



DISHWASHER

SERVICE MANUAL

NOTE

BEFORE SERVICING THE UNIT, PLEASE READ THIS MANUAL CAREFULLY FOR SAFETY AND CORRECT SERVICES.

MODEL : LD-2040WH/LD-2040SH/LD-2040MH

CONTENTS

1. CAUTION.....	4
2. SPECIFICATIONS	5
3. FEATURES & TECHNICAL EXPLANATION	6
4. PARTS NAME	11
5. WIRING DIAGRAM.....	12
6. PROGRAM CHART (SCHEMATIC DIAGRAM)	13
7. HOW TO DISASSEMBLE	15
7-1. FULL DISASSEMBLE	15
7-2. DISASSEMBLE C-BASE ASSEMBLY	23
8. TROUBLE SHOOTING METHODS	26
A. TROUBLE SHOOTING ACCORDING TO DISPLAYED ERROR MESSAGE	26
B. TROUBLE DIAGNOSES AND REPAIR BY SYMPTOM.....	28
9. INSTALLATION INSTRUCTION	32
10. EXPLODED VIEW	37
11. REPLACEMENT PART LIST	44

CAUTION !

- DISCONNECT POWER CORD BEFORE SERVING
- RECONNECT ALL GROUNDING DEVICES

IMPORTANT SAFETY NOTICE !

This service information is intended for individuals possessing adequate backgrounds of electrical, electronic and mechanical experience.

Any attempt to repair this appliance may result in personal injury and property damage.

The manufacturer or seller can not be responsible for the interpretation of this information, nor can it assume any liability in connection with its use.

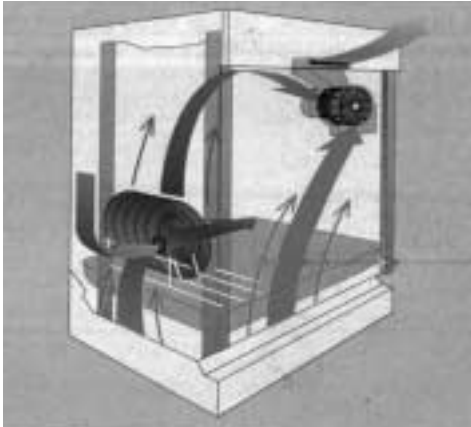
2. SPECIFICATION

ITEM	SPECIFICATION
Rated Voltage / Frequency	AC 220V/50Hz
Installation	Free Standing / Built-In
Place Settings	12
Product Dimension(mm)	600(W) × 600(D) × 850(H)
Product Weight(Kg)	52
Door Colour	White / Silver
Tub Material	Stainless Steel
Control	Electronic
Rated Power(Watt)	2,180
Heater Power(Watt)	2,070
Programs	6
Upper Rack Position	Adjustable
Lower Rack	50% Fold down
Water Consumption(ℓ)	16 (Economy)
Power Consumption (kWh)	1.05 (Economy)
Operating Time (min)	86(Except Drying):Economy
Fan Dry System	Yes
Delay Start Function	Yes
Auto-Off Power Switch	Yes
Process Monitor	Yes
Wash Level	5
Racks	Nylon Coating
Operating Water Pressure (Bar)	0.5 ~ 8

3. FEATURES & TECHNICAL EXPLANATION

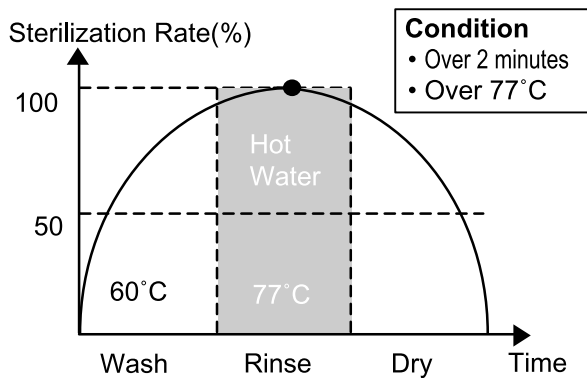
3-1 New Technology Introduction

3-1-1. Turbo Fan Drying System



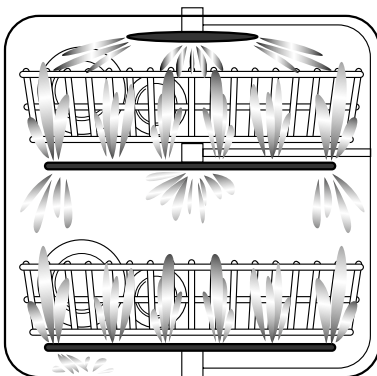
- Turbo fan drying system expels out hot and humid air to enhance quick and effective drying.
- With air mixing vent system, it expels out low temp. steam and prevents dew drop to outside of dishwasher.

3-1-2. High Temperature Rinsing



- During the high temp. Rinse course, water temperature in a dishwasher reaches 77°C, considerably higher than the average rinse temperature in conventional dishwashers(65°C). This is how Rinse 77°C can eliminate some bacteria such as salmonella.

3-1-3. Turbo Spray System



- Turbo Spray System is elaborately designed to achieve a more powerful and efficient wash. You can see the excellent 3 rotating spray arm with 5 directional waterjet.

3-2. Display Panel

<p>REMAINING TIME</p> <ul style="list-style-type: none"> • Indication of remaining time • Self diagnosis and error message display 	<p>TIME SAVE</p> <ul style="list-style-type: none"> • This function is for saving time and energy. • With each press, time save ON and OFF is repeated. • When select this function, the operating time will be shorten. 	<p>HALF LOAD</p> <ul style="list-style-type: none"> • In case of small load, use upper or lower rack only to save energy. • With each press, can select upper or lower rack only. • In case you don't select this button, the machine always works vario washing, which operate upper and lower spray arm alternately. 	<p>CHILD LOCK</p> <ul style="list-style-type: none"> • Used to lock or unlock the control buttons to prevent all the setting from being changed by children. • For locking/unlocking, press Half Load and Rinse button simultaneously. 	
<p>DELAY START BUTTON</p> <ul style="list-style-type: none"> • If you want to delay the start of selected program, press this button before pressing start button. • Pressing the delay time will increase time by 1 hour. • The delay start time can be adjusted from 1 hour to 19 hours. 	<p>PROGRAM</p> <ul style="list-style-type: none"> • When power is on, program is automatically set to normal. • If you want to change the program, press the button and set the program you want to. 	<p>RINSE/SANI</p> <ul style="list-style-type: none"> • With each press, rinse+, rinse+ & 77°C sani rinse, 77°C sani rinse is repeated. 	<p>START/PAUSE BUTTON</p> <ul style="list-style-type: none"> • With each press, Start and Pause is repeated during operation. • If the machine remains in Pause mode for 10 minutes, the power is automatically turned off. 	<p>POWER SWITCH BUTTON</p> <ul style="list-style-type: none"> • For operating, press this button first for power on. • After operating, this button automatically switches off for safety and energy saving. • In case of irregular surge disturbances to the machine, the power may be automatically turned off for safety.

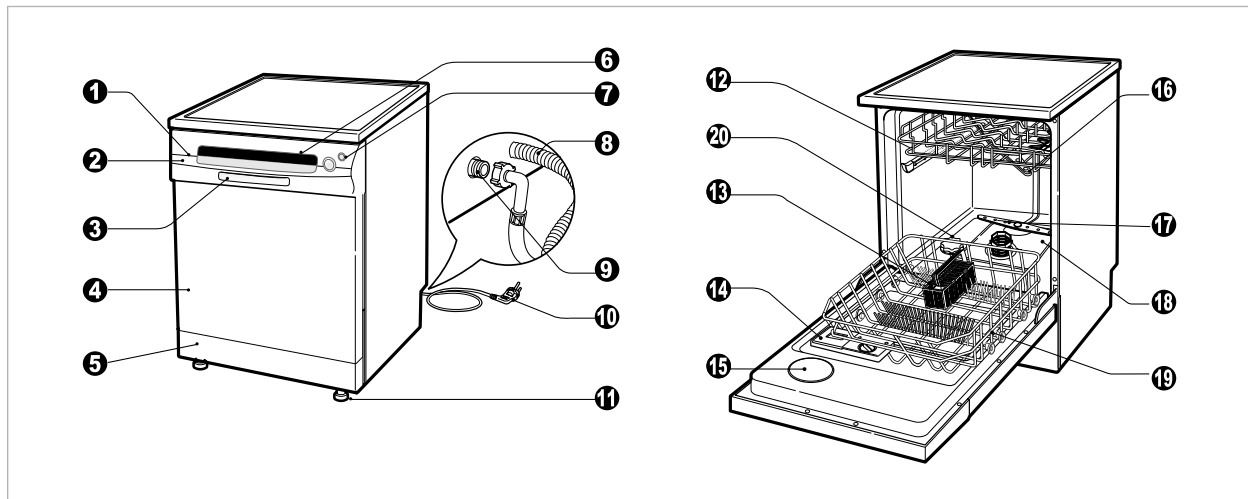
3.3 TEST MODE

CHECK PROGRAM(START IN THE STATE OF THE CLOSED DOOR)

BUTTON	The number of pushing button	DISPLAY	Load and Checking points	
Delay start + Rinse + POWER S/W	1 TIME	n : 0H	All LEDs are lighting	
Delay Start Key	1 TIME	11 : 11	All LEDs are lighting	
Program Key	1 TIME	12 : 22	All LEDs are lighting	
	2 TIME	13 : 33	All LEDs are lighting	
	3 TIME	14 : 44	All LEDs are lighting	
	4 TIME	15 : 55	All LEDs are lighting	
	5 TIME	16 : 66	All LEDs are lighting	
	6 TIME	17 : 77	All LEDs are lighting	
	7 TIME	18 : 88	All LEDs are lighting	
Half & Vario Key	1 TIME	19 : 99	All LEDs are lighting	
Rinse Key	1 TIME	10 : 00	All LEDs are lighting	
Start/Pause Key	1 TIME	n : 01	None	Intensive+ & Intensive
	2 TIME	Frequency	Flow Meter	Normal
	3 TIME	n : 03	Washing Motor	Eco
	4 TIME	n : 04	Drain Pump	Gentle
	5 TIME	n : 05	Inlet Valve	Quick
	6 TIME	n : 06	Dispenser	Pre Wash
	7 TIME	n : 07	Heater (for 10 sec.)	Wash 1
	8 TIME	n : 08	Fan Motor	Wash 2
	9 TIME	n : 09	Regeneration Valve	Rinse 1
	10 TIME	Temperature	Thermister	Rinse 2
	11 TIME	n : 11	Lower Nozzle	Dry 1
	12 TIME	n : 12	Upper Nozzle	Dry 2
	13 TIME	n : 13	AUTO OFF S/W	

※ Micro S/W must be ON to operate HEATER

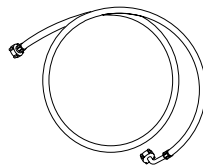
4. PARTS NAME



- 1. Vapor vent
- 2. Control Panel
- 3. Door Handle
- 4. Front Cover
- 5. Lower Cover
- 6. Process Monitor
- 7. Power Switch
- 8. Drain Hose
- 9. Inlet valve ASM
- 10. Power Cord

- 11. Adjust Leg
- 12. Upper Rack
- 13. Cutlery Rack
- 14. Detergent & Rinse Aid Dispenser
- 15. Vapor Vent Cover
- 16. Upper Spray Arm
- 17. Lower Spray Arm
- 18. Filter ASM
- 19. Lower Rack
- 20. Salt Container Cap

Accessories



Inlet Hose



Funnel

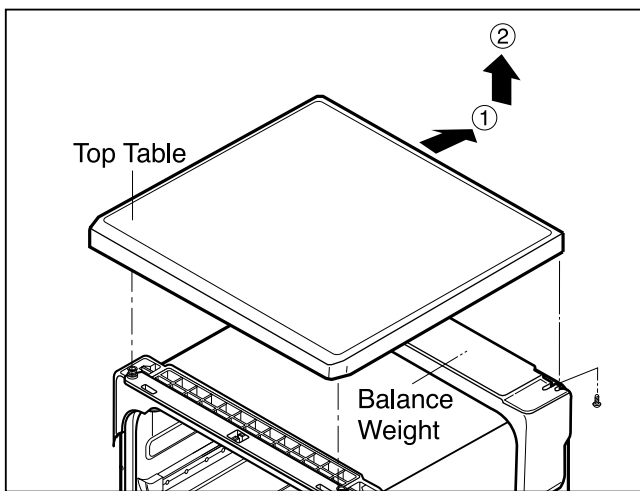
※ The appearance and specifications may be varied without notice according to localities.

