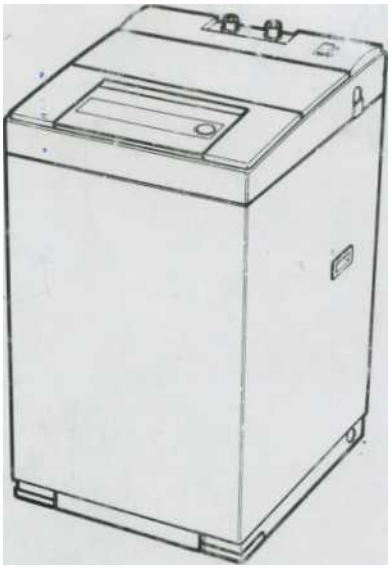
DAEWOO

Service Manual

Programmable Washing Machine

DWF-7570DP



DAEWOO ELECTRONICS" CO., LTD.

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1. SPECIFICATIONS

NO.	ITEM	SPECIFICATIONS
1	POWER SOURCE	Available in all local AC voltage and cycles
2	POWER CONSUMPTION	INPUT: 400 W, OUTPUT: 210 W
3	CAPACITY	7.5 KG. (BLANKET: 4 KG., DRY: 2 KG., SILK: 1.5 KG.)
4	MACHINE WEIGHT	47 KG. (GROSS WEIGHT: 53 KG.)
5	DIMENSION (W x H x D)	612 x 930 x 622 mm
6	WASHING COURSE	FULL AUTOMATIC 6 OF COURSES (FUZZY, DRY, SPEED, STRONG, BLANKET, SILK) and MEMORY COURSE
7	WATER CONSUMPTION	NORMAL 207 L
8	WATER LEVEL SELECTOR	HIGH (69 L), MID (59 L), LOW (50 L), SMALL (36 L)
9	OPERATING WATER PRESSURE	0.3-8 Kg/cm^2 (2.94-78.4 N/cm^2)
10	REVOLUTION PER MINUTE	SPIN: 650 r.p.m., WASH: 140 r.p.m. (60Hz) SPIN: 680 r.p.m. WASH: 130 r.p.m. (50 Hz) AT DRY, SILK COURSE 60 r.p.m. (60Hz) 70 r.p.m. (50Hz)
11	PULSATOR	6 WINGS (0 376 mm)
12	WATER LEVEL CONTROL	ELECTRONICAL SENSOR
13	OUTER CABINET	PCM
14	ANTI-NOISE PLATE	O
15	GEAR MECHANISM ASS'Y	HELICAL GEAR FOR LOW NOISE
16	LINT FILTER	O
17	SOFTENER DISPENSOR	O
18	AUTO. LOAD SENSING	O
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21	STRANGEROUS ALARM	O
22	REMAINNING TIME DISPLAY	O
23	AUTO. RE-FEED WATER	O
24	NEW WATER FLOW	WATER FLOW FOR ADJUST THE UNBALANCED LOAD
25	TRANSPARENT WINDOW	O
26	FUNCTION FOR BUBBLE	O

* **Design and specifications subject to change without notice.**

2. FEATURE AND TECHNICAL EXPLANATION

CONTROL SYSTEM OF FUZZY COURSE

FUNCTIONAL PRINCIPLE OF SENSING

1) Sense the wave width of two ports of capacitor.
2) Judge the 'A--D' course according to the wave width.
3) Set up the most suitable time to wash, rinse and spin by judgement.

SENSING TIME

Sense the wave width for 28 seconds from start of washing.

OPERATING PROCESS ACCORDING TO THE WASHING CAPACITY

COURSE	WASHING CAPACITY	WATER LEVEL	WASH TIME	TIMES OF RINSE	SPIN TIME
A	0--2.0 Kg	SMALL	6'	2	3'
B	1.0--3.0 Kg	LOW	8'	2	4'
C	2.0-4.0 Kg	MID	12'	2	5'
D	Above 3.0 Kg	HIGH	14'	2	5'

CONTROL SYSTEM OF WOOL WASH

R.p.m of pulsator become half of normal wash by signal of P.C.B. ASS'Y.

INPUT WAVE FORM OF MOTOR ON WOOL WASH

NORMAL WASH	- - - - - - - - - -
DRY WASH SILK WASH	3" on (C.W) 5" off 3" on (C.C.W) 5" off 0.4" on (C.W) 5" off 0.4" on (C.C.W) 5" off
	1 CYCLE

PROCESS OF DRY/SILK WASH

When the DRY COURSE is selected, process shall be set up as bellow table automatically.

(LOAD TO BE WASHED)	WATER LEVEL	WASH TIME	TIMES OF RINSE	SPIN TIME	WASH TEMP.
(BELOW 2 KG.)	MID	6 MIN.	2	30 SEC.	COLD

When the SILK COURSE is selected, process shall be set up as bellow table automatically.

(LOAD TO BE WASHED)	WATER LEVEL	WASH TIME	TIMES OF RINSE	SPIN TIME	WASH TEMP.
(BELOW 1.5 KG.)	MID	4 MIN.	2	30 SEC.	COLD

NOTE: You can't change the water temperature because the program of P.C.B. sets up the 'COLD TEMP.' automatically when you select the 'DRY/SILK COURSE'.

CONTROL SYSTEM OF DRY/SILK SPIN

It is a function to prevent the deformation of WOOL, SILK etc.

PROGRESS CHART ON WOOL SPIN

R.P.M.																		-NORMAL		
ON-OFF	DRY/SILK	4	5	2	5												5	2		
OF E MOTOR (SEC.)	NORMAL	4	3	4	3		BEENE													
		BALANCE SPIN							NORMAL SPIN											

WATER CURRENTS TO ADJUST THE UNBALANCED LOAD

It is a function to prevent eccentricity of the clothes after wash by rotating pulsator C.W and C.C.W for 20 seconds.

EFFECT

It reduces vibration and noise effectively while spinning.

WATER FLAW

WASH	1	DRAIN	SPIN	FILL	RINSE 1	1	DRAIN	SPIN	FILL	RINSE 2	11	DRAIN		
MOTOR SIGNAL	C.W													
	C.C.W													
TIME (SEC.)		0.3	0.5	0.3	0.5	0.3	0.5							
		20 SEC. (About 25 Times)												

FUNCTION FOR SOAK WASH

DISPLAY THE RESIDUAL TIME

When the SOAK WASH is selected, the total wash time increases because 30 minutes for soak process are added to the time of main process.

PROGRESS

SOAK PROCESS MAIN PROCESS

FILL WASH STOP WASH STOP WASH STOP

2′ 8′ 2′ 8′ 2′ 8′

30 Minutes

NOTE: `1' mark indicates the operation of the water currents to adjust the unbalanced load.

AUTOMATIC WATER SUPPLY SYSTEM FOR BLANKET WASH

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

WATER CURRENTS FOR STRONG WASH

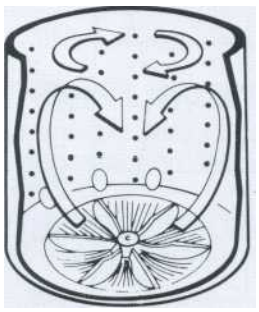
It washes cleanly the heavily stained clothes such as working-clothes, climbing-clothes and blue-jean by using this strong water currents as shown below.

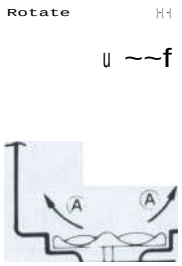
WATER CURRENTS

SIGNAL OF MOTOR	C.C. W	—				—				—				—				—		
	C.W			—				—				—				—			—	
TIME (SEC.)		.8	.5	.8	.5	.8	.5	.8	.5	.8	.5	.8	.5	.8	.5	.8	.5	3.2	.8	3.2	.8
		1 CYCLE																			

PULSATOR SYSTEM

When the new shaped pulsator is rotated C.W or C.C.W at a high speed, it makes the 'heart-shaped' water currents as shown below.





WATER CURRENTS

A Water is pushed up near the tub wall by rotation of the pulsator.

B Water is pulled down in the middle of the tub by rotation of the pulsator.

C Water currents is generated by rotation of the pulsator.

AUTOMATIC DRAINING TIME ADJUSTMENT

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

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

FUNCTIONAL PRINCIPLE

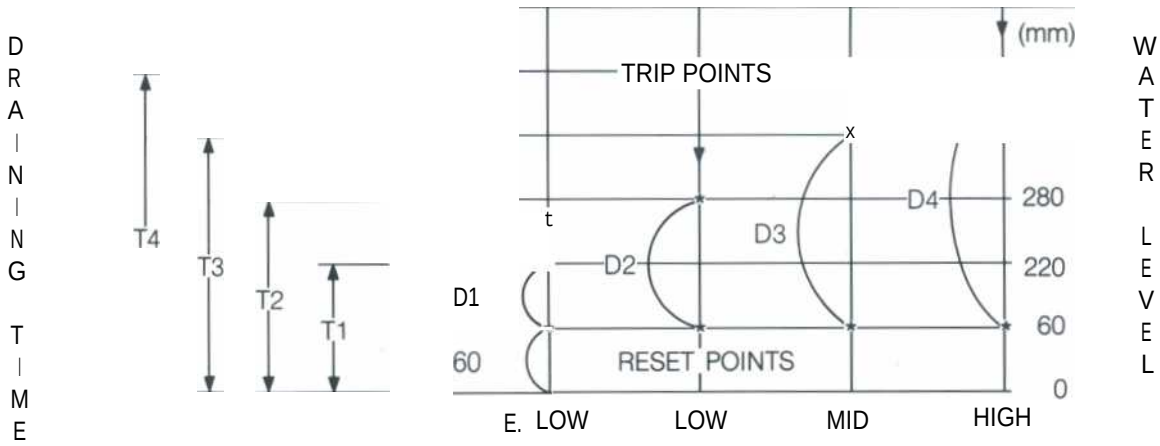
1) The micom can remember the time from the beginning of drain to reset point when the pressure switc reaches to "OFF" point.

Drain Time	Movement of the program
Less than 10 minutes	Continue draining.
More than 10 minutes	Program is stopped and gives the alarm with the blinked on display lamp.

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

Total drain time = D + 60
(T sec.)

Residual drain time.
The time remembered by micom.



T1 = D 1 + 60 (Sec.) T2 = D2 + 60 (Sec.) T3 = D3 + 60 (Sec.) T4 = D4 + 60 (Sec.)

SOFTENER DISPENSER

This is the device to dispense the softener automatically by centrifugal force.
This is installed inside the auto-balancer.

FUNCTIONAL PRINCIPLE

1) Softener stays in room (A) when poured into softener inlet.
2) Softener moves from (A) to (B) by centrifugal force during intermittent spin process.
3) Softener flows from (B) to (C) during rinse process next to intermittent spin.
4) Softener moves from (C) to (D) by centrifugal force during second intermittent spin.
   After spin process is finished, the softener is added int the tub through softener outlet.

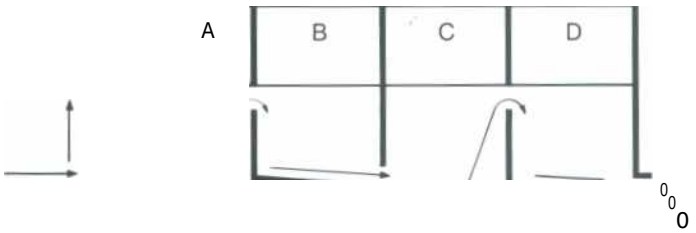
FLOW OF THE SOFTENER

	Wash	Intermittent Spin	Hold	Intermittent Spin	Rinse	Spin
Normal Course	Centrifugal force (A)	(B)	Flow in (C)	Centrifugal force (D)	Flow in	

FLOW OF THE SOFTENER INSIDE THE BALANCER

Room inside the balancer

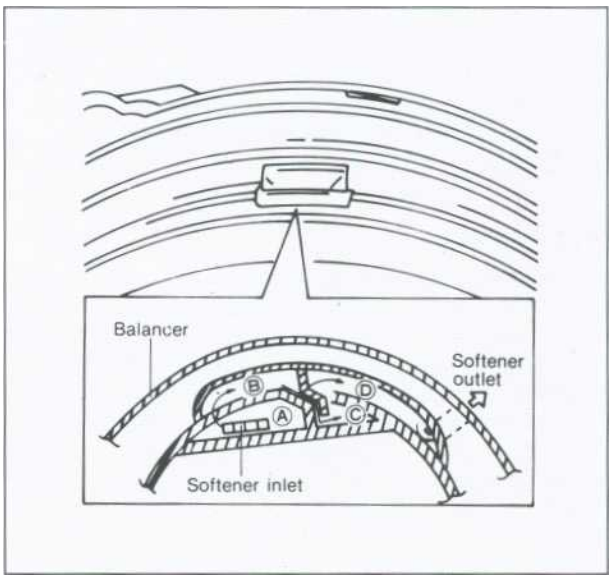
Centrifugal force Flowing by weight



NOTE: Softener moves into next room when r.p.m of the tub is more than 100 r.p.m.

HOW TO CHECK MOVEMENT

Pour a reasonable amount of "MILK" into softener dispenser and operate the washer with no load.
In final rinse cycle, make sure that the milk is added into the tub through softener outlet.

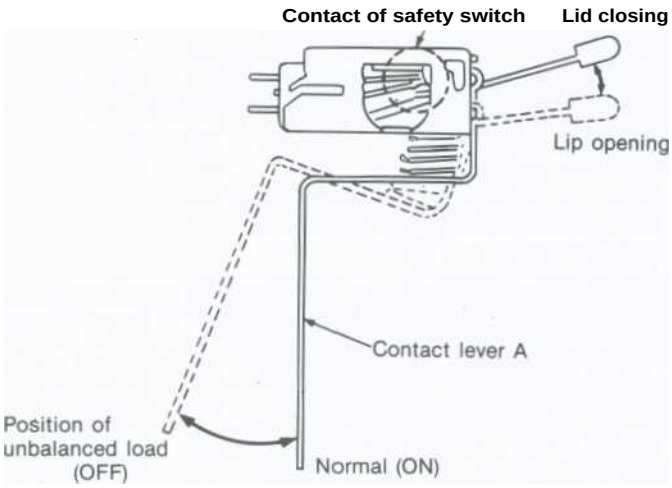


AUTOMATIC UNBALANCE ADJUSTMENT

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

FUNCTIONAL PRINCIPLE

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

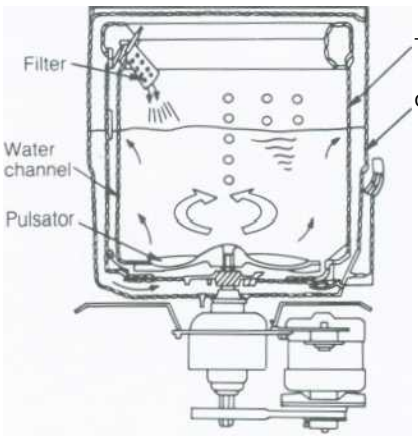


NOTE:
The alarm finishes when you close the lid after opening it. Check the unbalance of the wash load and the installation condition.

