# Service Manual



**Fully Automatic Washing Machine** 

Model No. NA-F75G6

Model No. NA-F70G6

Model No. NA-F65G6

Model No. NA-F62G6

Model No. NA-F75S6

Model No. NA-F70S6

Product Color SRB: SUS Silver

LRB: Silver

FRB: Flower Red

Destination India

#### ⚠ WARNING

This 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 with in 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  $\triangle$  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.

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# **Panasonic**

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### 1 Safety Precautions

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.

 $\Lambda$ 

Warning

The content in the column of this indication is "Be assumed that possibly die or get seriously injured".

 $\Lambda$ 

Attention

The content in the column of this indication is "Be assumed that possibly get damages or possibly only damaged object occured".

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



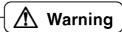
This figured symbol means caution "Attention".



This figured symbol means must not do "Prohibition".



This figured symbol means surely execute "Instructions".



#### 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 connection area completely, and close opening area by tape. (Please reuse the fire protection cover which came with the product.)



- 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  $\triangle$  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 Specifications

Model		NA-F75S6	NA-F70S6	NA-F75G5	NA-F70G5	NA-F65G5	NA-F62G5	
Rated Voltage and I	requency				/ 50 Hz dia			
Rated Power	Wash	430 W	423 W	430 W	423 W	408 W	400 W	
Consumption	Spin	250 W	250 W	250 W	250 W	250 W	250 W	
Power Consumption	n Amount	117 Wh	113 Wh	117 Wh	113 Wh	110 Wh	107 Wh	
Color	Siliver	SUS	Silver		Silver	1	Flower Red	
	Body	W: 520 mm x D: 530 mm x H: 744 mm						
Outer Dimension	Installation	W: 525 mm x D: 571 mm x H: 969 mm				W: 525 mm x D: 571 mm x H: 929 mm		
Water Supply Press	ure	0.03 to 1MPa (0.3 to 10 kgf / cm2)						
Standard Water Cor	nsumption	110 L	107 L	110 L	107 L	101 L	99 L	
Otomaloud Composity	Wash	7.5 Kg	7.0 Kg	7.5 Kg	7.0 Kg	6.5 Kg	6.2 Kg	
Standard Capacity	Spin	7.5 Kg	7.0 Kg	7.5 Kg 7.0 Kg		6.5 Kg	6.2 Kg	
Weight with Access	ories	31 Kg				30 Kg		
Weight with Packing		35 Kg				34 Kg		

### 3 General/Introduction

#### 3.1. "AUTO RESTART" function

#### Auto Restart

In case of power failure during operation, when the power is recovered, the operation will resume from the point where the operation stopped. (The indicator lights up when the operation resumes.)



# 4 Technical Descriptions

### 4.1. Features and Technical information

#### 4.1.1. Operation Time of each course

	Course	Time	Capacity
1	Normal	Approx. 38 - 45 min	Rated load
2	Quick	Approx. 18 min	2.0 Kg or less
3	Baby-Care	Approx. 43 - 52 min	Rated load
4	Bed Sheets	Approx. 59 min	4.2 Kg or less
5	Gentle Hand Wash	Approx. 41 min	1.2 Kg or less
6	Tub Hygiene	Approx. 133 min	-
7	Daily Sari	Approx. 40 - 46 min	1.2 Kg or less
8	Power Soak	Approx. 83 - 150 min	Rated load
9	Air Dry	Approx. 90 min	2.0 Kg or less

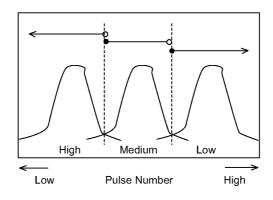
#### 4.1.2. Product special features

- 1. Aqua Beat
- 2. Load sensor
- 3. Detergent indicator
- 4. Water level sensor
- 5. Reservation timer
- 6. Softener compartment
- 7. Large size cassette lint filter
- 8. Detergent compartment
- 9. Automatically power shut off
- 10. Fault indication (LED blinking, lightening)
- 11. Buzzer on-off function
- 12. Overflow detecting
- 13. Child Lock function
- 14. Auto Re-start function
- 15. Air Dry
- 16. ECO navi
- 17. Temp-Setting
- 18. Aqua Wave Pulsator
- 19. Gentle Hand Wash
- 20. Double Inlet
- 21. Petit active foam system

#### 4.1.3. Weight Sensor

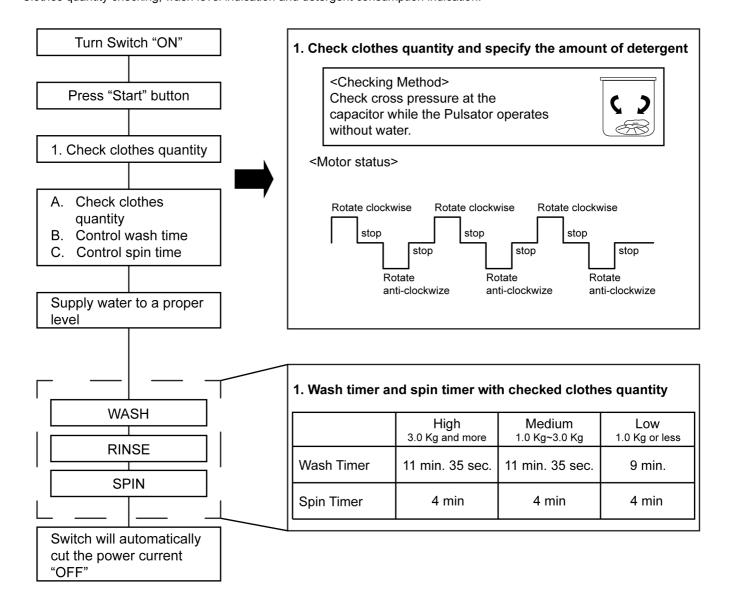
The weight is sensed by the moving force of the Pulsator, which changes a capacitor pole and releases a signal wave. The wave is changed into a pulse number from which the clothes weight is sensed. Prior to weight sensing for Normal and Strong program, the machine runs without water by spinning the Pulsator to left and right for 4.2 seconds (ON 0.3 second- OFF 0.4 second).

The motor stops (OFF), a water system counts the pulse number, then calculates the accumulated pulse numbers for drawing water into the tub over a defined level. The dial will indicate High wash level.



#### 4.2. Function Control

Clothes quantity checking, wash level indication and detergent consumption indication.



### 4.3. Power consumption and current

The following requirements shall be met in accordance with Product Standard.

#### (1) Washing

Model	Voltage	Frequency	Power source	Water load	Rated load
NA-F75G6/S6	230V	50Hz	Current (A)	1.7 + 0.4	2.15 + 0.5
NA-1 / 3G0/30	230 V	30112	Power consumption (W)	340 + 80	430 + 50
NA-F70G6/S6	230V	50Hz	Current (A)	1.7 + 0.4	2.15 + 0.5
1144-1 7000/30	250 V	30112	Power consumption (W)	340 + 80	423 + 50
NA-F65G6	230V	50Hz	Current (A)	1.7 + 0.4	2.15 + 0.5
NA-1 0300	250 V	30112	Power consumption (W)	340 + 80	408 + 50
NA-F62G6	230V	50Hz	Current (A)	1.7 + 0.4	2.15 + 0.5
14/4-1 0200	250 V	30112	Power consumption (W)	340 + 80	400 + 50

Note: To determine the value, integrate the data for 2 min after 5 min from starting motor and convert based on duty ratio of water flow for that period.