7. HOW TO DISASSEMBLE

BEFORE DISASSEMBLING THE DISHWASHER ;

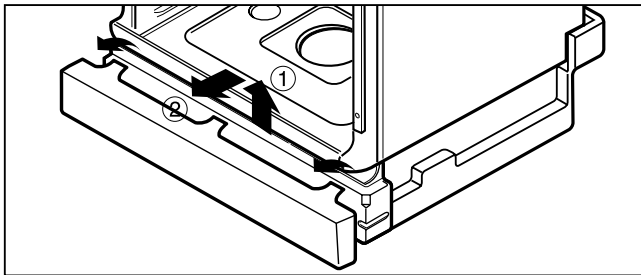
- 1) Remove the plug from electric outlet to avoid electric shock.
- 2) Close the Water Tap(faucet).
- 3) Remove all dishes and items in the dishwasher.
- 4) Remove the Lower Rack and the Upper Rack.
- 5) In case of the water softner assembly model, open the water softner cap to flow out the water to sump and drain to avoid the floor wet.
- 6) If necessary, remove the inlet hose and drain hose to avoid the hose damages.
- 7) Prepare some towels to avoid floor wet by the water left in the dishwasher.

7-1. FULL DISASSEMBLE

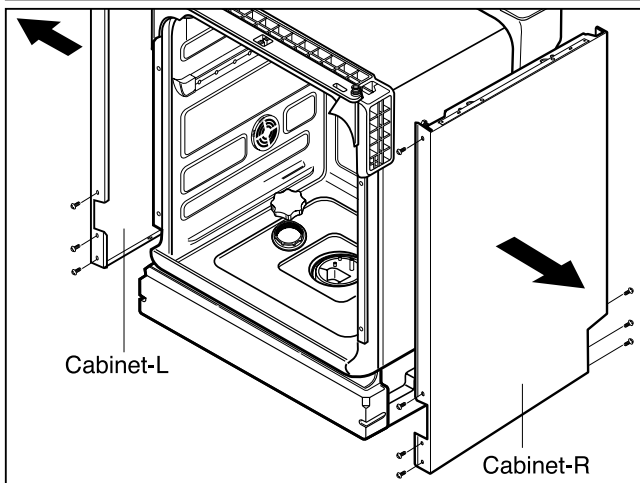


1. Top Table

- 1) Remove the rear 2 screws.
- 2) Pull and lift the top table.

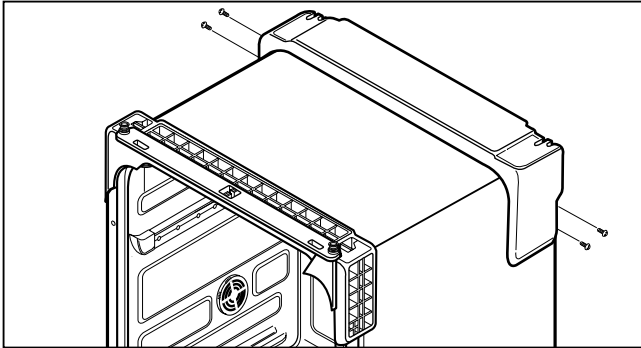


2. Low Cover



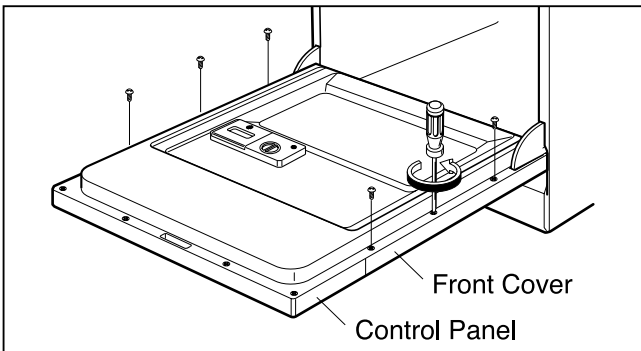
3. Cabinet-R/L

- 1) **Cabinet-R**
 - ① Remove front 4 screws.
 - ② Remove rear 3 screws.
- 2) **Cabinet-L**
 - ① Remove front 4 screws.
 - ② Remove rear 3 screws.



4. Balance weight

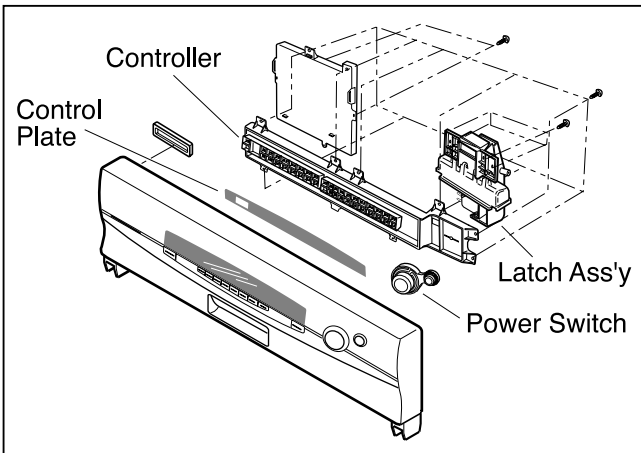
- 1) Remove side 4 screws.
- 2) Lift the balance weight.



5. Door Assembly

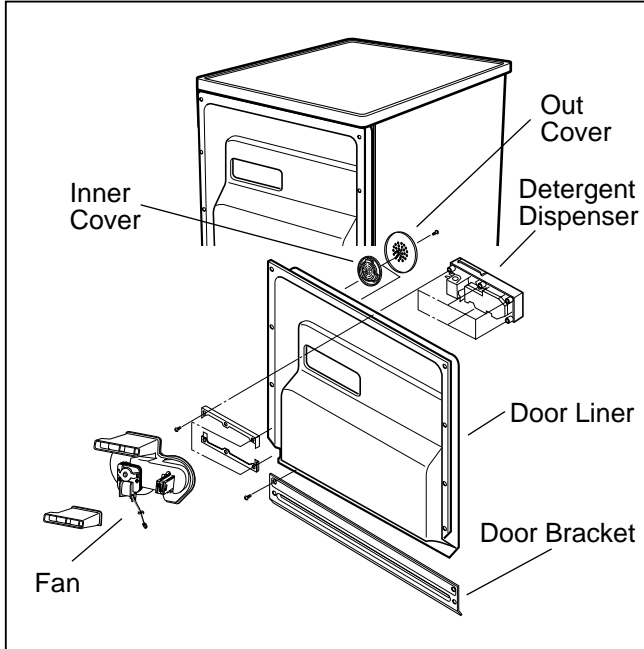
1) Front Cover

- ① Open the door.
- ② Remove 6 screws(stainless).
- ③ Close the door slowly and remove front cover downwards.



2) Control Panel Assembly

- ① Open the door.
 - ② Remove 4 screws(stainless).
 - ③ Remove wire connection.
- Be sure the wiring should not be changed in reassembling.
- ④ Remove 3 screws for Latch assembly
 - ⑤ Remove 5 screws for Controller.

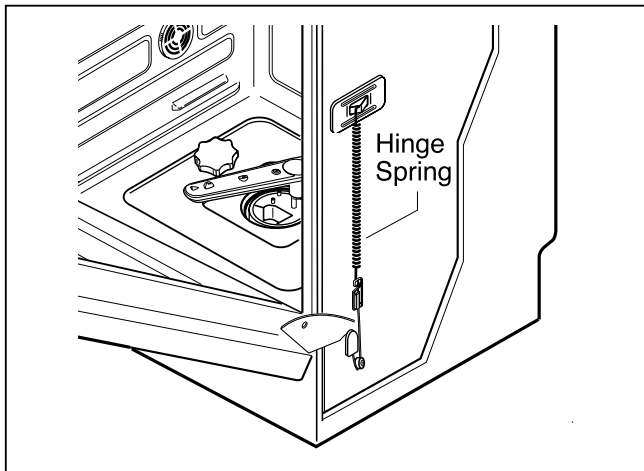


3) Fan(Not on all models)

- ① Open the door.
- ② Remove the wire connections.
- ③ Remove the outer cover by removing 1 screw.
- ④ Remove 2 fixing screws inside and turn the Inner Cover counterclockwise.

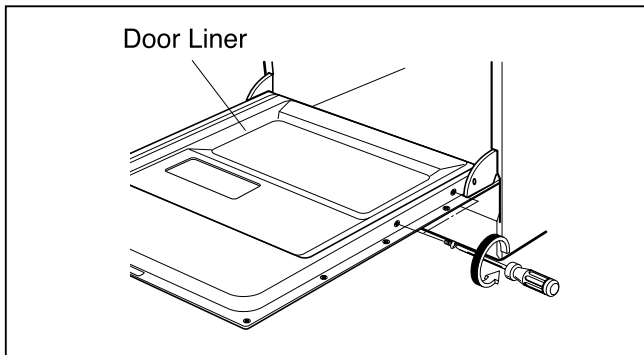
4) Detergent Dispenser

- ① Close the door.
- ② Remove the wire connections.
- ③ Remove 6 screws with brackets.



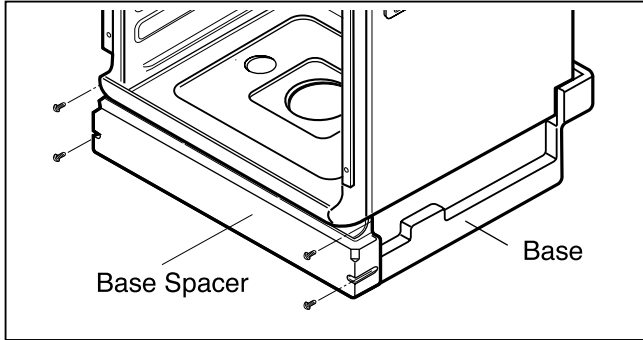
5) Door Spring (Right & Left)

- ① Push the Spring upwards and take it off from the Frame.
- Be careful not to be injured by the sharp edge of Tub.
- ② Take the Hinge Link off from the Hinge.



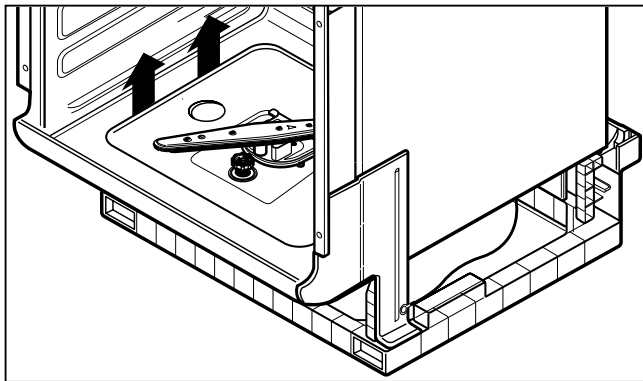
6) Door Liner

- ① Open the door.
 - ② Remove 4 screws.
- Do not use other screws for assembling.



6. Base spacer

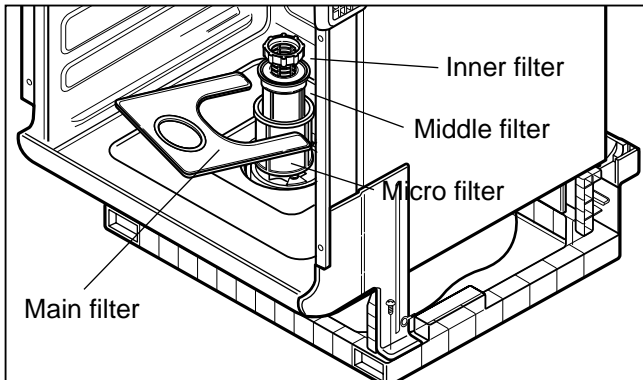
- ① Remove 4 screws.
- ② Lift the front side of dishwasher and pull the base spacer forward.