CIRCULATING-WATER COURSE AND LINT FILTER

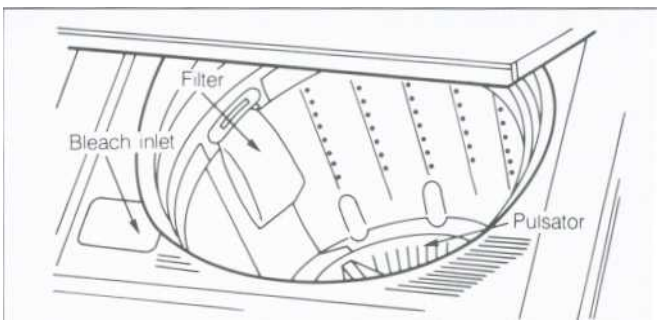
CIRCULATING-WATER

The washing and rinsing effects have been improved by adopting the water system in which water in the tub is circulated in a designed pattern.
When the pulsator rotates during the washing or rinsing process, the water below the pulsator vanes creates a water currents as shown in figure.
The water is then discharged from the upper part of the tub through the water channel. About 40L/min. Water is circulated at the 'high' water level, standard wash load and standard water currents.



LINT FILTER

Much lint may be obtained according to the kind of clothes to be washed and some of the lint may also sticks to the clothes.
To minimize this possiblity, a lint filter is provided on the upper part of the tub to filter the wash water as it is discharged from the water channel. It is good to use the lint filter during washing.



HOW TO CLEAN THE LINT FILTER

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

AUTOMATIC POWER OFF

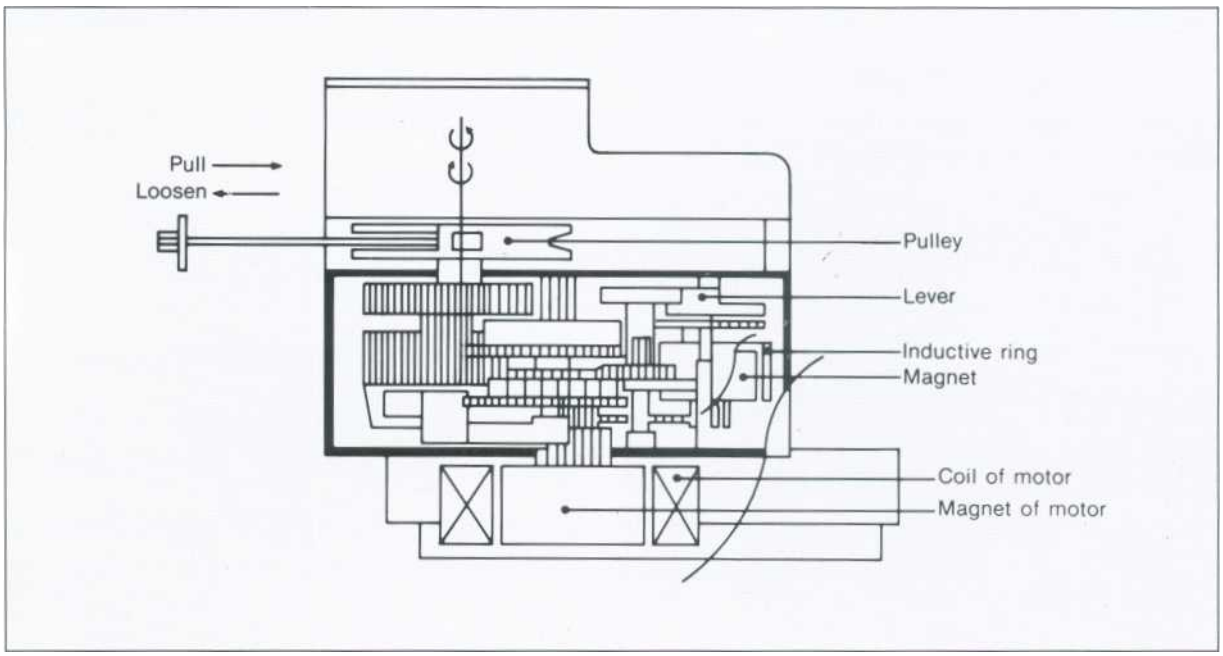
P.C.B. ASS'Y sends a signal to the solenoid in the power switch 10 minutes later after complete washing. Then the solenoid pull the locking lever which had lock the push button. Therefore the power is turned off automatically.

RESIDUAL TIME DISPLAY

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

DRAIN MOTOR

STRUCTURE

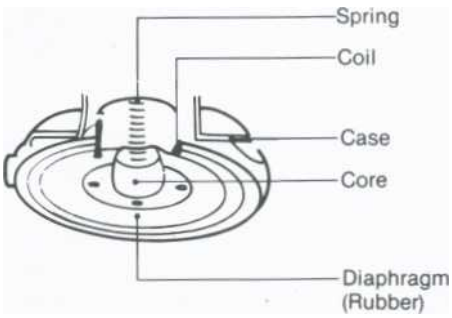


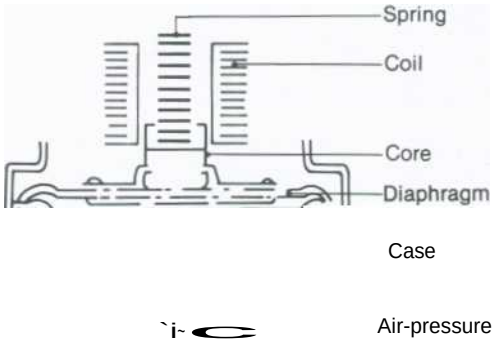
FUNCTIONAL PRINCIPLE

1) When the DRAIN MOTOR connected to the power source (A.C 220V), the DRAIN MOTOR rotates with 900 r.p.m and revolves the pulley by gear assembley for reducing.
2) When the pulley is rotated, the pulley winds the wire to open the drain valve.
3) Therefore rotation of pulley changes to the linear moving of wire.
4) The wire pulls the brake lever of Gear Mechanism Ass'y within 5 seconds.
5) After the wire pulled, gear assembly is separated from motor and condition of pulling is held by operation of the lever.
6) When the power is turned off, the drain valve is closed because the wire returns to original position.

WATER LEVEL SWITCH

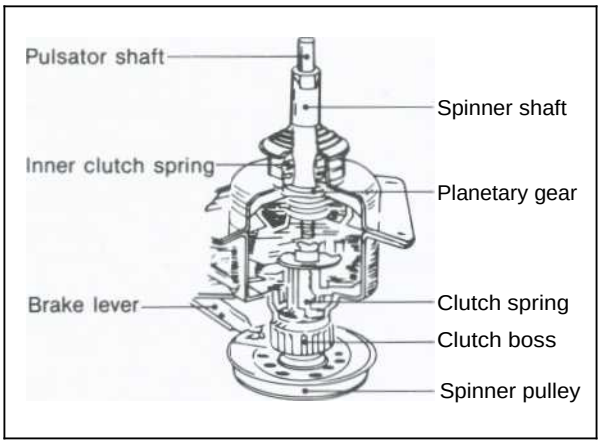
Water pressure of air room which is at the side of outer-tub is transmitted to the air room in the water leVE switch through air-tube. Diaphragm moves up and down by the transmitted pressure to move the core. Movement of core transforms the inductance of coil by Henly's Law.
The generative frequency (Hertz) is obtained by this transformation of the coil inductance in the LC genes tive circuit.

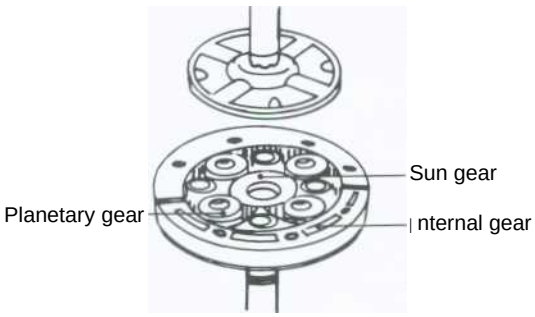


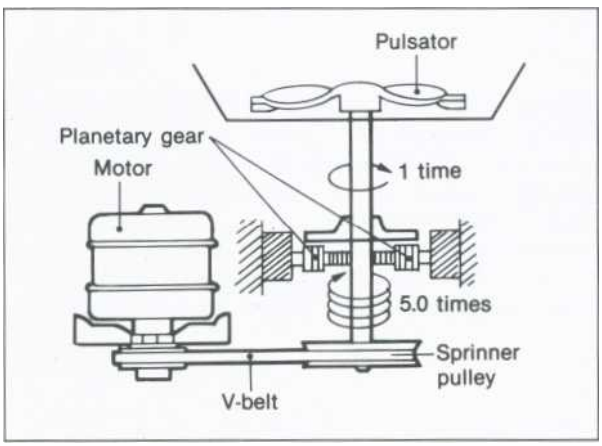


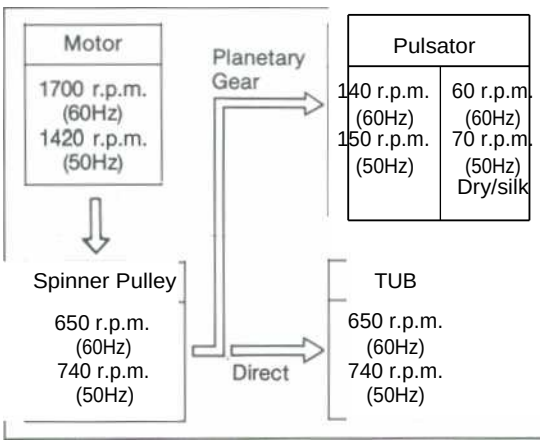
GEAR MECHANISM ASS'Y

The proper water currents is made by the rotation of pulsator at a low speed (about 145 r.p.m) to prever the damage to the small sized clothes.



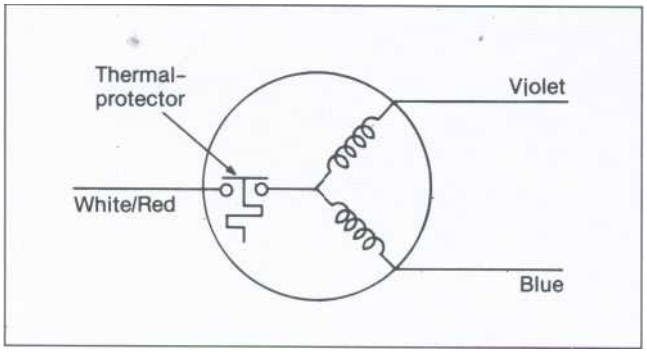






SAFETY DEVICE FOR MOTOR

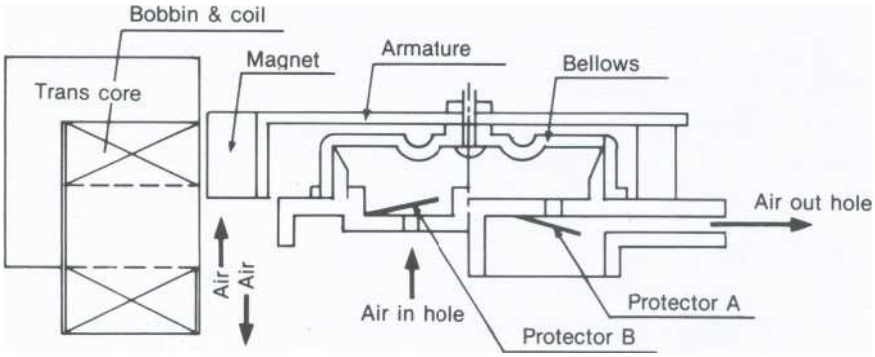
In case of occurring disorder of motor caused by extreme-high voltage, over-heating, over-load, safety devices (Thermal Protector) of motor can be operated and cut off the power sources automatically.
At this case, motor does not run.
However, motor can be operated normally again about 1 hour later.



(Motor)

PRINCIPLE OF BUBBLE GENERATOR

1) STRUCTURE



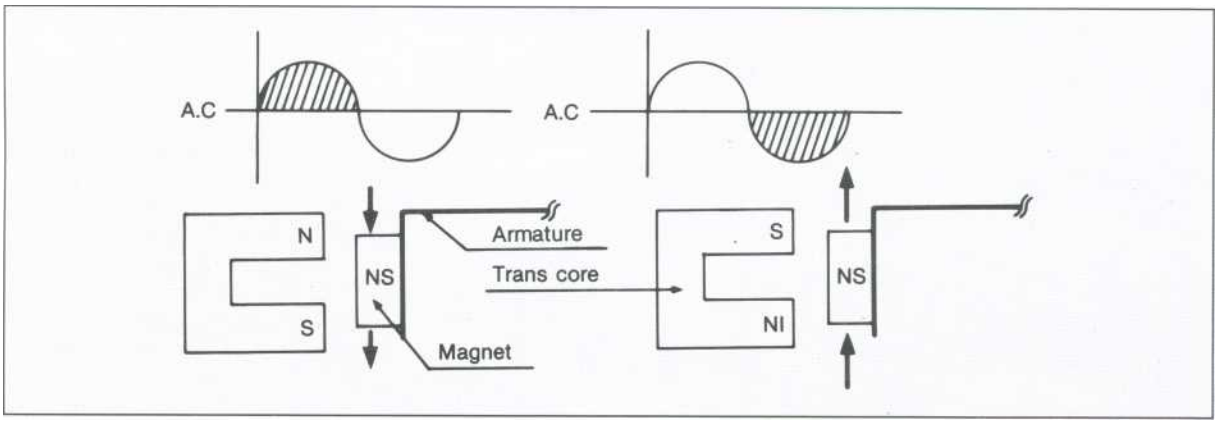
PRINCIPLE OF INTAKE & OUTLET OF THE AIR

INTAKE : ARMATURE moves up, and BELLOWS inhales the air. At the same time, protector B is open and A is close.

OUTLET: ARMATURE moves down, and BELLOWS exhausts the air. At the same time, protector B is close and A is open.

