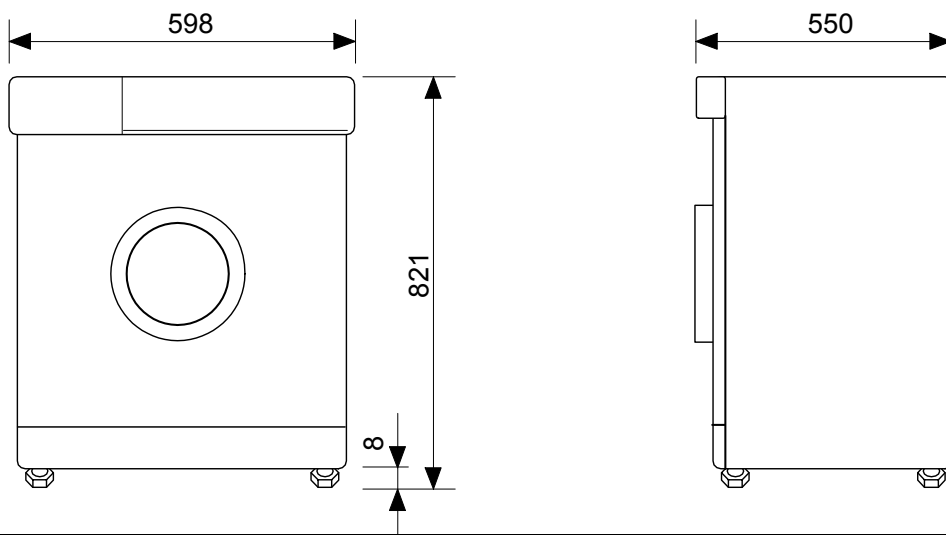
12. SETTING UP A WASH MACHINE

12-3. Door Opening Dimension

950 mm

②

Side

①
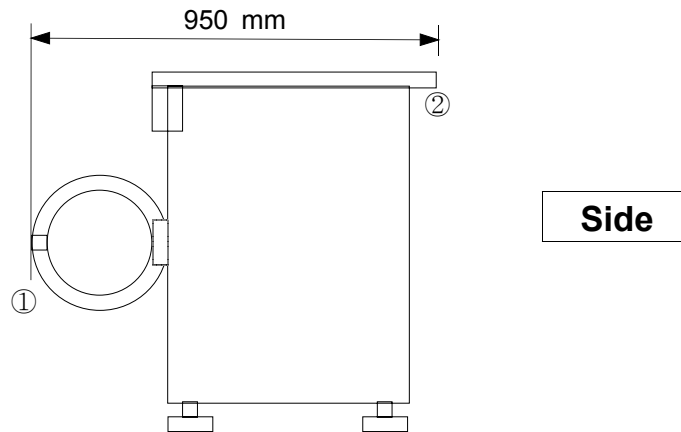
● (When The Door Vertically Open)
The distance between door ① and the rear side ② is 760mm

②

Upper

①

③

340 mm

110 mm
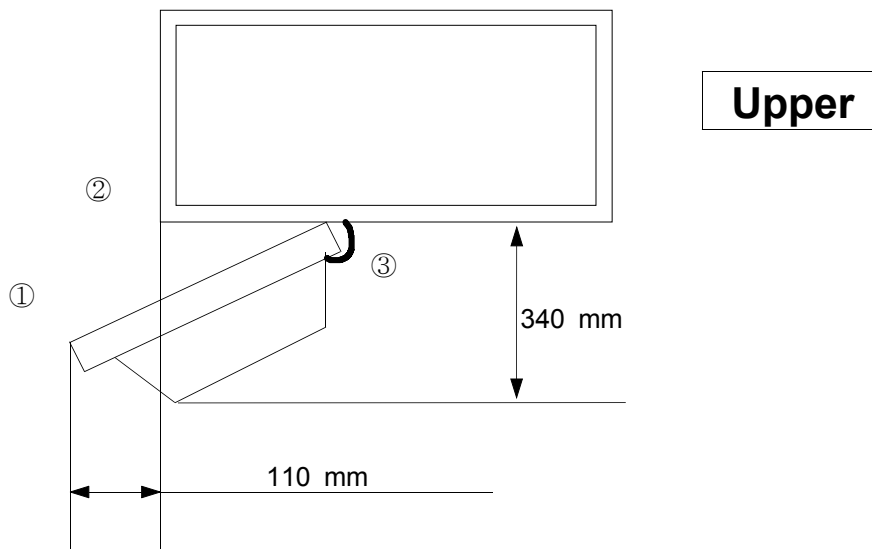
● (When the door extremely open ※)
The distance between the door edge (①) and the left side of washing machine (②) is 255mm

※ Maximum door angle(③) is 130°
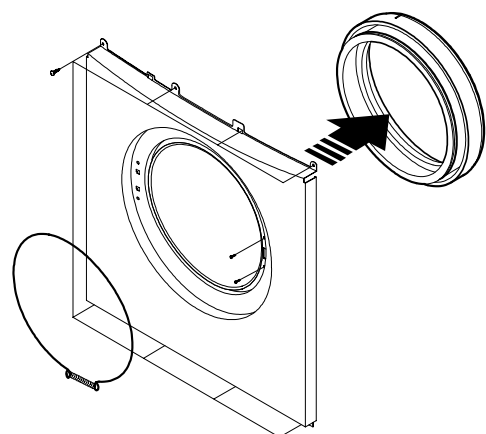
13. ASSEMBLE AND DISASSEMBLE

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).

