

Order No.  
PAPTH171101CE  
[Revision : August 2019]

# Service Manual

## Fully Automatic Washing Machine



NA-FS95A1  
NA-F95A1  
NA-F85A1

### Product Colour

White (W)

### Destination

Australia  
New Zealand

### **⚠ WARNING**

The service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt within this service information by anyone else could result in serious injury or death.

### **IMPORTANT SAFETY NOTICE**

There are special components used in this equipment which are important for safety. These parts are marked by **⚠** in the Schematic Diagrams, Circuit Board Diagrams, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

**Panasonic**<sup>®</sup>

© Panasonic Appliances (Thailand) Co., Ltd. 2019.  
All rights reserved. Unauthorized copying and  
distribution is a violation of law.

---

# CONTENT

---

	Page
1 ATTENTION IN THE REPAIR WORK SECURITY	3
2 PARTS IDENTIFICATION	4
3 SPECIFICATIONS	5
4 TECHNICAL INFORMATION	6
4.1 Standard Wash Capacity	6
4.2 Standard Water Supply	6
5 INSTALLATION	7-9
6 OPERATION PANEL	10
6.1 NA-FS95A1	10
6.2 NA-F95A1,NA-F85A1	11
7 WASHING	12
7.1 NA-FS95A1	12
7.2 NA-F95A1,NA-F85A1	13
8 WASHING OPTIONS	14~15
9 CONVENIENT FUNCTION & MAINTENANCE	16~17
10 TEST MODE	18-19
11 TROUBLESHOOTING	20
12 TABLE OF ERRORS	21
12.1 U-Error indication	22
12.2 H-Error indication	22
13 WIRING DIAGRAM	23
13.1 NA-FS95A1	23
13.2 NA-F95A1, NA-F85A1	23
14 DISASSEMBLY AND ASSEMBLY INSTRUCTION	24
14.1 Controller unit replacement	24
14.2 Feeding Valve,Pressure sensor unit,Safety Switch replacement.	24
14.3 Mecha case unit replacement	25-26
14.4 Suspension replacement	27
14.5 Motor replacement	27-28
14.6 Geared motor replacement	29
14.7 Valve unit and geared motor replacement	29
14.8 Body B assembly	29
15 PARTS EXPLODED VIEW AND REPLACEMENT PARTS LIST	30
15.1 Part Exploded View : Part A	30
15.2 Part list/Part A.	31
15.3 Part Explode View : Part B	32
15.4 Part list/Part B.	33
15.5 Part Explode View : Part C	34
15.6 Part list/Part C.	35
15.7 Part Explode View : Packing Part	36
15.8 Part list/Packing	37
16 WASHING CAPACITY & SERIAL NUMBER IDENTIFICATION	38
16.1 Washing capacity	38
16.2 Serial Number Identification	38
DETAIL CHANGE NOTICE	39

# 1. ATTENTION IN THE REPAIR WORK SECURITY

In order to prevent any accident during repair work and ensure security of the product after repair work, somethings surely followed are explained below.

- The level of the arised damages or dangers, when indicated contents are ignored, are classified by following indications and explained.

	<b>WARNING</b>	The content in the column of this indication is “ Be assumed that possibly die or get seriously injured ”.
	<b>ATTENTION</b>	The content in the column of this indication is “ Be assumed that possibly get damages or possibly only damage object occurred ”.

- Types of the contents being followed are classified by following figured symbols and explained. (The following is an example of expression in pictures)

	This figured symbol means caution “ <b>ATTENTION</b> ”
	This figured symbol means must not do “ <b>PROHIBITION</b> ”
	This figured symbol means surely execute “ <b>INSTRUCTIONS</b> ”

## **WARNING**

### **Connection of cables should be done according to regular work.**

- Connection of cables should be tightened reliably with strength using solderless terminal. (specified parts always using regular bonding plier)
- Install a fire protection cover (fireproof) covering connectin area completely, and close opening areas by tape. (Please reuse the fire protection cover which came with the products).
-  • When drawing cables around, fixing those cables with cable suppression part. Do not touch rotating part, high temperature part and surface of metal.
- Be sure to replace with cable unit when any cable was snapped. When a part of the cable unit was cut, you must not do the connection repair. It may be the cause of smoke, ignition or receiving an electric shock.

### **Be careful about receiving an electric shock.**

 When doing electric connection service such as voltage measurement, please be careful enough about receiving an electric shock at electric charging parts and cable terminal parts.

### **Pull out electric plug when doing repair work.**

 Disassembling, assembling and replacing parts should be done after pulling out electric plug. Receiving an electric shock or getting an injury may occur.

### **Be sure to use specified parts.**

 Always use specified parts for the parts with mark  in the electric circuit diagrams and parts list. It may be the cause of smoke, ignition or damage.

### **Do not touch any rotating object with hand unless it stops completely.**

 Slow rotation may also roll in your hands and cause injury.

### **Rebuilding is prohibited.**

 Do not rebuild machine parts and components when repairing service. It may be the cause of damage or ignition.

### **Straightly pull out or insert in Huasuton terminal.**

 Do not twist it. It may be the cause of damage or ignition.

## **ATTENTION**

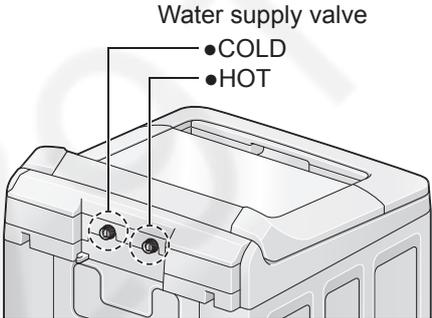
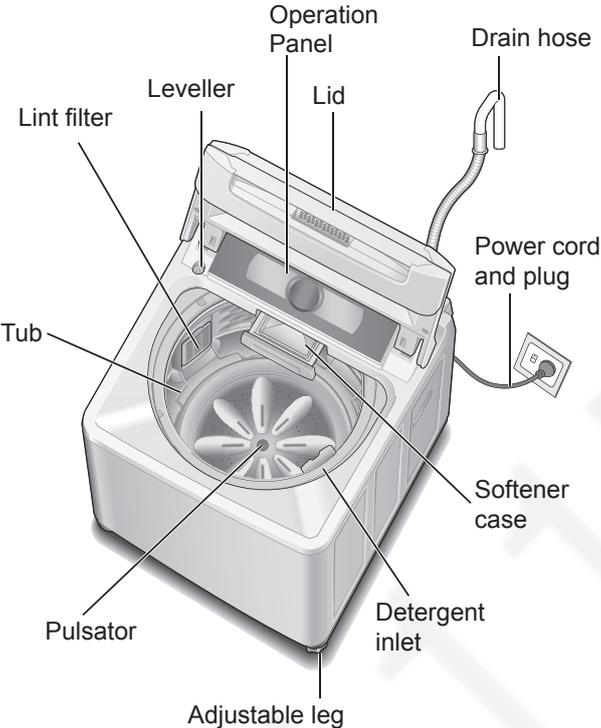
### **Please wear gloves when disassembling, replacing and assembling.**

 Always wear gloves to prevent an injury by the metal end face or an electric shock at the time of the electricity service

### **Please be careful to the edges of the metal end face.**

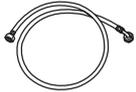
 Wear the working clothes of long sleeves to prevent an injury by the metal end face or please work after covering the end face with tape or towel.

## 2. PARTS IDENTIFICATION



### Accessories

- Water supply hose for HOT (White)(1)



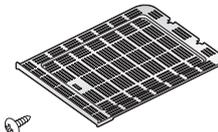
• Length: 1.0 m

- Water supply hose for COLD (Grey)(1)



• Length: 1.0 m

- Bottom cover (1)
- Screw (1)



- Drain hose (1)
- Hose band (1)



- Hose holder (1)
- Screw (1)

### 3. SPECIFICATIONS

Countries		Australia / New Zealand		
Model		F85A1	F95A1	FS95A1
Model Code	Australia	WD1V	WD1X	WD1Z
		WAU	WAU	WAU
	Newzealand	WD1W	WD1Y	WD20
		WNZ	WNZ	WNZ
Body	Colour	white	white	white
	Code	W	W	W
Power cord unit		K3P	K3P	K3P
Rate voltage and Frequency		220240V/50Hz	220240V/50Hz	220240V/50Hz
Rate Power Consumption	Wash	580W	590W	590W
	Spin	350W	350W	200W
Power Consumption		140Wh(220V/50Hz)		120Wh (220/50Hz)
Standard Capacity	Wash	8.5Kg	9.5Kg	9.5Kg
	Spin	8.5Kg	9.5Kg	9.5Kg
Standard Consumption	Water	93 Liter	99 Liter	99 Liter
Product Weight	Accessories	48Kg	48Kg	49Kg
	Packing	53Kg	53Kg	54Kg
Outer Dimention (mm.) (WxDxH)	Body	640×680×1074	640×680×1074	640×680×1074
	Installation	706×746×1218	706×746×1218	706×746×1218
Pulsator with rated load (r.p.m.)	Spec	95 rpm	95 rpm	105 rpm
Spin Tub with rated load (r.p.m.)	Spec	660 rpm	660 rpm	660 rpm
Water Supply Pressure	Spec	0.01-1.00 Mpa (1.2-18 L / min)		
Motor		Single - phase induction motor 135 °C		Three - phase induction motor 135 °C
Safety Switch		Checking Unbalance		
MR sensor		Openlid detection during operation		
Buzzer		Rings when finishing washing or unusual		
Detergent Case Dispenser		Usable		
Fabric Softener Dispenser		Usable		
Filter Unit		Usable		
Child Safety		Usable		
Auto Restart		Usable		
Auto Power Off		Usable		

## 4. TECHNICAL INFORMATION

### 4.1 Standard Wash Capacity

PROGRAM	MAXIMUM CAPACITY		
	F85A1	F95A1	FS95A1
COTTON	8.5 kg	9.5 kg	9.5 kg
QUICK WASH	8.5 kg	9.5 kg	9.5 kg
FRAGRANCE	8.5 kg	9.5 kg	9.5 kg
SOAK	8.5 kg	9.5 kg	9.5 kg
BEDDING	8.5 kg	9.5 kg	9.5 kg
DELICATE	8.5 Kg	9.5 kg	9.5 kg
COTTON ECO	8.5 Kg	9.5 kg	9.5 kg
TUB HYGIENE	-	-	-
AIR DRY	3.0 kg	3.0 kg	3.0 kg

Note : -Normal course and Water Save course are recommended for a normally soiled load at the rated capacity of this washing machine.