7. Tub assembly

1) Nozzle

- ① Pull up the nozzle.

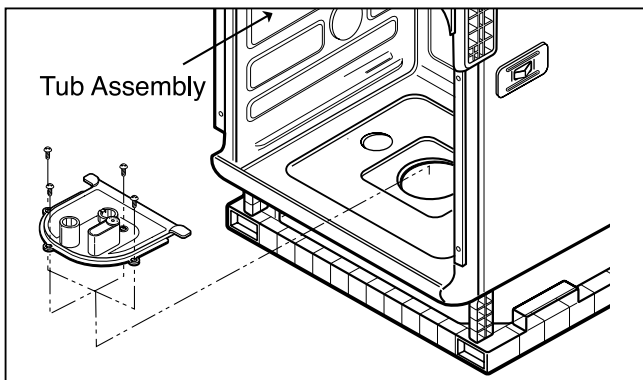


2) Filter Assembly

- ① Turn inner filter counterclockwise and lift inner filter and middle filter.

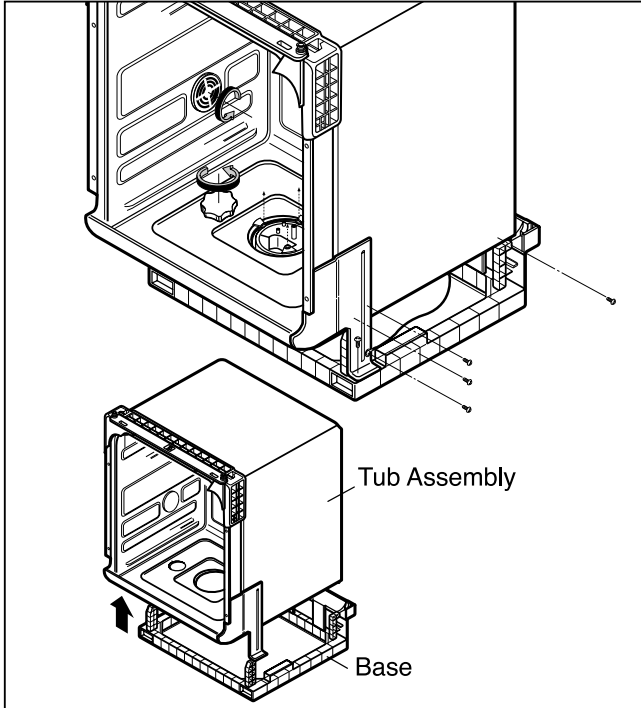
You can disassemble inner filter and middle filter by pulling opposite direction.

- ② Lift up main filter.
- ③ Lift up micro filter.



3) Nozzle Holder

- ① Disconnect the water guide
- ② Remove 4 screws and lift it up



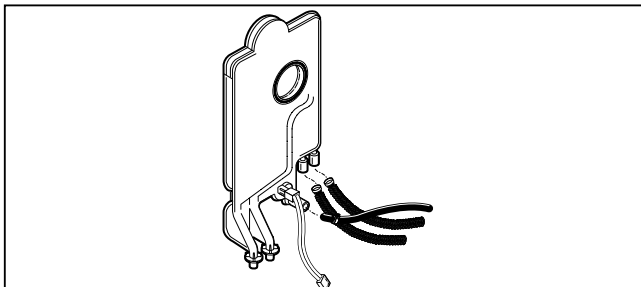
4) Tub

- ① Turn the air guide nut counter-clockwise.
(Special tool might be needed.)

Be careful the rubber packing of air guide assembly should not be lost.

- ② Turn the softner cap and nut counter-clockwise.
- ③ Remove 4 screws for sump holder .
- ④ Remove side 8 screws.
- ⑤ Remove 2 Earth screw of right side.
- ⑥ Lift tub assembly upward.
(Be sure water softner is not blocked.)

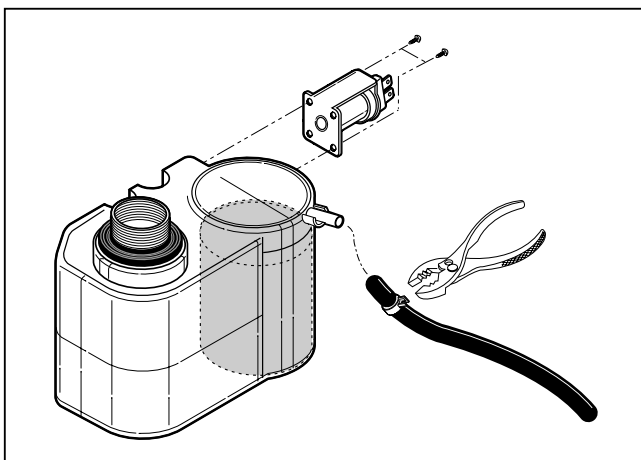
Be careful not to be injured or scratch floor by the sharp edge of tub.



8. Air Guide Assembly

- ① Disconnect the wiring connection.
- ② Remove 3 hoses assembly.

Be careful the o-ring should not be lost.



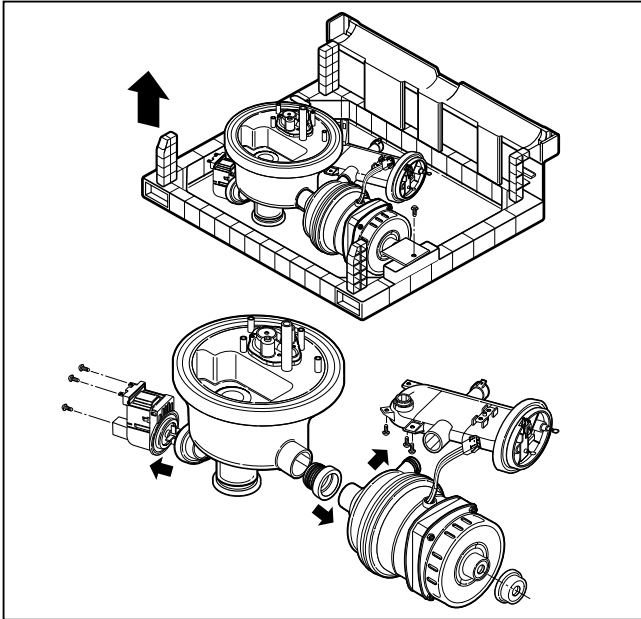
9. Water softner

- 1) Remove the hose assembly.
- 2) Lift it upward.

Be careful not to wet the floor by the water left in the water softner.

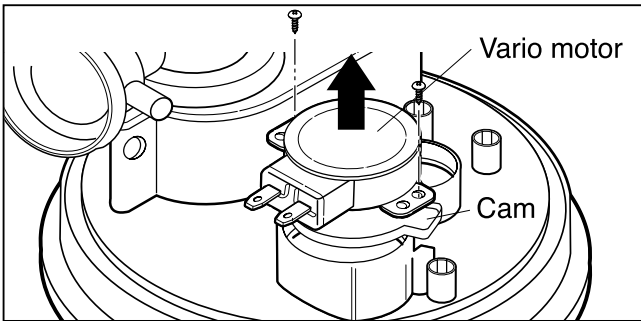
- 3) You can disassemble the regeneration valve by unscrew the 2 screw.

Be sure not to lost the spring and bobbin.



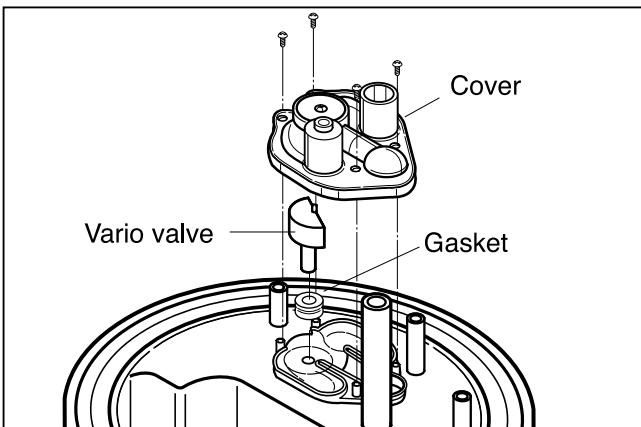
10. C-Base Assembly

- 1) Remove the screw which tighten washing motor and base.
 - 2) Lift them upward.
- Be careful not to wet the floor by the water left in the sump.
- 3) Detach the washing motor and heater assembly by pulling opposite direction to sump.
 - 4) Remove the 3 screw for drain motor.



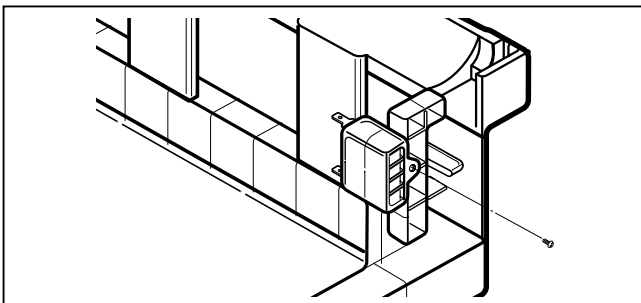
5) synchronous motor

- ① Remove the 2 screws.
 - ② Lift the cam upward.
- ※ Be careful not to install upside down.
(part number on the cam should face the motor.)



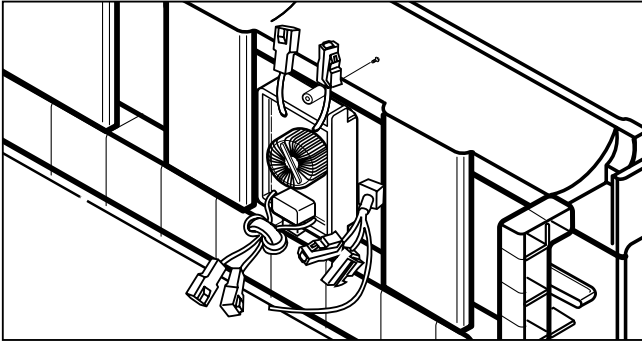
6) Vario valve

- ① Remove 4 screws and lift the cover upward.
- ② Lift the vario valve upward.



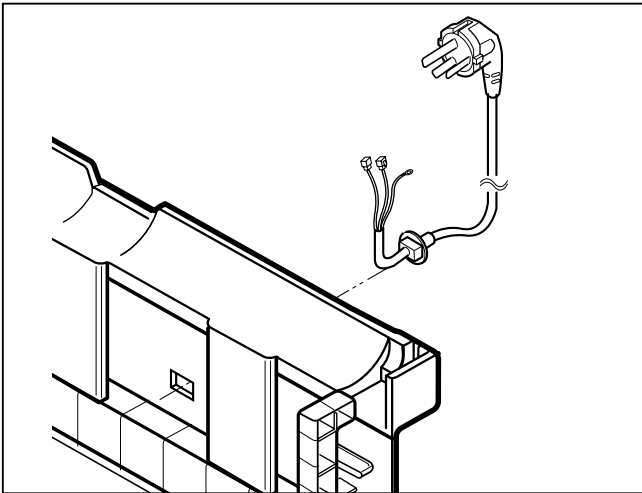
7) Capacitor

- ① Remove 1 screw.



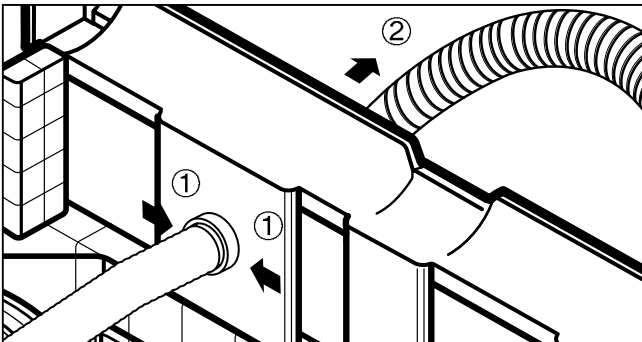
8) Noise filter

- ① Remove 1 screw.