#### (2) Spinning

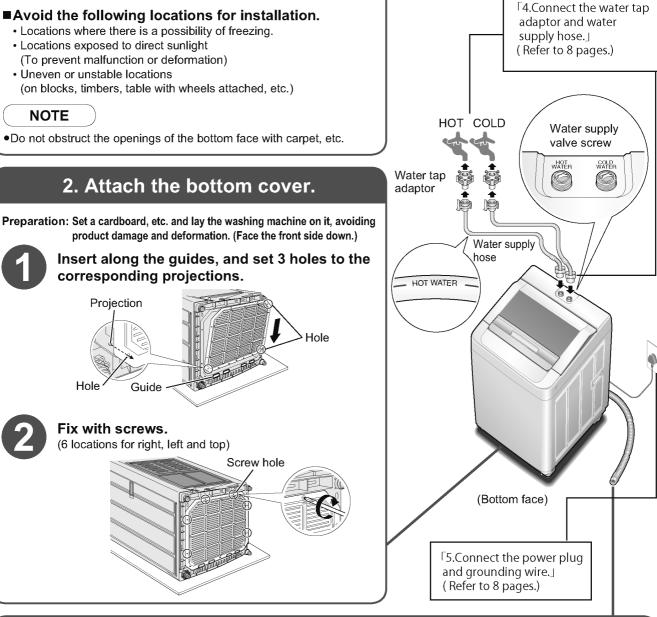
Model	Voltage	Frequency	Power source	No load	Rated load
NA-F75G6/S6			Current (A)	0.9 + 0.2	1.1 + 0.2
NA-F70G6/S6 NA-F65G6 NA-F62G6	230V	50Hz	Power consumption (W)	215 + 50	250 + 50

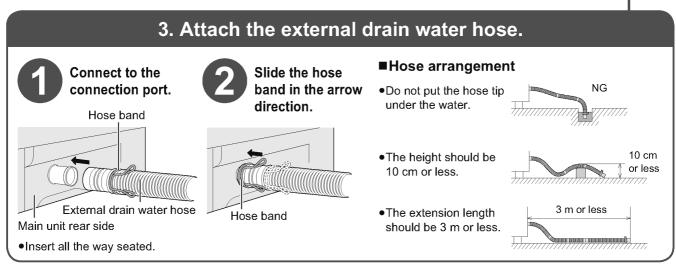
Note: To determine the value, integrate the data for 2.5 min after 3.5 min from starting motor and convert based on duty ratio of water flow for that period.

### Installation Instructions

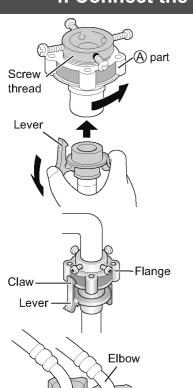
#### 5.1. Installation

# 1. Check the installation location. ■ Avoid the following locations for installation. · Locations where there is a possibility of freezing. · Locations exposed to direct sunlight (To prevent malfunction or deformation) Uneven or unstable locations (on blocks, timbers, table with wheels attached, etc.) **NOTE** •Do not obstruct the openings of the bottom face with carpet, etc.





### 4. Connect the water tap adaptor and water supply hose.



■The procedure for cold water and hot water is the same.

Connect the water tap adaptor to the faucet.

- 1) Loosen 4 screws.
- 2) Connect to the faucet and tighten the screws.
- Turn (A) part to the right side and tighten securely. (To prevent water leak)

#### NOTE

- •When reconnecting the water tap adaptor, turn (A) part to the left until 4 mm of screw thread become visible. Then, do the procedure.
- Connect the water supply hose to the water tap adaptor.

  •Pushing down the lever, insert and hook the claw of the lever on the flange of the adaptor.
- Connect the water supply hose to the water supply valve screw.
  - •Slightly lift up the elbow and tighten the nut.
  - •Check if the elbow is not loose.

# **⚠** CAUTION

- Do not make wrong connection of HOT and COLD water supply hoses.
- Tighten the nut firmly. (To prevent water leak)
- •Do not forcibly bend the water supply hose. (To prevent water leak caused by the bent hose)

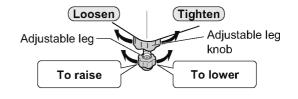
# 5. Connect the power plug and grounding wire.

• Ask a service person for grounding work.

Water supply valve screw

#### 6. Check the horizontal state.

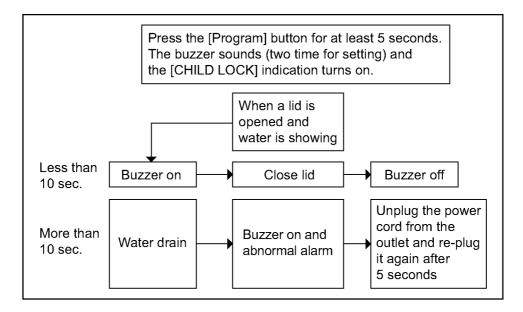
- ■Adjusting height with the adjustable leg knob.
- Turn the adjustable leg knob to the left side and loosen as indicated with the left pointing arrow. Then, turn the adjustable leg to adjust the levelness.
- Turn the adjustable leg knob to the right side and tighten securely as indicated with the right pointing arrow.



### 7. Perform a trial operation.

• Check if there is no water leakage, abnormal sound or error messages.

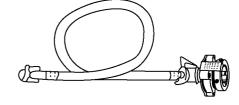
### 5.2. Child Lock program



### 5.3. The option component for installation

Service pressure hose unit

- AXW1251-201---1 m
- AXW1251-202---2 m
- AXW1251-203---3 m
- AXW1251-205---5 m
- AXW1251-250---0.5 m



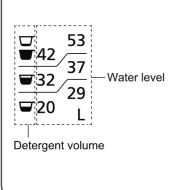
### 6 Operating Instructions

### 6.1. Operations Panel

#### **Detergent volume**

The detergent volume guideline corresponding to the water level indication is shown below.

(**:** 1 scoop of detergent)



· Operation panel of

### Water level/ remaining time



Indicates the selected program (No.)



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



Indicates the approximate remaining time (min).

#### **Temp Setting**

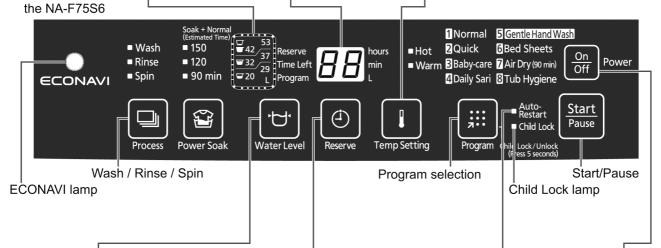
For washing, cold water can be mixed with hot water. Press the button to select Hot/Warm.

#### 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 cold water is 20 °C):

Hot	approx. 40 °C
Warm	approx. 30 °C

- Lamp indications
   Lighted: Hot/Warm is set.
   Flashing: Hot water is being supplied.
   Unlit: Cold is set.
- Not available for the following programs: Gentle Hand Wash Delicate Air Dry Tub Hygiene



### Change water level

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

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

#### Reserve

Set the time to finish washing (in hours).



e.g.) 8 hours later

- Setting range: 2 24 hours later, in one-hour increments.
   (3 - 24 hours later for the Power Soak program)
- Not available for the following programs:
   Gentle Hand Wash Delicate

Air Dry

Tub Hygiene

# Auto Restart lamp In case of a

power failure
during operation,
operation will
resume from
the point where
it was stopped
when the power is
recovered.

The lamp lights up when the operation resumes.

#### Power On/Off

The power turns off automatically if you do not press "Start"/"Pause" within 10 minutes after power-on.

#### **Programs**

NA-F75S6 / NA-F70S6 / NA-F75G6 / NA-F70G6 / NA-F65G6 / NA-F62G6

1 Normal
2 Quick
6 Bed Sheets
B Baby-care
7 Air Dry (90 min)
4 Daily Sari
8 Tub Hygiene

#### **ECONAVI**

(NA-F75S6 / NA-F70S6 / NA-F75G6 / NA-F70G6 / NA-F65G6 / NA-F62G6)

Available in the Normal program, this function automatically adjusts the operation time and water level according to the detected amount of laundry and water temperature.

ECONAVI will not work if you change the water level or process settings.

- Lamp indications
  - · Flashing: Detecting
  - Lighted: ECONAVI enabled
  - · Unlit: ECONAVI disabled



- Switch on/off
- $1 \quad \frac{On}{Off}$
- 2 Select the Tub Hygiene program.