### 4.2 Standard Water Supply FOR NA-F85A1,NA-F95A1

PROGRAM	TOTAL TIME (APPROX.)	WASH	RINSE <sup>1)</sup>	SPIN
COTTON	60 min	12 min	Refill 2 times	5 min
QUICK WASH	55 min	9 min	Refill 2 times	5 min
FRAGRANCE	85 min	12 min	2 times	5 min
SOAK	120 min <sup>2)</sup>	12 min <sup>3)</sup>	Refill 2 times	5 min
BEDDING	80 min	12 min	Refill 2 times	3 min
DELICATE	55 min	9 min	2 times	1 min
COTTON ECO (NA-F95A1)	180 min <sup>2)</sup>	12 min <sup>3)</sup>	3 times	7 min <sup>4)</sup>
COTTON ECO (NA-F85A1)	160 min <sup>2)</sup>	12 min <sup>3)</sup>	3 times	7 min <sup>4)</sup>
TUB HYGIENE	150 min <sup>2)</sup>	12 min <sup>3)</sup>	Refill 2 times	7 min

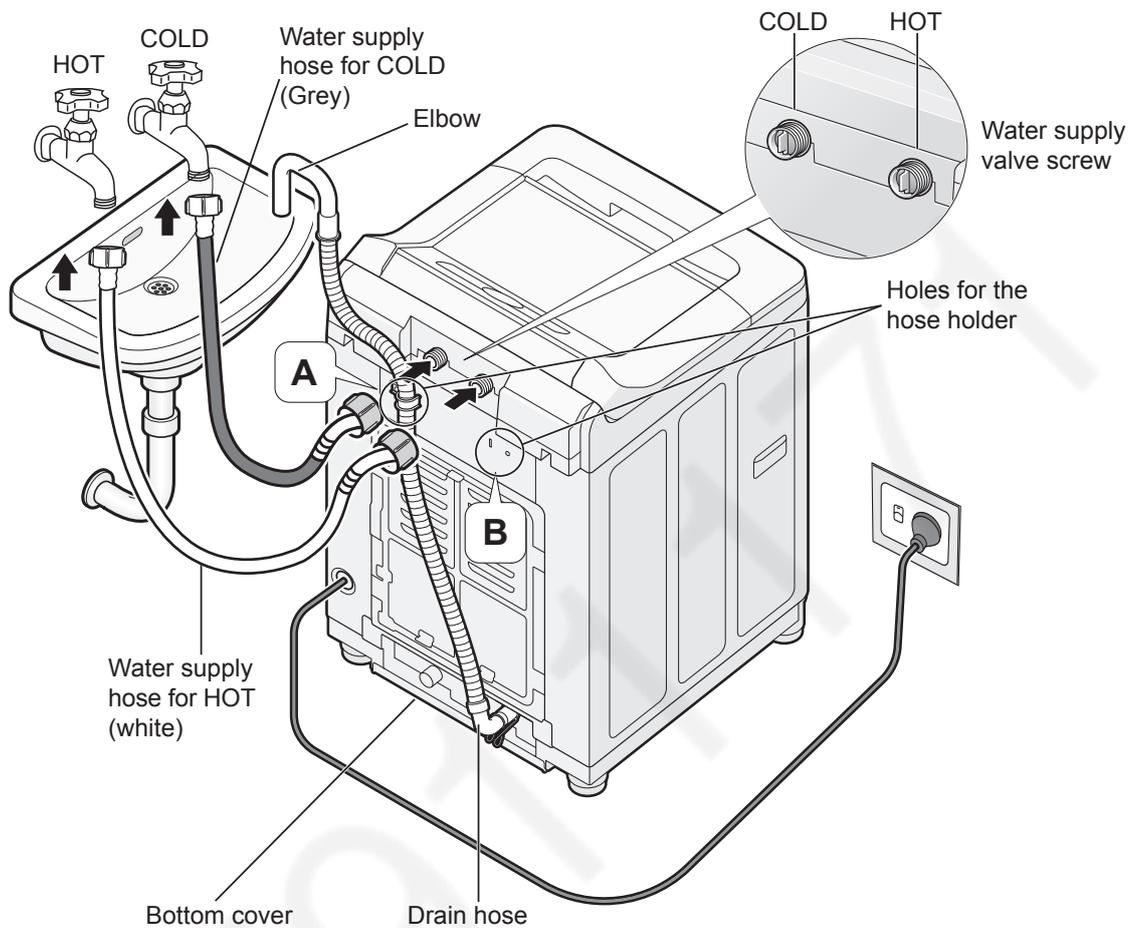
### 4.3 Standard Water Supply FOR NA-FS95A1

PROGRAM	TOTAL TIME (APPROX.)	WASH	RINSE <sup>1)</sup>	SPIN
COTTON	60 min	12 min	Refill 2 times	5 min
QUICK WASH	55 min	9 min	Refill 2 times	5 min
FRAGRANCE	85 min	12 min	2 times	5 min
SOAK	120 min <sup>2)</sup>	12 min <sup>3)</sup>	Refill 2 times	5 min
BEDDING	80 min	12 min	Refill 2 times	3 min
DELICATE	55 min	9 min	2 times	1 min
COTTON ECO	150 min <sup>2)</sup>	12 min <sup>3)</sup>	3 times	7 min <sup>4)</sup>
TUB HYGIENE	150 min <sup>2)</sup>	12 min <sup>3)</sup>	Refill 2 times	7 min

"Note : -Total time is approximate (When the standard water supply rate is 15 L / min).

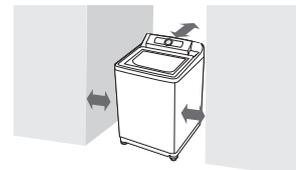
-Total time may increase depending on low water pressure, bad draining conditions, and the amount and type of clothes.C51

## 5. INSTALLATION



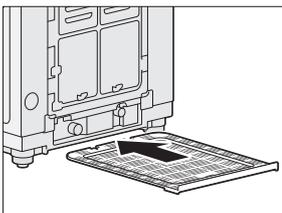
### 1. Check the location.

- Avoid the following locations for installation.
  - Damp locations or locations where it may be exposed to rain, etc. (To prevent electric shock or fire)
  - Uneven or unstable locations (on blocks, timbers, a table with wheels, etc.)
  - Locations with a possibility of freezing
- Keep the washing machine at least 10 cm away from the wall to minimise noise.

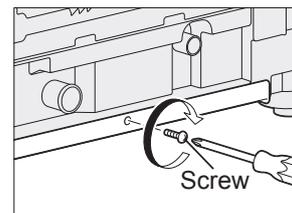


### 2. Attach the bottom cover.

**1** Insert the bottom cover along the guides.



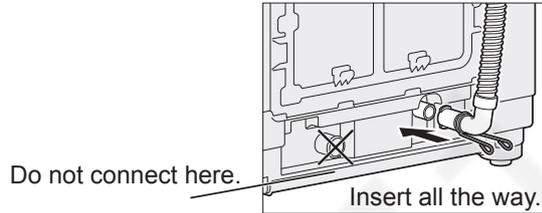
**2** Fix with a screw.



- Make sure to ask a service person for installation. Do not install by yourself.
- If the installation, test run and inspection of the washing machine are not carried out following this installation method, Panasonic will not be liable for any accident or damage caused.

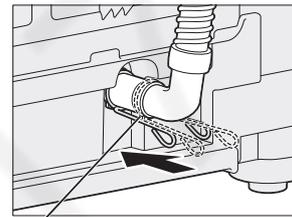
### 3. Attach the drain hose.

#### 1 Connect.



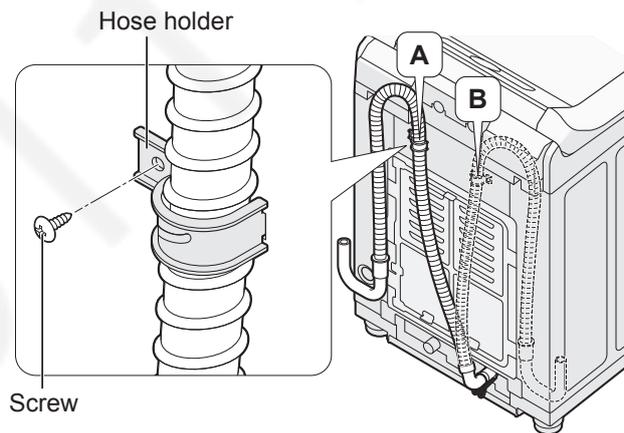
#### 2 Slide the hose band in the arrow direction.

- Slide all the way until it stops.



Hose band

#### 3 Attach the hose to position A or B with the hose holder and the screw.



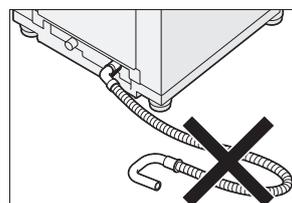
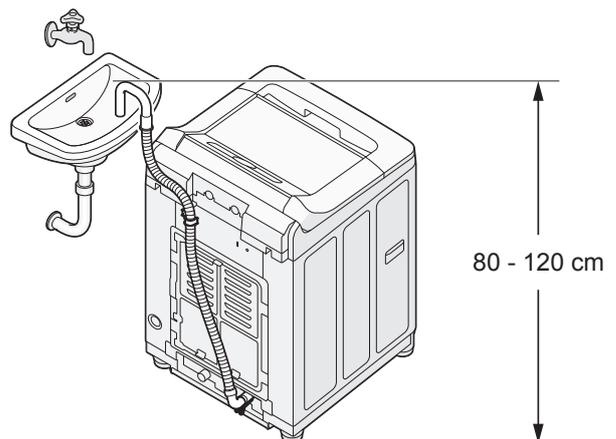
#### 4 Hook the elbow of the drain hose to the basin.

**CAUTION**

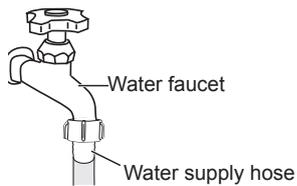
Make sure the drain hose is securely hooked so that it does not come off by water pressure during drainage.