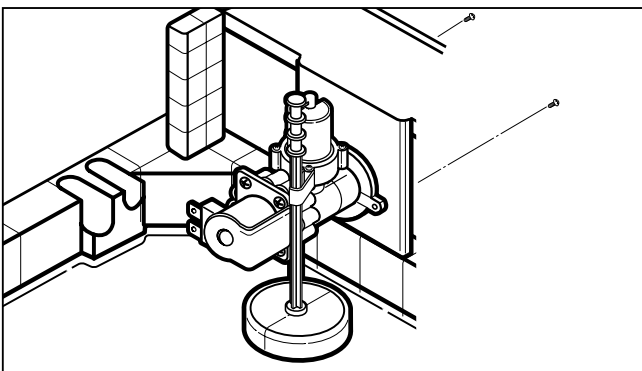
9) Power cord assembly

- ① Turn the power cord assembly 90° and take it off.



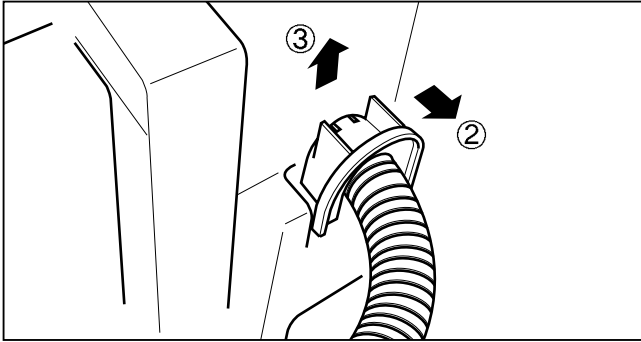
10) Aquastop(Not on all models)

- ① Press the holder hook as shown in figure.
- ② Pull the hose assembly.



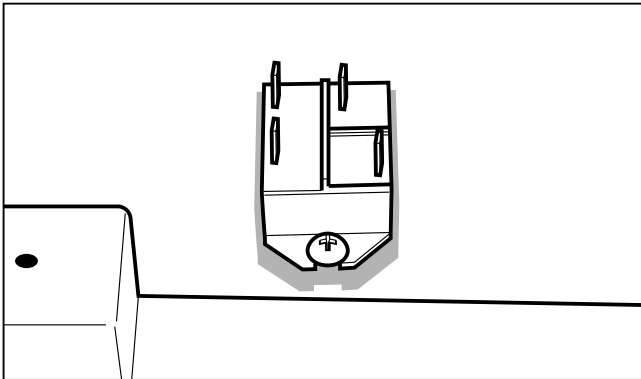
10) Inlet valve(on applicable models)

- ① Remove 2 screws.



11) Drain Hose

- ① Press the rear side hook.
- ② Pull the holder forward.
- ③ Pull the holder upward.



12) Relay

- ① Remove 2 screws.

7-2. DISASSEMBLE C-BASE ASSEMBLY

Be careful not to be injured by the sharp edge of tub.

1. Top Plate

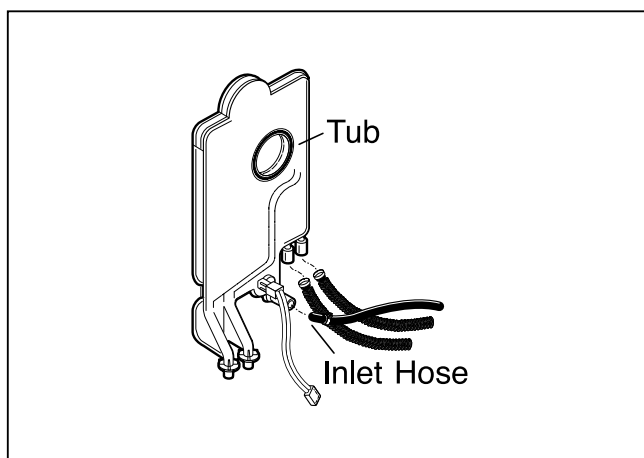
- See 7-1. 1. (Page 15)

2. Low Cover

- See 7-1. 2. (Page 15)

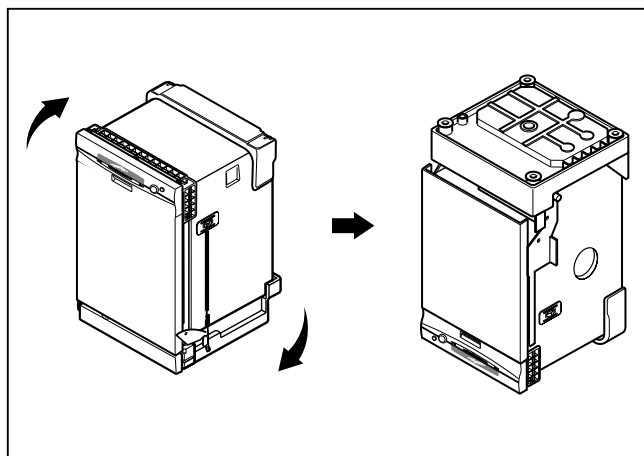
3. Cabinet-R/L

- See 7-1. 3. (Page 15)

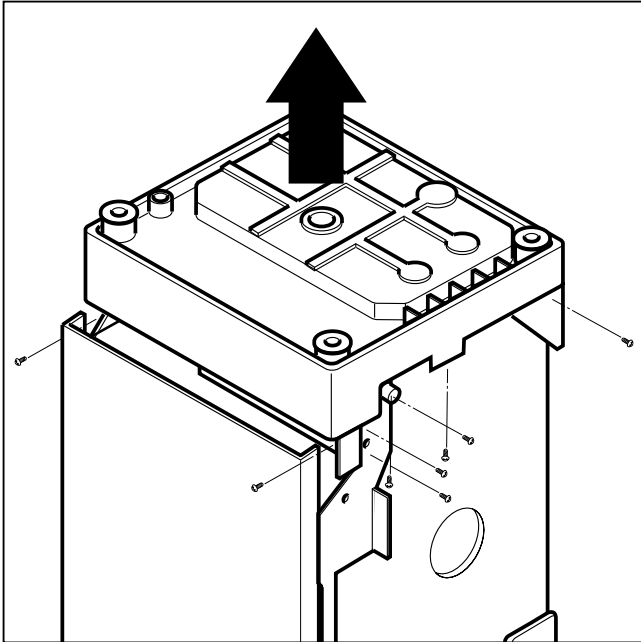


4. Air Guide

- ① Disconnect 3 hoses assembly.
- ※ You need not to unscrew the air guide nut.

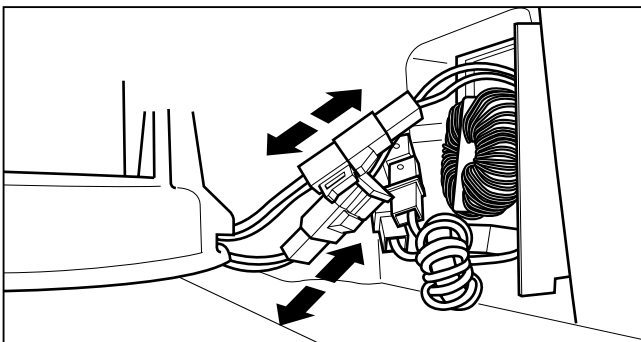


5. Put the Dishwasher upside down.



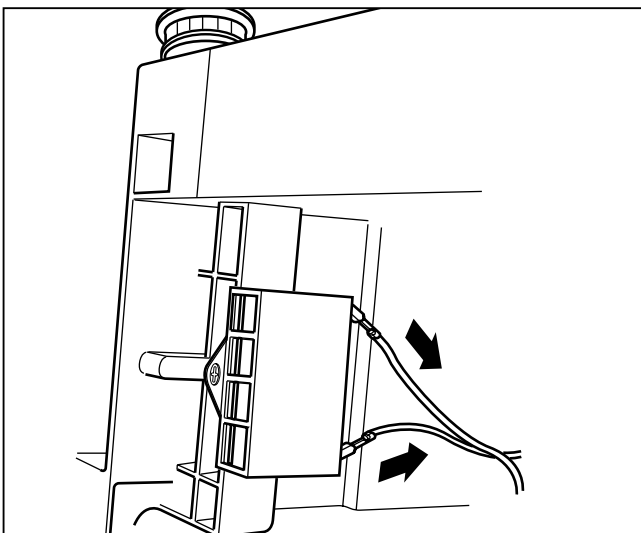
6. Remove the side screws

- 1) Remove side 8 screws.
- 2) Remove 2 Earth screws of right side.
- 3) Remove 1 motor bracket screw.
- 4) Lift base upward slightly.
(You can't lift up base perfectly because of some parts connecting to base.)

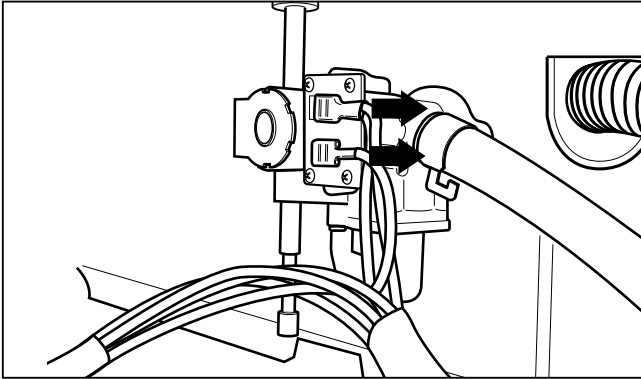


7. Disconnect the connecting points between tub and base

- 1) Disconnect noise filter.
- 2) Disconnect of powercord assembly.

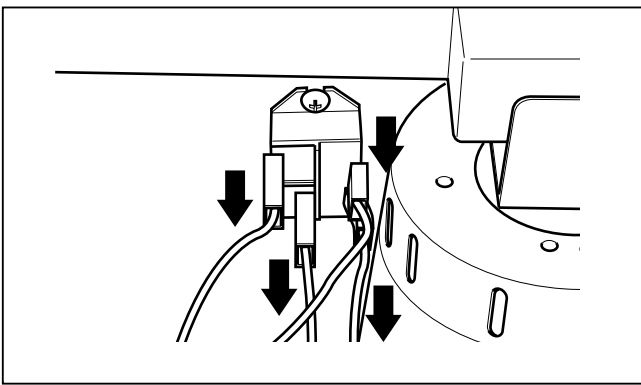


- 3) Disconnect wire from the capacitor.



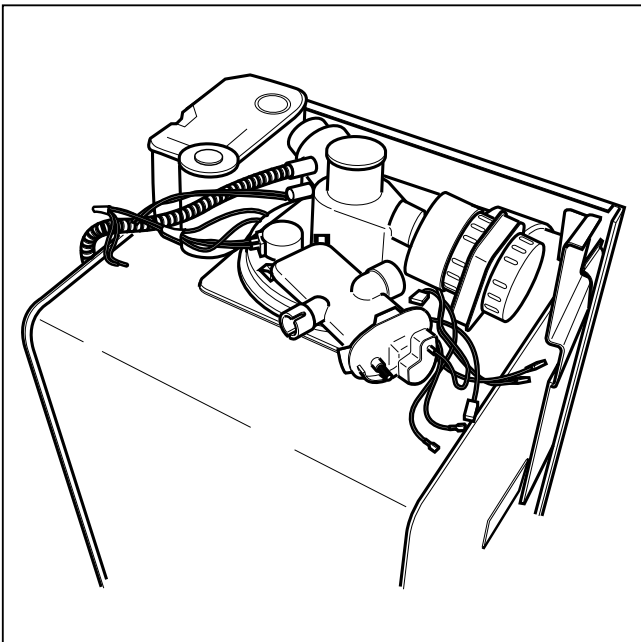
4) Disconnect wire from the inlet valve.
(AquaStop)

※ Now, you can remove the base from the tub perfectly.



5) Disconnect wire from the relay.

※ Now, you can remove the base from the tub perfectly.



8. C-Base Assembly




※ You can repair the parts in the C-Base like heater case, washing pump, drain motor etc. you may refer to 7-1. 10. 2)~12) (Page 21~22)




※ Don't disassemble sump by 7-2.

If you want to disassemble the sump, follow 7-1.