- Press and hold for 3 seconds 1
- 4 to select (On) or (Off)

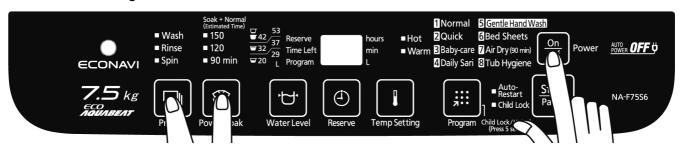


- \* Test conditions:
  - Normal program
  - Comparison between ECONAVI-enabled operation (amount of laundry: 2 kg, water temperature: above 35 °C) and ECONAVI-disabled operation (amount of laundry: 7.5, 7.0, 6.5, or 6.2 kg (rated capacity), water temperature: below 15 °C)
  - Test was conducted based on IÉC60456 except for water temperature.

# 7 Troubleshooting Guide

### 7.1. Test Running without water

< Method to test running without water >



- 1. Set the power switch to [OFF].
- 2. Press and hold both the [Process] and [Power Soak] buttons with one hand.
- 3. Press the power ON button.
- 4. Release the your fingers from the buttons and power switch which you pressed in steps 2. and 3. above. (Check A can be carried out in this state with your fingers released.)
- 5. Within three seconds, press the [Process] button to set to the desired check procedure as follows.

Number of times	Check	Check contents	Lamp illumination condition	Operation condition
the [Process] button is pressed	Procedures		ਕੰ‡ :Flash on and off ੇਂ ∷Lamp on	
0	Α	End signal     Auto power-off	Soak + Normal (stimated Time)  ### Wash	The end buzzer sounds three times after operation is finished. The lamps as shown in figure will simultaneously flash on and off and the power will automatically be switched off. Abnormal in memory storage. It should be indicated [02]. In case of the end buzzer is [switched off], [Child Lock] will be switched on.
1	В	Abnormal signal of memory: [H05] will be displayed.     Indication of [H17] is given for thermister error.	Soak + Normal (Estimated Time)	<ul> <li>Even if there is no water in the tub, the washing operation will continue for six minutes.</li> <li>Press the [Program] button to change the current.         Every 1 second, wash current will be changed.         [Normal] - [Gentle Hand Wash]         Normal current : LED display [1] for 5 seconds.         Gentle Hand Wash current : LED display [5] for 5 seconds.</li> <li>Pressing [Power Soak] is able to switch over program(agitation → water supply → hot water supply).</li> <li>pagitation → water supply → supply FV1 ON FV2 ON</li> </ul>
2	С	<ul> <li>Spin operation check.</li> <li>Abnormal signal of lid switch and SF switch.</li> </ul>	Soak + Normal (stimeted Time) □ Wash □ 150 ■ 42, 53 Reserve □ Rinse □ 120 ■ 432, 23 Time Left □ ##\$pin □ 90 min □ 20	<ul> <li>The spinning operation will continue for six minutes.</li> <li>SF SW 2 OFF(Open the lid) [hours] lamp On.</li> <li>SF SW 1 OFF(Open the lid) [Reserve] lamp On.</li> <li>SF SW 1 and 2 are both OFF. Buzzer notifying that the lid is open while the tub is rotating.</li> </ul>

Number of times	Check	Check contents	Lamp illumination condition	Operation condition
the [Process] button is pressed	Procedures		عَلِيْة:Flash on and off	
3	Е	Water level to be determined by cloth amount detection is to be 1 rank higher than the normal level.	□ Wash □ 150 □ 12	Pressing the [PowerSoak] switch selects whether to use correction function or not. ( [L0] or [L1]) Press [Start/Pause] button to set water level raise.
4	M	Clear belt tension data. It shows belt tensile force.	□ Wash □ 150 □ 120 □ 20 □ 17m □ 120	<ul> <li>b0 :Belt tension rank 0 (Shipping) Good Condition.</li> <li>b1 :Belt tension rank 1 A little bit loose.</li> <li>b2 :Belt tension rank 2 Very loose.</li> </ul>
5	G	The error indication display for past two times.	Soak + Normal Cestimated Time) 242 537 Reserve 37 Time Left 253 Program 190 min 20 Program 190 Program	<ul> <li>[E] shall be indicated initially, press [Power Soak] button to change last time to time before last and return to E as initial mode.</li> <li>If there were some abnormal alarm in the past, [U] or [H] and some number shall be indicated mutually.</li> <li>[U12], [H15] and abnomal test check will not be recorded.</li> </ul>
6	Н	The display for running number	Soak + Normal (Stituted Time) 42 33 Reserve 175 Time Left	C[] should be indicated initially, press [Power Soak] button to change indication of digit of operation times. Press once: Digit (Thousand-Hundred) Press twice: Digit (Ten-One) ex: Press once: shows [12](One thousand two hundred thirty four) Running number count including all [Wash Rinse Spin] processes. When exceeding 9999 times, Digit (Thousand) is indicated. Contiune [A000] to [A999]

#### 7.2. Table Of Errors

#### **■** Error indication

If the following indications appear on the display panel. (buzzer sounds, U and H characters appear)

#### **Symptoms** Checkpoints ■ Check the drain water hose for the following abnormality. Is it crushed? The operation Is lint clogged? will resume by • Is the tip soaked in water? Water cannot be opening/closing • Is a part of hose at a height of over 10 cm midway? drained. of the lid. • Is the extension hose longer than 3 m? • Is the lid open? The lid is open • Is the laundry on one side? →Arrange the laundry evenly in the tub, and then close the lid. • Is the washing machine on an unstable location or inclined floor surface? Spin or Air Dry →The operation will resume by opening/closing of the lid. does not work. • Is the water faucet turned on? The operation →When using the Temp Setting course, will resume by turn on both hot water faucet and cold water faucet. opening/closing Water cannot be Water failure? of the lid. supplied. • Is the water supply filter clogged with dust? • Water is forcibly drained since the lid has been open for 10 seconds or more with Child Lock function set. →Pull out the power plug and reconnect after 5 seconds. Inspection is required. Inspect the contents. · Pressure Sensor U → Pull out the power plug. Cable Water Level Put in the power plug again. Complete control unit Detector Replace the following parts, when you still do not recover. Inspection is required. Inspect the contents. Pull out the power plug. Triac for Put in the power plug again. Motor Circuit Replace the following parts, when you still do not recover. — Complete control unit • Inspection is required. Inspect the contents. Pull out the power plug. Memory Circuit of Put in the power plug again. The I.C Complete control unit Replace the following parts, when you still do not recover. — • Inspection is required. • Inspect the contents. → PII out the power plug. Abnormal of Put in the power plug again. · Thermister and its connector Replace the following parts, when you still do not recover. - Inspection is required. Inspect the contents. · Pressure Sensor U → Pull out the power plug. · Complete control unit Put in the power plug again. Or Investigate where water has detector detect Replace the following parts, when you still do not recover. leaked from. abnormal frequency

# 7.3. Table of Troubleshooting

Problem (have to che	Control panel	Water Inlet Valve	Water level sensor	Safety switch	Gear motor	Capacitor	Mechanism case	Holding spring	Packing valve	Others	
Machine	No light at the dial	0									
does not work	Dial light is on	0	0								
Unusual	No sound of water from inlet valve	0	0								
amount of	There is sound of water from inlet valve										Check water supply
water inside	Not enough water flow										Check water supply
	Water never stops flowing in	0	0	0							
Washing	Pulsator does not spin (no sound of motor)	0									Motor
system	Pulsator does not spin (there is sound of motor)						0	0			Belt, Motor
does not work	Pulsator spins only one way	0						0			Pulley Motor
	Pulsator spins slowly	0									Belt, Motor
Unusual	No draining	0				0					<u> </u>
draining	Drains slowly	0				0				0	
Unusual	No spinning (no sound of motor)	0									
spinning	No spinning (Pulsator spins)	0				0					
system	No force in spinning (tubspins slowly)					_		0			
Unusual loud	Loud noise during washing										Belt, Motor
noise	Loud noise during dry spinning							0			Check installation
Water leak	Water leaks from drain pipe							0	0		Something clogged
	Water leaks at the bottom of machine										Drain pipe A,
											Pulsator
Incorrect	Water is supplied during spinning										Unbalanced tub,
working											leaning
<b></b>	Rinses more than 3 times				0				0		Unbalanced tub,
											leaning
	Pulsator spins despite no water				0						Air pipe clogged
	Canot change function program	0		0							Description of
											usage
	Water does not flow out of a filter										Description of
											usage
	No overflow during water filling as rinsing										Description of
											usage
	Selected washing program cannot be memorized										Description of
	J , J										usage
	Fabric softener flows away too fast										Description of
											usage
	Pulsator spins in short range as washing and rinsing	+									Description of
											usage
	Works at low wash level then supplies water again										Description of
	The second secon										usage