**NOTE**

- Do not twist, pull out or bend the drain hose.
- Do not put the hose tip under water.
- Do not direct the drain hose downwards.
- The installation shall be in accordance with the requirements of AS/NZS 3500.1.



## 4. Connect the water supply hose.



### CAUTION

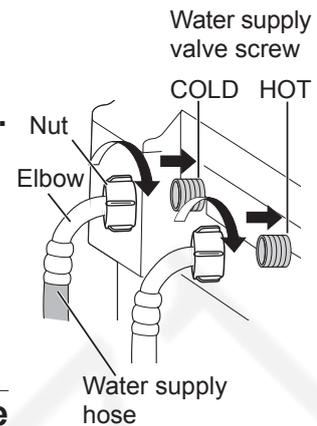
- Do not make wrong connection for the HOT and COLD water supply faucets.
- Tighten the nut firmly.
- Do not twist, squash, modify or cut the hose.

### NOTE

- If you have an uncontrolled water heating source (e.g., wet back, solar heating), fit a tempering device (e.g., a safe valve). This will ensure the hot water temperature remains within safe limits. Contact a local plumber or plumbing supply merchant for the most suitable type of tempering device.
- Time for hot water to reach washing machine will depend on proximity of washing machine to hot water tank.

### 1 Attach one end of the water supply hose to the water supply valve screw.

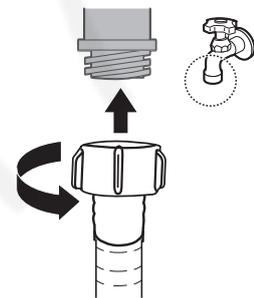
- 1 Hold the elbow and tighten the nut.
  - 2 Check that the elbow is not loose.
- The procedure for cold water and hot water is the same.



### 2 Attach the other end of the water supply hose (grey) to the cold water tap, and tighten the nut clockwise with your hand.

### 3 Likewise, attach the other end of the water supply hose (white) to the hot water tap.

### 4 Turn on the water taps slowly and make sure there are no leaks.

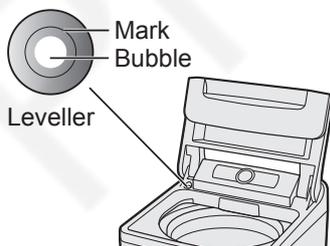


## 5. Connect the power plug and grounding wire.

- Plug the power cord into a dedicated household 3-pin AC outlet rated at 10 A, 220 V to 240 V. If you are not sure, contact a qualified electrician.

## 6. Check that the washing machine is level.

The bubble should be at the centre of the mark.



■ If the bubble is out of the mark



- 1 Turn the adjustable leg knob to the left to loosen.
  - 2 Turn the adjustable leg to eliminate wobble.
  - 3 Turn to the right to tighten.
- To raise To lower

## 7. Perform a trial operation.

- Check that there is no water leakage, abnormal sounds or error display.

## 6. OPERATION PANEL

### 6.1 NA-FS95A1

#### Change water amount

During the wash process, press “Water Level” to change the water amount.

- Some water amounts cannot be selected depending on the program.
- Only during the wash process, press “Water Level” to check the water amount.

#### Water amount/remaining time

99 L

After starting operation, indicates the water amount according to the amount of laundry.

Time Left  
60 min

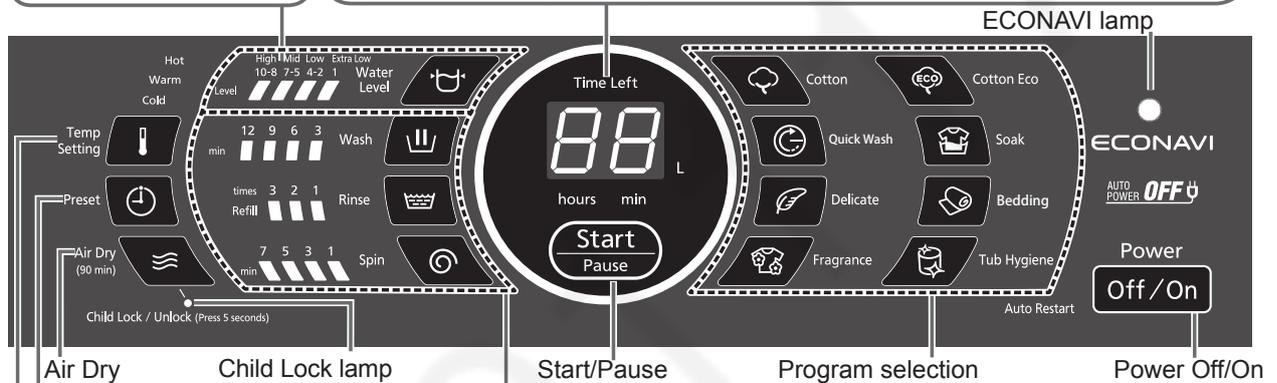
After approx. 5 seconds, indicates the approximate remaining time (min).

#### Water level/water amounts

Level	High 10-8	Mid 7-5	Low 4-2	Extra Low 1
Detergent *				
Water amount (L)	99 88 81	74 66 59	52 46 38	33

\* : 1 scoop of detergent

- Each water level, except “Extra Low”, has three water amount options that can be switched while the level is lit by pressing “Water Level”.



#### Temp Setting

For washing, cold water can be mixed with hot water. Press the button to select Hot/Warm/Cold.

**Do not use water hotter than 60 °C.**

- The estimated water temperature in the tub during wash process (when hot water is 50 °C, and normal water is 20 °C):

Hot	approx. 40 °C
Warm	approx. 30 °C

- Lamp indications  
Lighted: Hot/Warm/Cold is set.  
Flashing: Hot water is being supplied.

#### Preset

Set the time to finish washing (in hours). (⌚ lights.)



8 hours

e.g.) 8 hours later

- Setting range: 2 - 24 hours later, in one-hour increments. (3 - 24 hours later for the Soak program)
- Not available for the following programs: Delicate, Fragrance, Bedding, Tub Hygiene, Air Dry

#### Change process settings

Change the combination of wash, rinse and spin processes, and the time length or number of times for individual processes.



Lighted

Flashing (in progress)

- After starting operation, you can change settings only during wash process by pressing “Start/Pause”.

#### Touch operation

- Operation buttons are capacitive (Except for the power Off/On and Start/Pause buttons). Touch the buttons directly with your bare fingers.
- When a towel containing water or detergent touches an operation button, the appliance may malfunction.

#### NOTE

- In case of a power failure during operation, operation will resume from the point where it was stopped when the power is recovered (Auto Restart).
- The power turns off automatically if you do not press “Start/Pause” within 10 minutes after power-on.

## 6.2 NA-F95A1, NA-F85A1

### Change water amount

During the wash process, press "Water Level" to change the water amount.

- Some water amounts cannot be selected depending on the program.
- When the remaining time is displayed, press "Water Level" to check the water amount.

### Water amount/remaining time

99 L

After starting operation, indicates the water amount according to the amount of laundry.

Time Left  
60 min

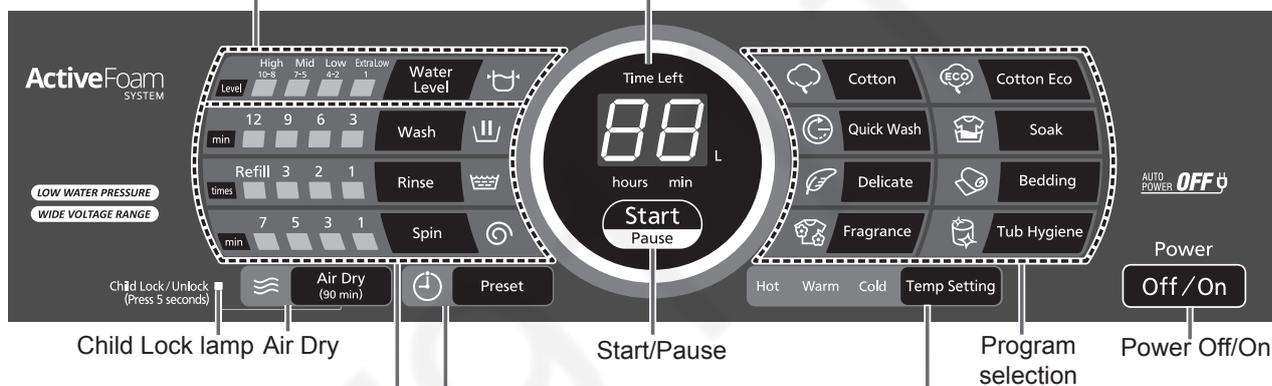
After approx. 5 seconds, indicates the approximate remaining time (min).

### Water level/water amounts

Level	High 10-8	Mid 7-5	Low 4-2	Extra Low 1	Model						
Detergent *											
Water amount (L)	99	88	81	74	66	59	52	46	38	33	NA-F95A1
	93	88	81	74	66	59	52	46	38	33	NA-F85A1

\* : 1 scoop of detergent

- Each water level, except "Extra Low", has three water amount options that can be switched while the level is lit by pressing "Water Level".



### Change process settings

Change the combination of wash, rinse and spin processes, and the time length or number of times for individual processes.



Lighted

Flashing (in progress)

- After starting operation, you can change settings only during wash process by pressing "Start/Pause".

### Preset

Set the time to finish washing (in hours). (⌚ lights.)



e.g.) 8 hours later

- Setting range: 2 - 24 hours later, in one-hour increments. (3 - 24 hours later for the Soak program)
- Not available for the following programs: Delicate, Fragrance, Bedding, Tub Hygiene, Air Dry

### Temp Setting

For washing, cold water can be mixed with hot water. Press the button to select Hot/Warm/Cold.

**Do not use water hotter than 60 °C.**

- The estimated water temperature in the tub during wash process (when hot water is 50 °C, and normal water is 20 °C):

Hot	approx. 40 °C
Warm	approx. 30 °C

- Lamp indications  
Lighted: Hot/Warm/Cold is set.  
Flashing: Hot water is being supplied.