5mm
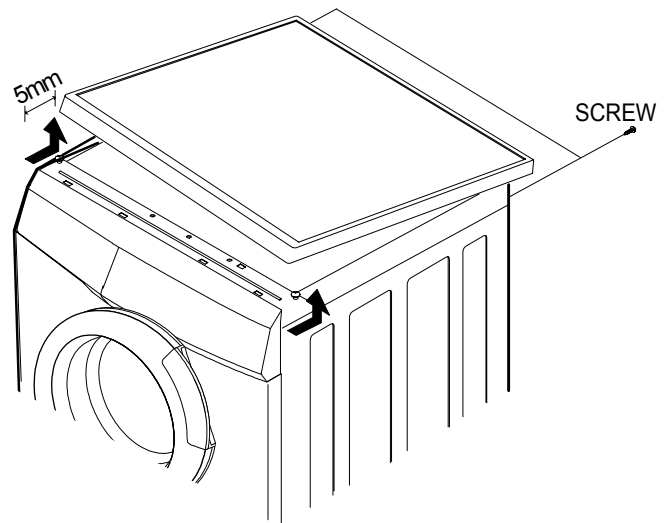
SCREW

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 assy-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.
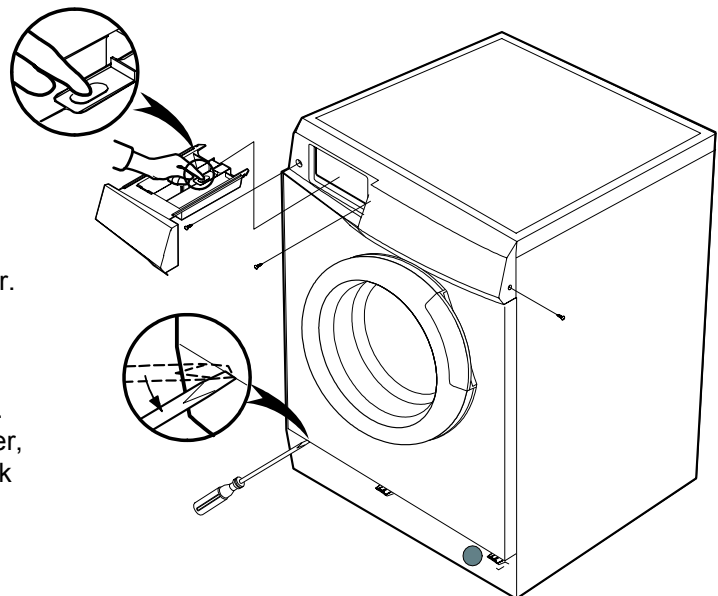
13. ASSEMBLE AND DISASSEMBLE

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).
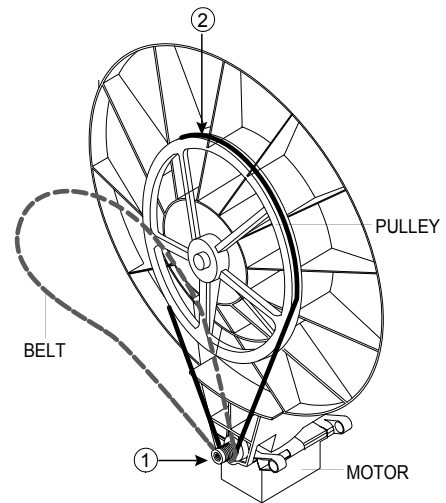
4. MOTOR
1) Lay down the washer on left side.
2) Remove the wire housing from the motor.
3) Remove the bolt fixing the motor with the box
   drive on back side.
4) Remove the motor.
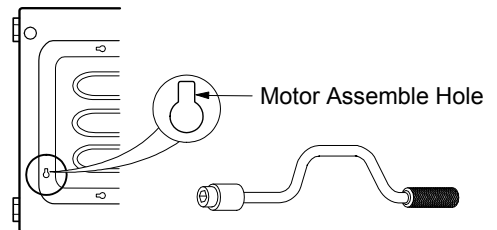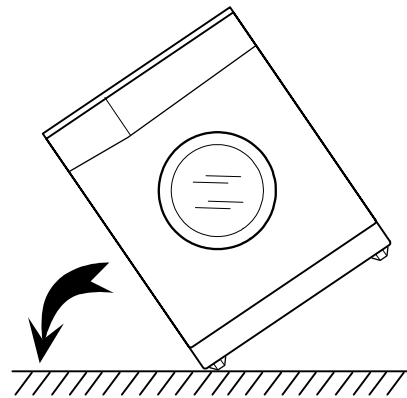
5. How to Assemble the RELAY Housing.