8.TROUBLE SHOOTING METHODS

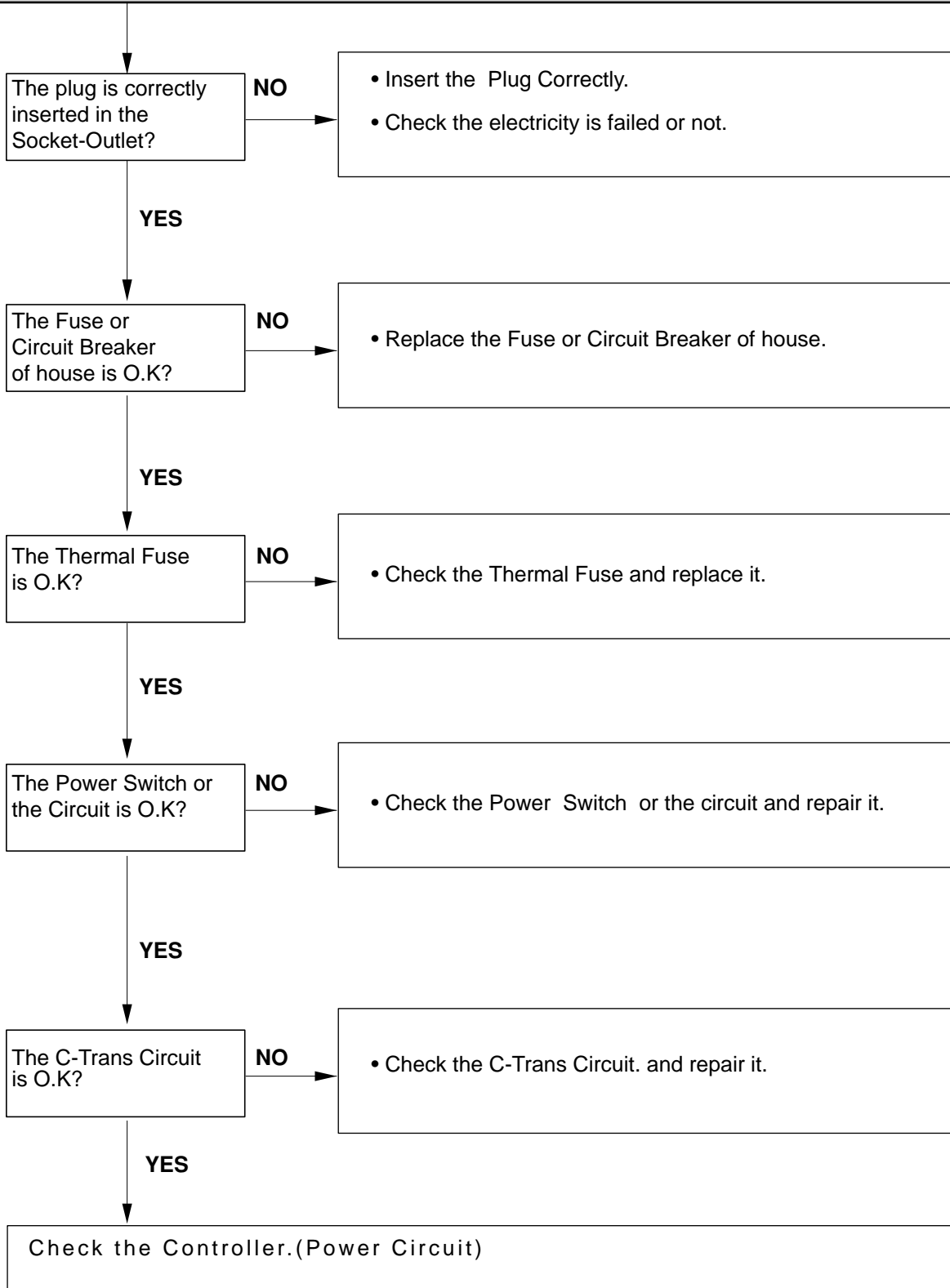
A. TROUBLE SHOOTING ACCORDING TO DISPLAYED ERROR MESSAGE

ERROR MESSAGE	POSSIBLE CAUSE FOR ERROR OCCURRENCE	REMEDY
<p>INLET ERROR</p>  <p>displayed</p> <p>Condition Not reached to the normal water level in spite of 10 min. water supply</p>	<ul style="list-style-type: none"> • The Water Tap is not opened. • The Inlet Hose is kinked. • The Filter of inlet valve clogged by impure water. • The Inlet Water Valve is normal ? • The water pressure is very low. (below 0.5 kgf/cm²) • Inlet valve is blocked by safety device for leakage sensing.(In case of Inlet Valve) 	<ul style="list-style-type: none"> • Open the Water Tap. • Repair the Inlet Hose. • a) Close the Water Tap. • b) Unscrew the Inlet Hose (Inlet Valve side) • c) Clean the Filter of Inlet Valve. • Replace or repair the Inlet Valve. • Check the water remain on the base. <ol style="list-style-type: none"> 1) Check the point of damages and repair or replace the related parts. 2) Disconnect the inlet hose to dishwasher to unlock the safety valve.
<p>DRAIN ERROR</p>  <p>displayed</p> <p>Condition Not fully drained out in spite of 5 min. drain operation</p>	<ul style="list-style-type: none"> • The Filter clogged. • The Drain Hose kinked or blocked. • The Drain Pump/Motor or circuit is troubled. 	<ul style="list-style-type: none"> • Clean the Filter. • Remove the cause of kink or block. • Replace the Drain Pump/Motor or repair the Circuit.
<p>LEAKAGE ERROR</p>  <p>displayed</p> <p>Condition The water level in Tub goes down during operation</p>	<ul style="list-style-type: none"> • Water leakage in Hose connections. • Water is leaked by damages. 	<ul style="list-style-type: none"> • Replace the connections of Hose. • Check the point of damages and repair or replace the related parts.

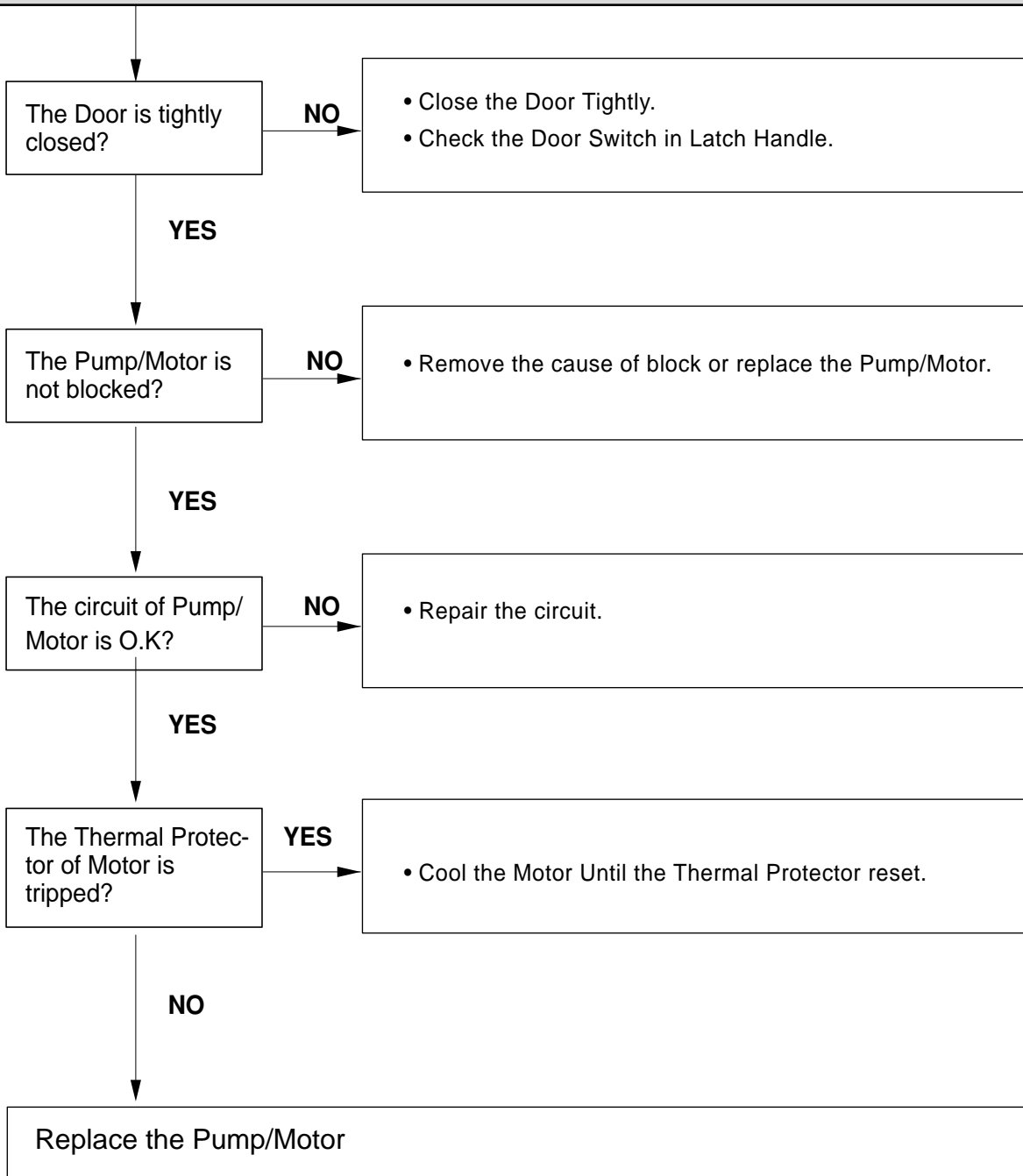
ERROR MESSAGE	POSSIBLE CAUSE FOR ERROR OCCURRENCE	REMEDY
<p>EXCESS ERROR</p>  <p>displayed</p> <p>Condition</p> <p>Excessive water is supplied than normal water level.(Automatically drain Pump operated.)</p>	<ul style="list-style-type: none"> • The Inlet Valve is troubled. • The Air Break is troubled. • The Sensor Assembly is troubled. • The Controller is troubled. 	<ul style="list-style-type: none"> • Replace the Inlet Valve. • Replace the air breaker. • Replace the sensor assembly. • Repair or replace the Controller.
<p>THERMAL ERROR</p>  <p>displayed</p> <p>Condition</p> <p>The resistance of thermistor not normally output.</p>	<ul style="list-style-type: none"> • The Circuit of thermistor is troubled. • Thermistor is troubled. • The Controller is troubled. 	<ul style="list-style-type: none"> • Repair the Circuit of thermistor. • Replace the Thermistor. • Repair or replace the Controller.
<p>HEATER ERROR</p>  <p>displayed</p> <p>Condition</p> <p>The water is not heated or the temperature in the Tub is overheated to over 95°C</p>	<ul style="list-style-type: none"> • The Circuit of Heater is troubled. • The Thermistor is troubled. • The Heater is shorted. • The Relay Circuit is troubled. 	<ul style="list-style-type: none"> • Repair the Circuit of Heater. • Replace the Thermistor. • Replace the Heater. • Repair the Relay Circuit..