### NOTE

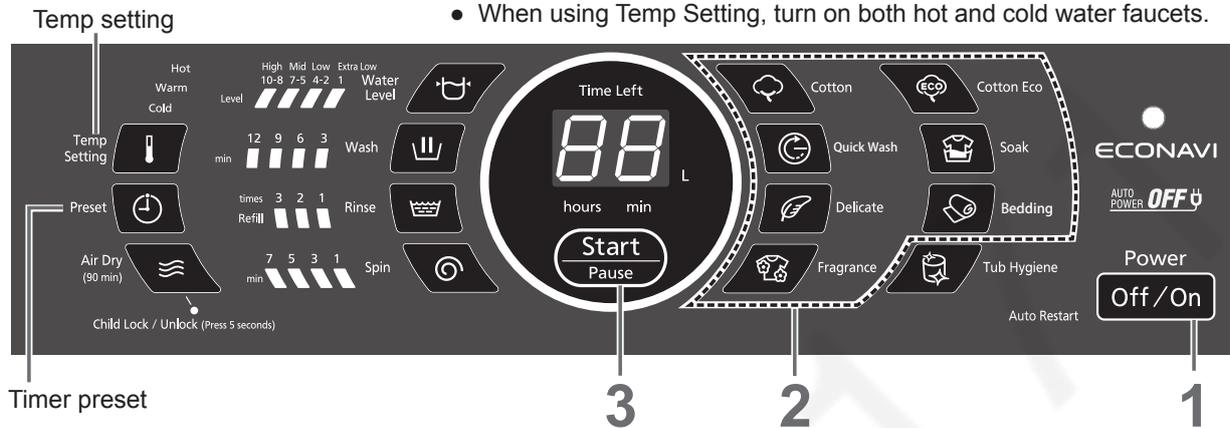
- In case of a power failure during operation, operation will resume from the point where it was stopped when the power is recovered (Auto Restart).
- The power turns off automatically if you do not press "Start/Pause" within 10 minutes after power-on.

## 7. WASHING

### 7.1 NA-FS95A1

#### Preparation:

- Check if the washing machine is properly installed.
- Turn on the water faucet.
- When using Temp Setting, turn on both hot and cold water faucets.



**1** After loading laundry  
**Off/On** Turn the power on.

- The Cotton program is selected when the power is turned on.

**2** Select a program.  
 ■ Temp Setting  
 ■ Timer preset

**3** **Start.**  
 The pulsator moves without water and measures the amount of laundry (approx. 10 seconds).

**Water amount indication**  
 (approx. 5 seconds)

Remaining time indication

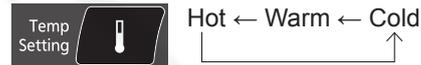
- To check the water amount  
 → Press “Water Level”.

**4** According to the water amount indication  
**Put in detergent.**  
 • Approx. 20 seconds after the water amount is displayed, water supply begins.

**5** Close the lid.

Operation ends with beeps.

Press to select Hot/Warm/Cold for washing.



Set how many hours later to finish operation.



- 2 minutes after start-up, all indications except turn off.
- To confirm after the timer has been set, press
- To cancel or change, press **Off/On**.
- The hours that can be set differ depending on the program.

When the Fragrance program is selected

The buzzer sounds before the final rinse and operation is paused. Put the desired amount of softener which has been diluted with water directly into the tub.



- The Fragrance program cannot be selected when Child Lock (P. 10) is set.
- Operation will resume if the lid is left closed for more than 1 hour.

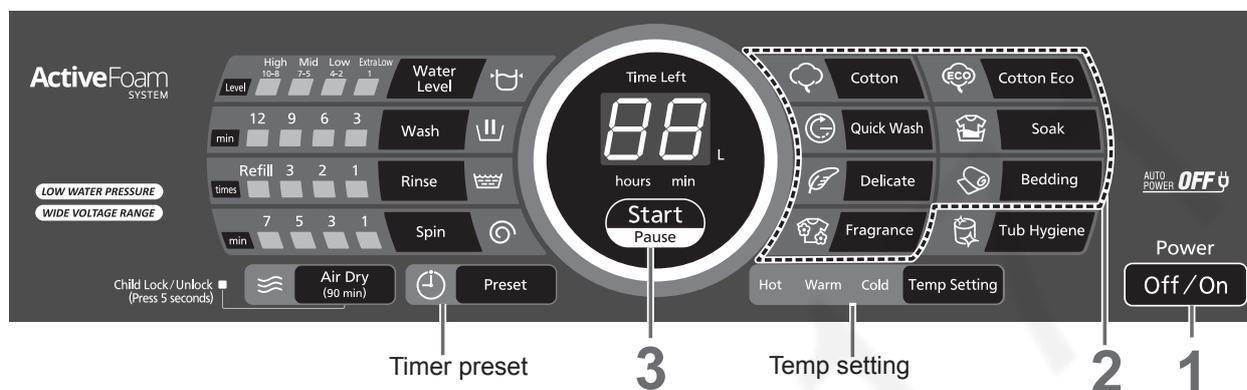
■ After pressing “Start”

- You can change the water level until the end of the wash process.
- You can change each of the “Wash”, “Rinse” and “Spin” operation contents until the end of the wash process. Press “Pause” beforehand.
- You cannot change the program.

## 7.2 NA-F95A1, NA-F85A1

### Preparation:

- Check if the washing machine is properly installed.
- Turn on the water faucet.
- When using Temp Setting, turn on both hot and cold water faucets.



**1** After loading laundry  
**Off/On** Turn the power on.

- The Cotton program is selected when the power is turned on.

**2** Select a program.  
 ■ Temp Setting  
 ■ Timer preset

**3** **Start.**  
**Start/Pause**  
 The pulsator moves without water and measures the amount of laundry (approx. 5 seconds).

**Water amount indication**  
 (approx. 5 seconds)

Remaining time indication

- To check the water amount  
 → Press "Water Level".

**4** According to the water amount indication  
**Put in detergent.**  
 • Approx. 20 seconds after the water amount is displayed, water supply begins.

**5** Close the lid.  
  
**Operation ends with beeps.**

Press to select Hot/Warm/Cold for washing.



Set how many hours later to finish operation.



- 2 minutes after start-up, all indications except  turn off.
- To confirm after the timer has been set, press .
- To cancel or change, press **Off/On**.
- The hours that can be set differ depending on the program.

When the Fragrance program is selected

The buzzer sounds before the final rinse and operation is paused. Put the desired amount of softener which has been diluted with water directly into the tub.



- The Fragrance program cannot be selected when Child Lock (P. 16) is set.
- Operation will resume if the lid is left closed for more than 1 hour.

■ After pressing "Start"

- You can change the water level until the end of the wash process.
- You can change each of the "Wash", "Rinse" and "Spin" operation contents until the end of the wash process. Press "Pause" beforehand.
- You cannot change the program.

## 8. WASHING OPTIONS

### Bedding

#### ■ Washable blankets

- Material: 100 % synthetic fibre or 100 % cotton
- Weight: 4.2 kg or less (King size bed)
- Blankets with a machine-washable tag attached

- Put a blanket in the net and load it in the tub.



#### NOTE

- Use liquid detergent.
- The water amount indication shows the maximum and cannot be changed.

### ECONAVI

Available in the Cotton program, this function automatically adjusts the operation time and water amount according to the detected amount of laundry and water temperature. ECONAVI will not work if you change the water amount or process settings.

#### ■ Lamp indications

- Flashing: Detecting
- Lighting: ECONAVI enable
- Off: ECONAVI disabled



#### ■ Switch on/off

- 1 **Off/On**
- 2 **Tub Hygiene**
- 3 **Water Level** Press and hold for 3 seconds
- 4 **Water Level** to select (On) or (Off)
- 5 **Start/Pause** 6 beeps

#### \* Test conditions:

- Cotton program
- Comparison between ECONAVI-enabled operation (amount of laundry: 2.0 kg, water temperature: above 35 °C) and ECONAVI-disabled operation (amount of laundry: 9.5 kg (rated capacity), water temperature: below 15 °C)
- Test was conducted based on IEC60456 except for water temperature.

### Delicate

Use this program to gently wash delicate clothes and stylish garments.

#### ■ Load laundry evenly



- Load lighter items first and press them from above.
- Use laundry nets for delicate underwear only.
- Amount that can be washed at one time:

Water Level	Capacity
74 L	5.0 kg
66 L	3.0 kg
59 L	1.0 kg

#### NOTE

- Do not use bleach.
- Use liquid delicate detergent.
- After operation ends, take out clothes immediately. (To prevent wrinkles and colour staining)

### Cotton Eco

With the "Cotton Eco" cycle the washing machine consumes less energy and water.

#### ■ About Detergent

- We recommend using high efficiency or low-sudsing detergent.
- For better performance, it is recommended to dissolve detergent in 1L of water at 35 °C and then pour it around the inner wall of the tub.
- Add detergent after the hot water fill is completed. Opening the lid to add detergent before hot water filling is completed will alter the total amount of hot water added, and hence washing performance will change.

#### ■ Water amount can be adjusted according to the table below:

Water Level	Capacity
59 L	9.5 kg
52 L	6.0 kg
46 L	3.4 kg

#### NOTE

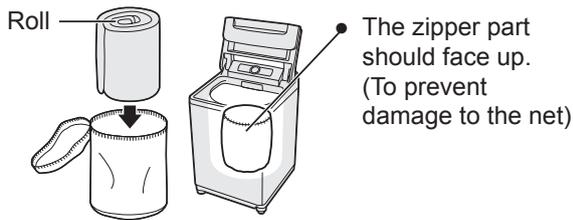
- Do not use softener.
- The operation starts with the end of hot water filled.
- If "U13" appears, clothes in the tub are out of balance. Follow installation to distribute the clothes evenly, and close the lid.
- We recommend leaving the washing machine for at least 1 hour between each use.
- Cotton Eco is for normally cotton soiled load with AS/NZS 2040.1, AS/NZS 2040.2 and AS/NZS 6400.

## Bedding

### ■ Washable blankets

- Material: 100 % synthetic fibre or 100 % cotton
- Weight: 4.2 kg or less (King size bed)
- Blankets with a machine-washable tag attached

- Put a blanket in the net and load it in the tub.



#### NOTE

- Use liquid detergent.
- The water amount indication shows the maximum and cannot be changed.

## Delicate

Use this program to gently wash delicate clothes and stylish garments.