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

[Relay Housing Color]

A	B
WHITE	BLUE
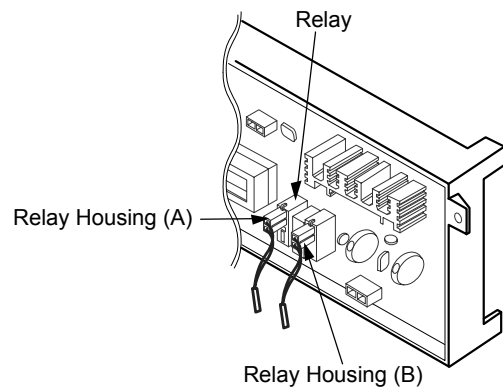
14. TOOLS FOR DISASSEMBLY AND ASSEMBLY

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, 13,19mm	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)

J001

C007

T024

M015

J008

J011

J012

J010

C080

J012

R030

G002

C023

R017

G003

G018

P007

R012

R012

B006

G025

G020

G023

G009

G015

15. PARTS LIST

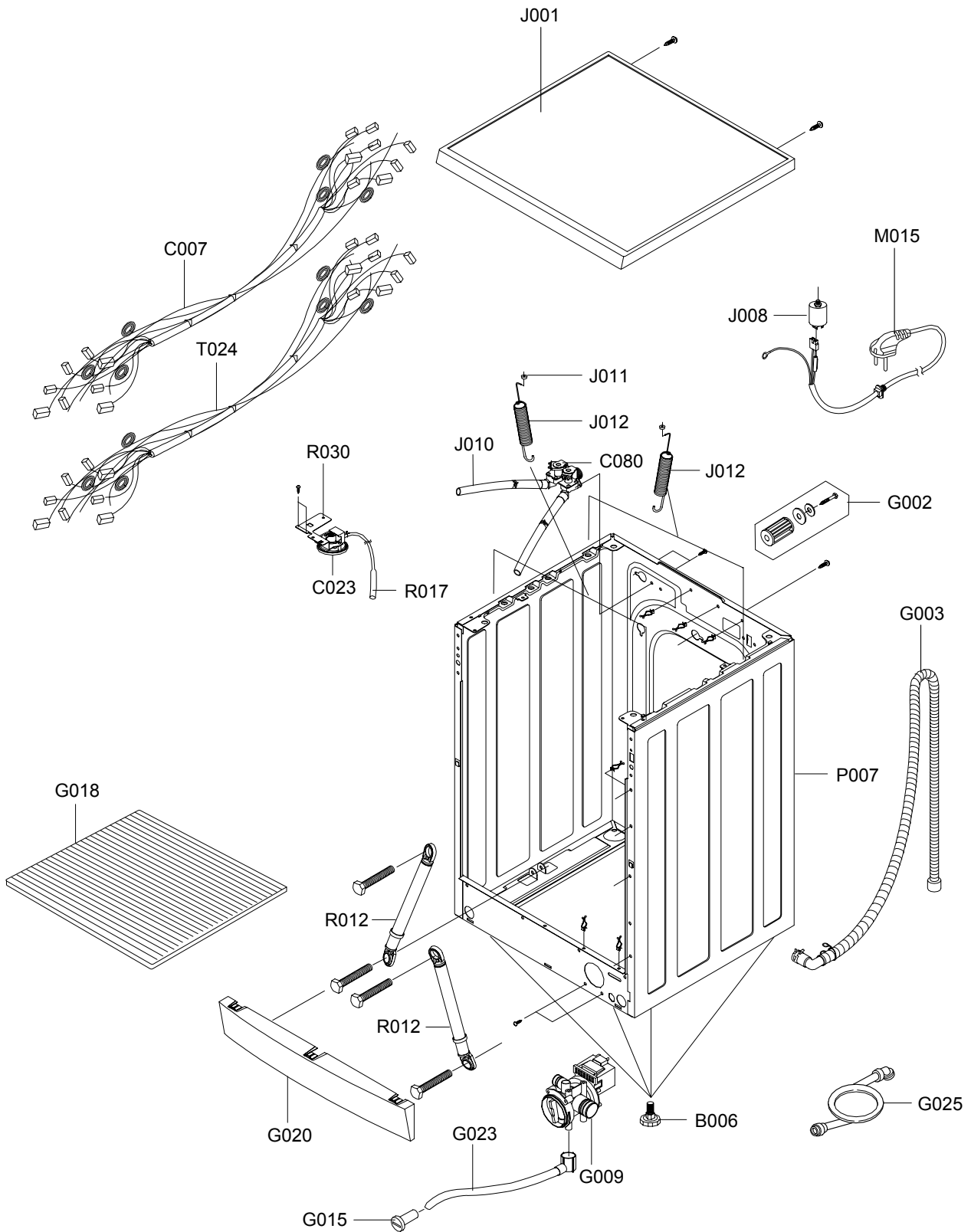| NO.	CODE NO.	DESCRIPTION;SPECIFICATION	QTY	REMARK
B006	DC91-12292A	ASSY-LEG;SWF-P12,-	4	
C007	DC96-00829A	ASSY-M.WIRE HARNESS;B1445AV~B1045A,MAIN/	1	
C010	DC61-10687A	CAP-RINSE;SWF-P12,PP,-,-,-,WHT,-,	1	
C023	DC32-30006P	SENSOR PRESSURE;DN-S14(P1291),TERMINAL-T	1	
C051	DC97-06855X	ASSY-PANEL CONTROL;B1245AVGW/YLP,RUSSIAN	1	B1245AV
C051	DC97-06855W	ASSY-PANEL CONTROL;B1445AVGW/YLP,RUSSIAN	1	B1445AV
C051	DC97-06855Y	ASSY-PANEL CONTROL;B1045AGW/YLP,RUSSIAN/	1	B1045A
C053	DC61-00932A	HINGE-DOOR;Q1636GW/XEU,ZNDC,-,-,-,-,-,TS	1	
C080	DC62-00024F	VALVE-WATER;B1215J,NYLON66/250TRMN,-,-,N	1	
F004	DC64-00561D	HANDLE-DOOR;Q1636V,ABS,-,-,-,-,SIL-SPRAY	1	B1245AV,B1245AV
F004	DC64-00561A	HANDLE-DOOR;Q1636,ABS,-,-,-,-,WHT,TS-2 P	1	B1045A
G002	DC91-12102A	ASSY-FIXER TUB;SWF-P12,-	5	
G003	DC97-00139F	ASSY-HOSE DRAIN(O);P-PJT,PP/L1970/CHINA	1	