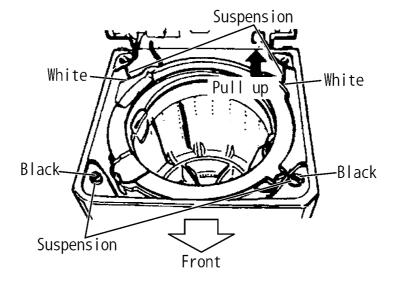
# 7.4. Symptoms are not trouble.

	Symptoms	Points to be checked					
	Time indication increases or does not change	Time indication is approximate. Remaining time is corrected during operation and displayed.					
Time	Operation time is longer than the time indication. Operation does not stop even after the reservation time.	The operation time may be longer if laundry is concentrated on one side or the water supply or drainage is not good.					
Main unit	No operation	<ul> <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 reservation set?</li> </ul>					
	No water supply	<ul><li> Is the water faucet turned on?</li><li> Water outage?</li><li> Is the water supply filter clogged with dirt?</li></ul>					
<b>&gt;</b>	Water is supplied in the middle of wash process.	<ul> <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>					
Wash	The water level is too high for the amount of laundry.	If laundry is wet or there is water in the tub before operation, the water level may be higher.					
	The water level is too low for the amount of laundry.	With light clothes (of synthetic fibre, etc.), the water level may be lower.					
	Operation started with rinse, but water is not supplied.	<ul> <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>					
Rinse/Spin	Operation suddenly changes to rinse process in the middle of spin. Only spin is desired, but operation starts with rinse.	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.)					
	Irregular rotation during spin	The tub rotation speed is adjusted to reduce foaming during spin.					
Ot	Power failure/ The breaker has tripped.	Operation will resume from the point where it was stopped when the power is recovered (Auto Restart).					
Others	Water outage	When water supply is recovered, remove the water supply hose, release turbid water from the faucet, and then start the washing machine.					

# 8 Disassembly and Assembly Instructions

### 8.1. Suspension replacement

- 1. Open the lid and remove the panel A packing.
- 2. Remove 2 screws mounting side of the body B.
- 3. Remove 2 screws mounting back of the body B.
- 4. Rise up the body B against the wall.
- 5. Pull up and remove the suspension from the body A.



#### note:

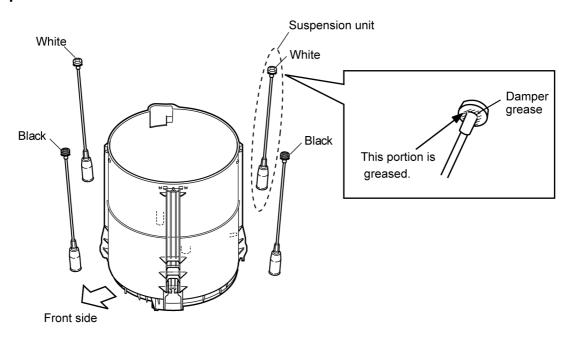
Return the air hose to same as initial position.

#### 8.1.1. About the grease application of a suspension unit

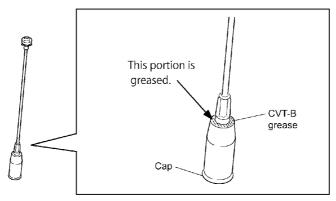
1. Prepare the Grease.



- 2. The place which applies grease
  - · Damper Grease



#### · CVT-B Grease



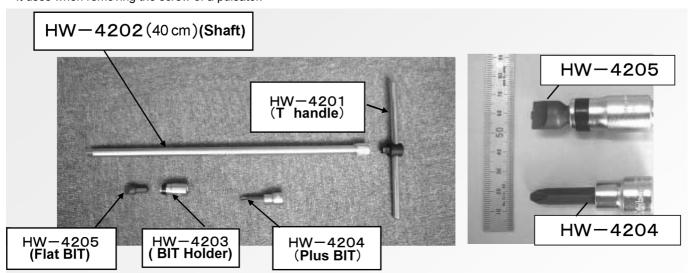
Please do not let this grease adhere to a cap and slide part absolutely. The part becomes a damage.

It becomes a cause of abnormal vibration.

### 8.2. The option component tool for a repair service.

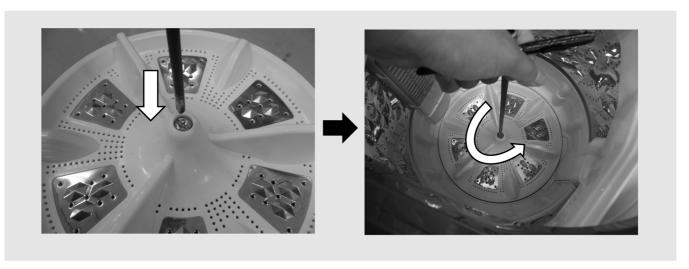
#### 8.2.1. HW-42(Pulsator screw remover tool)

• It uses when removing the screw of a pulsator.



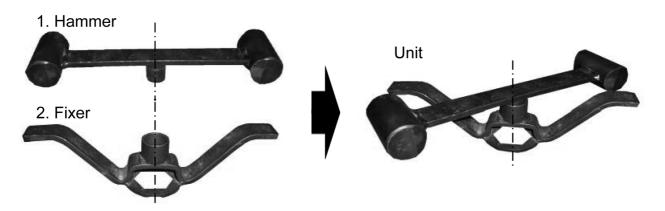
#### How to use

- 1. The shaft(HW-4202) and the T-handle(HW4201) are attached.
- 2. It uses attaching a Flat Bit(HW4205) or Plus Bit(HW4204) to A sets.
- 3. Remove the screw of the pulsator.



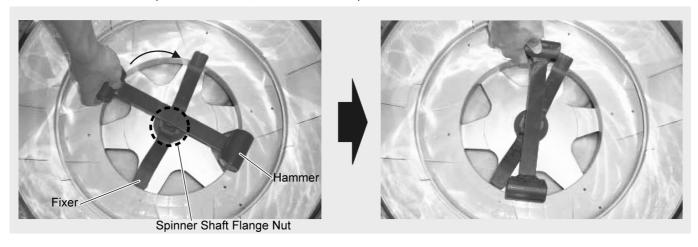
### 8.2.2. HW-25K (Flange nut remover tool)

• It uses when removing the screw of a Spinner Shaft Flange Nut.



#### 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.)

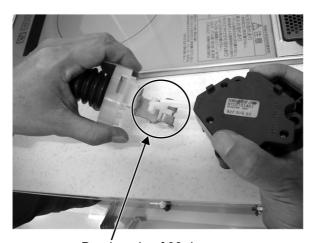


# 8.3. Valve Unit & Geared Motor replacement

- 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 made be straight.