B. TROUBLE DIAGNOSES AND REPAIR BY SYMPTOM

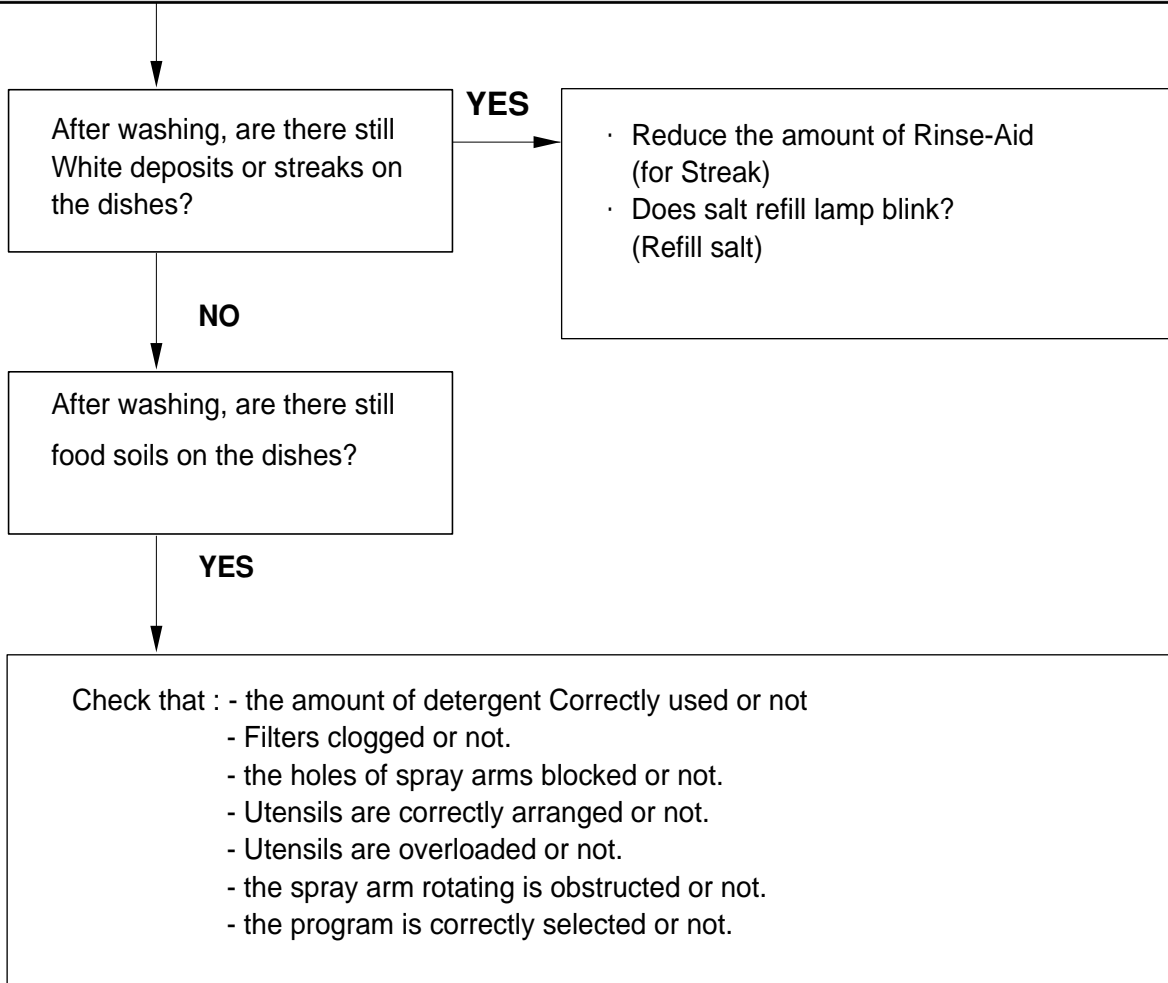
No Power on when the power button pressed.



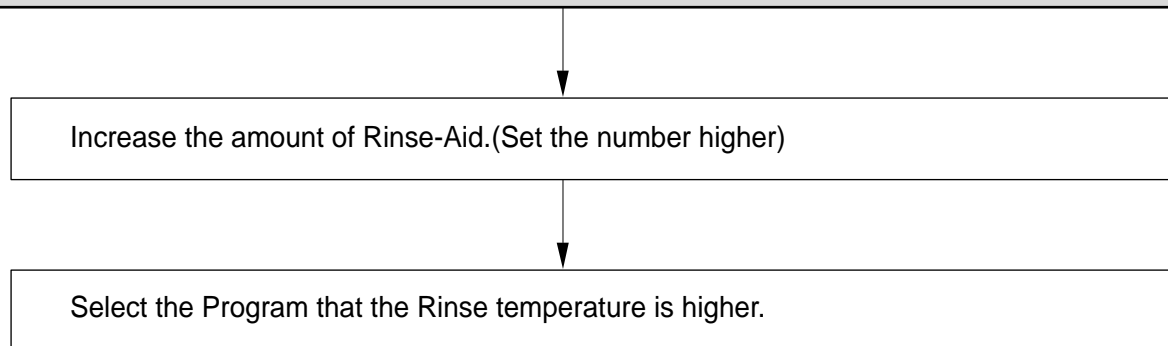
The Wash Pump/Motor does not run.



Washing Results are not Satisfactory



Dry Results are not satisfactory



Power Button not automatically off after operation.

Check the button is blocked by foreign materials.

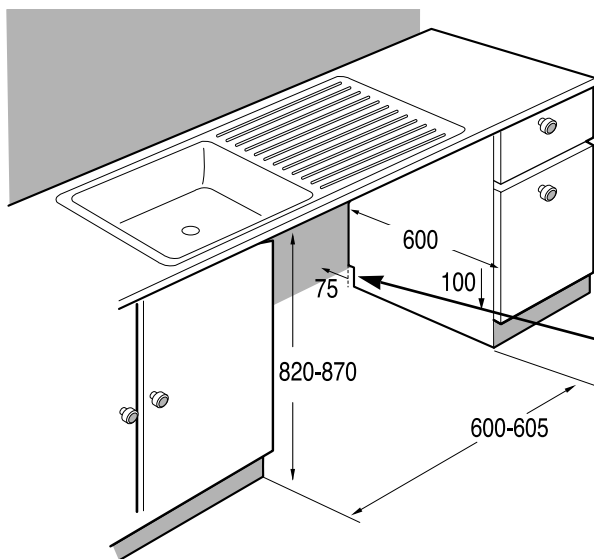
Check the Power Switch.(Replace it, if necessary.)

Check the Controller.(Replace it, if necessary.)

9. INSTALLATION INSTRUCTION

Step1: Prepare Cupboard opening

1. This dishwasher is designed to fit to the size shown as below.
2. Select a location as close to sink as possible for easy connections to water and drain lines.
3. The dishwasher should not be installed more than 3 meters from sink for proper drainage.
4. If dishwasher is to be installed in corner, minimum 5 cm of space is required between the washer and an adjacent cabinet or a wall.



If bare chipboard is adjacent to or above the dishwasher, it should be sealed with a waterproofing paint or sealant to prevent swelling due to steam.

Cut out for hoses and electrical cables on either side.
(approx.. 100 X 75)

Cupboard Opening Dimension
(mm)

- Ensure the floor under the dishwasher is at the same level as the rest of the room to allow for any service requirements.

Step 2 : PREPARE ELECTRICAL WIRING

CAUTION

For personal safety, remove house fuse or open circuit breaker before installation.

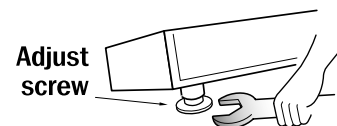
Do not use an extension cord or adapter plug with this appliance.

Electrical and grounding connections must comply with the national electrical code/provincial and municipal code and/or other local codes.

1. This appliance must be supplied with correct rating voltage and hertz as shown on instruction manual, and connected to an individual, properly grounded branch circuit, protected by minimum 15 amp circuit breaker or time delay fuse.
Wiring must be 2 wires with ground.
2. The power point must be in a accessible location adjacent to and not behind the dishwasher and within 1.2 meters of the dishwasher side. A correctly rated, wired and earthed extension cord may be used if necessary.
(See Fig. A)
3. The power point must be correctly earthed, if in doubt, have it checked by a qualified Electrician. No other appliance shall be connected to the same plug outlet by a double adapter or similar plug.

Step 3 : PREPARE DISHWASHER FOR INSTALLATION

1. Lay the dishwasher on its back.
2. Adjust the legs to the needed height of cabinet as shown at below.

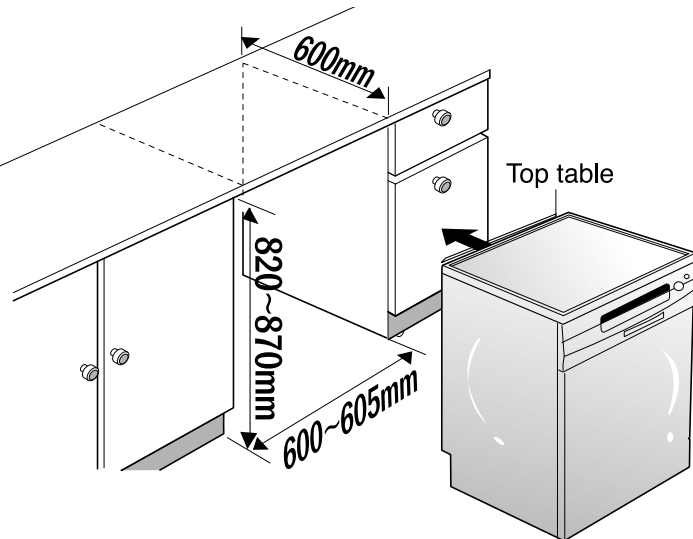


Step 4 : INSTALL THE DISHWASHER IN CUPBOARD

1. Before sliding the dishwasher into the cupboard opening, all necessary final height adjustment and balancing adjustment should be done using the spanner.
2. Slide the dishwasher into the cabinet opening carefully. Make sure that the drain hose inside the cabinet should not be kinked or exceeded.

CAUTION

If the height of cupboard is below 850mm, you should remove the top table by unscrewing the 4 screws. (Two of front and two of rear)



Step 5 : DRAIN LINE CONNECTION

1. If the end drain hose does not fit to the drain line, use a piece of rubber connector (not supplied) that must be resistant to heat and detergent and may be obtained from a plumbing shop.
2. There are 2 typical connections as shown in Figure A, B

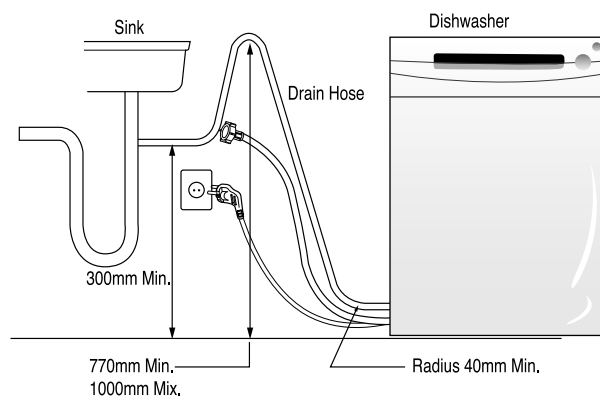
¥The recommended methods of drain hose connection must be adhered to within the areas of Water Board Authority. Several other options are commonly used outside this area and local council or plumbers should be able to advise of these.

¥The S trap spigot must be drilled out cleanly and free of obstruction to its maximum internal diameter, if used for drainage.

¥To prevent syphoning, one of the following instruction methods must be followed :

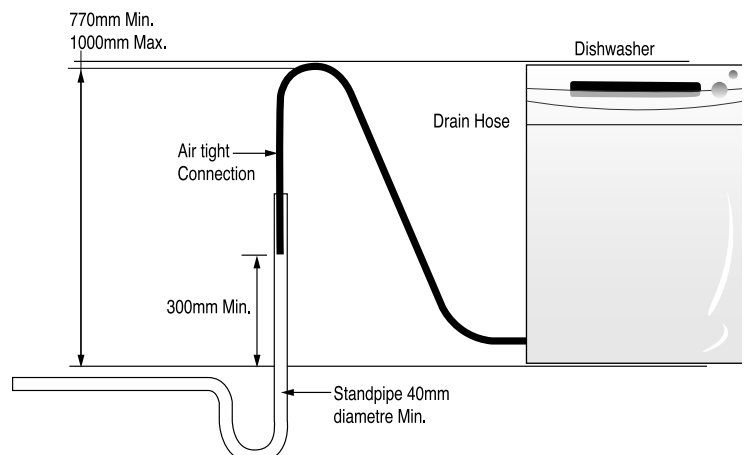
- When the drainage hose is connected to a sink S trap or waste disposal unit, the hose must be looped up to the under side of the bench top and secured.