G007	DC97-05128A	ASSY-PANEL FRONT;Q1636V/WHT,SAMSUNG/STAM	1	B1245AV,B1245AV
G007	DC97-05128B	ASSY-PANEL FRONT;Q1636,WHT/SAMSUNG,NO-ST	1	B1045A
G009	DC90-11110K	ASSY-PUMP DRAIN;SWF-P12,220V~240V/50Hz	1	
G012	DC64-00559C	BUTTON-ENCODER;Q1636V,ABS,-,-,WHT,ICON	1	
G013	DC64-00565A	BUTTON-PUSH;Q1636,ABS,-,-,WHT,TS-2 PJT	5	
G015	DC61-10673A	CAP-DRAIN;SWF-P12,PP(TB53),-,-,-,WHT,-,	1	
G018	DC61-20235A	SHUTTER;DANPLA,PP(BB110),WHT,	1	
G020	DC63-00562A	COVER-FRONT(L);P1445,PC(ABS),-,-,-,-,-,W	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	
G027	DC64-00558C	KNOB-ENCODER;Q1636S,ABS,-,-,-,-,CR-COATI	1	B1245AV,B1245AV
G027	DC64-00558A	KNOB-ENCODER;Q1636,ABS(HG-0760),-,-,-,-,	1	B1045A
G028	DC64-00556A	PANEL-DRAWER;Q1636V,ABS(HG-0760),-,-,-,-	1	B1245AV,B1245AV
G028	DC64-00556B	PANEL-DRAWER;Q1636,ABS(HG-0760),-,-,-,-,	1	B1045A
G034	DC64-00570A	HANDLE-DRAWER;Q1636GW/XEU,ABS(HG-0760),-	1	
G040	DC64-00567A	BUTTON-PUSH(P);Q1636V,ABS,-,-,WHT,TS-2 P	1	
J001	DC97-07874A	ASSY-COVER TOP;B1445AV/WHT/WOOD,CLON-PJT	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	0.52	
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	DC97-06572W	ASSY-HOUSING DRAWER;B1445AV/CLON-PJT,AG+	1	
J014	DC97-03244A	ASSY-HOUSING DRAWER;B1215J,FOR/2WAY	1	
M015	DC96-00146A	ASSY POWER CORD;UCP2,-,250V/16A,-,-,-,-,	1	
P002	DC97-05133A	ASSY-FRAME FRONT;Q1636GW/XEU,TS-2 PJT	1	