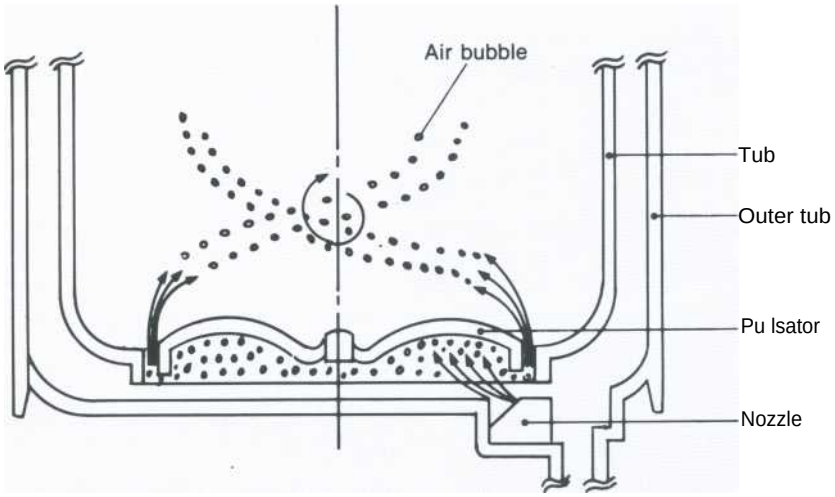
2) FUNCTIONAL PRINCIPLE OF TRANS & MAGNET

- The phase of A.C electric power changes to 60 (50) cycle/sec.
- The magnetic pole of trans core is changed by the change of the phase of A.C electric power.
- The core repeats push and pull (3600(3000) times/min) of the armature magnet.



FUNCTIONAL PRINCIPLE OF BUBBLE WASHING MACHINE

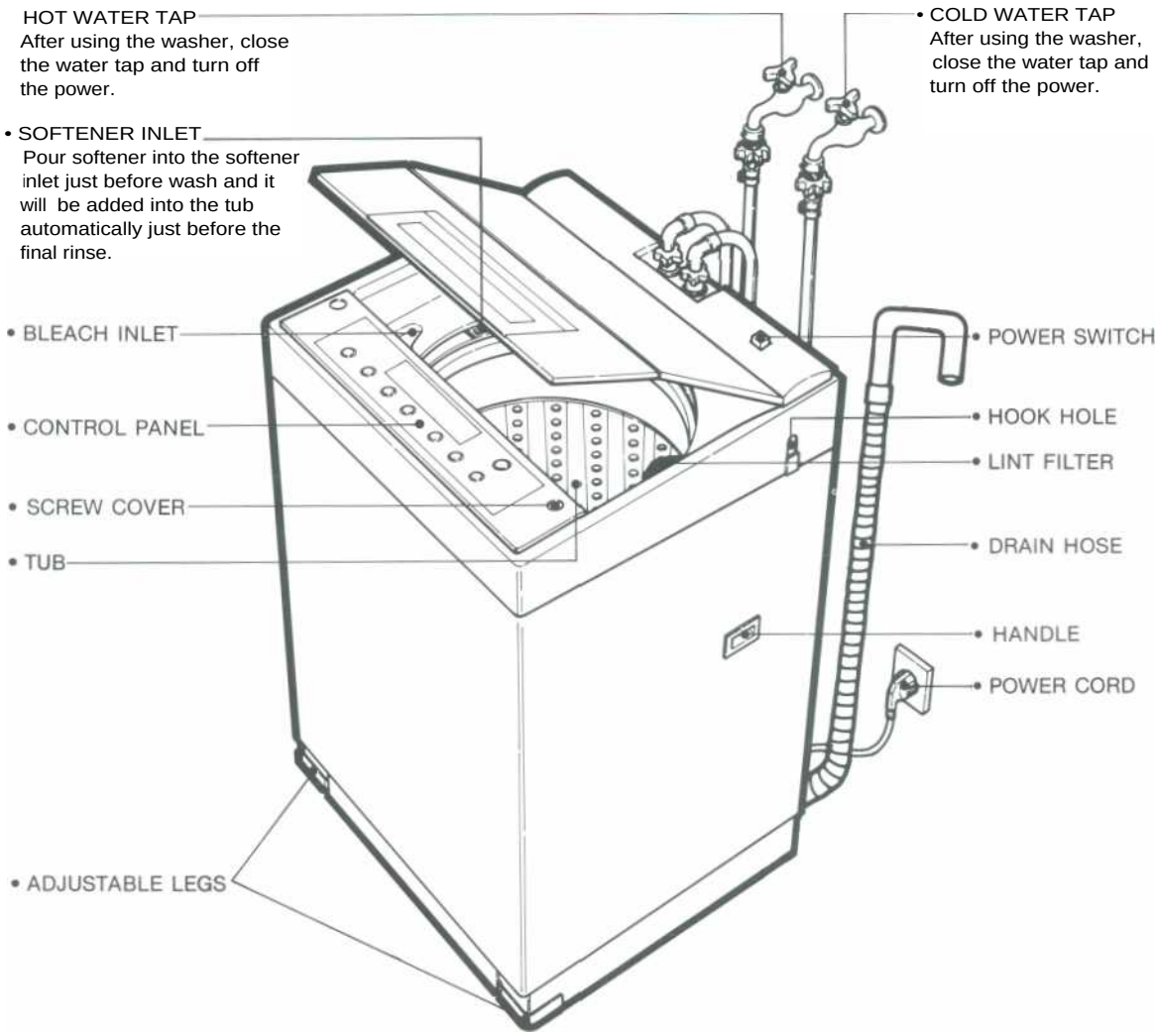
1) A CROSS SECTION



2) FUNCTION PRINCIPLE

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

3. THE STRUCTURE OF THE WASHING MACHINE



ACCESSORIES

Inlet Hose (2 Pcs)	Drain Hose Clamp	Hose Fixture	Drain Hose OR (MODEL WITH DRAIN PUMP)

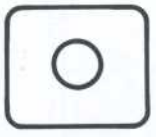
4. THE FUNCTION OF THE CONTROL PANEL

CONTROL PANEL

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

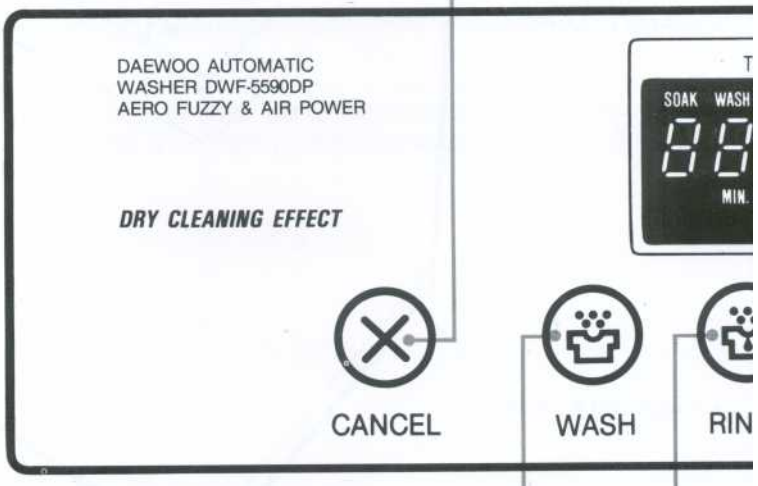
Power Switch

- Press this switch to turn the power ON or OFF.
- After turning off the power, wait for more than 3 seconds and then turn it on again.



Cancel Button

- With this button, you can arbitrarily choose course by proper combination with the right three buttons.
- If you want the washer to operate differently from pre-setting time or to operate separately among the three stages, you first push this button and other buttons sequentially.



Wash Selector

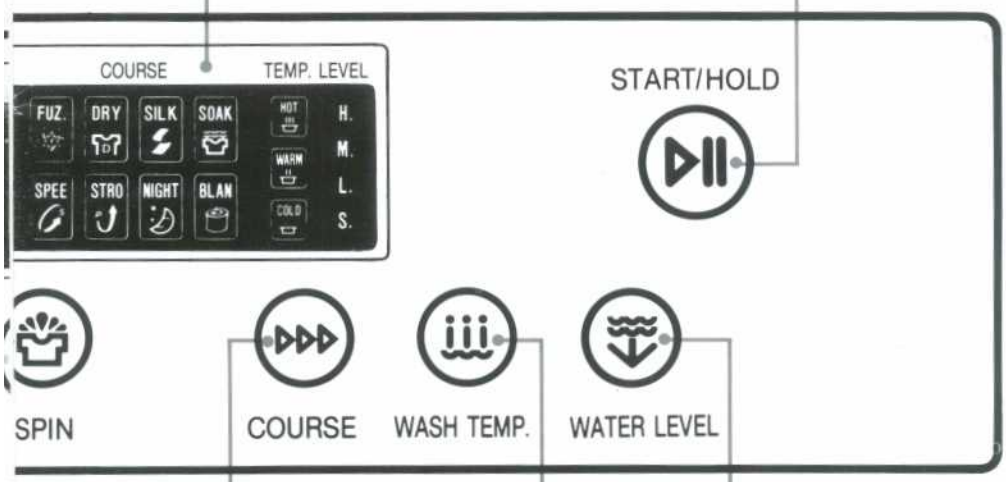
- The above three buttons can be used to bring the three washing stages under control.

Display

- The "TIME" part lamp indicates the residual time and the number of rinsing and spinning times until wash is over.
- The "COURSE", "TEMP.", and "LEVEL" part lamps are turned on according to the buttons of the control panel.

Start/Hold Button

- Press this button to begin operation or to stop operation temporarily.
- Operation and temporary stop are repeated as it is pressed.



Course Selection Button

- This button is used to select the washing, course according to the type of the clothes being washed.
- You can choose one of the eight courses by pressing this button until your desired course indicator light comes on.

Temperature Selection Button

- This button is used to select the water temperature according to the clothes being washed.
- Press this button until your desired temperature indicator light comes on, and it will repeat following signs:
  COLD → WARM → HOT

Water Level Selector

- This selector is used to select the washing water level according to the size of the wash load.

5. DIRECTIONS FOR INSTALLATION AND USE

HOW TO INSTALL THE WASHING MACHINE

THE SELECTION OF THE INSTALLING PLACE

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

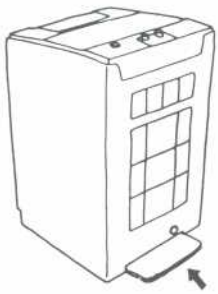
Never install in these places

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

• The proper installation of the washing machir can increase the wash effectiveness and the life of it.

INSTALLATION OF THE UNDER BASE COVER

① The packing box opened, there is a under-base cover at the bottom of the back.



After installing the washing machine, close the under-base cover.

0 Push the under-base cover into the end, which decreases the noise made by this washer.

If the washer is installed on an unsuitable floor, it could make considerable noise and vibration, and could cause a malfunctic Use the height adjust rubber to adjust the washing machine s(that it sits properly.

HOW TO INSTALL ON AN INCLINED PLACE

10 Height Setting	0 Check the Horizontal Status
• After controlling the height by turning the adjustable legs, let the washer put down to the ground.	• Check the position of tub above the center of the washer.

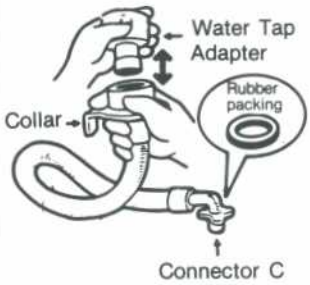
NOTES:
The openings must not be obstructed by carpeting when the washing machine is installed on a carpeted floor.

HOW TO CONNECT THE INLET HOSE

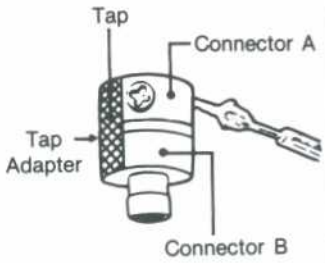
IN INSTALLING THE INLET HOSE

Be careful not to mistake in supplying hot and cold water.
In using only one water tap, connect the inlet hose to the cold water inlet.

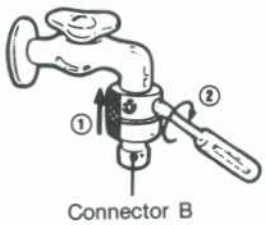
① Pull down the collar of the inlet hose to separate it from the water tap adapter.



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



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



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

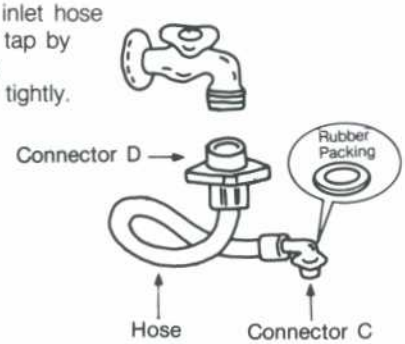
⑤ Connect the inlet hose to the water tap adapter by pulling down the collar of the hose end.

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

- Please check the rubber packing inside the connector C of the inlet hose.

• FOR SCREW-SHAPED TAP

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



② Connect the connector C of the inlet hose to the water inlet of the washer by turning it clockwise to be fixed tightly.

- Please check the rubber packing inside the connector C of the inlet hose.

PREPARATION FOR WASHING

THE WASHING ARRANGEMENT

Please start washing after reading these instructions.

- Is the clothes washable with water?

Arrange the wash.

- Does the clothes contai your things in the pockets

Remove your things in the pocket of the clothes, and then button up and jeep u the clothes.

- Is the clothes stained with oil or paint?

Wash the clothes after separating it from other clothes.

- Is the clothes stained with the dust?

Wash the clothes after rubbing it to remove the dust.

- Is the clothes napped?

Wash the clothes after turning it inside Out.

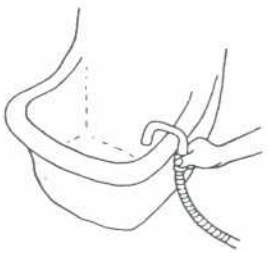
- Is the clothes soft One?

Wash the clothes after putting in it the nylon-ba

The Washing Preparation

① Inlet/Drain Hose

- Connect the inlet hose and drain hose, and then hang the "U" shaped outlet of the drain hose on the edge of a sink.



② Power Cord

- Connect the power cord to the electric outlet.

③ Detergent

- Prepare the detergent according to the size of the wash load.

(Put the bleach and the softner into the inlet it necessary.)

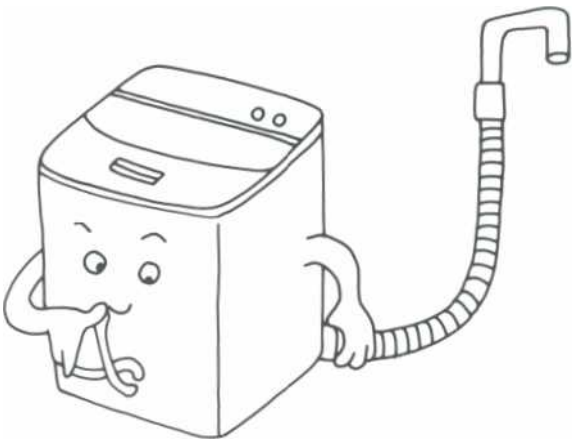
④ Clothes

- After putting the clothes into the tub close the lid.