Fig. A



- When the drain hose is connected to a separate stand pipe, it is essential that an air tight connection is made. Refer to Fig. B

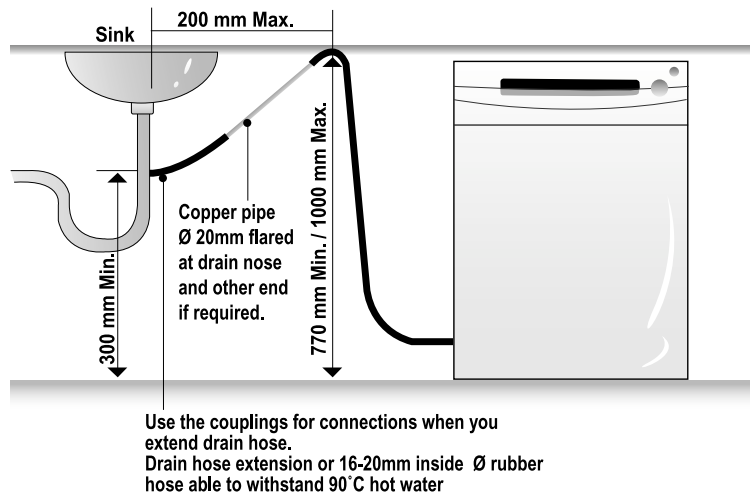
Fig. B . Drainage connection-stand pipe



Drain Hose Extension

- Drain Hose extension kits are available from through your local service centre.

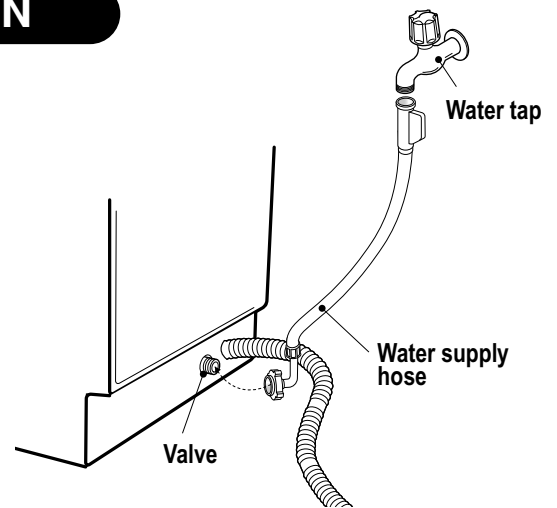
Extend drain Hose as shown below.



Step 6 : WATER SUPPLY CONNECTION

1. Connect the water supply hose to the valve behind dishwasher and the water tap as shown in figure.
This dishwasher may be fed with either hot or cold water. If the water can not be maintained below 65°C, the dishwasher must be connected to cold water.
2. When connecting, the sealing tape or sealing compound should be used to avoid water leaks.

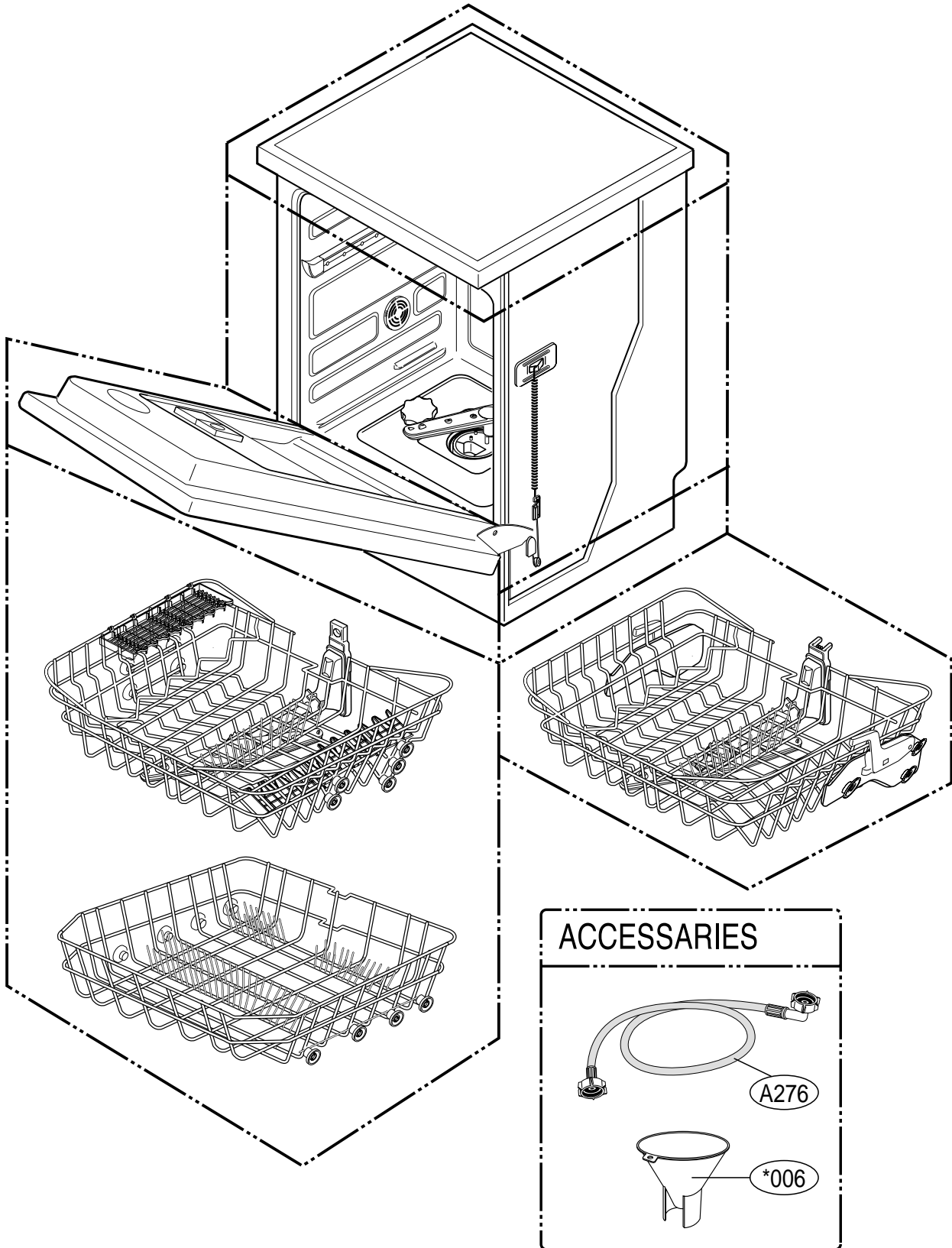
Make sure that the line is not kinked or sharply bent.



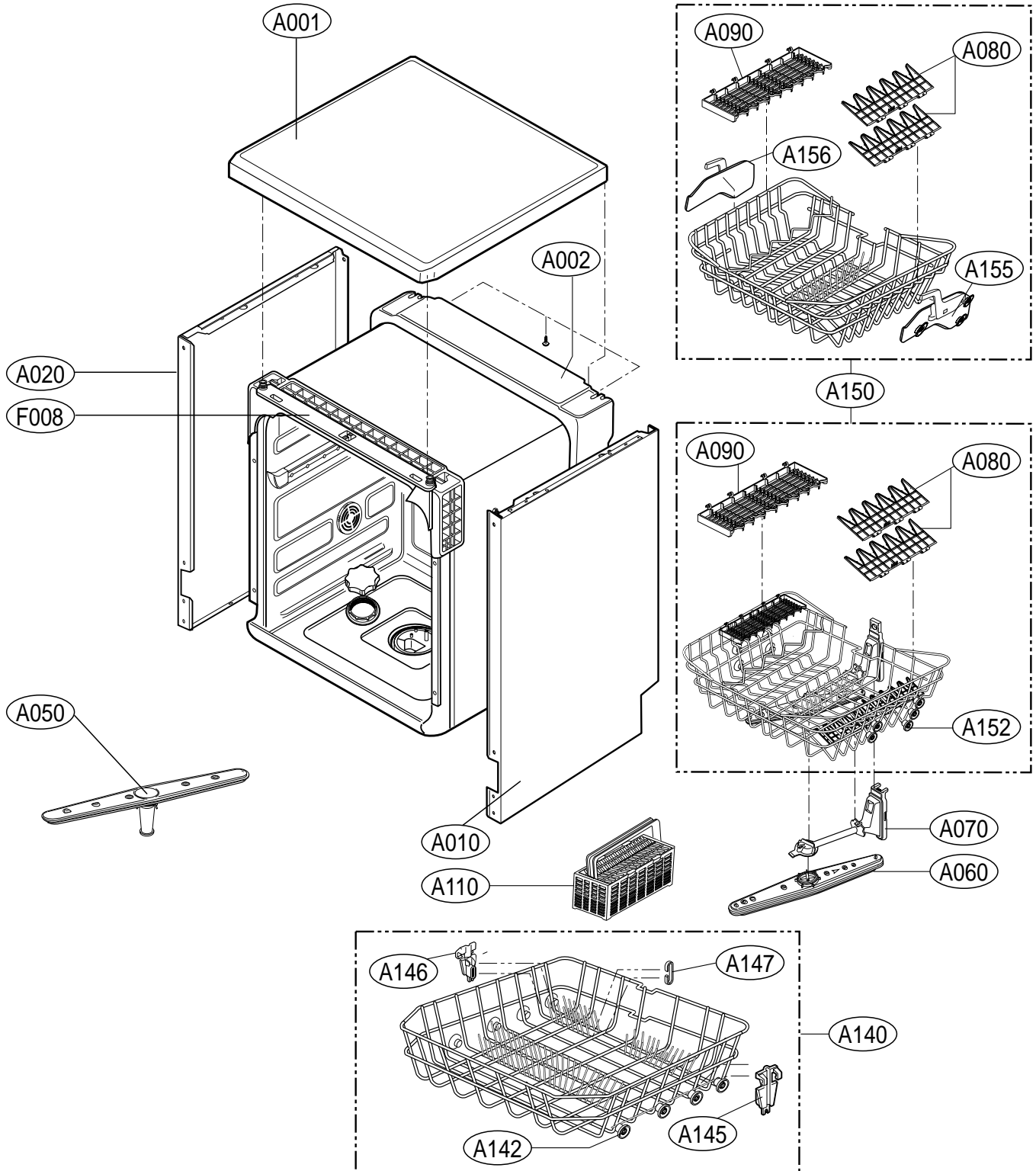
Step 7 : FINAL CHECK AND ASSEMBLING

1. Securely hand tighten supply hose to water supply.
Plug power cord into an earthed power point and switch on.
2. Operate the dishwasher through one cycle (Quick cycle is recommended) to check for water leak and operating conditions.