15. PARTS LIST

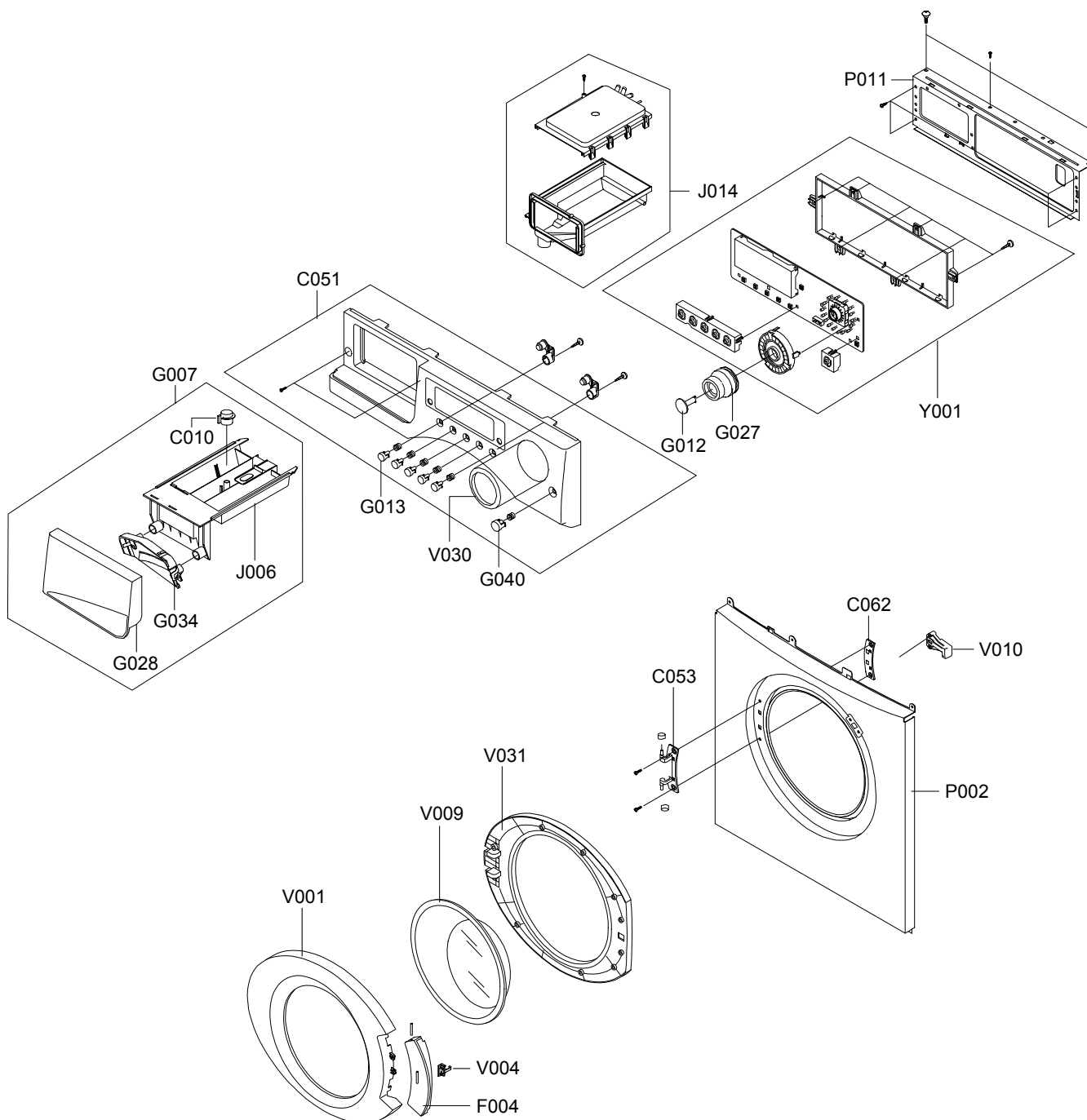| NO.	CODE NO.	DESCRIPTION;SPECIFICATION	QTY	REMARK
P007	DC99-00524A	ASSY-PAINT FRAME;B1445AV,CLON-PJT/WHT	1	
P011	DC61-01245A	FRAME-PLATE(U);MW24-PJT,EGI,-,-,-,T0.8,-	1	
R003	DC91-12077A	ASSY-CLAMP DIAPHGRAM;SWF-P12,TUB	1	
R005	DC97-01463F	ASSY-DRUM;P1205/KRNJM,LEFTER TYPE/NEW-DR	1	
R006	DC47-00007A	HEATER;-,DRUM-MDL,SUS316L,-,-,230V,20,-,	1	
R007	DC97-00214E	ASSY-TUB BACK;SWF-P12/10,BACK/1200/INSID	1	B1245AV,B1045A
R007	DC97-00214D	ASSY-TUB BACK;SWF-P14,BACK/1400/INSIDE-A	1	B1445AV
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	
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	DC31-00002F	MOTOR-DRUM;HXGM4I,SFW-P12,-,50Hz,WASHING	1	
R020	DC66-10176B	PULLEY;ALDC,-,D297,P1291,ID12.5	1	
R021	DC62-00008A	SEAL-OIL;-,NBR(SD35),BLK,-,-,-,NBU(PI15)	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	
R074	DC61-30346C	TUB-FRONT;P1405J,FRPP(FRPP15%)SAMBACK,-,	1	
T024	DC96-00841A	ASSY-WIRE HARNESS;B1245A,SUB/CLONE-PJT	1	
T031	DC61-00041A	CUSHION-MOTOR;SWF-6V,BUTYL,-,-,-,ID16/OD	1	
V001	DC63-00411D	COVER-DOOR;Q1636V,ABS,-,-,-,-,-,SILVER-S	1	B1245AV,B1245AV
V001	DC63-00411A	COVER-DOOR;Q1636,ABS,-,-,-,-,-,WHT,TS-2	1	B1045A
V004	DC97-05111A	ASSY-LEVER DOOR;Q1636GW/XEU,TS-2 PJT	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	
V022	DC61-10676A	CAP-TRAP;SWF-P12,PP(TB53),-,-,-,-,-,	1	
V030	DC64-00562A	WINDOW-ENCODER;Q1636,ACRYL,-,-,-,-,NTR,H	1	
V031	DC61-00931B	HOLDER-GLASS;Q1636V,PP(TB53),-,-,-,GRAY,	1	B1245AV,B1245AV
V031	DC61-00931A	HOLDER-GLASS;Q1636,PP(TB53),-,-,-,WHT,TS	1	B1045A
Y001	MFS-B1245A-00	ASSY PCB PARTS;MFS-B1245-00 AG+ Q2	1	B1245AV
Y001	MFS-B1445A-00	ASSY PCB PARTS;MFS-B1445-00 AG+ Q2	1	B1445AV
Y001	MFS-B1045A-00	ASSY PCB PARTS;MFS-B1045A-00 AG+ Q2	1	B1045A