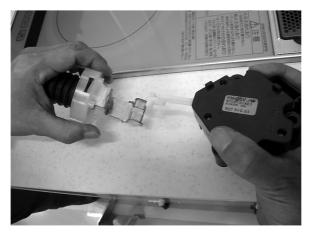


4. Bend Valve Unit and Geared Motor angle of 90 degrees.



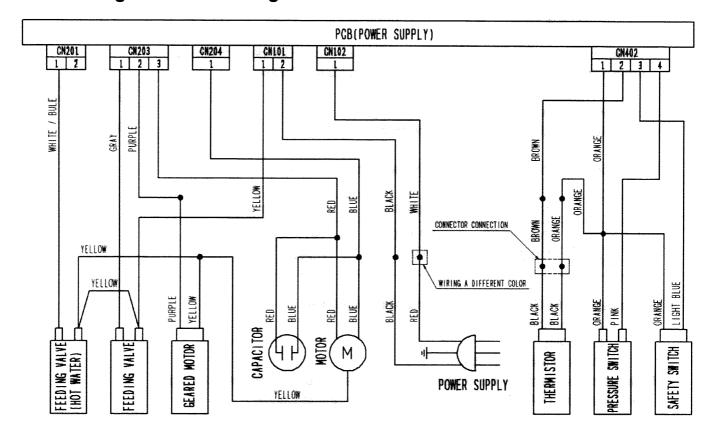
Bend angle of 90 degrees

5. Valve Unit and Geared Motor come off easily.

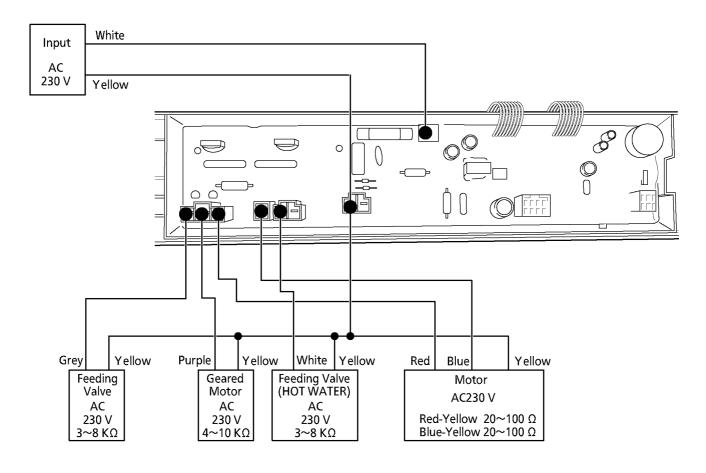


# 9 Wiring Connection Diagram

### 9.1. Wiring Connection Diagram

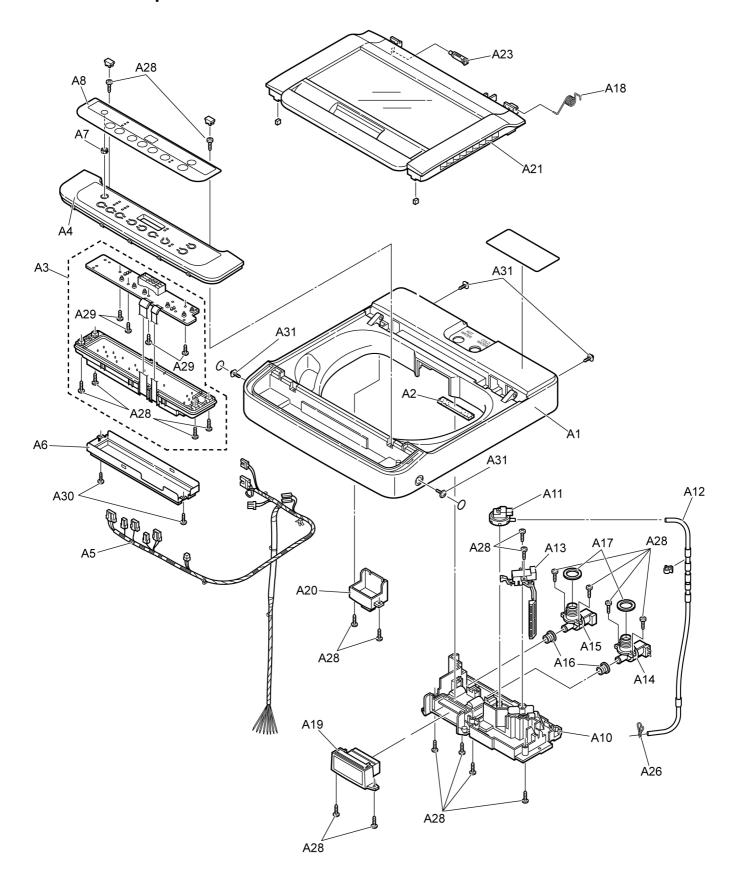


# 9.2. Check Input and Output voltage of the P.C. Boad



# 10 Exploded View and Replacement Parts List

# 10.1. Parts Exploded View : Part A



### 10.2. Replacement Parts List: Part A

Important safety notice :

Components identified by mark have special characteristics important for safety. When replacing any of these components, use only manufacturer is specified part.

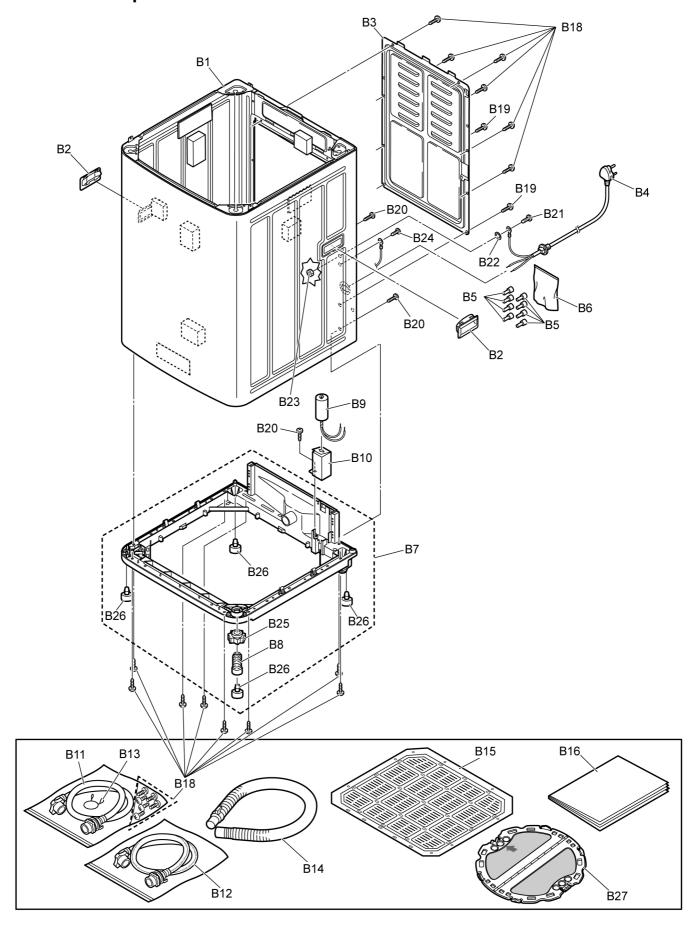
#### 10.2.1. NA-F62G6FRB / NA-F65G6LRB / NA-F70G6LRB / NA-F75G6LRB