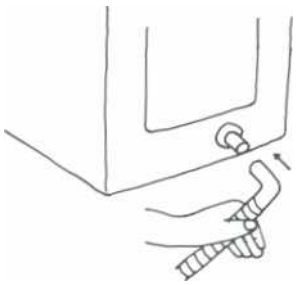
HOW TO INSTALL THE DRAIN HOSE

INSTALLATION OF THE DRAIN HOSE

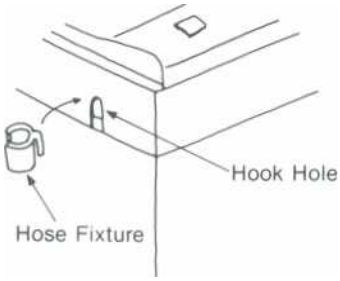
Never forget to install drain hose before operating this washing machine. The packing box opened, there are a drain hose, a clamp, and a hose fixture.



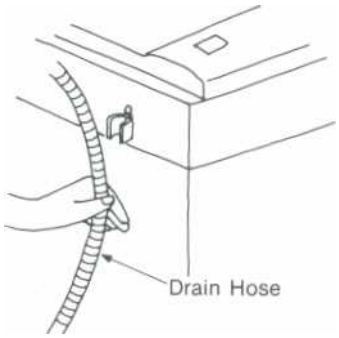
O Connect the drain hose to the drain outlet at the side of the washing machine, and fasten it tightly with the clamp supplied.



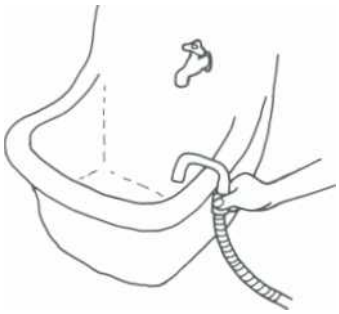
O Insert the hose fixture into hook hole on the left side or the right side of the body.



O Fix the drain hose by inserting it into the hose fixture.



® Hang the "U" shaped outlet of the drain hose on the edge of a sink.



NOTES:

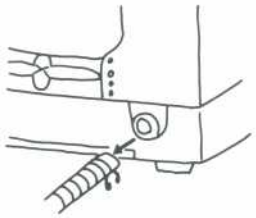
1. Keep the drain hose fixed tightly in the hose fixture.
2. Be sure that the height of the "U" shaped outlet is more than 1 m above the floor. It not so, the water in the washer could flood on the floor during operation.
3. Be sure that any part of the drain hose is not excessively high. It could be a cause of poor drain or malfunction of drainage.

CLEANING THE PUMP HOUSING

In case of faltering of draining power or malfunction of drainage, remove the dirt of the foreign matter accumulated inside the pump housing by following instructions.

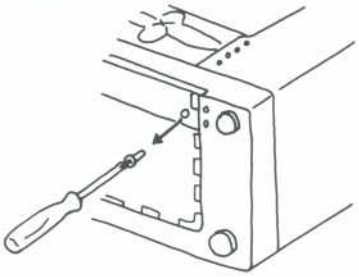
① Detach the Drain Hose

- Loosen the hose clamp and detach the outer drain hose.



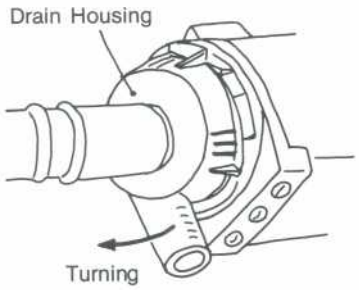
② Detach the Drain Pump

- After spreading blanket or unit box, lay the washer as the below figure. And detach the screws with ⊕ driver.



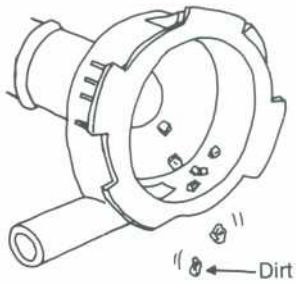
③ Separate the Drain Housing

- Separate the pump housing from the drain pump by turning it clockwise.



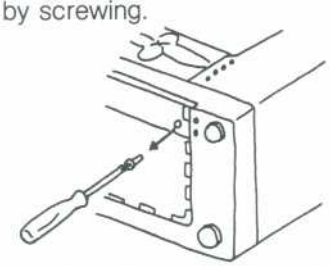
④ Remove the Drit

- Remove the dirt or the foreign matter accumulated inside the pump housing.



⑤ Fit the Pump Housing

- Fit the pump housing to the drain pump by turning it couter-clockwise to be fixed tightly.
  And attach the drain pump by screwing.



NOTE

For good drainage, make sure to inspect and clean the pump housing from time to time.

6. PROCEDURE OF FULL-AUTOMATIC WASHING

Prepare for washing.
↓
Pressing the power switch.
↓
Put the clothes in to the tub.
↓
Select the washing course.

① Full-Automatic	② Select the Course	③ Procedure of Pressing the Button
BLANKET 	This selection is effective for blanket, curtain, carpet, etc.. * 3 kg's limitation for one-time-wash.	BLANKET → START/HOLD 
FUZZY (SENSOR)	This selection is for general washing.	FUZZY START/HOLD 
DRY 	This selection is effective for delicate clothes * Just follow the washing procedure. * 1.5 kg's limitation for one-time-wash.	DRY  Put the exclusive detergent, Dry-10, of 26g into the tub for dilution with water.
SILK 	This selection is effective for some clothes made of silk. * Do not put in the wash marked with 'dry-cleaning'. * 1kg's limitation for one-time-wash.	SILK  Put the exclusive detergent, Dry-10, of 26g into the tub for dilution with water.
STRONG 	The selection is effective for blue-jean, climbing clothes, ruck-sack, sports wear, etc..	STRONG → START/HOLD 
NIGHT 	This selection is for a night-washing housewife who has no opportunity at day time.	NIGHT → START/HOLD 
SOAK 	This course is used to increase the wash effect by keeping the clothes soaked sufficiently in the wash water.	SOAK → START/HOLD 
SPEED 	This selection is effective for washing light or less dirty wash.	SPEED → START/HOLD 

• As far as putting the power plug out, the selections for hot and cold water are remembered after washing. At next washing time, the remembered lamp will light on.

④ Procedure of Washing (Washing machine does it automatically.)

A blanket course's water flor R` R` L` L` R` L`

Artificial brain computer controls full procedure proper to wash load automatically.

End of washing informed by buzzer.

Buzzer signal to notify you can put the sensible clothes into the diluted water with Dry-10.

START/HOLD

A part of dotted line is decreasing rotation velocity. Because protect clothes for damage.

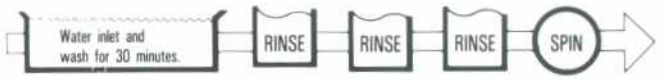
Buzzer signal to notify you can put the sensible clothes into the diluted water with Dry-10.

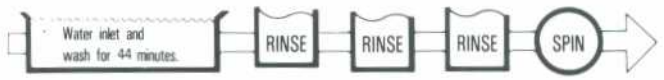
START/HOLD

A part of dotted line is decreasing rotation velocity. Because protect clothes from damage.

After 10 minutes later from the end of the washing the power switch is turned off automatically.

A strong course's water flow is R` L` R` L` R` L` R` L` R` L`





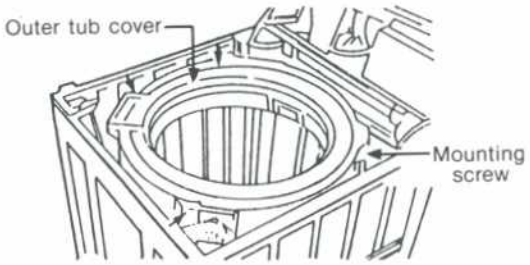
After Washing:
- Close the water tap and separate it from the inlet-hose. If not so, the autovalve is out of order by the water pressure.
- Take off plug.

7. DIRECTIONS FOR DISASSEMBLY AND ADJUSTMENT

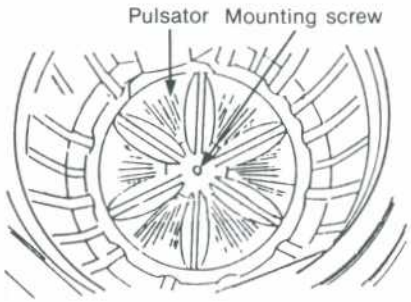
WARNING
BEFORE ATTEMPTING TO SERVICE OR ADJUST ANY PART OF THE WASHING MACHINE, DISCONNECT THE POWER CORD FROM THE ELECTRIC OUTLET.

GEAR MECHANISM ASS'Y REPLACEMENT

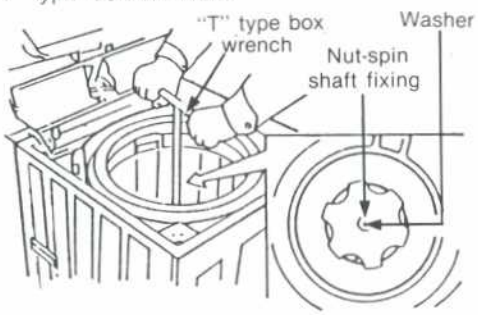
- Raise the top plate on the outer cabinet.
- Loosen four screws mounting outer tub cover and remove outer tub cover from the tub ass'y.



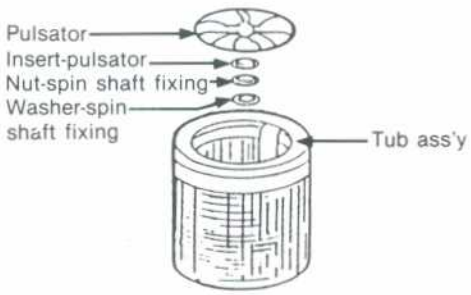
- Loosen the pulsator mounting screw and remove the pulsator.



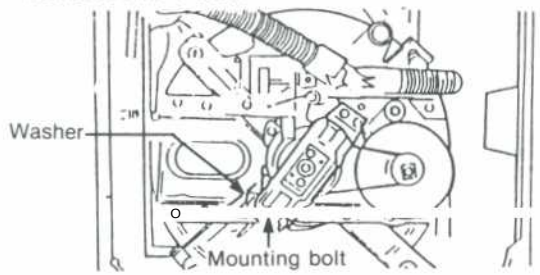
- Remove the pulsator washer.
- Remove the spinner shaft flange nut by using 'T' type box wrench.



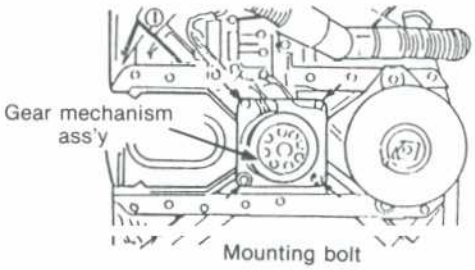
- Remove the tub ass'y.



- Place the W/M on its front side.
- Remove four bolts mounting the plate-gear protector by using a box wrench and remove plate-gear protector.
- Remove the V-belt.



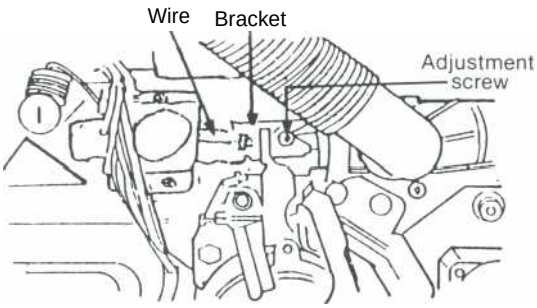
- Remove four bolts mounting the gear mechanism ass'y by using a box wrench.
- Pull out the gear mechanism ass'y.



NOTE: To assemble the gear mechanism ass'y, reverse the disassembley procedure.