### ■ Load laundry evenly



- Load lighter items first and press them from above.
- Use laundry nets for delicate underwear only.
- Amount that can be washed at one time:

Water Level	Capacity
74 L	5.0 kg
66 L	3.0 kg
59 L	1.0 kg

#### NOTE

- Do not use bleach.
- Use liquid delicate detergent.
- After operation ends, take out clothes immediately. (To prevent wrinkles and colour staining)

## Cotton Eco

With the “Cotton Eco” cycle the washing machine consumes less energy and water.

### ■ About Detergent

- We recommend using high efficiency or low-sudsing detergent.
- For better performance, it is recommended to dissolve detergent in 1L of water at 35 °C and then pour it around the inner wall of the tub.
- Add detergent after the hot water fill is completed. Opening the lid to add detergent before hot water filling is completed will alter the total amount of hot water added, and hence washing performance will change.

### ■ Water amount can be adjusted according to the table below:

NA-F95A1		NA-F85A1	
Water Level	Capacity	Water Level	Capacity
59 L	9.5 kg	-	-
52 L	6.0 kg	52 L	8.5 kg
46 L	3.4 kg	46 L	6.0 kg

#### NOTE

- Do not use softener.
- The operation starts with the end of hot water filled.
- If “U13” appears, clothes in the tub are out of balance. Follow installation to distribute the clothes evenly, and close the lid.
- We recommend leaving the washing machine for at least 1 hour between each use.
- Cotton Eco is for normally cotton soiled load with AS/NZS 2040.1, AS/NZS 2040.2 and AS/NZS 6400.

## 9. CONVENIENT FUNCTIONS & MAINTENANCE

### Cancelling end buzzer

- 1  Pressing down,  press.

Then hold on for

**3 seconds.** 

- To reset, do the same procedure. 

### Setting Child Lock

To prevent children from falling into the tub and drowning, if the lid is opened while the washing machine is operating, this function sounds a buzzer until it is closed. Not closing it within 10 seconds flushes the water out.

- This function does not lock the lid and button operations.
- When water is drained forcibly, "U 99" is displayed.

- 1 After closing the lid  Turn the power on.

- 2  Press and hold for **5 seconds.** 

Child Lock/Unlock  (Press 5 seconds) 

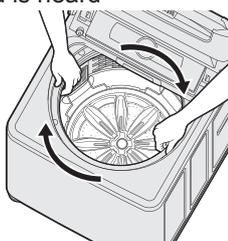
- To cancel, do the same procedure. 

### Turning the tub by hand

If it is difficult to reach the detergent inlet.

- 1  Turn the power on.

- 2 When a clicking sound is heard **Turn the tub within 20 seconds.** (Clockwise only)

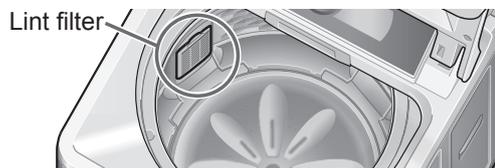


#### NOTE

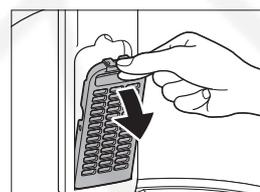
- If there is water in the tub, the tub cannot be turned.

### Lint filter

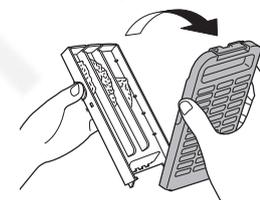
After each operation



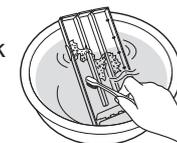
- 1 Remove the filter gently.



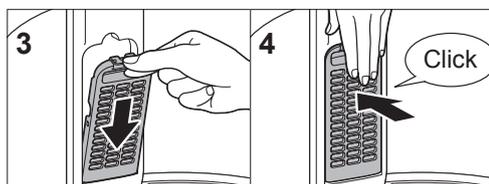
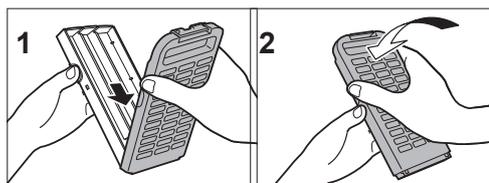
- 2 Open the filter and remove lint.



- If lint is difficult to remove, soak and wash the filter in water.



- 3 Attach the filter in its original position.



#### NOTE

- Do not wash laundry without the filter. (To prevent damage to clothes)
- Turn the tub by hand if it is difficult to remove the filter.
- If the filter is broken, purchase a new one at your local dealer.

## Water supply filter

If water does not flow smoothly

- Follow the procedure below to prevent splashing of water.

**1** After turning off both hot and cold water faucets  

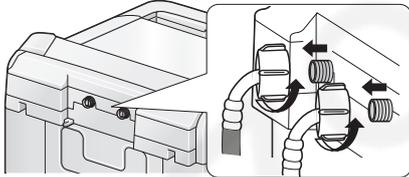
 Off/On **Turn the power on.**

**2** Temp Setting **Select Hot or Warm.**

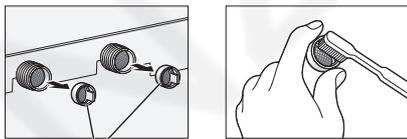
**3** Start/Pause **Start.**

**4** After approx. 40 seconds  
 Off/On **Turn the power off.**

**5** **Loosen the nut and remove the hose.**



**6** **Remove the filter and remove dirt on the filter.**



Water supply filter

**7** **Reattach the filter to this original position.**

## Main unit, lid

If stained with detergent or softener

**Wipe with a soft cloth.**

(To prevent damage to resin parts or metal corrosion)

- For heavy soil, wipe with a neutral kitchen detergent.
- Do not splash water.

## Tub

Once a week <Air Dry>

**1** After operation ends  
**Run the Air Dry program without loading laundry.**

Once a month <Tub Hygiene>

Preparation: Turn on both hot and cold water faucets.

**1** Without loading laundry  
 Off/On **Turn the power on.**

**2** Tub Hygiene **Press.**

**3** Start/Pause **Start.**

Start/Pause  
 ↓  
 Start/Pause When the tub is filled with water  
**Pause.**

**4** **Put bleach in the tub.**

- Use whiten bleach (drum cleaning detergent commercially available).



Approx. 200 ml

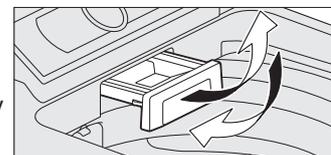
**5** After closing the lid  
 Start/Pause **Start.**

↓  
**After approx. 2 hours and a half, tub cleaning ends.**

## Softener case

**Wash with water.**

- How to remove  
 After pulling the case all the way out, pull it obliquely upward to remove it.



## 10. TEST MODE

### NA-FS95A1



Fig-1

- Set the power switch to "off" as.
- Press and hold both the "Water level" and Air Dry with one hand.
- Press the power switch to "ON".
- Release your fingers from the buttons and power switch which you pressed same as Fig-1.
- Within three seconds press the "Water level"button to set the desire check procedure .  
(Check Contents as press button step by step : A,B,C,E M,G and H)

### NA-F95A1, NA-F85A1



Fig-2

- Set the power switch to "off" as.
- Press and hold both the "Water level" and "WASH" with one hand.
- Press the power switch to "on".
- Release your fingers from the buttons and power switch which you pressed same as Fig-1.
- Within three seconds press the "Water level"button to set the desire check procedure .  
(Check Contents as press button step by step : A,B,C,E M,G and H)

Number of timers The "Water Level" button is pressed	Check Procedure	Check Contents	Lamp illumination condition	Operation condition
<b>0</b>	<b>A</b>	<ul style="list-style-type: none"> <li>●Cycle end buzzer</li> <li>●Timer indicator</li> <li>●Auto power off</li> </ul>		<ul style="list-style-type: none"> <li>●When the end buzzer sound three times, the lamps will flash on and off the remaining time display and the power will be switched off immediately after operation is finished.</li> </ul>
<b>1</b>	<b>B</b>	<ul style="list-style-type: none"> <li>●Washing operation</li> </ul>		<ul style="list-style-type: none"> <li>●If there is no water in the tub, the operation still wash.</li> <li>●If the PCB fault occurred, an error indication "H05" will display.</li> </ul>

2	C	<ul style="list-style-type: none"> <li>•Spinning operation</li> <li>•Lid / SF switch / PUMP UNIT.</li> </ul>		<ul style="list-style-type: none"> <li>•The spinning operation, Check lid &amp; SF switch operation / PUMP UNIT.</li> <li>•“Light up” lid switch working.</li> </ul>
3	E	<ul style="list-style-type: none"> <li>•Adjust the water amount against amount detection</li> </ul>		<ul style="list-style-type: none"> <li>•Press the “Wash” button to adjust L0 (initial mode) L1 (1-rank higher water level).</li> <li>•Press “Start/Pause” button to confirm.</li> </ul>
4	M	<ul style="list-style-type: none"> <li>•Set to initial mode for tension of belt</li> </ul>		<ul style="list-style-type: none"> <li>•In case to change PCB or move V-belt. Set the V-belt tension to initial mode for using below procedure.</li> <li>•The initial display will be indicated “b0”, after that press “Start/Pause” button once, it shall be listened click sound six times to set properly.</li> </ul>
5	G	<ul style="list-style-type: none"> <li>•Indicate the error message of the last time</li> </ul>		<ul style="list-style-type: none"> <li>•“Digit lights” shall be indicate “E” initially, press “Wash” button to show the last error and press the wash button again to return to initial mode.</li> <li>•If any error message occurred in the past, “H” or “U” some number shall be indicated alternately.</li> <li>If no error message occurred, the light indicates “00”.</li> </ul>
6	H	<ul style="list-style-type: none"> <li>•Indicate the operation times</li> </ul>		<ul style="list-style-type: none"> <li>•”Digit lights” shall be indicate “C” initially, press “Wash” button to change indication Digit of operation times.</li> <li>•Press once : Digit “Thousand. Hundred”.</li> <li>•Press twice : Digit “Ten.One”.</li> </ul>