0	ъ.				Qty			
Safety Parts	Ref. No.	Part No.	Part Name & Description	F62G	F62G   F65G   F70G   F75G		F75G	Remarks
Paris	INO.			6FRB	6LRB	6LRB	6LRB	
	A1	AXW102-9BF0	BODY B	1				Red
		AXW102-8LB0	BODY B		1	1	1	
	A2	AXW2437-7ZD00	GUIDE PACKING	1	1	1	1	
Δ	A3	AXW024C-9LL05	COMPLETE CONTROL UNIT	1				
		AXW024C-9LM05	COMPLETE CONTROL UNIT		1			
		AXW024C-9LN05	COMPLETE CONTROL UNIT			1		
		AXW024C-9LP05	COMPLETE CONTROL UNIT				1	
	A4	AXW145R7ZDR	PANEL FACE A	1				
		AXW145X8LCX	PANEL FACE A		1	1	1	
Δ	A5	AXW014A-9ES10	CONNECTOR LEAD WIRE UNIT	1			1	
		AXW014A-9ES60	CONNECTOR LEAD WIRE UNIT		1	1		
		AXW0486-7ZD00	INSULATION SPACER A	1	1	1	1	
	Α7	AXW136-8LC0	LAMP HOLDER	1	1	1	1	
	A8	AXW0146-9LL00F	PANEL FACE B	1				
		AXW0146-9LM00X	PANEL FACE B		1			
		AXW0146-9LN00X	PANEL FACE B			1		
		AXW0146-9LP00X	PANEL FACE B				1	
		AXW138-8LC0	PANEL A BACK COVER	1	1	1	1	
Δ	A11	AXW24T-4200	PRESSURE SENSOR U	1	1	1	1	
1 1		AXW2Q+7ZD10	SUB DRAIN HOSE UNIT	1	1	1	1	
Δ	A13	AXW1661-24500	SAFETY SWITCH	1	1	1	1	
⚠	A14	AXW292124406	FEEDING VALVE (COLD)	1	1	1	1	
⚠	A15	AXW292124426	FEEDING VALVE (HOT)	1	1	1	1	
	A16	AXW2164-7ZD0	SOAP CASE PACKING	2	2	2	2	
	A17	AXW267-7ZD0	FEEDING PORT GASKET	2	2	2	2	
	A18	AXW1116-7ZD0	LID HINGE SPRING	1	1	1	1	
	A19	AXW021J+9LJ00	SOAP CASE B UNIT	1				
		AXW021J-9LM00	SOAP CASE B UNIT		1	1	1	Dark Gray
	A20	AXW205-7ZD0	DRAIN PIPE A	1	1	1	1	
⚠	A21	AXW001G-9LH10	LID UNIT	1				
		AXW001G-9LM10	LID UNIT		1	1	1	
		AXW193-7ZD0	LID HINGE SHAFT	1	1	1	1	
	A26	AXW264-7ZD0	SUB HOSE CLAMP	1	1	1	1	
	A28	AXXTB4+12GFJ	BIND TAPPING SCREW	20	20	20	20	
	A29	AXXVGAXW854	BOLT	4	4	4	4	
	A30	AXXTV3+10GFC	SCREW	2	2	2	2	
	A31	XTWAXW478	SCREW	4	4	4	4	

#### 10.2.2. NA-F70S6SRB / NA-F75S6SRB

Safety	Ref.	Part No.	Part Name & Description	Qty		Remarks
Parts	No.	Fait No.	Fait Name & Description	F70S6SRB	F75S6SRB	Remarks
	A1	AXW0102-9LR00	BODY B	1	1	
	A2	AXW2437-7ZD00	GUIDE PACKING	1	1	
	A3	AXW024C-9LN05	COMPLETE CONTROL UNIT	1		
		AXW024C-9LP05	COMPLETE CONTROL UNIT		1	
	A4	AXW0145-9LR00	PANEL FACE A	1	1	Metalic
Δ	A5	AXW014A-9ES10	CONNECTOR LEAD WIRE UNIT	1	1	
	A6	AXW0486-7ZD00	INSULATION SPACER A	1	1	
	Α7	AXW136-8LC0	LAMP HOLDER	1	1	
	A8	AXW0146-9LR00H	PANEL FACE B	1		
		AXW0146-9LS00H	PANEL FACE B		1	
	A10	AXW138-8LC0	PANEL A BACK COVER	1	1	
Δ	A11	AXW24T-4200	PRESSURE SENSOR U	1	1	
	A12	AXW2Q+7ZD10	SUB DRAIN HOSE UNIT	1	1	
⚠	A13	AXW1661-24500	SAFETY SWITCH	1	1	
⚠	A14	AXW292124406	FEEDING VALVE (COLD)	1	1	
⚠	A15	AXW292124426	FEEDING VALVE (HOT)	1	1	
	A16	AXW2164-7ZD0	SOAP CASE PACKING	2	2	
	A17	AXW267-7ZD0	FEEDING PORT GASKET	2	2	
	A18	AXW1116-7ZD0	LID HINGE SPRING	1	1	
	A19	AXW021J-9LR00	SOAP CASE B UNIT	1	1	
	A20	AXW205-7ZD0	DRAIN PIPE A	1	1	
Δ	A21	AXW001G-9LR10	LID UNIT	1	1	
	A23	AXW193-7ZD0	LID HINGE SHAFT	1	1	
	A26	AXW264-7ZD0	SUB HOSE CLAMP	1	1	
	A28	AXXTB4+12GFJ	BIND TAPPING SCREW	20	20	
	A29	AXXVGAXW854	BOLT	4	4	
	A30	AXXTV3+10GFC	SCREW	2	2	
	A31	XTWAXW478	SCREW	4	4	

# 10.3. Parts Exploded View: Part B



# 10.4. Replacement Parts List : Part B

Important safety notice :

Components identified by mark have special characteristics important for safety. When replacing any of these components, use only manufacturer is specified part.

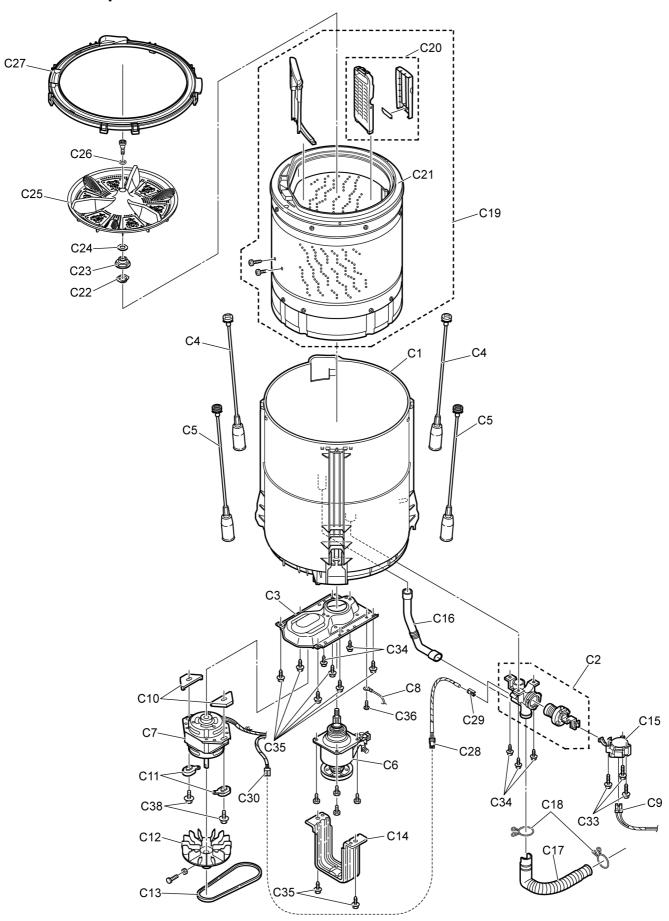
#### 10.4.1. NA-F62G6FRB / NA-F65G6LRB / NA-F70G6LRB / NA-F75G6LRB