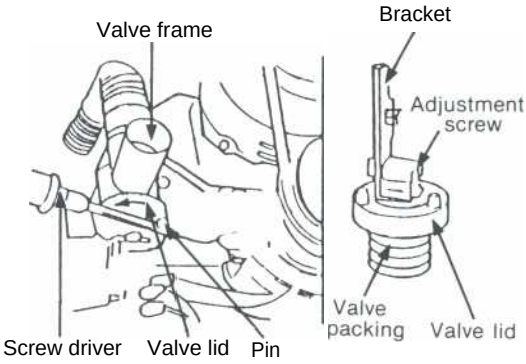
DRAIN MOTOR AND VALVE REPLACEMENT

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



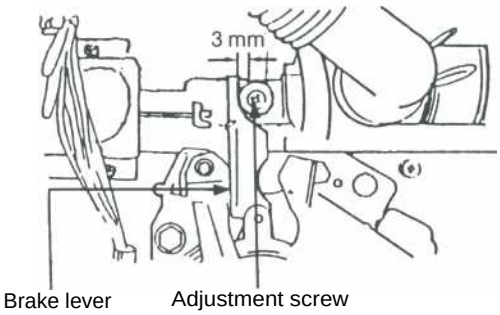
Drain motor

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

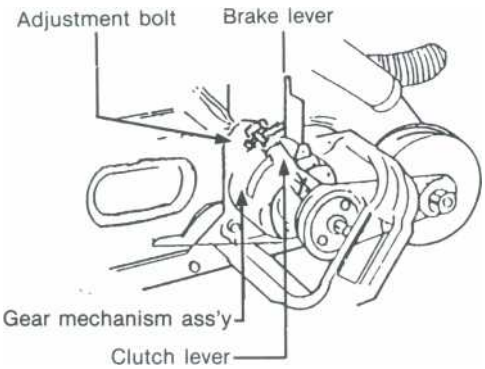


BRAKE ADJUSTMENT

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



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



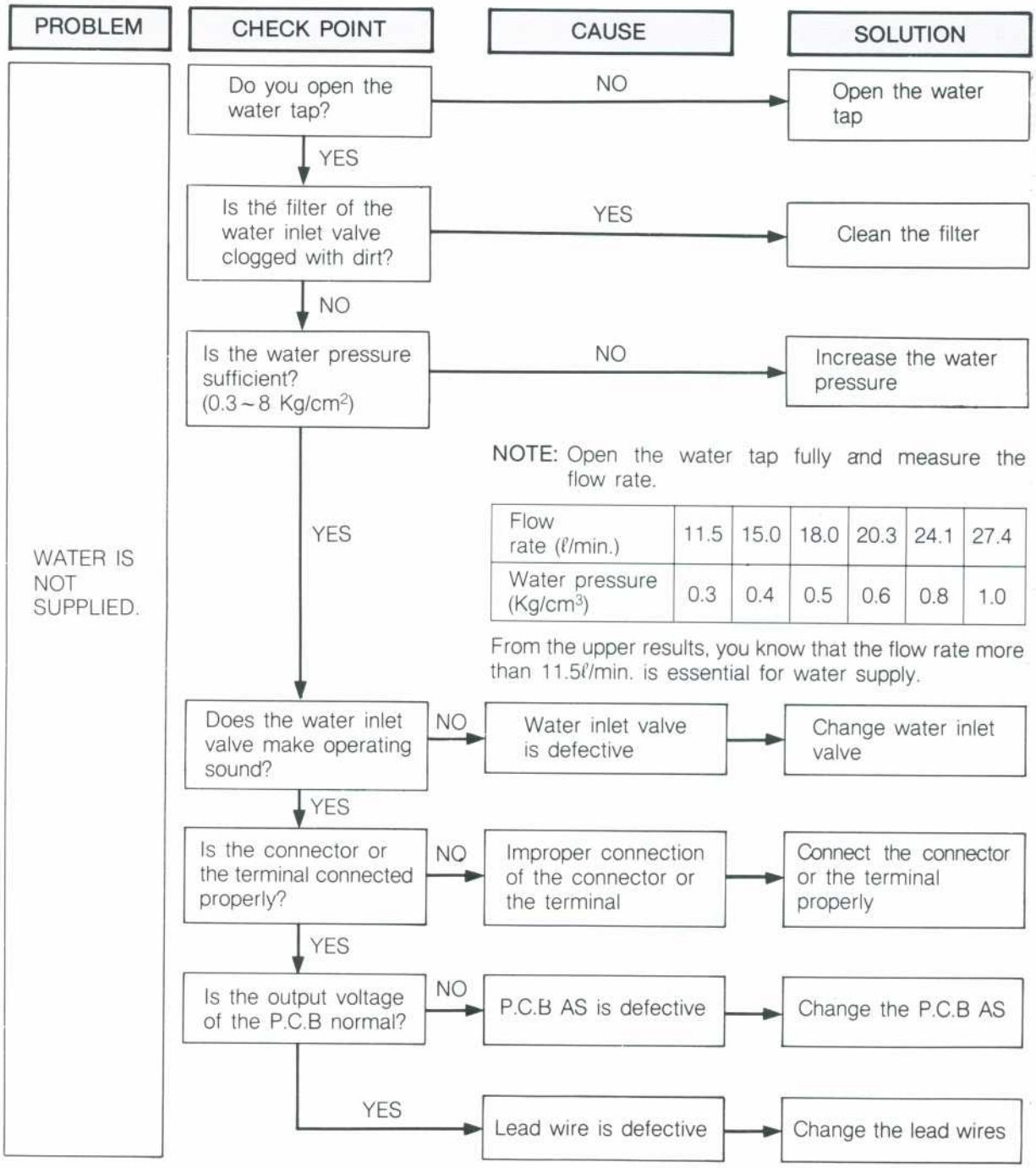
NOTE

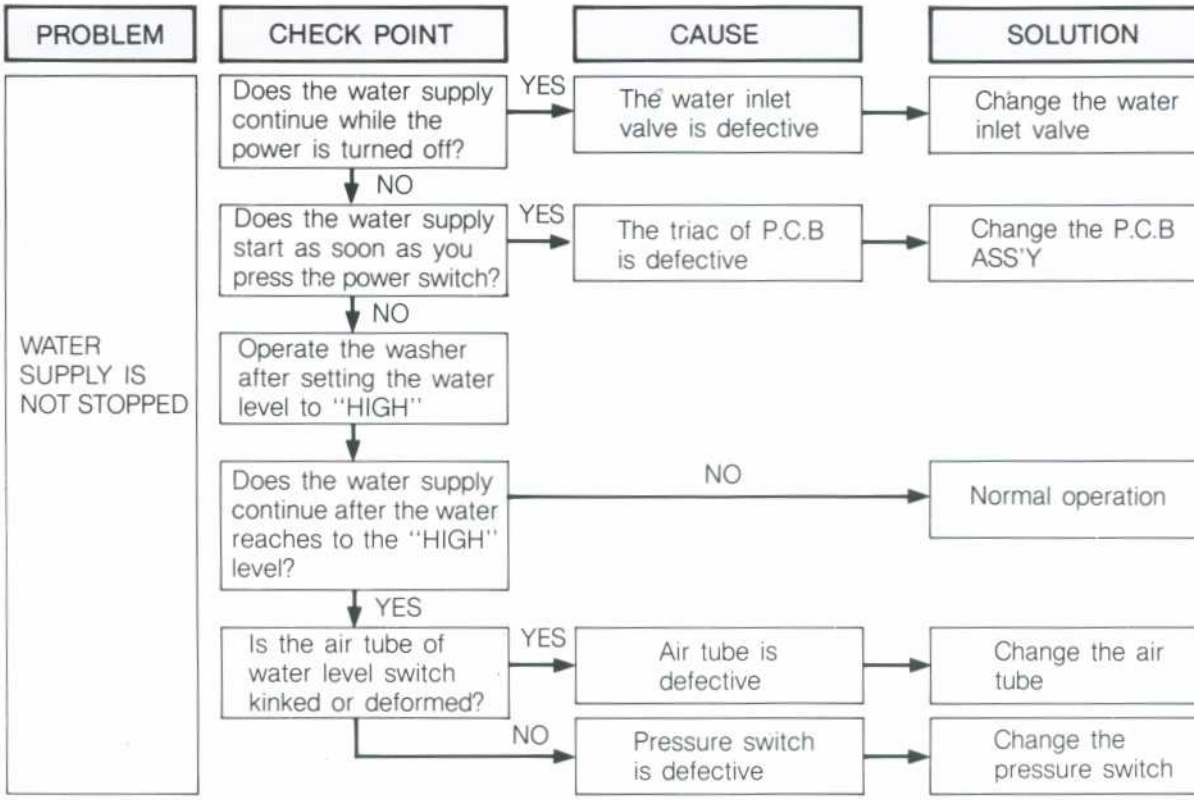
1. The brake adjustment has been made at the factory, so that it is not to re-adjust. However, in case of insufficient brake operation, perform the upper procedure.
2. Overtightening of the adjustment bolt will cause poor brake performance.
3. Undertightening of the adjustment bolt will cause continuous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

8. TROUBLE SHOOTING GUIDE

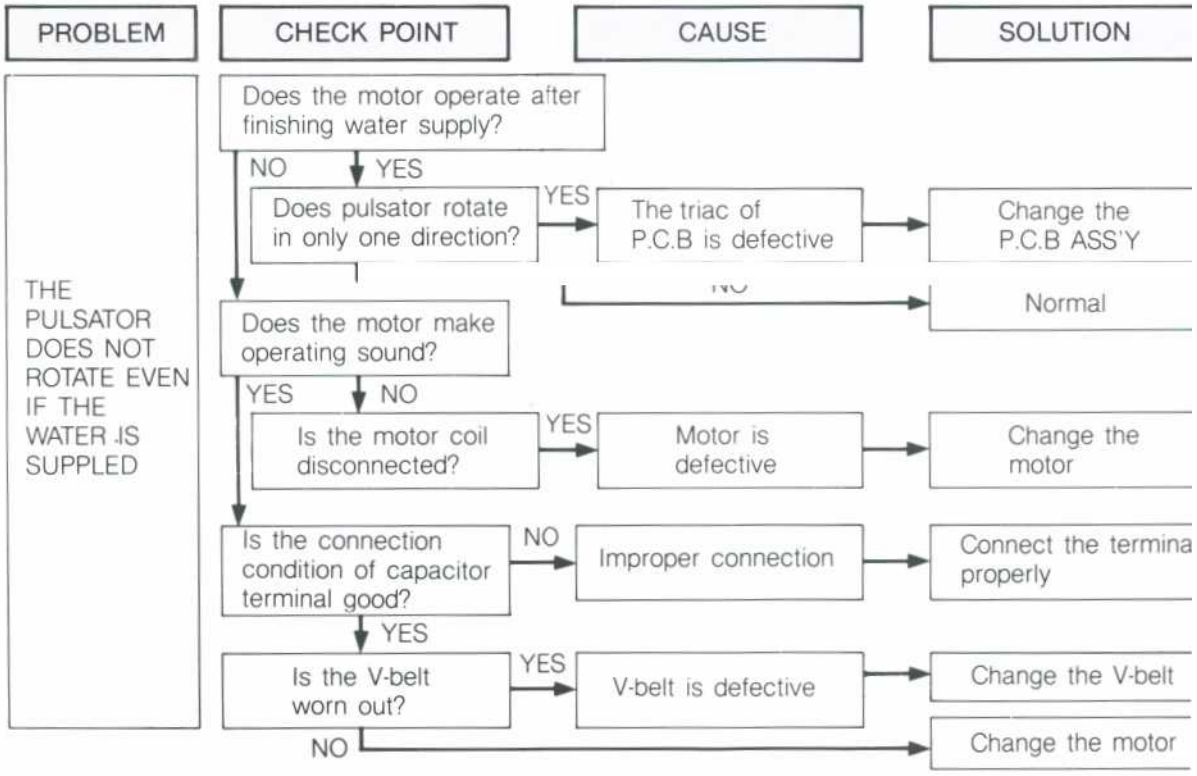
NOTES:
1. When replace the P.C.B AS, do not scratch the surface of the P.C.B. AS.
2. Remove the plug and make sure body is grounding properly before beginning repair work.