10. EXPLODED VIEW

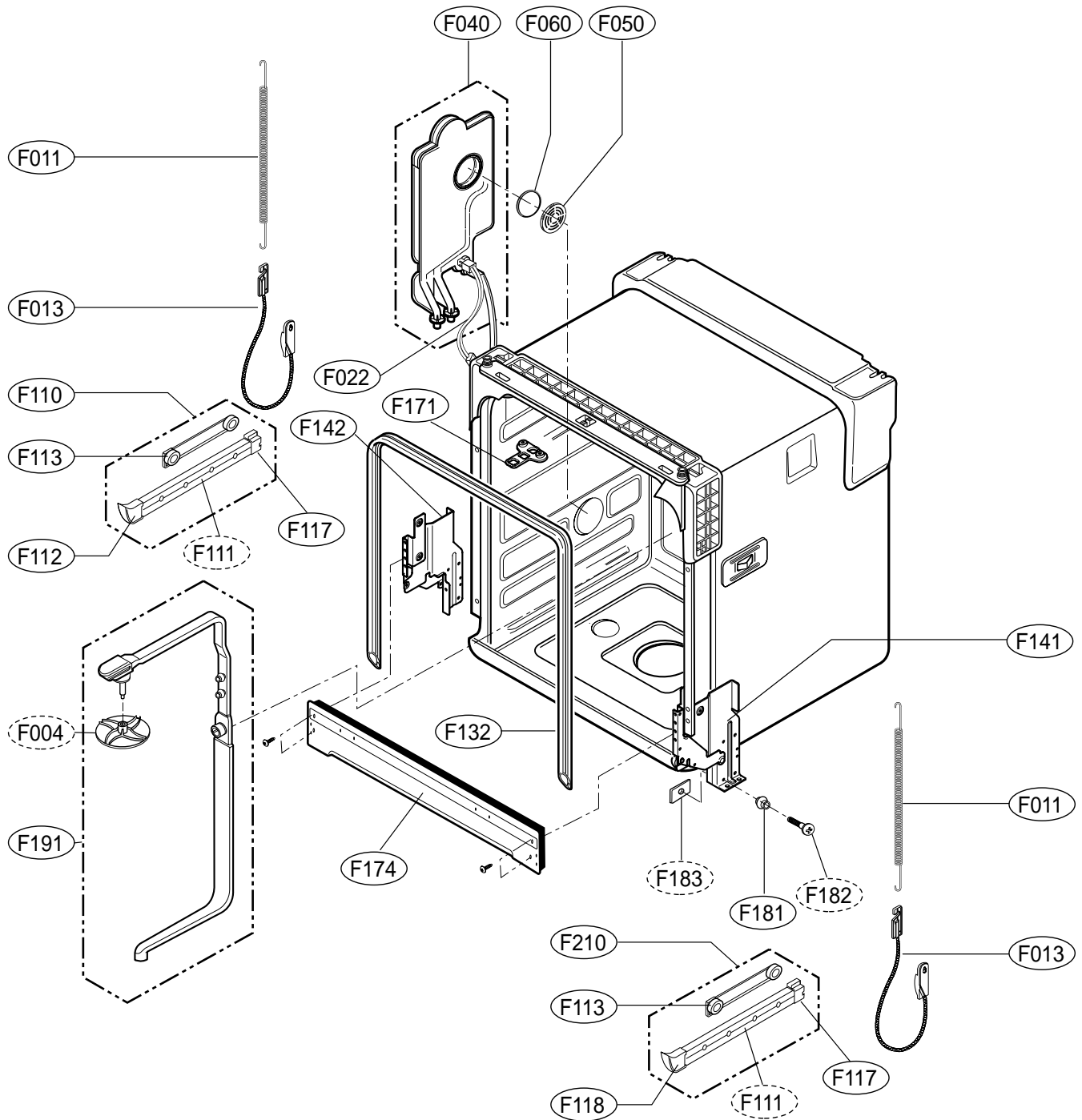


EXPLODED VIEW

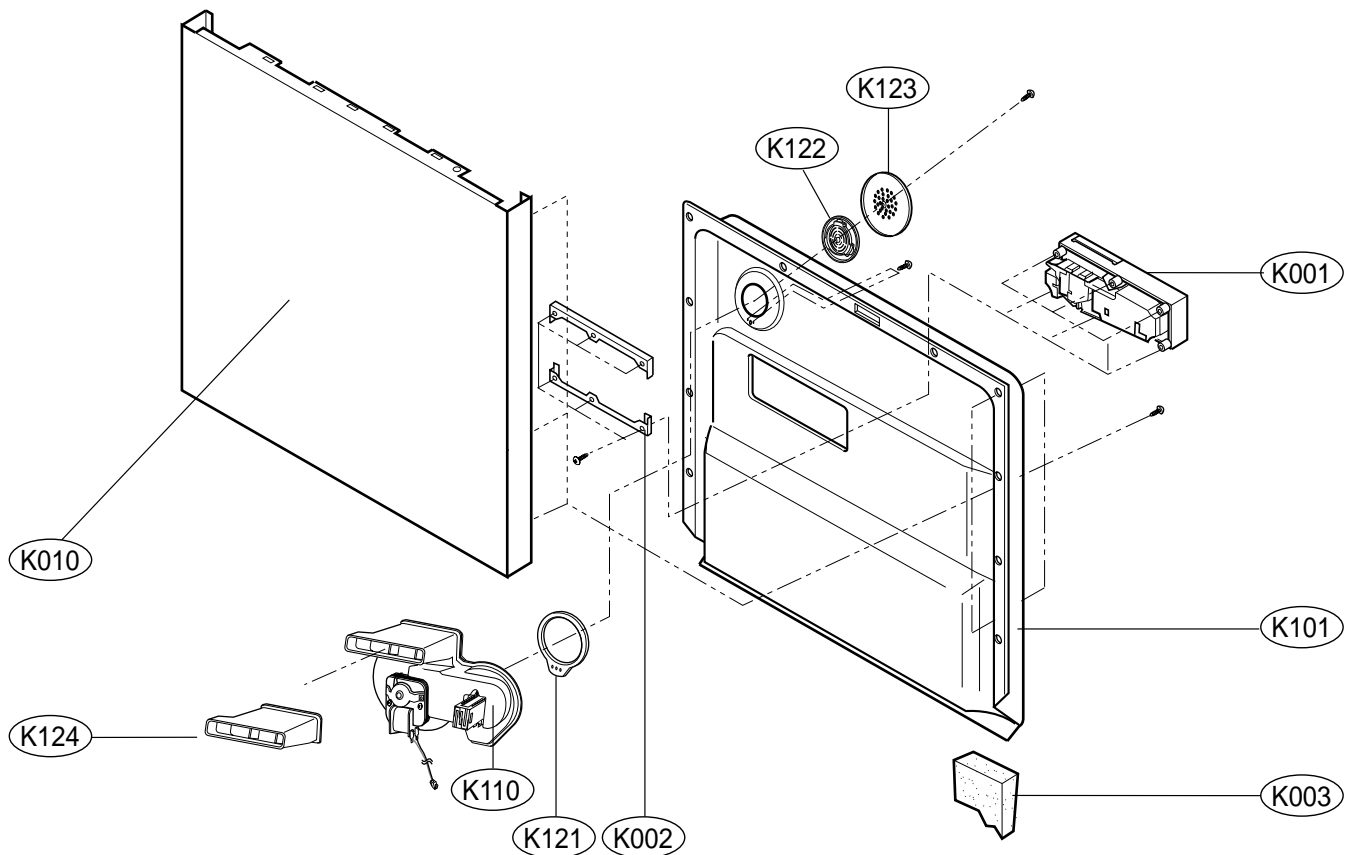
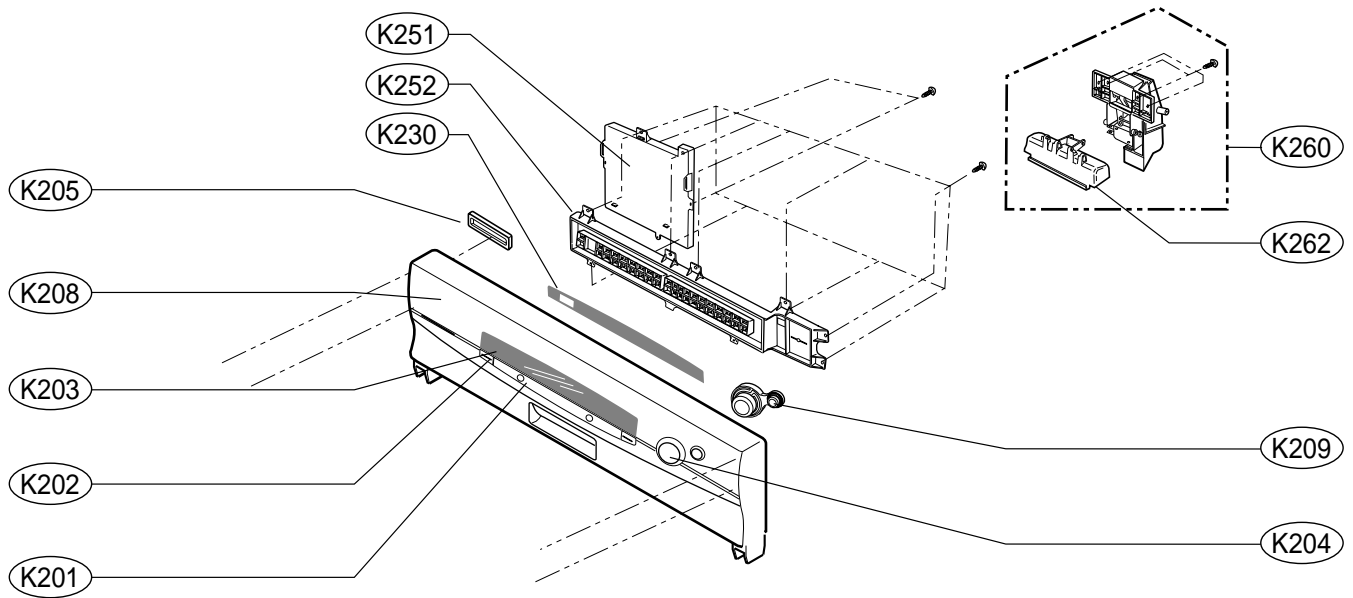


※ The appearance and specifications may be varied without notice according to localities.

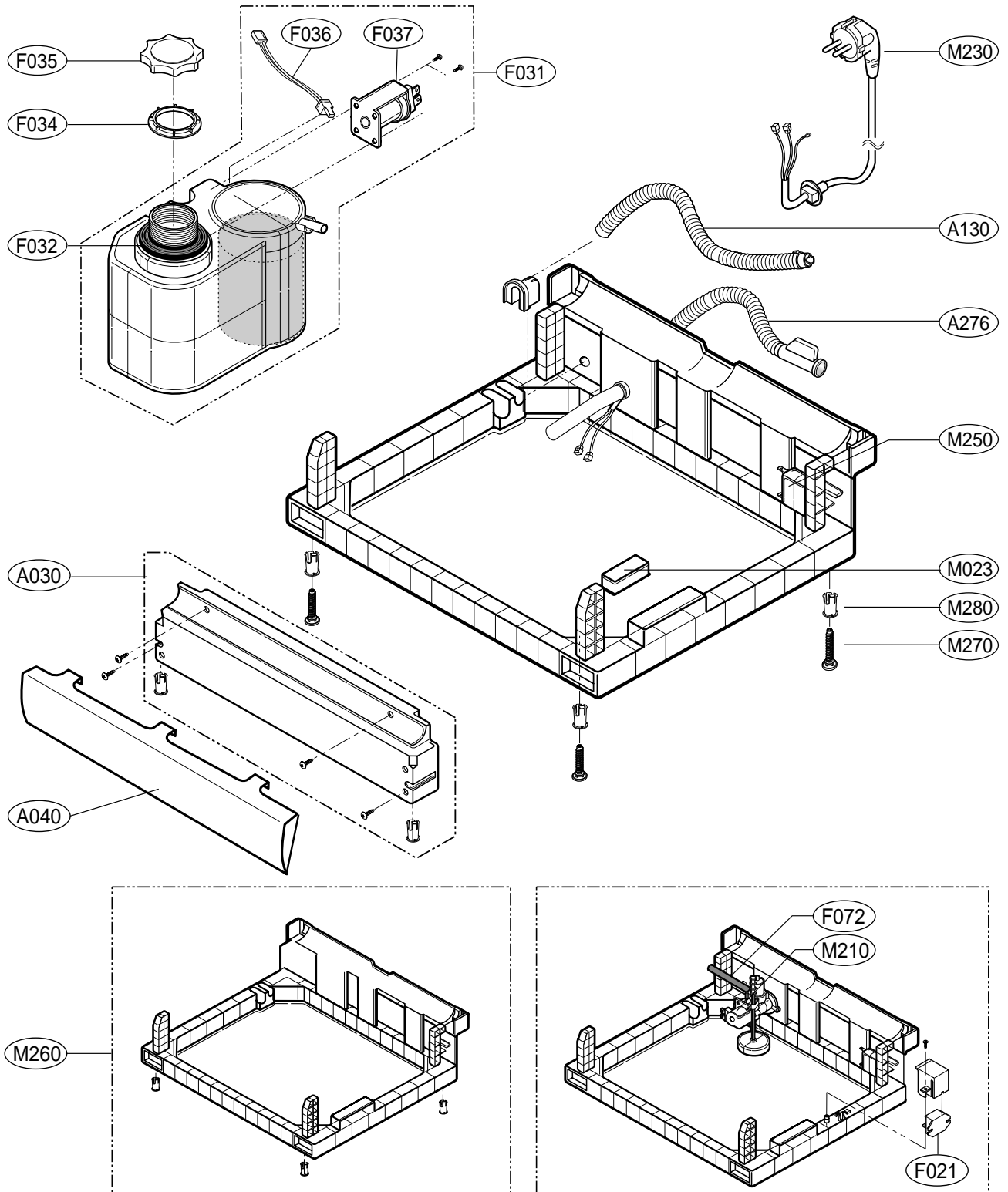
EXPLODED VIEW - TUB ASSEMBLY



EXPLODED VIEW - PANEL ASSEMBLY / DOOR ASSEMBLY



EXPLODED VIEW - BASE ASSEMBLY



EXPLODED VIEW - SUMP ASSEMBLY