16. SCREW BOLT LIST

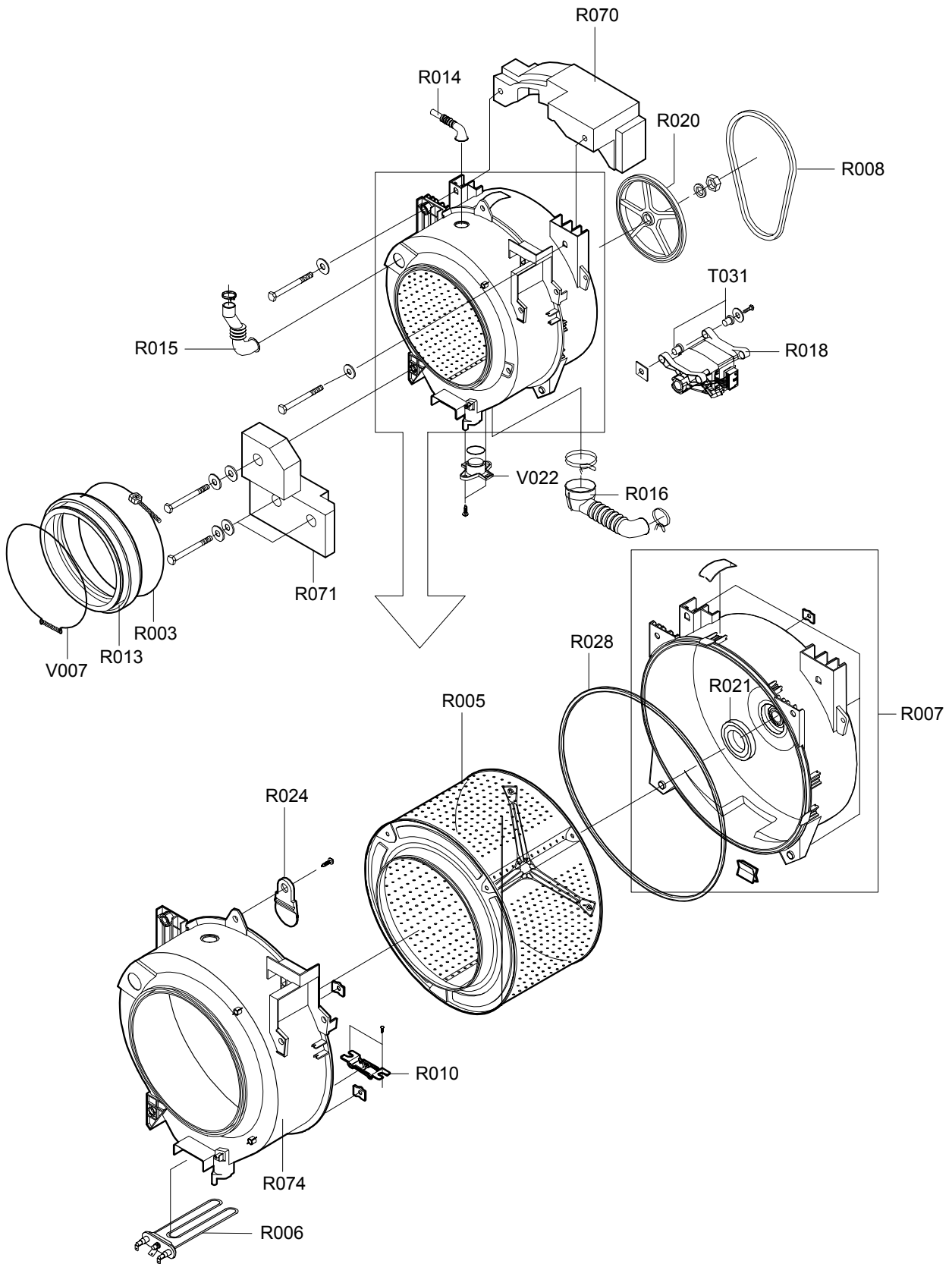| CODE NO.	DESCRIPTION	SPECIFICATION	REMARK	QTY
6002-000471	SCREW-TAPPING	TH,+,1,M4,L12,PASS,STS304	D-S/W+FRM-FRONT	2
6001-001773	SCREW-MACHINE	TH,+,M5,L12,	HINGE+FRAME	2
6002-001286	SCREW-TAPPING	FH,+,1,M4,L16,NTR,STS304	C-DOOR+H-GLASS	11
6002-000213	SCREW-TAPPING	TH,+,1,M4,L12,ZPC(YEL),SWRCH18	HOUSING-DRAWER	1
6002-000213	SCREW-TAPPING	TH,+,1,M4,L12,ZPC(YEL),SWRCH18	SUB PCB-ASSY+FRAME	2
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	GUIDE WATER+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)	EMI-EARTH+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
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
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	6
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
6002-000213	SCREW-TAPPING	TH,+,1,M4,L12,ZPC(YEL),SWRCH18	BUTTON-WINDOW(L&R)	2