CONCERNING WATER SUPPLY

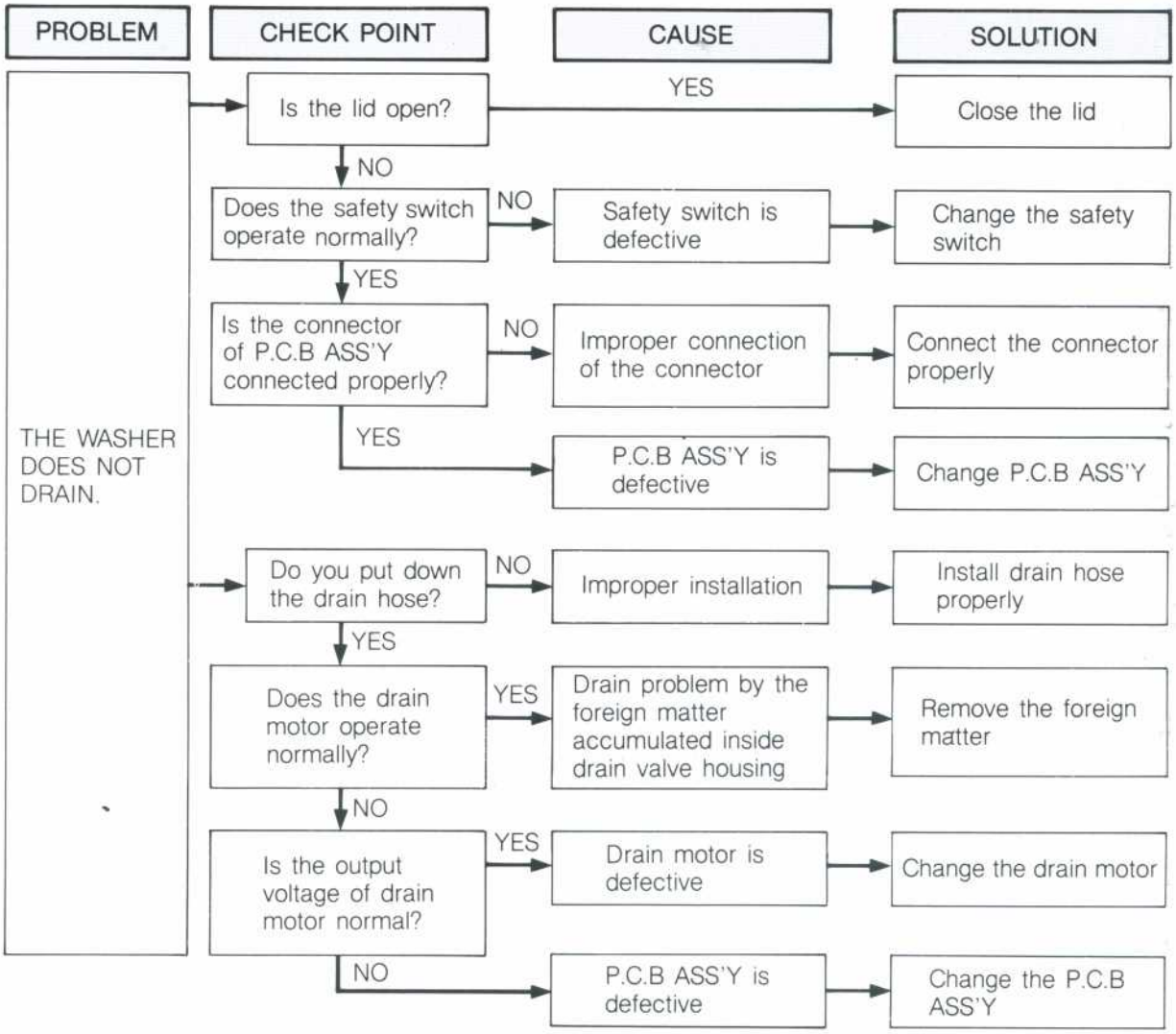




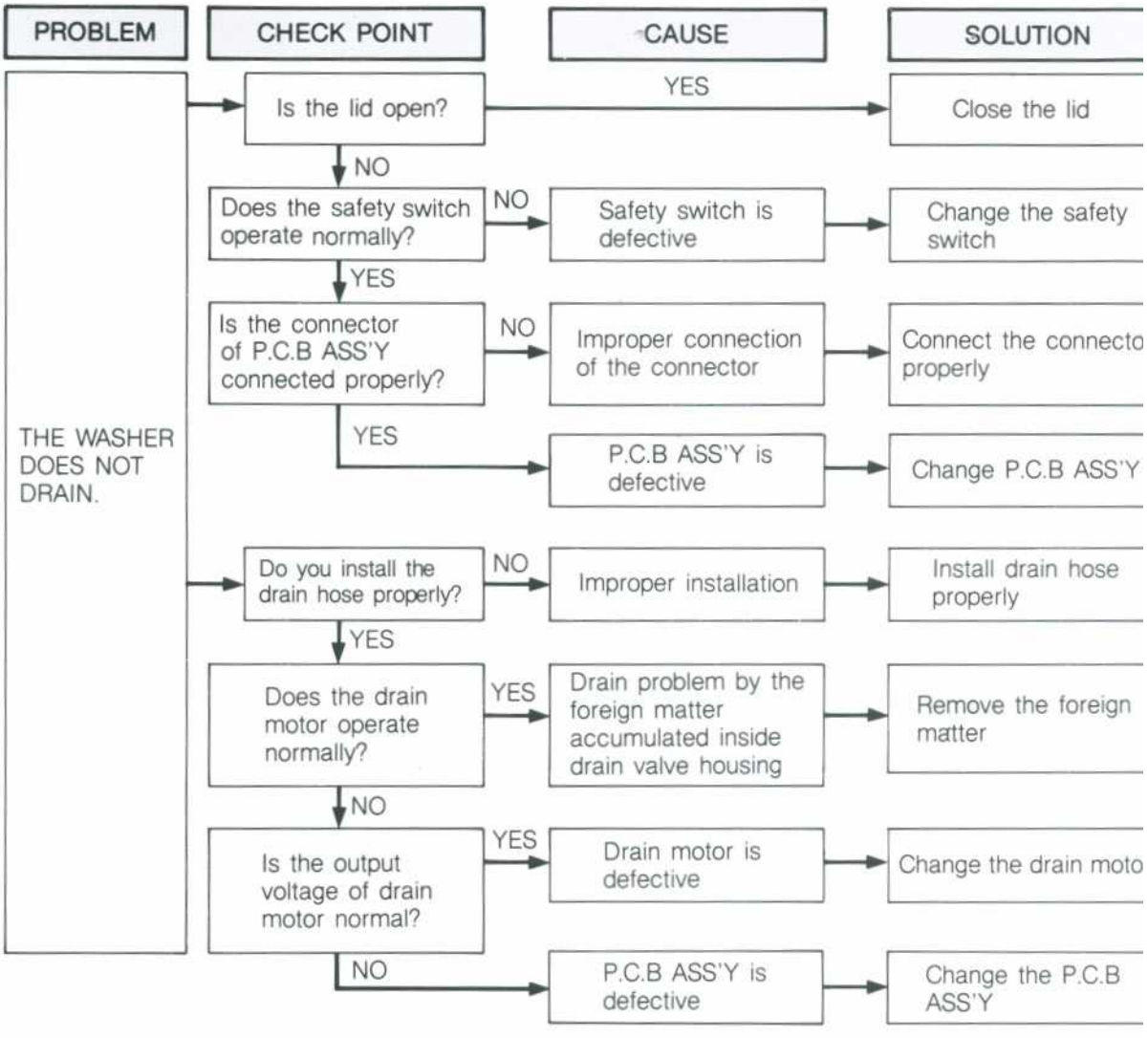
CONCERNING WASHING



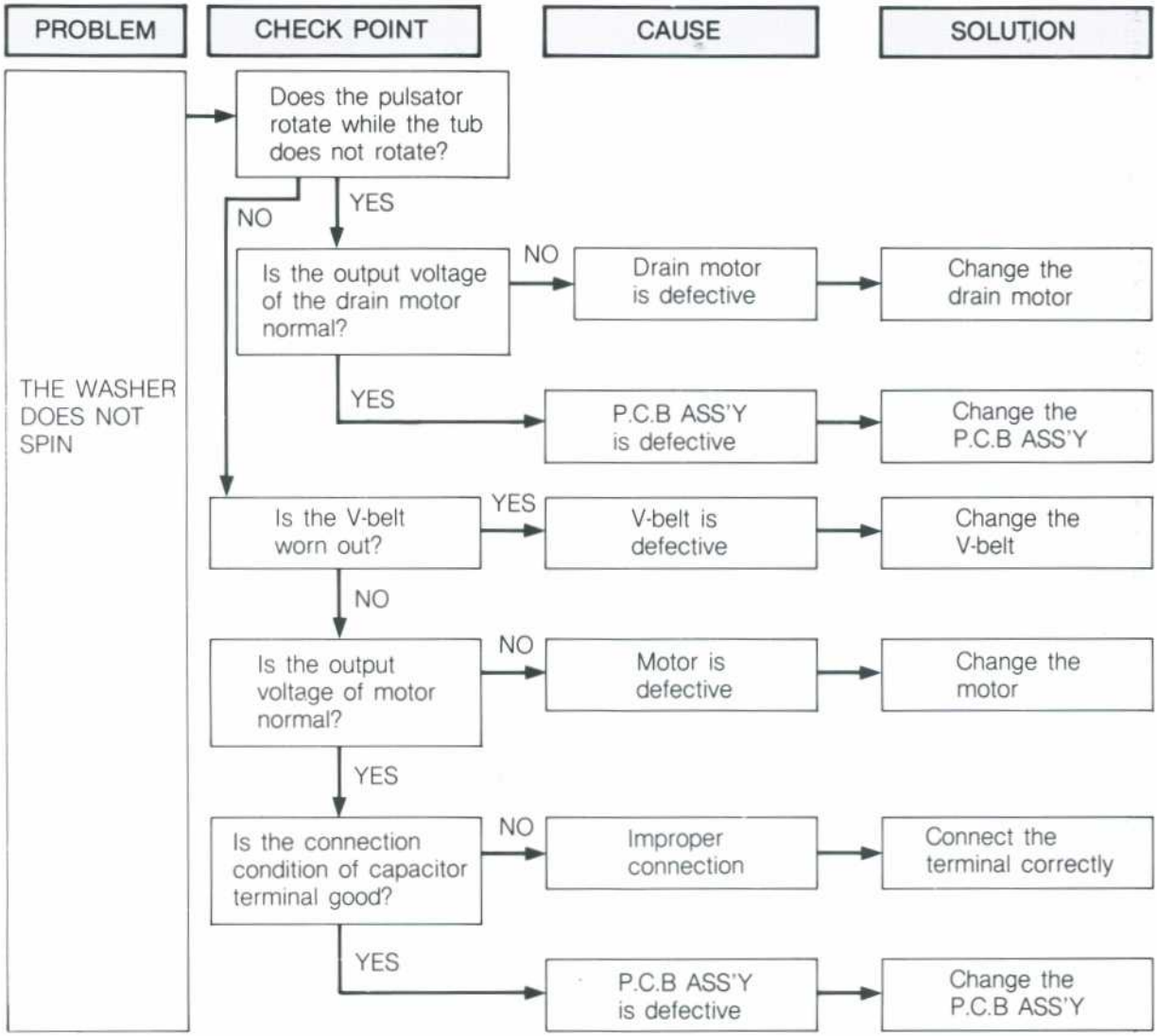
CONCERNING DRAINING



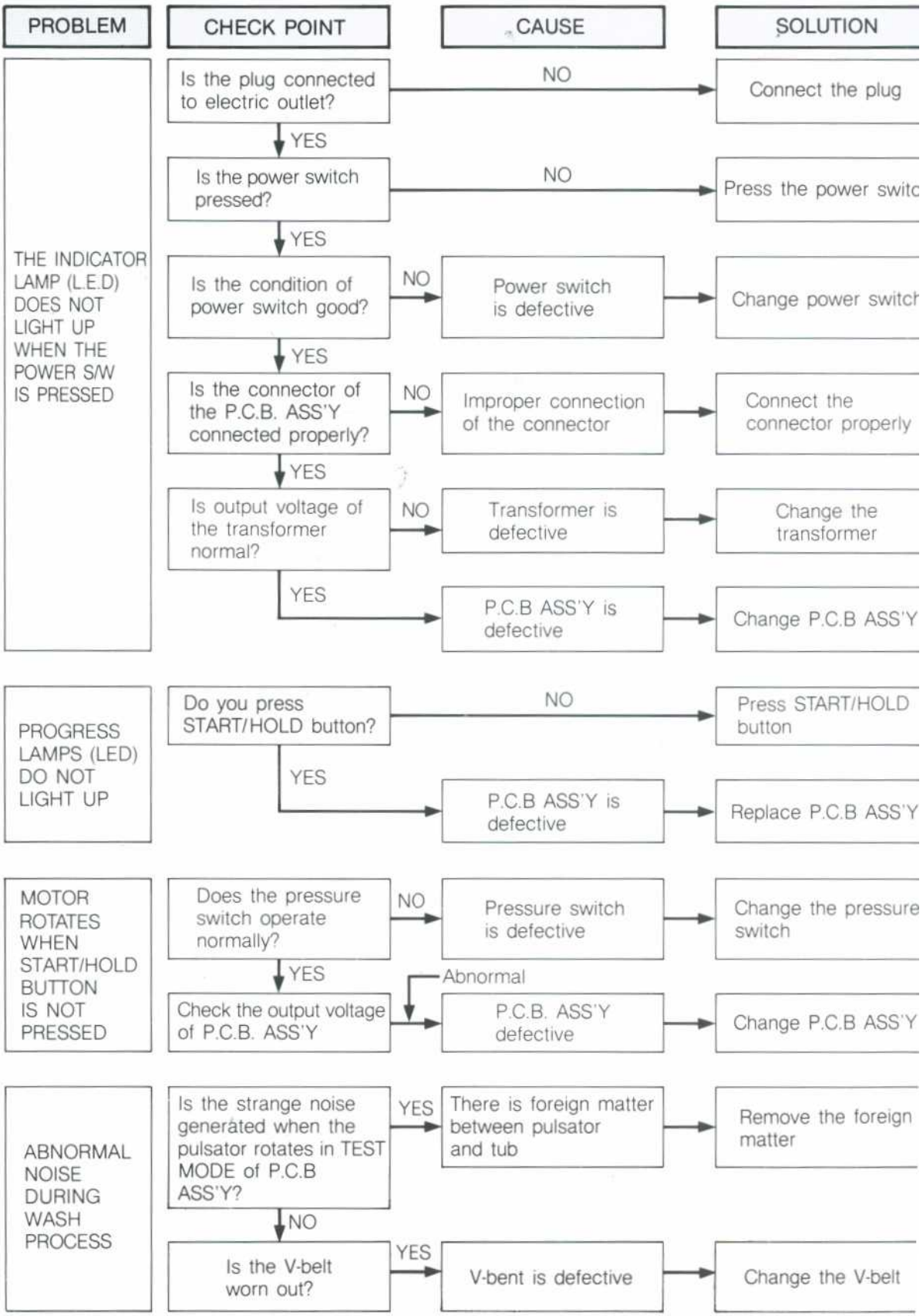
CONCERNING DRAINING (MODEL WITH DRAIN PUMP)