Cafatri	Def				Qty			
Safety Parts		Part No.	Part Name & Description	F62G	F65G	F70G	F75G	Remarks
Paris	No.			6FRB	6LRB	6LRB	6LRB	
	B1	AXW001A+9LJ00	BODY A UNIT	1				Flower
		AXW001A+9BH00	BODY A UNIT		1	1	1	Silver
	B2	AXW110-9BF0	GRIP	2				RED
		AXW110-8LC0	GRIP		2	2	2	
	В3	AXW156-7ZD0	BACK PANEL	1	1	1	1	
⚠	B4	AXW4A-73703	POWER CORD UNIT	1	1	1	1	
⚠	B5	AXW433-9300	CONNECTOR A	8	8	8	8	
	В6	AXW448-7ZD0	CHEMICAL COVER	1	1	1	1	
	B7	AXW0301-9AZ00	BASE A	1	1			
		AXW0301-9BK00	BASE A			1	1	
	B8	AXW335-7ZD0	ADJUSTABLE LEG	1	1	1	1	
$\triangle$	В9	AXW0403-7W107	CAPACITOR	1	1	1	1	
	B10	AXW405-7ZD0	CAPACITOR COVER	1	1	1	1	
	B11	AXW12D-7BK1	SERVICE PRESSURE HOSE UNIT COLD	1	1	1	1	
	B12	AXW12D-8LC0	SERVICE PRESSURE HOSE UNIT HOT	1	1	1	1	
	B13	AXW245-7ZD0	HOSE BAND	1	1	1	1	
	B14	AXW2E-8LC0	FLEXIBLE HOSE B UNIT	1	1	1	1	
	B15	AXW2158-7ZD0	BOTTOM COVER	1	1	1	1	
	B16	AXW9901-9LH00	OPERATING INSTRUCTION	1	1	1	1	
	B18	XTTAXW463J	SCREW	20	20	20	20	
	B19	AXXTB4+15BFJ	SCREW	2	2	2	2	
	B20	AXXTB4+12GFJ	BIND TAPPING SCREW	3	3	3	3	
	B21	AXXSN5+10BNS	SCREW	1	1	1	1	
	B22	AXXWC5AFJ	WASHER	1	1	1	1	
		AXXNG5BBNS	NUT	1	1	1	1	
		XTNAXW424	SCREW	1	1	1	1	
		AXW0343-7ZD00	ADJUSTABLE LEG THUMB	1	1	1	1	
	_	AXW0339-7ZD00	LEG COVERING	4	4	4	4	
	B27	AXW002W-8GT00	WASHBOARD UNIT	1	1	1	1	

#### 10.4.2. NA-F70S6SRB / NA-F75S6SRB

Safety	Ref.	Part No.	Part Nama & Description	Q	ty	Remarks
Parts	No.	Fait No.	Part Name & Description	F70S6SRB	F75S6SRB	Remarks
	B1	AXW001A+9LR00	BODY A UNIT	1	1	SUS
	B2	AXW0110-9LR00	GRIP	2	2	
	В3	AXW156-7ZD0	BACK PANEL	1	1	
⚠	В4	AXW4A-73703	POWER CORD UNIT	1	1	
⚠	B5	AXW433-9300	CONNECTOR A	8	8	
	В6	AXW448-7ZD0	CHEMICAL COVER	1	1	
	В7	AXW0301-9BK00	BASE A	1	1	
	B8	AXW335-7ZD0	ADJUSTABLE LEG	1	1	
⚠	В9	AXW0403-7W107	CAPACITOR	1	1	
	B10	AXW405-7ZD0	CAPACITOR COVER	1	1	
	B11	AXW12D-7BK1	SERVICE PRESSURE HOSE UNIT COLD	1	1	
	B12	AXW12D-8LC0	SERVICE PRESSURE HOSE UNIT HOT	1	1	
	B13	AXW245-7ZD0	HOSE BAND	1	1	
	B14	AXW2E-8LC0	FLEXIBLE HOSE B UNIT	1	1	
	B15	AXW2158-7ZD0	BOTTOM COVER	1	1	
	B16	AXW9901-9LH00	OPERATING INSTRUCTION	1	1	
	B18	XTTAXW463J	SCREW	20	20	
	B19	AXXTB4+15BFJ	SCREW	2	2	
	B20	AXXTB4+12GFJ	BIND TAPPING SCREW	3	3	
	B21	AXXSN5+10BNS	SCREW	1	1	
	B22	AXXWC5AFJ	WASHER	1	1	
	_	AXXNG5BBNS	NUT	1	1	
	B24	XTNAXW424	SCREW	1	1	
	B25	AXW0343-7ZD00	ADJUSTABLE LEG THUMB	1	1	
	B26	AXW0339-7ZD00	LEG COVERING	4	4	
	B27	AXW002W-8GT00	WASHBOARD UNIT	1	1	

# 10.5. Parts Exploded View: Part C



### 10.6. Replacement Parts List: Part C

Important safety notice :

Components identified by mark have special characteristics important for safety. When replacing any of these components, use only manufacturer fs specified part.

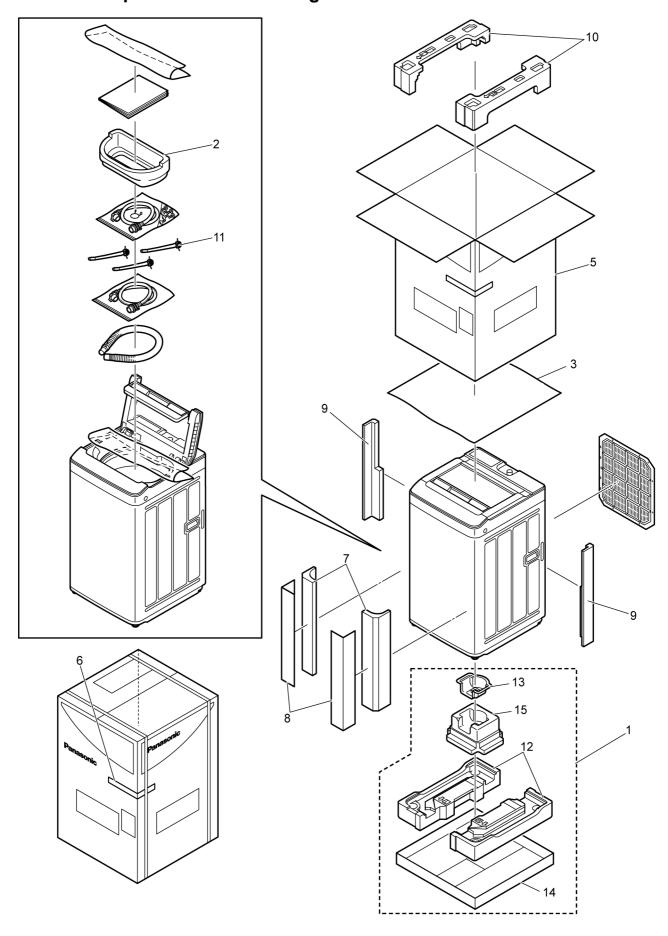
#### 10.6.1. NA-F62G6FRB / NA-F65G6LRB / NA-F70G6LRB / NA-F75G6LRB

0.6.	- ·			Q	ty			
Safety		Part No.	Part Name & Description	F62G		F70G	F75G	Remarks
Parts	No.		·	6FRB	6LRB	6LRB	6LRB	
	C1	AXW012A-7ZD10	OUTER TUB UNIT	1	1	1	1	
	C2	AXW009D-9LE00	VALVE UNIT	1	1	1	1	
	C3	AXW1202-7ZD10	OUTER TUB B	1	1	1	1	
	C4	AXW034U+9AZ00	SUSPENSION UNIT	2	2	2	2	
	C5	AXW034U+9AZ50	SUSPENSION UNIT	2	2	2	2	
	C6	AXW020A-9LE00	MECHA CASE UNIT	1	1	1	1	
⚠	C7	AXW4015B405	MOTOR	1				
		AXW40159806	MOTOR		1			
		AXW0401-59905	MOTOR			1	1	
⚠	C8	AXW003F-7ZD50	EARTH WIRE UNIT	1			1	
		AXW3F-7ZD0	EARTH WIRE UNIT		1	1		
⚠	C9	AXW014B-7ZD50	LEAD WIRE UNIT	1			1	
		AXW14B-7ZD0	LEAD WIRE UNIT		1	1		
	C10	AXW420-7ZD0	MOTOR WASHER A	2	2	2	2	
	C11	AXW421-7ZD0	MOTOR WASHER B	2	2	2	2	
	C12	AXW004G-9LE00	MOTOR PULLEY U (50CYCLE)	1	1	1	1	
	C13	AXW0412-9LE00	V-BELT	1	1	1	1	
	C14	AXW3232-7ZD	SPINNER PLATE B	1	1	1	1	
	C15	AXW3482-04606	GEARED MOTOR	1	1	1	1	
	C16	AXW234-7ZD0	OVER FLOW HOSE B	1	1	1	1	
	C17	AXW247-8DV0	FLEXIBLE HOSE A	1	1	1	1	
	C18	AXW245-7ZD0	HOSE BAND	2	2	2	2	
	C19	AXW002A-9LJ00	TUB UNIT	1	1	1	1	
		AXW022A-7ZD10	FILTER UNIT	1	1	1	1	
	C21	AXW035A-9BF00	BALANCER UNIT	1	1	1	1	
	C22	AXW1519-8021	SPINNER FLANGE WASHER B	1	1	1	1	
	C23	AXW15177ZD00	SPINNER SHAFT FLANGE NUT	1	1	1	1	
		AXW504-6ZR0	SHAFT BUSHING	1	1	1	1	
		AXW501-9AZ0	PULSATOR	1	1	1	1	
		AXW257-7ZD0	O-RING	1	1	1	1	
		AXW3224-7ZD0	OUTER TUB COVER	1	1	1	1	
		AXW24N-840	SENSOR UNIT	1	1	1	1	
		AXW1371-8LC0	SENSOR HOLDER A	1	1	1	1	
		AXW14F-8LC0	CONNECTOR LEAD WIRE B UNIT	1	1	1	1	
		AXXTWAXW6534	SCREW	3	3	3	3	
	C34	AXXTWAXW550	SCREW	5	5	5	5	
		AXXTWAXW6533	SCREW	8	8	8	8	
		XTNAXW424	SCREW	1	1	1	1	
	C38	XVGAXW839J	BOLT	2	2	2	2	