## 11. TROUBLESHOOTING

	Symptoms	Points to be checked
Time	Time indication increases or does not decrease.	<ul style="list-style-type: none"> <li>Time indication is approximate. Remaining time is corrected during operation and displayed.</li> </ul>
	Operation time is longer than the time indication. Operation does not stop even after the preset time.	<ul style="list-style-type: none"> <li>The operation time may be longer if laundry is concentrated on one side or the water supply or drainage is not good. ("U 11" "U 14")</li> </ul>
Main unit	No operation	<ul style="list-style-type: none"> <li>Power failure?</li> <li>Is the lid closed completely?</li> <li>Has the power fuse blown or the breaker tripped?</li> <li>Is the power plug inserted completely?</li> <li>Is the water faucet turned on?</li> <li>Did you press "Start"?</li> <li>Is the timer preset?</li> </ul>
	Cannot change process settings (after start-up).	<ul style="list-style-type: none"> <li>Process settings can be changed during wash process by pressing "Pause". To change the program or settings after the end of wash process, turn the power off and on again.</li> </ul>
Wash	No water supply	<ul style="list-style-type: none"> <li>Is the water faucet turned on?</li> <li>Water outage?</li> <li>Is the water supply filter clogged with dirt?</li> </ul>
	Water is supplied in the middle of wash process.	<ul style="list-style-type: none"> <li>If the water level drops, water is added automatically.</li> <li>With a large amount of laundry, water is added several times automatically.</li> </ul>
	The water level is too high for the amount of laundry.	<ul style="list-style-type: none"> <li>If laundry is wet or there is water in the tub before operation, the water level may be higher.</li> </ul>
	The water level is too low for the amount of laundry.	<ul style="list-style-type: none"> <li>With light clothes (of synthetic fibre, etc.), the water level may be lower.</li> </ul>
Rinse/Spin	Operation started with rinse, but water is not supplied.	<ul style="list-style-type: none"> <li>If there is no water in the tub, water is supplied after spin.</li> <li>If there is water in the tub, water is supplied after water discharge.</li> </ul>
	Operation suddenly changes to rinse process in the middle of spin. Only spin is desired, but operation starts with rinse.	<ul style="list-style-type: none"> <li>If clothes are concentrated on one side of the tub, the washing machine automatically corrects unevenness by starting rinse process. (Place clothes as evenly as possible.)</li> </ul>
	Irregular rotation during spin	<ul style="list-style-type: none"> <li>The tub rotation speed is adjusted to reduce foaming during spin.</li> </ul>
Others	Power failure/ The breaker has tripped.	<ul style="list-style-type: none"> <li>Operation will resume from the point where it was stopped when the power is recovered (Auto Restart).</li> </ul>
	Water outage	<ul style="list-style-type: none"> <li>When water supply is recovered, remove the water supply hose, release turbid water from the faucet, and then start the washing machine.</li> </ul>
	Cannot select the Fragrance program.	<ul style="list-style-type: none"> <li>If Child Lock is set, the Fragrance program cannot be selected.</li> </ul>
	There is noise when water drains out.	<ul style="list-style-type: none"> <li>This is normal. It is the noise of the drain pump working.</li> </ul>

## 12. TABLE OF ERRORS

### 12.1 U-Error indication

- If there is an operation error or if there is a problem with the washing machine, such as faulty draining, spinning etc; operation will stop, the warning buzzer will sound, and an error indication will be displayed.
- All the switches cannot be operated.
- An error indication will be displayed.

Indication	Content	Check Point	Method to clear
U11	Water can not drain	<ul style="list-style-type: none"> <li>●Check at drain water hose, clogged or not?</li> <li>●Check at hose tip under water flow.</li> <li>●Check at drain hose raised higher than 10 cm. above the floor.</li> <li>●Check total length longer than 3 m. (including the extension hose).</li> </ul>	<ul style="list-style-type: none"> <li>●Resume operation by opening and closing the lid</li> <li>●Clear and clean drain hose</li> </ul>
U12	The lid is open	<ul style="list-style-type: none"> <li>●Did you try to run the washing machine with the lid open?</li> </ul>	<ul style="list-style-type: none"> <li>●Close the lid</li> </ul>
U13	Spin or Air Dry is not possible	<ul style="list-style-type: none"> <li>●Are clothes concentrated on one side of tub?</li> <li>●Is the washing machine installed on an unstable or inclined surface?</li> </ul>	<ul style="list-style-type: none"> <li>●Distribute the clothes evenly and close the lid</li> <li>●Resume operation by opening and closing the lid</li> </ul>
U14	Water can not be supplied	<ul style="list-style-type: none"> <li>●Is the water faucet turned on?</li> <li>●Water outage?</li> <li>●Is the water supply filter clogged with dirt?</li> </ul>	<ul style="list-style-type: none"> <li>●Resume operation by opening and closing the lid</li> </ul>
U99	Water has been forcibly drained	<ul style="list-style-type: none"> <li>●Water has been forcibly drained because the lid was open for 10 seconds or more with Child lock set.</li> </ul>	<ul style="list-style-type: none"> <li>●Disconnect the power plug---&gt;plug in (after 5 sec.)</li> </ul>

## 12.2 H-Error indication

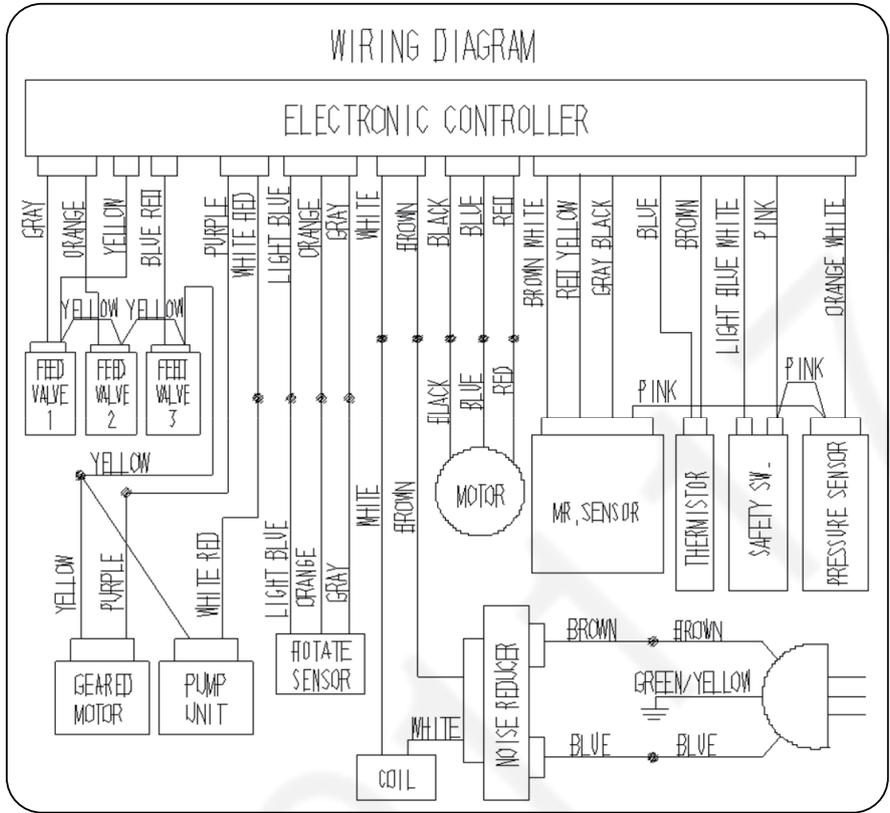
- If there is an operation error or if there is a problem with the washing machine,
- All the switches cannot be operated.
- An error indication will be displayed.

Indication	Content	Check Point	Method to clear
H01	Water level sensor error	<ul style="list-style-type: none"> <li>●Check at condition of the connector</li> <li>●Replace the Pressure sensor switch</li> <li>●Replace PCB board</li> </ul>	●Disconnect the power plug--->plug in
H02	Motor triac error	<ul style="list-style-type: none"> <li>●In water drain action check both side of capacitor that voltage not equal to "0" V.</li> <li>●Replace PCB board</li> </ul>	●Disconnect the power plug--->plug in
H04	Load relay short error	●After turn on the Motor for 2 seconds, capacitor voltage is not "0"	●Change Capacitor
H05	The memory circuit of IC error	●Replace PCB board	●Disconnect the power plug--->plug in

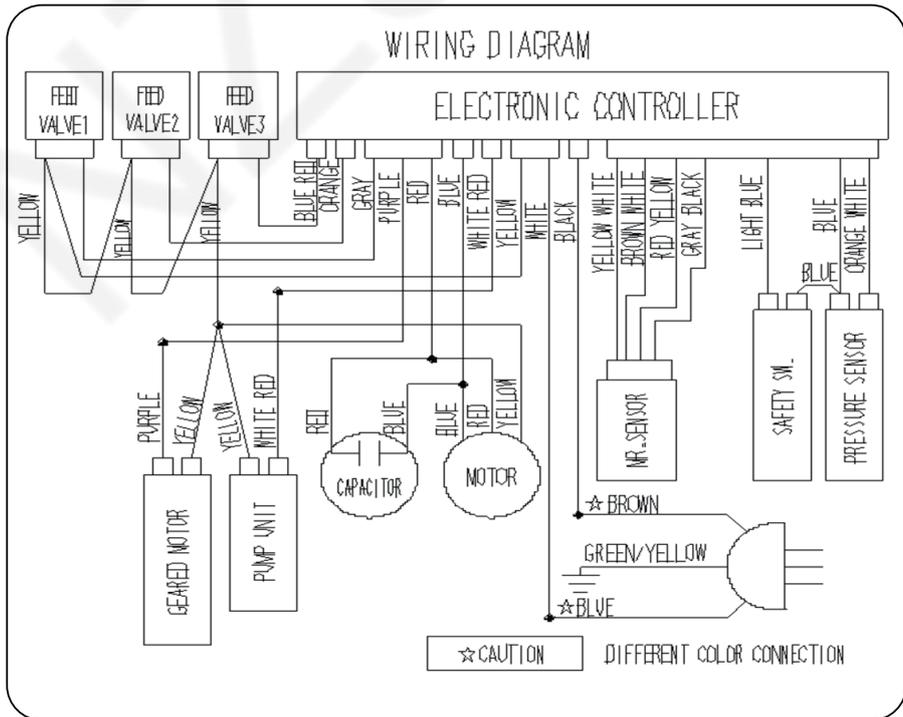
H12	Safety switch connection error	●Replace Safety switch	●Disconnect the power plug--->plug in
H17	Thermistor error (for X series)	●Replace PCB board	●Disconnect the power plug--->plug in
H21	Overflow error	<ul style="list-style-type: none"> <li>●Check Feed valve and PCB</li> <li>●Replace Feed valve</li> </ul>	●Disconnect the power plug--->plug in