CONCERNING SPINNING



CONCERNING OPERATION

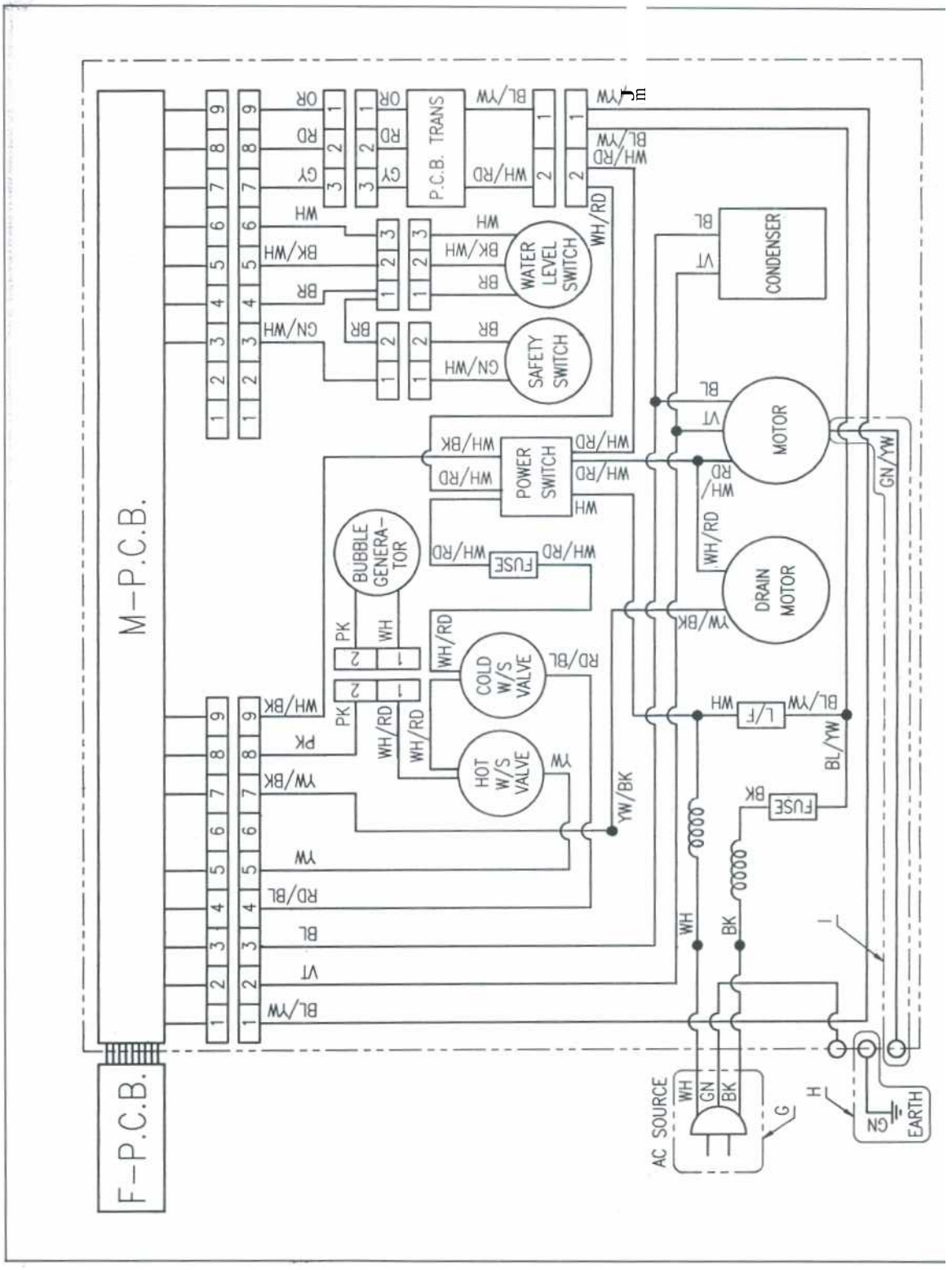


CONCERNING ERROR MESSAGE

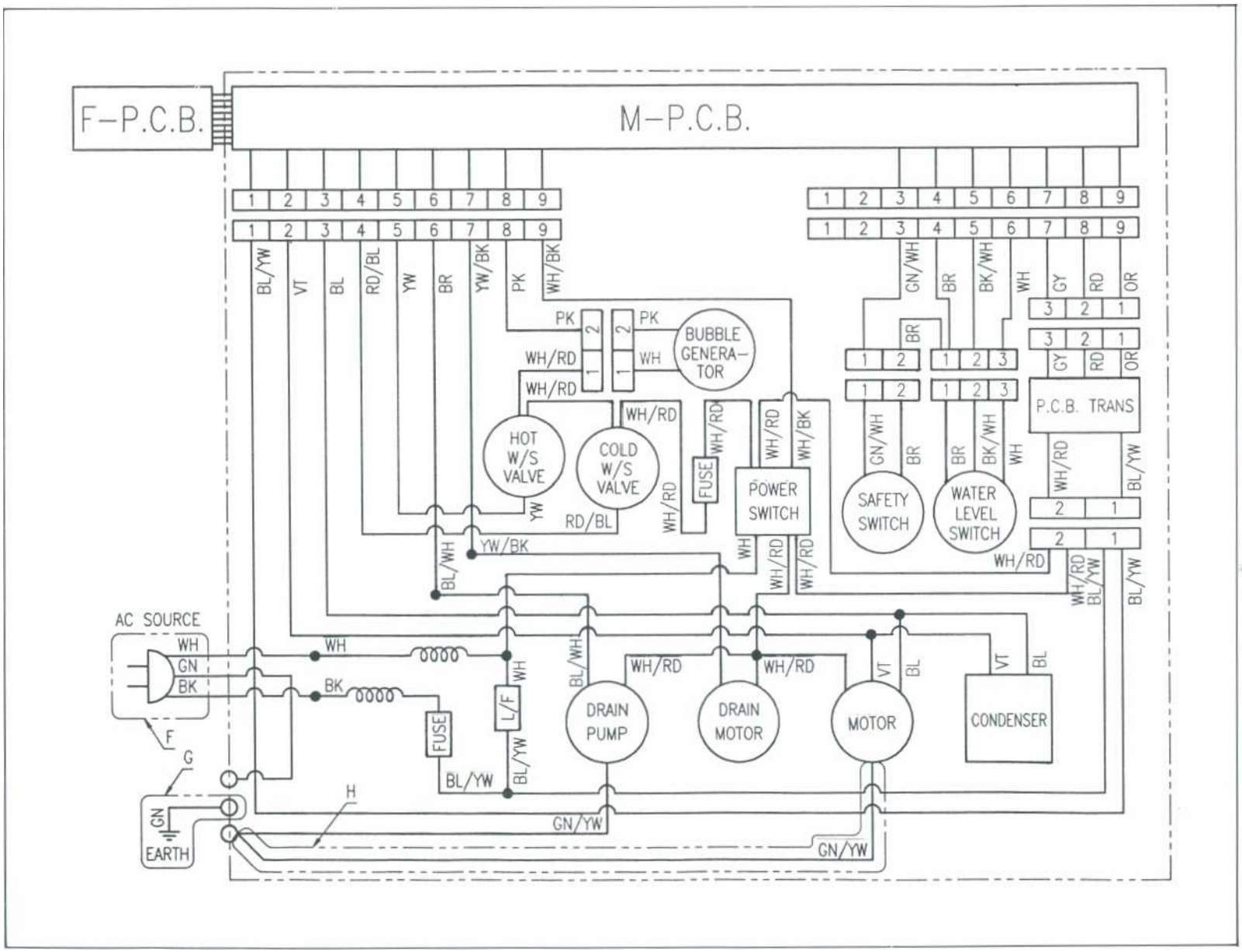
MESSAGE	CAUSE	SOULTION
	Improper installation of the drain hose.	Install drain hose properly.
	Drain problem by being clogged with foreign matter.	Remove foreign matter in drain valve.
	Drain motor defective.	Replace drain motor.
	Water supply tap is closed.	Open water supply tap.
	Filter is clogged.	Clean the filter.
	Flow volume of water less than 11.5 ℓ/min..	Flow volume not less than 11.5 ℓ/min. is necessary.
	Wash loads get uneven during spin.	Re-set wash loads evenly.
	Poor installation of the unit.	Proper installation.
	The lid is opened.	Close the lid.
	Point of safety s/w. defective.	Replace safety switch.
	The P.C.B. ASS'Y is defective.	Replace the P.C.B. ASS'Y.
	Sensor switch or P.C.B. ASS'Y defective.	Replace the sensor s/w. and operate the sensor course. In case 'E9' message is not disappear, replace the P.C.B. ASS'Y.
	This condition shows in case of reservation washing (S/H) button pressed and course is not set.	Turn the power switch on and off and then set the course.
	This condition shows that (S/H) button is pressed with the door being open after reservation washing time is set.	Close the door.

APPENDIX

WIRING DIAGRAM
220V/60Hz



F-P.C.B.
M-P.C.B.
1 2 3 4 5 6 7 8 9
BL/YW
VT
BL
RD/BL
YW
YW/BK
PK
WH/BK
PK
WH/RD
WH
BUBBLE GENERA-TOR
WH/RD
HOT W/S VALVE
YW
COLD W/S VALVE
RD/BL
WH/RD
FUSE
WH/RD
POWER SWITCH
WH/BK
WH
WH/RD
YW/BK
GN/WH
BR
SAFETY SWITCH
BR
BK/WH
WH
WATER LEVEL SWITCH
GY
RD
OR
TRANS
WH/RD
YW
BL/YW
AC SOURCE
WH
BK
F
G
GN
EARTH
WH
BK
FUSE
L/F
WH
BL/YW
BL/YW
YW
YW
GN/YW
WH/RD
DRAIN MOTOR
VT
BL
MOTOR
VT
BL
CONDENSER


F-P.C.B.
M-P.C.B.
BUBBLE GENERA-TOR
HOT W/S VALVE
COLD W/S VALVE
FUSE
POWER SWITCH
SAFETY SWITCH
WATER LEVEL SWITCH
P.C.B. TRANS
AC SOURCE
WH
GN
BK
F
G
H
L/F
FUSE
DRAIN PUMP
DRAIN MOTOR
MOTOR
CONDENSER
EARTH
BL/YW
VT
BL
RD/BL
YW
BR
YW/BK
PK
WH/BK
WH/RD
GN/WH
BK/WH
GY
RD
OR
GN/YW

PARTS LIST

REF No.	PARTS CODE	PARTS NAME	DESCRIPTION	Q'TY	REMARK
P1	3614501800	PLATE TOP	ABS	1	
P2	3614201400	PANEL FRONT	ABS	1	
P3	3614201500	PANNEL REAR	ABS	1	
P4	3611701300	DOOR B	ABS	1	
P5	3611403100	COVER DOOR	ABS	1	
P6	3615500500	WINDOW DISPLAY	ABS	1	
P7	SEE NOTE 1	ASS'Y P.C.B		1	
P8	SEE NOTE 11	TRANS POWER		1	THERMAL FUSE
P9	SEE NOTE 3	HARNESS AS		1	
P10	SEE NOTE 7	PUMP BUBBLE		1	
P11	3615100200	SPRING DOOR	SUS304 D = 2.0	1	
P12	3616600600	BUTTON START	SILICON	1	
P13	3612300100	GASKET	SILICON	2	
P14	3610902000	CAP VALVE	ABS	2	
P15	SEE NOTE 2	SWITCH POWER		1	
P16	SEE NOTE 6	VALVE INLET (WARM)		1	
P17	SEE NOTE 5	VALVE INLET (COLD)		1	
P18	3610400500	BODY INLET	FRPP	1	
P19	3619003300	SWITCH SAFETY AS	DC 15V 10MA	1	
P20	3611601910	DECORATOR	PC FILM 0.254T	1	
P21	3610901000	CAP	CR	2	
P22	3611504100	CUSHION DOOR	CR	4	
P23	3619000700	WATER LEVEL SWITCH	KANBAYASHI (PS-D6)	1	
P24	3611701200	DOOR A	ABS	1	
P25	3616001200	SCREW SPECIAL	TRS 5 x 75 MFZN	2	
P26	7122401211	SCREW TAPPING	T2S TRS 4 x 20 MFZN	2	
P27	7122402011	SCREW TAPPING	T2S TRS 4 x 12 MFZN	1	
B1	3610032600	CONDENSER AS	13.5wF+60iH	1	
B2	3612200100	FRAME TOP	PP	1	
B3	3610801800	CABINET	PCM 0.7T DWF-6670D	1	
B4	3610300900	BASE UNDER	PP	1	
B5	3611404400	COVER BACK	PP	1	
B6	3617700400	LEG FIX	RUBBER BUTYL	2	
B7	4509M10032	FIXTURE	PP	2	
B8	7122502011	SCREW TAPPING	T2S TRS 5 x 20 MFZN	2	
B9	3612000200	FIXTURE LEG	PPG	2	
B10	3618900700	UNIT LEG	RUBBER+BOLT INSERT	2	
B11	3613000600	HOLDER LEG	ABS	2	
B12	3610901700	CAP LEG L	ABS	1	
B13	3610901800	CAP LEG R	ABS	1	
B14	3614506200	PLATE UPPER	PP	1	
B15	3614502000	PLATE LOWER	PP	≈1	

REF No.	PARTS CODE	PARTS NAME	DESCRIPTION	Q'TY	REMARK
T1	7122401611	SCREW TAPPING	T2S TRS 4 x 16 MFZN	4	
T2	4507D83030	COVER OUTER TUB	PP	1	
T3	4505E32030	SCREW PULSATOR FIX	6 x 26.5	1	
T4	4505E32050	RING 0	D5.5	1	
T5	36-9700800	PULSATOR	PP	1	
T6	4509G83080	INSERT PULSATOR	SMS 1025	1	
T7	4507D83080	SPECIAL NUT	ZNDC2 Cu, Ni COATING	1	
T8	45091_83070	SPECIAL WASHER	SUS 304 2.OT P144	1	
T9	3610085500	ASS'Y FILTER	P.P+NYLON 74x130	1	
T10	3619800200	ASS'Y SUSPENSION	DWF-6670D L=75mm	3	
T11	3619800300	ASS'Y SUSPENSION B	DWF-6670D, L=80mm	1	
T12	3610018100	TUB ASS'Y	PP BIO-CERAMIC	1	
T13	4507DO5025	FLANGE TUB	ADC10		
T14	3610032200	ASS'Y VALVE DRAIN	DWF-5230PN	1	
T15	4507D83012	TUB OUTER	PP	1	
T16	4509M34010	BASE	SBHG2 2.OT	1	
T17	4505E83100	FIXTURE	6.5 x 23	15	
T18	7640801611	BOLT HEX	613-1 8 x 16 SW MFZN	4	
T19	3611502800	CUSHION DOWN	POM H=18mm	2	
T20	SEE NOTE 4	MOTR CONDENSER		1	
T21	3611502000	CUSHION UPPER	POM	2	
T24	7650804211	SPECIAL BOLT	613-1-8x42 MFZN	2	
T25	SEE NOTE 9	PULLEY MOTOR		1	
T26	7391600011	NUT HEX	6N-1-6 MFZN	1	
T27	3616000701	SPECIAL BOLT-PULLEY	6B-1 6 x 20 SM20CK (Zn)	1	
T28	3616100600	BALANCER WEIGHT	FC20, 3550GR	1	
T32	7650802511	SPECIAL BOLT	6B-1-8x25 MFZN	2	
T33	3618300100	PLATE GEAR PROTECT	SBHG1 1.6T	1	
T34	450OD83100	NOZZLE AS	BUBBLING	1	
T35	4500DO8180	CLAMP	SWC	1	
T36	4500DO8170	HOSE	ID =8.0 OD =12.0	1	
T37	4500DO8190	PIPE JOINT	ABS	1	
T38	SEE NOTE 8	MOTOR SYNCRONOUS		1	
T39	3617300601	GEAR MECHANISM	GM-8030D	1	
T40	7640801611	BOLT HEX	6B-1-8x16 SW MFZN	4	
T41	4505E79040	CLAMP HOSE	JSW, D2.6 2N8-C	1	
T42	4509M79010	HOSE DRAIN	PE-1_D	1	
T43	45091_79021	CUFF DRAIN HOSE	PP	1	
(MODEL WITH DRAIN PUMP)					
T44		DRAIN PUMP		1	
T45	3611200100	CLAMP	SW 2.6D ZN8-C	1	
T46	3613207100	HOSE A	NBR	1	
T47	3611200200	CLAMP B	SW 2.6D ZN8-C	1	
T48	3613203100	HOSE AS	DWF-5230PN	1	

NOTE 1 ASS'Y P.C.B.		
NO.	PART CODE	SPEC. or DESC.
1	PRPSSWGL00	D,TE,SE
2	PRPSSWGROO	PT
3	PRPSSWGQ00	NE
4	PRPSSWGM00	PM,PN

NOTE 2. ASSY S/W POWER		
NO.	PART CODE	SPEC. or DESC.
1	3619001601	AC 250V/125V (D,SE,PM,PN)
2	3619002000	AC 250V/60Hz (NE)
3	3619002300	AC 110V/60Hz (TE,PT)

NOTE 3. ASSY HARNESS		
NO.	PART CODE	SPEC. or DESC.
1	3612705400	D,NE
2	3612705410	TE
3	3612705420	PM,PN
4	3612705430	PT
5	3612705440	SE

NOTE 4. MOTOR CONDENSOR		
NO.	PART CODE	SPEC. or DESC.
1	3610019700	(D,SE)
2	3964220400	AC 110V/60Hz (PT,TE)
3	3964310500	AC 220V/50Hz (PN)
4	3964610300	AC 230~240V/50Hz (PM)

NOTE 5. VALVE INLET (COLD)		
NO.	PART CODE	SPEC. or DESC.
1	3615402010	AC 220V/60Hz (D,SE)
2	3615403510	AC 110~130V/60Hz (TE,PT)
3	3615403710	AC 240V/50Hz (NE,PM,PN)

NOTE 6. VALVE INLET (WARM)		
NO.	PART CODE	SPEC. or DESC.
1	3615402130	AC 220V/60Hz (D,SE)
2	3615403630	AC 110~130V/60Hz (TE,PT
3	3615403830	AC 240V/50Hz (NE,PM,PN)

NOTE 7. ASSY UNIT BUBBLE		
NO.	PART CODE	SPEC. or DESC.
1	4500D85002	AC 220V/60Hz (D,SE)
2	3618900300	AC 220V/50Hz (NE,PM,PN)
3	3618901800	AC 110V/60Hz (TE,PT)