SAMSUNG

ELECTRONICS

P011

J014

C051

G007

C010

G013

J006

G034

G028

G012 G027

Y001

V030

G040

C062

V010

C053

V031

V009

V001

P002

V004

F004

NO.	CODE NO.	DESCRIPTION;SPECIFICATION	QTY	REMARK
B006	DC91-12292A	ASSY-LEG;SWF-P12,-	4	
C007	DC96-00829A	ASSY-M.WIRE HARNESS;B1445AV~B1045A,MAIN/	1	
C010	DC61-10687A	CAP-RINSE;SWF-P12,PP,-,-,-,WHT,-,	1	
C023	DC32-30006P	SENSOR PRESSURE;DN-S14(P1291),TERMINAL-T	1	
C051	DC97-06855X	ASSY-PANEL CONTROL;B1245AVGW/YLP,RUSSIAN	1	B1245AV
C051	DC97-06855W	ASSY-PANEL CONTROL;B1445AVGW/YLP,RUSSIAN	1	B1445AV
C051	DC97-06855Y	ASSY-PANEL CONTROL;B1045AGW/YLP,RUSSIAN/	1	B1045A
C053	DC61-00932A	HINGE-DOOR;Q1636GW/XEU,ZNDC,-,-,-,-,-,TS	1	
R0021	DC97-08151A	ASSY--GUIDE WATER; J1045A,AG+ASSY	1	
F004	DC64-00561D	HANDLE-DOOR;Q1636V,ABS,-,-,-,-,SIL-SPRAY	1	B1245AV,B1245AV
F004	DC64-00561A	HANDLE-DOOR;Q1636,ABS,-,-,-,-,WHT,TS-2 P	1	B1045A
G002	DC91-12102A	ASSY-FIXER TUB;SWF-P12,-	5	
G003	DC97-00139F	ASSY-HOSE DRAIN(O);P-PJT,PP/L1970/CHINA	1	
G007	DC97-05128A	ASSY-PANEL FRONT;Q1636V/WHT,SAMSUNG/STAM	1	B1245AV,B1245AV
G007	DC97-05128B	ASSY-PANEL FRONT;Q1636,WHT/SAMSUNG,NO-ST	1	B1045A
G009	DC90-11110K	ASSY-PUMP DRAIN;SWF-P12,220V~240V/50Hz	1	
G012	DC64-00559C	BUTTON-ENCODER;Q1636V,ABS,-,-,WHT,ICON	1	
G013	DC64-00565A	BUTTON-PUSH;Q1636,ABS,-,-,WHT,TS-2 PJT	5	
G015	DC61-10673A	CAP-DRAIN;SWF-P12,PP(TB53),-,-,-,WHT,-,	1	
G018	DC61-20235A	SHUTTER;DANPLA,PP(BB110),WHT,	1	
G020	DC63-00562A	COVER-FRONT(L);P1445,PC(ABS),-,-,-,-,-,W	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	
G027	DC64-00558C	KNOB-ENCODER;Q1636S,ABS,-,-,-,-,CR-COATI	1	B1245AV,B1245AV
G027	DC64-00558A	KNOB-ENCODER;Q1636,ABS(HG-0760),-,-,-,-,	1	B1045A
G028	DC64-00556A	PANEL-DRAWER;Q1636V,ABS(HG-0760),-,-,-,-	1	B1245AV,B1245AV
G028	DC64-00556B	PANEL-DRAWER;Q1636,ABS(HG-0760),-,-,-,-,	1	B1045A
G034	DC64-00570A	HANDLE-DRAWER;Q1636GW/XEU,ABS(HG-0760),-	1	
G040	DC64-00567A	BUTTON-PUSH(P);Q1636V,ABS,-,-,WHT,TS-2 P	1	
J001	DC97-07874A	ASSY-COVER TOP;B1445AV/WHT/WOOD,CLON-PJT	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	0.52	
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	DC97-06572W	ASSY-HOUSING DRAWER;B1445AV/CLON-PJT,AG+	1	
J014	DC97-03244A	ASSY-HOUSING DRAWER;B1215J,FOR/2WAY	1	
M015	DC96-00146A	ASSY POWER CORD;UCP2,-,250V/16A,-,-,-,-,	1	
P002	DC97-05133A	ASSY-FRAME FRONT;Q1636GW/XEU,TS-2 PJT	1	