# 13. WIRING DIAGRAM

## 13.1 NA-FS95A1



## 13.2 NA-F95A1, NA-F85A1

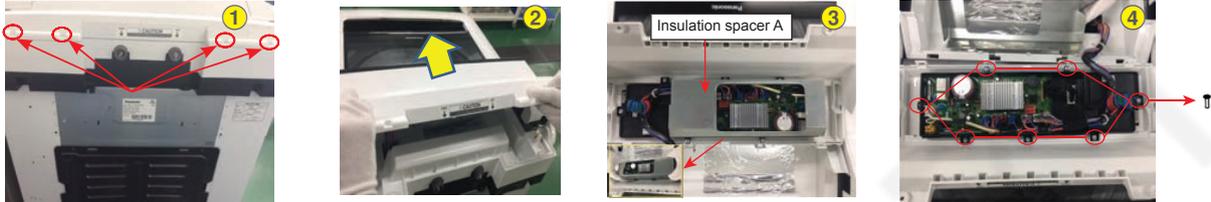


## 14. DISASSEMBLY AND ASSEMBLY INSTRUCTION

### 14.1 Controller unit replacement

- ① Use a screw driver (Phillips type) remove 4 screws rear side of Panel A.
- ② Lift up panel A
- ③ Unhook and remove insulation spacer A.  
<Used screw driver (Flash Type) loose from hook>
- ④ Remove 7 screws and remove all connector.

Remark : After replacing the controller unit, be sure to either turn the power ON or check to make sure that all buttons can be operated properly.



### 14.2 Feeding Valve, Pressure sensor unit, Safety Switch replacement.

- ① Remove the wringer port frame packing (adhesive seals) from the front side of both side (Left&Right) and remove the 2 screw.  
\*The wringer port frame packing are adhesive seal. Handle them with care so as not to lose or bend them.
- ② Remove 2 screw from the rear side of unit.
- ③ Lift up Body B, Remove the screw (4 Screws) on the Panel A back cover, and pull down the panel A back cover.  
\*Before pull down the panel A back cover, should be remove 1 screw & cover of MR sensor and wire unlock with body B.
- ④ Pull down the panel A back cover.



#### When replacing the Feeding valve.

- ⑤ Remove 2 screw of feeding valve then remove Feeding valve from panel A Back cover.
- ⑥ Remove Soap case packing from feeding valve and install it to the replacement Feeding valve.  
If forget to install the case packing, water may leak.  
\*After replacing the Feeding valve, run water and check to make sure there are no water leaked.

#### When replacing Pressure Sensor Unit.

- ⑦ Remove the hooks and remove the connector.  
\*After replacing the Pressure sensor unit, run water and check to make sure the water stops at the designated water level.

#### When replacing Safety Switch.

- ⑧ Remove 2 screws of Safety Switch and remove the connector from the Safety Switch.  
Remove the connector from the Safety Switch.  
\*After replacing the Safety switch, run the spin dry and check to make sure the spin-dry operated properly.

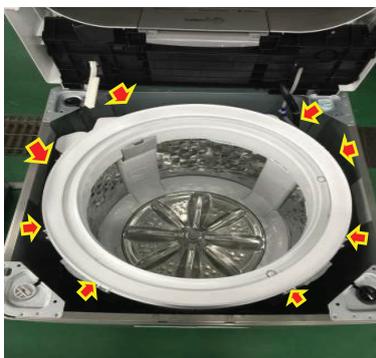
#### When replacing Sensor Unit.

- ⑨ Remove Sensor unit the connector from the Safety Switch.  
\*After replacing the Sensor unit the connector must to lock and correct position.

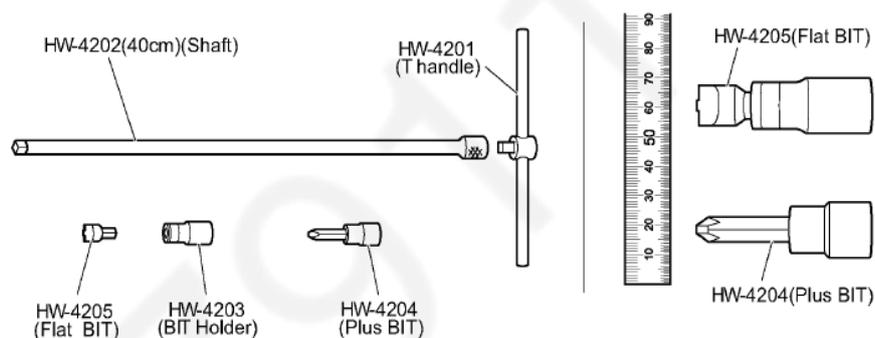


### 14.3 MECHA CASE UNIT REPLACEMENT

- ① Follow the procedure content of 14.2 <Need to lift up Body B>
- ② Set the Body B against the product and wall for support.
- ③ Remove the outer tub cover <8 Hooks>

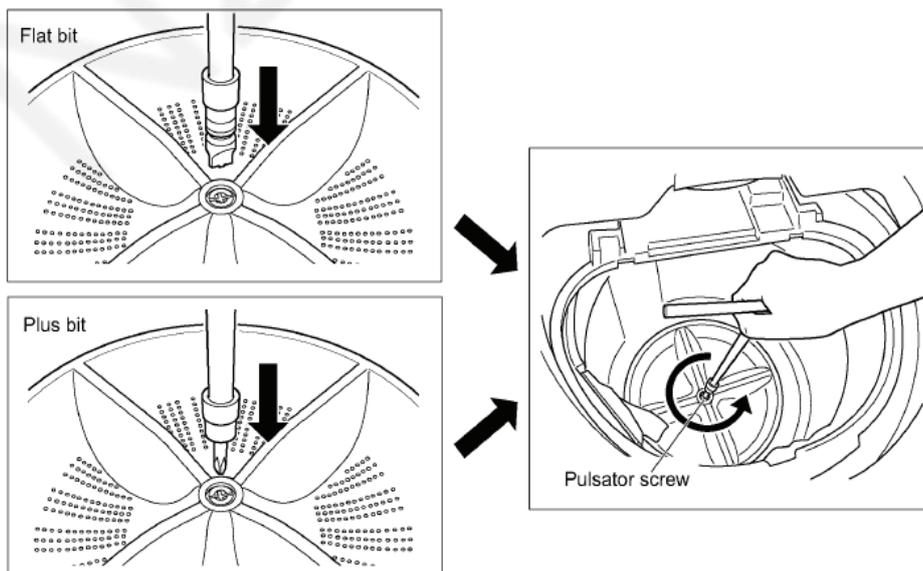


- ④ Remove the Pulsator.
    - \*Remove the screw cap.
    - \*Pull the screws upward without removing them completely so that they are still engaged in the Pulsator.
    - \*When attaching,remove any plastic dust,etc.from the screw before attaching the Pulsator.
    - \*When removing the Pulsator,the tools listed below will be useful.
- The optional component tool for a repair. **HW-42<Pulsator screw remover tool>**

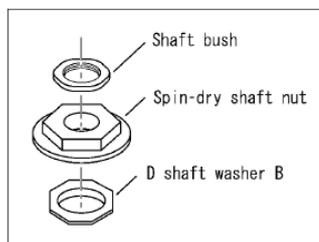
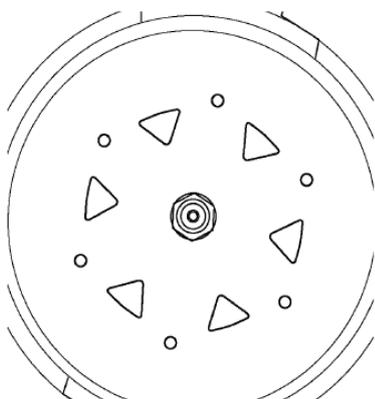


#### How to use?

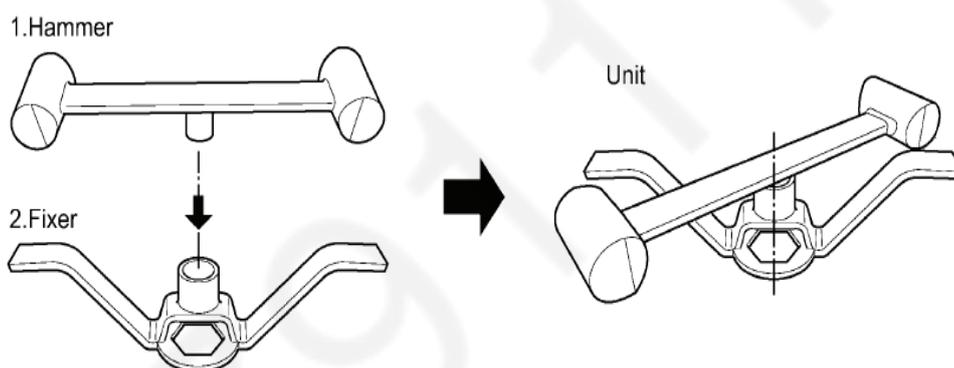
- a.The shaft (**HW-4202**) and the T-handle (**HW-4201**) are attached.
- b.Flat bit (**HW-4205**) or Plus bit (**HW-4204**) to #a.
- c.Remove the screw of pulsator.