#### 10.6.2. NA-F70S6SRB / NA-F75S6SRB

Safety	Ref.	D (1)	D 111 0 D 111		ty	Dame !
Parts	No.		Part Name & Description	F70S6SRB	F75S6SRB	Remarks
	C1	AXW012A-7ZD10	OUTER TUB UNIT	1	1	
	C2	AXW009D-9LE00	VALVE UNIT	1	1	
	C3	AXW1202-7ZD10	OUTER TUB B	1	1	
	C4	AXW034U+9AZ00	SUSPENSION UNIT	2	2	
		AXW034U+9AZ50	SUSPENSION UNIT	2	2	
	C6	AXW020A-9LE00	MECHA CASE UNIT	1	1	
⚠	C7	AXW0401-59905	MOTOR	1	1	
⚠	C8	AXW3F-7ZD0	EARTH WIRE UNIT	1	1	
⚠	C9	AXW14B-7ZD0	LEAD WIRE UNIT	1	1	
	C10	AXW420-7ZD0	MOTOR WASHER A	2	2	
	C11	AXW421-7ZD0	MOTOR WASHER B	2	2	
	C12	AXW004G-9LE00	MOTOR PULLEY U (50CYCLE)	1	1	
	C13	AXW0412-9LE00	V-BELT	1	1	
	C14	AXW3232-7ZD	SPINNER PLATE B	1	1	
⚠	C15	AXW3482-04606	GEARED MOTOR	1	1	
	C16	AXW234-7ZD0	OVER FLOW HOSE B	1	1	
	C17	AXW247-8DV0	FLEXIBLE HOSE A	1	1	
		AXW245-7ZD0	HOSE BAND	2	2	
	C19	AXW002A-9LJ00	TUB UNIT	1	1	
		AXW022A-7ZD10	FILTER UNIT	1	1	
		AXW035A-9BF00	BALANCER UNIT	1	1	
	-	AXW1519-8021	SPINNER FLANGE WASHER B	1	1	
		AXW15177ZD00	SPINNER SHAFT FLANGE NUT	1	1	
	-	AXW504-6ZR0	SHAFT BUSHING	1	1	
		AXW501-9AZ0	PULSATOR	1	1	
		AXW257-7ZD0	O-RING	1	1	
		AXW3224-7ZD0	OUTER TUB COVER	1	1	
		AXW24N-840	SENSOR UNIT	1	1	
		AXW1371-8LC0	SENSOR HOLDER A	1	1	
		AXW14F-8LC0	CONNECTOR LEAD WIRE B UNIT	1	1	
		AXXTWAXW6534	SCREW	3	3	
		AXXTWAXW550	SCREW	5	5	
		AXXTWAXW6533	SCREW	8	8	
		XTNAXW424	SCREW	1	1	
	C38	XVGAXW839J	BOLT	2	2	

# 10.7. Parts Exploded View: Packing



# 10.8. Replacement Parts List: Packing

#### 10.8.1. NA-F62G6FRB / NA-F65G6LRB / NA-F70G6LRB / NA-F75G6LRB

Safety	Ref.	Vef.			C	ty		
Parts	No.	Part No.	Part Name & Description	F62G	F65G	F70G	F75G	Remarks
Faits	INO.			6FRB	6LRB	6LRB	6LRB	
	1	AXW90B+8LC0	PROTECTION CASE B UNIT	1	1			
		AXW90B+9BC0	PROTECTION CASE B UNIT			1	1	
	2	AXW9085-7ZD0	SPIN TUB SUPPORT	1	1	1	1	
	3	AXW9069-7ZD00	LID SHEET	1	1	1	1	
	5	AXW90017ZD90	PROTECTION CASE A ( 5 PLY)	1	1			
		AXW90017ZD80	PROTECTION CASE A ( 5 PLY)			1	1	
	6	AXW9118-9LL00F	CASE PLATE A	1				
		AXW9118-9LM00X	CASE PLATE A		1			
		AXW9118-9LN00X	CASE PLATE A			1		
		AXW9118-9LP00X	CASE PLATE A				1	
	7	AXW90158LC00	CORNER CUSHION( FRONT SIDE)	1	1	1	1	
	8	AXW9016-7ZD0	CORNER PAD	2	2	2	2	
	9	AXW9015-8LC50	CORNER CUSHION ( REAR SIDE )	1	1	1	1	
	10	AXW9004-7ZD0	BODY COVER	1	1	1	1	
	11	AXW0429-7ZD10	LEAD WIRE HOLDER B UKB	3	3	3	3	
	12	AXW9005-8LA00	BOTTOM CUSHION	1	1			
		AXW9005-9BC00	BOTTOM CUSHION			1	1	
	13	AXW9090-7ZD10	PROTECT CARTON B	1	1	1	1	
	14	AXW9002-8LC00	PROTECTION CASE B	1	1	1	1	
	15	AXW9076-8LC00	OUTER TUB SUPPORT B	1	1			
		AXW9076-9BC00	OUTER TUB SUPPORT B			1	1	

All parts are supplied from APIN, India (Vendor Code: 00026071). Safety & Electric parts are recommended to be kept in stock.

#### 10.8.2. NA-F70S6SRB / NA-F75S6SRB

Safety	Ref. No.	Part No.	Part Name & Description	Qty F70S6SRB   F75S6SRB		Remarks
Parts	INO.			F/0505RB	F/5505KB	
	1	AXW90B+9BC0	PROTECTION CASE B UNIT	1	1	
	2	AXW9085-7ZD0	SPIN TUB SUPPORT	1	1	
	3	AXW9069-7ZD00	LID SHEET	1	1	
	5	AXW90017ZD80	PROTECTION CASE A ( 5 PLY)	1	1	
	6	AXW9118-9LR00H	CASE PLATE A	1		
		AXW9118-9LS00H	CASE PLATE A		1	
	7	AXW90158LC00	CORNER CUSHION( FRONT SIDE)	1	1	
	8	AXW9016-7ZD0	CORNER PAD	2	2	
	9	AXW9015-8LC50	CORNER CUSHION ( REAR SIDE )	1	1	
	10	AXW9004-7ZD0	BODY COVER	1	1	
	11	AXW0429-7ZD10	LEAD WIRE HOLDER B UKB	3	3	
	12	AXW9005-9BC00	BOTTOM CUSHION	1	1	
	13	AXW9090-7ZD10	PROTECT CARTON B	1	1	
	14	AXW9002-8LC00	PROTECTION CASE B	1	1	
	15	AXW9076-9BC00	OUTER TUB SUPPORT B	1	1	