15. PARTS LIST

NO.	CODE NO.	DESCRIPTION;SPECIFICATION	QTY	REMARK
P007	DC99-00524A	ASSY-PAINT FRAME;B1445AV,CLON-PJT/WHT	1	
P011	DC61-01245A	FRAME-PLATE(U);MW24-PJT,EGI,-,-,-,T0.8,-	1	
R003	DC91-12077A	ASSY-CLAMP DIAPHGRAM;SWF-P12,TUB	1	
R005	DC97-01463F	ASSY-DRUM;P1205/KRNJM,LEFTER TYPE/NEW-DR	1	
R006	DC47-00007A	HEATER;-,DRUM-MDL,SUS316L,-,-,230V,20,-,	1	
R007	DC97-00214E	ASSY-TUB BACK;SWF-P12/10,BACK/1200/INSID	1	B1245AV,B1045A
R007	DC97-00214D	ASSY-TUB BACK;SWF-P14,BACK/1400/INSIDE-A	1	B1445AV
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	
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	DC31-00002F	MOTOR-DRUM;HXGM4I,SFW-P12,-,50Hz,WASHING	1	
R020	DC66-10176B	PULLEY;ALDC,-,D297,P1291,ID12.5	1	
R021	DC62-00008A	SEAL-OIL;-,NBR(SD35),BLK,-,-,-,NBU(PI15)	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	
R074	DC61-30346C	TUB-FRONT;P1405J,FRPP(FRPP15%)SAMBACK,-,	1	
T024	DC96-00841A	ASSY-WIRE HARNESS;B1245A,SUB/CLONE-PJT	1	
T031	DC61-00041A	CUSHION-MOTOR;SWF-6V,BUTYL,-,-,-,ID16/OD	1	
V001	DC63-00411D	COVER-DOOR;Q1636V,ABS,-,-,-,-,-,SILVER-S	1	B1245AV,B1245AV
V001	DC63-00411A	COVER-DOOR;Q1636,ABS,-,-,-,-,-,WHT,TS-2	1	B1045A
V004	DC97-05111A	ASSY-LEVER DOOR;Q1636GW/XEU,TS-2 PJT	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	
V022	DC61-10676A	CAP-TRAP;SWF-P12,PP(TB53),-,-,-,-,-,	1	
V030	DC64-00562A	WINDOW-ENCODER;Q1636,ACRYL,-,-,-,-,NTR,H	1	
V031	DC61-00931B	HOLDER-GLASS;Q1636V,PP(TB53),-,-,-,GRAY,	1	B1245AV,B1245AV
V031	DC61-00931A	HOLDER-GLASS;Q1636,PP(TB53),-,-,-,WHT,TS	1	B1045A
Y001	MFS-B1245A-00	ASSY PCB PARTS;MFS-B1245-00 AG+ Q2	1	B1245AV
Y001	MFS-B1445A-00	ASSY PCB PARTS;MFS-B1445-00 AG+ Q2	1	B1445AV
Y001	MFS-B1045A-00	ASSY PCB PARTS;MFS-B1045A-00 AG+ Q2	1	B1045A

16. SCREW BOLT LIST

CODE NO.	DESCRIPTION	SPECIFICATION	REMARK	QTY
6002-000471	SCREW-TAPPING	TH,+,1,M4,L12,PASS,STS304	D-S/W+FRM-FRONT	2
6001-001773	SCREW-MACHINE	TH,+,M5,L12,	HINGE+FRAME	2
6002-001286	SCREW-TAPPING	FH,+,1,M4,L16,NTR,STS304	C-DOOR+H-GLASS	11
6002-000213	SCREW-TAPPING	TH,+,1,M4,L12,ZPC(YEL),SWRCH18	HOUSING-DRAWER	1
6002-000213	SCREW-TAPPING	TH,+,1,M4,L12,ZPC(YEL),SWRCH18	SUB PCB-ASSY+FRAME	2
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	GUIDE WATER+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)	EMI-EARTH+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
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
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	6
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
6002-000213	SCREW-TAPPING	TH,+,1,M4,L12,ZPC(YEL),SWRCH18	BUTTON-WINDOW(L&R)	2

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