- ⑤ Remove the shaft bush, the Spin-dry shaft nut, and D-shaft washer B.  
 \*When attaching, make sure to insert the Shaft bush the right way.  
 <Inside with the hole should face upwards>

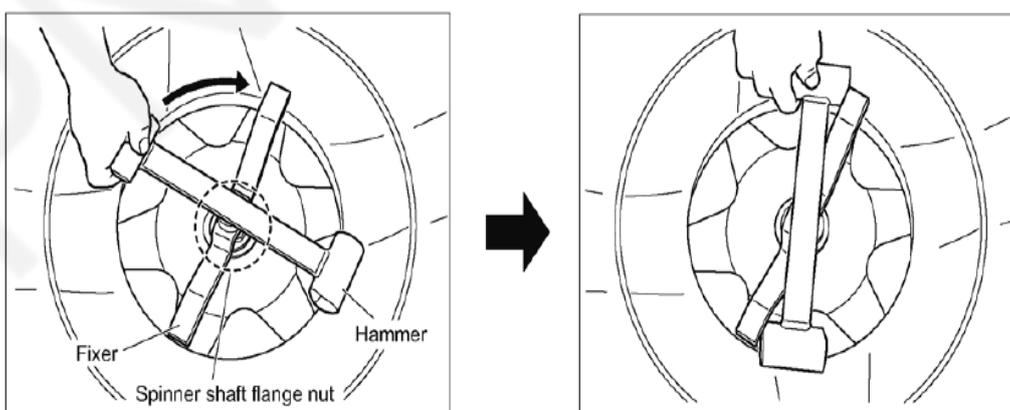


\*When removing the Spin-dry shaft nut, the tools listed below are necessary.  
**HW-25K (Flange nut remover tool)**

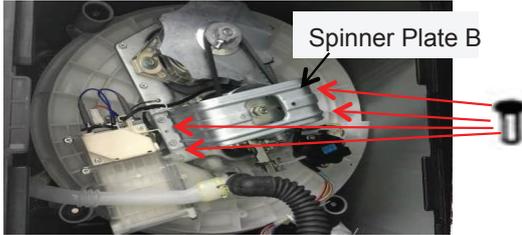


**How to use?**

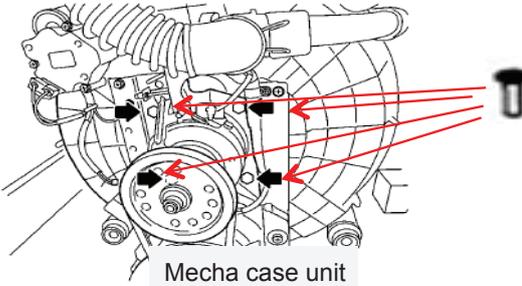
1. Attach the "Fixer" to "Spinner Shaft flange nut"
2. Attach the "Hammer"
3. Rotate the "Hammer". <If a Fixer is struck, the nut will loosen>



- ⑥ Remove 4 screws of Spinner plate B.



- ⑦ Remove 4 screws of Mecha case unit.

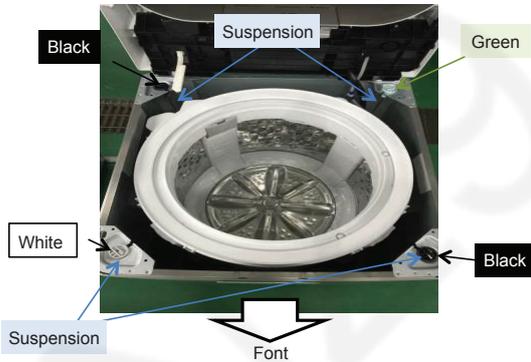


Reassemble : Tighten 4 screws in cross direction  
**1**→**2**→**3**→**4**

**\*Note\* :**  
 After replacing the Mecha case unit,  
 Run WASH&SPIN dry operation,  
 Purpose to make sure they are operation  
 properly well.

#### 14.4 SUSPENSION REPLACEMENT

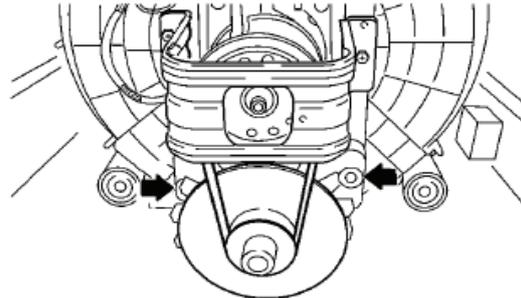
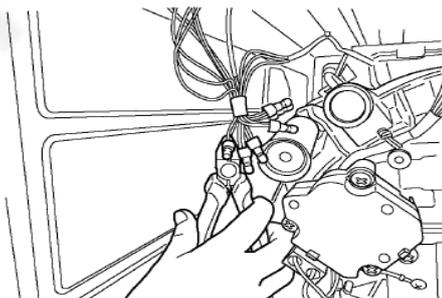
- ① Follow the procedure content of 14.2 <Need to lift up Body B>
- ② Set the Body B against the product and wall for support.
- ③ Pull up and remove the suspension from the Body A.



Note : Return the Air hose to the same as initial position.

#### 14.5 MOTOR REPLACEMENT

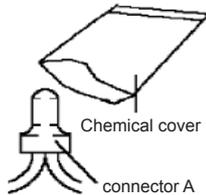
- ① Pull the product forward and down.
- ② Remove the chemical cover and cut the closed ends of the yellow,red,blue lead wires using nippers.
- ③ Remove 2 screw of Motor Assembly.



## PRECAUTION

### 1.Warning Statement

- Follow the procedure below for the lead wire connection.
- Be sure to swage the lead wire connection by using the insulated close-end connector.
  - <Be sure to use the specified parts and crimping pliers>
- Cover the connection section completely with a chemical cover and close up the openings with tapes.
  - <Re-use the chemical cover provided with the product>
- Securely fix the leading section of the lead wire, to prevent not contact the rotating section, hot section, and metal end surface.
- When repairing, check the Wiring diagram and connect the lead wire correctly.



**\*Note\* :**  
If don't follow the procedure, smoke generation, ignition, or electric shock may be lead.

### 2.Use of Insulated close-end connector.

For the parts that require the lead wire connection (Lead wire unit, motor unit, and connector lead wire unit), Connector A are enclosed with the part. However, if addition crimping terminals are necessary due to a loss or other reason, use the above part number for ordering.

safety	Part name	Part no.
△	Connector A	AXW0433-09260A

### 3.Caution for Repairing

For the cautions below and excute the operation correctly.

(1)When removing the cover, do not cut the core wires.  
Set the cover-removing dimension at  $18 \pm 2$  mm.

(2)After removing the cover, twist the lead wire for two to three times.  
Then, insert the lead wire to the Connector A until the lead wire contacts the end section. At this time, pay attention that no core wire protrudes outside of the Connector A.

(3)Swage the center of the Connector A by using crimping pliers.  
After swaging, check that no core wire is protruding.

(4)Cover the connection section completely with a flameproof cover and close up the opening sections with tapes.  
(Use the original chemical cover.  
or the chemical cover supplied as a service part.)

(5)Securely fix the leading section of the lead wire at the lead wire fixing sections, so the lead wire does not contact the rotating section, hot section, and metal end surface.

Insert the lead wire until the core wire contacts the end of Insulated closed-end terminal.

Twist

Metal center section

Connector A

Lead wire

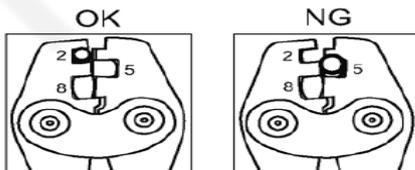
Check that no core wire is protruding.

Chemical cover

Connector A

### 4.Crimping Pliers

- Use the crimping pliers dedicated for crimping terminal with the insulation cover attached.
- For stabilization of the crimping dimension, use the crimping pliers that have a ratchet mechanism. The ratchet mechanism is the mechanism that avoids opening of the tool unless swaging is executed completely.
- There are 2 types of tools, which are the one corresponds to the crimping terminal of up to CE-5, and the one corresponds to the crimping terminals of up to CE-8. When preparing the pliers newly it is recommended to prepare the pliers that correspond to up to CE-5.
- Use the pliers correctly by following the instruction manual of the pliers.



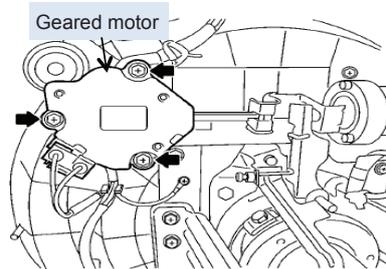
**\*Using any tools, other than crimping pliers is prohibited\***  
Don't swage by using longnose pliers, nipper pliers, etc. These pliers may lead insufficient swaging, resulting in abnormal heating.

<--When the small crimping terminal <CE-2> is used.  
Swage at the position with "2" indication.

- \*After replacing the Motor pulley and Motor assembly, be sure to adjust the tension on the belt and follow service check "M" <Refer to page 24~25> "Belt Tension Initialization." Adjust the V belt tight slightly.
- \*After replacing the Motor, run the wash and spin-dry operations and check to make sure they are operating properly.

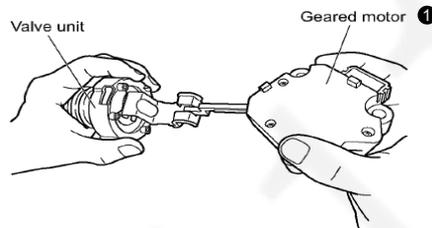
## 14.6 GEARED MOTOR REPLACEMENT

- ① Pull the product forward and down.
  - ② Remove 3 screws and the connectors of the Geared motor.
  - ③ Remove part of the Geared motor slider from cock and remove the Geared motor.
- \*After replacing the Geared motor,run the spin-dry operation and check to make sure it is operating properly.

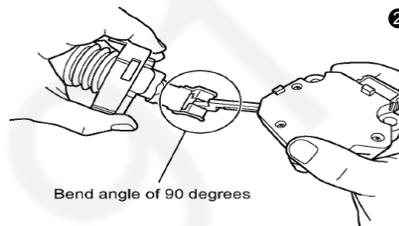


## 14.7 VALVE UNIT AND GEARED MOTOR REPLACEMENT

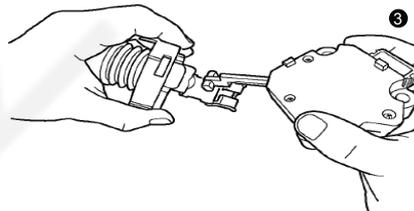
- ① Remove screws of the Geared motor.
- ② Pull out the Geared motor and Valve unit at the same time.
- ③ Geared motor and Valve unit align the straight.



- ④ Bend Valve unit and Geared motor angle of 90 degrees.



- ⑤ Valve unit and Geared motor may come off easily.



## 14.8 BODY B ASSEMBLY

- ① Fit two hooks of lid into the grooves of Body A first.
- ② Assemble Body B with Body A.