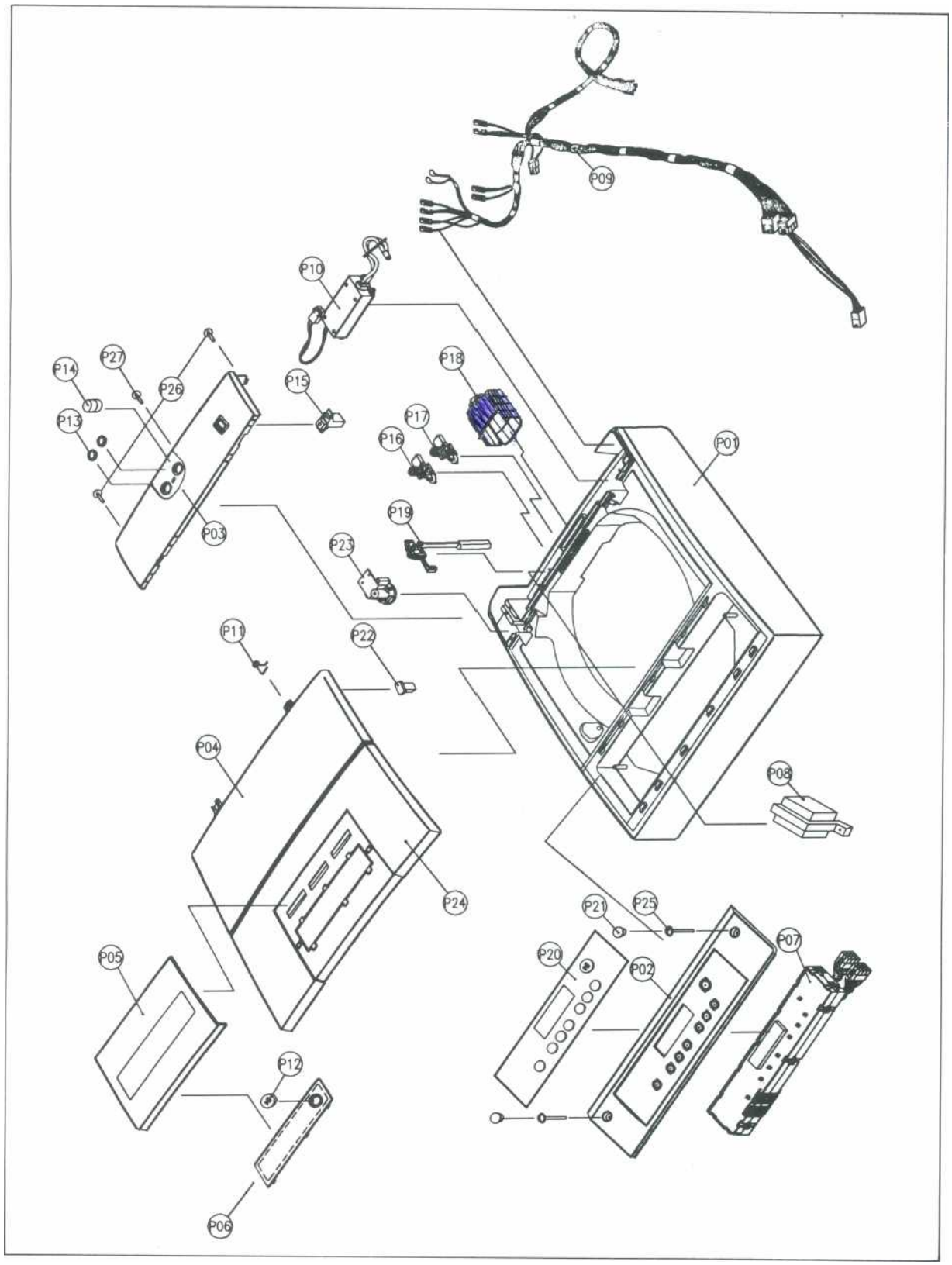
NOTE 8. MOTOR SYNCRO. DRAIN		
NO.	PART CODE	SPEC. or DESC.
1	450ED45010	AC 110~220V/60Hz (TE,PT
2	3966010110	AC 220~240V/50Hz (NE,PM,P
3	3966320200	AC 220V/60Hz (D,SE)

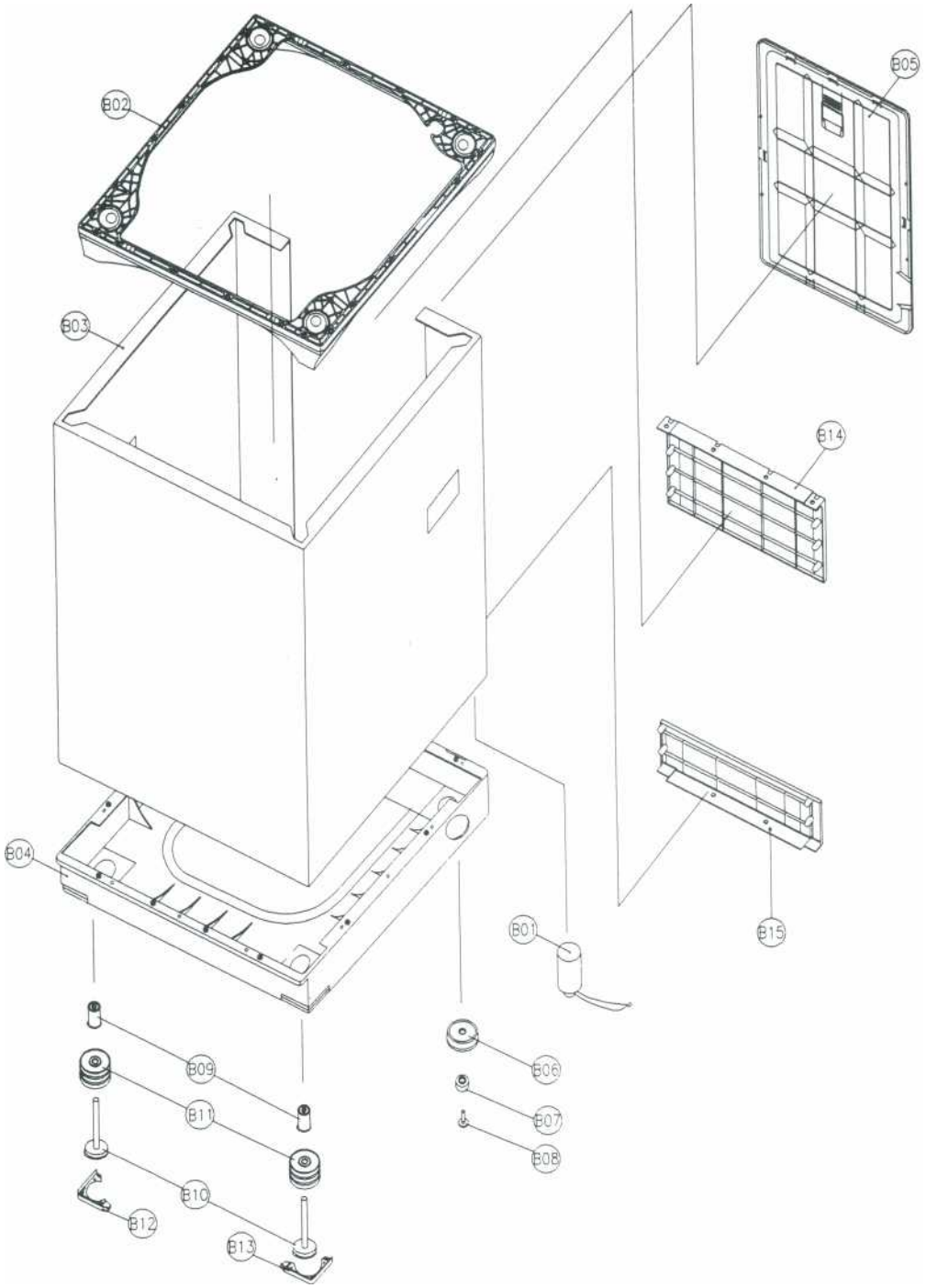
NOTE 9. PULLEY MOTOR		
NO.	PART CODE	SPEC. or DESC.
1	4507B20011	AC 110V/60Hz (D,TE,SE,PN,PT
2	3618400300	AC 230~240V/50Hz (PM)

NOTE 10. ASSY DRAIN PUMP		
NO.	PART CODE	SPEC. or DESC.
1	3963220330	AC 110V/60Hz (DT)
2	3963322730	AC 220V/60Hz (PN)
3	3963513430	AC 220~240V/50Hz (PM)

NOTE 11. TRANS POWER		
NO.	PART CODE	SPEC. or DESC.
1	5EP4054801	AC 230V/50Hz (D,NE,PM,P
2	5EP4054811	AC 115V/50Hz (TE,PT)

PARTS DIAGRAM

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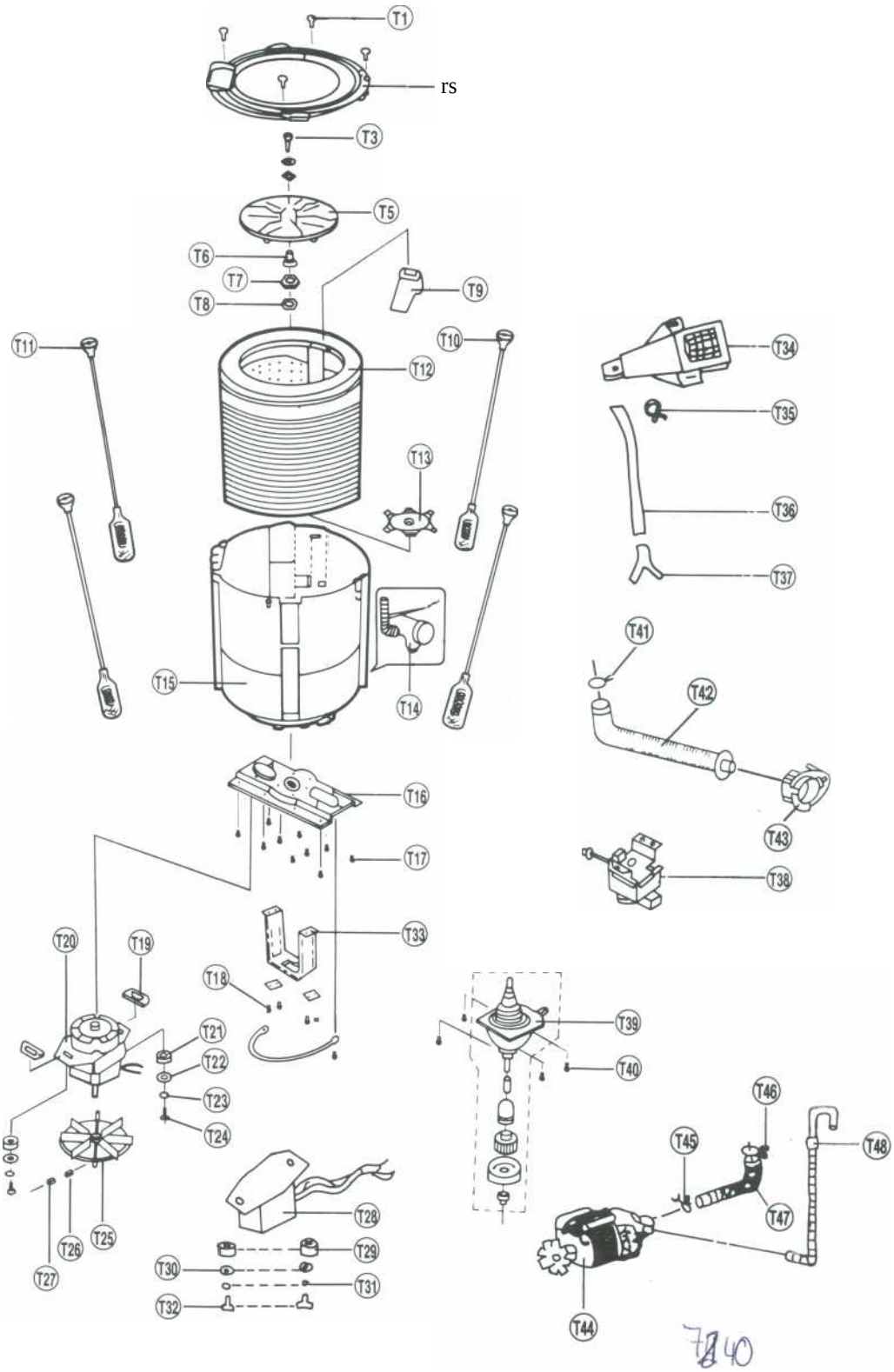
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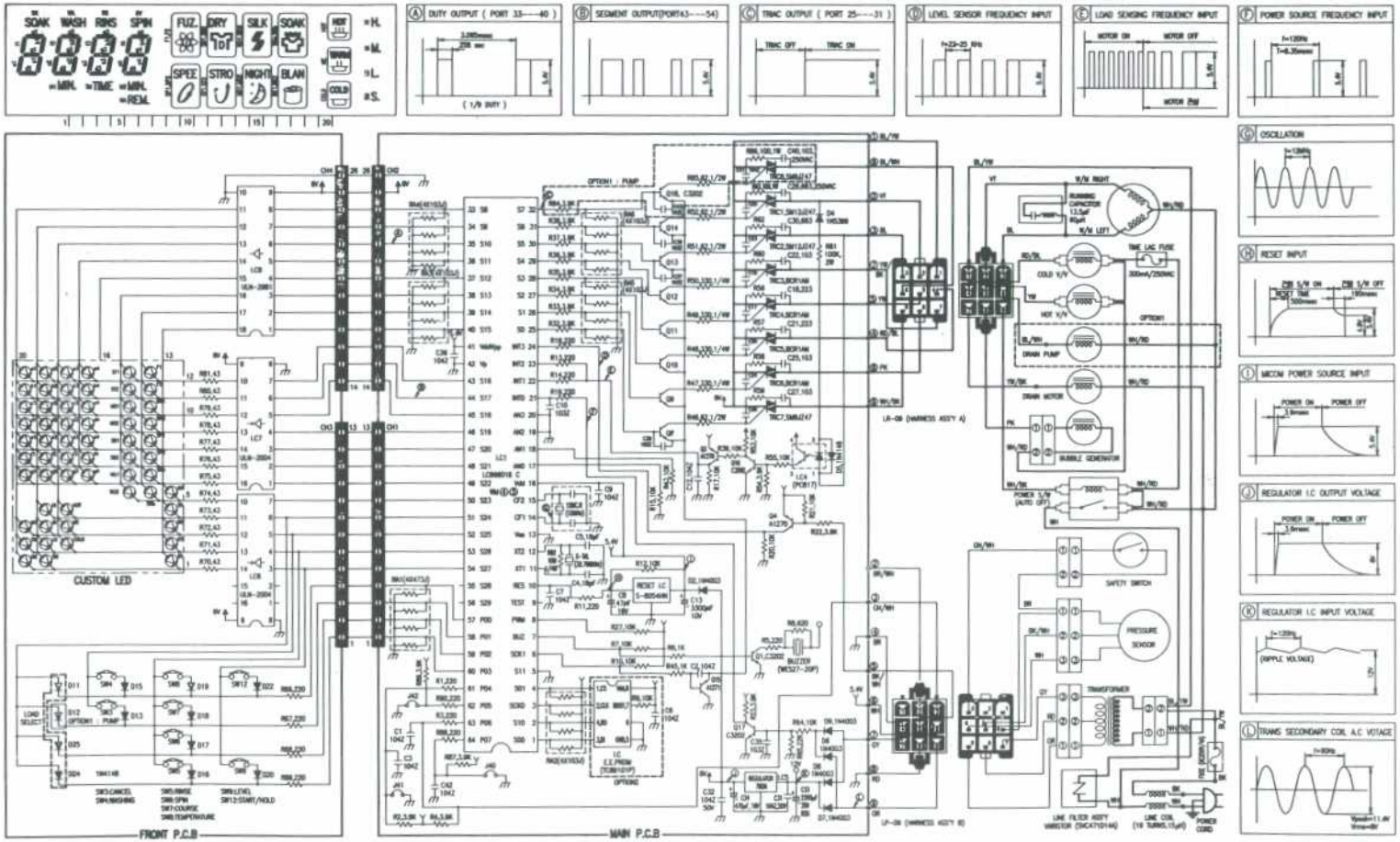
CIRCUIT DIAGRAM

NOTE
1. OPTION1 : ADDITIONAL PARTS FOR PUMP MODEL
2. OPTION2 : ADDITION FOR LOAD SENSING DATA CHANGE

DIVISION	FOR CONNECTION	FOR CANCELLATION
J42	5Kg OR 6Kg SELECT	7Kg SELECT
J40	5Kg SELECT	6Kg SELECT
J41	SILK COURSE CANCEL	FOR DOMESTIC DEMAND



CIRCUIT DIAGRAM