



WASHING MACHINE **SERVICE MANUAL**

⚠ CAUTION

Read the safety precautions in the manual before servicing the washer.

MODEL WT5101HW

SAFETY PRECAUTION!

IMPORTANT SAFETY NOTICE!

This service information is intended for individuals possessing adequate backgrounds of electrical, electronic, and mechanical experience. Any attempt to repair this appliance may result in personal injury or property damage. The manufacturer or seller can not be responsible for the interpretation of this information, nor can it assume any liability in connection with its use.

⚠ WARNING: To reduce the risk of fire, electric shock, or personal injury when using this appliance, follow basic precautions, including the following:

- **Wear gloves when working.**
Failure to do this can result in serious injury.
- **The appliance is heavy. Two or more people are required when moving the appliance.**
There is a risk of serious back injury or other injuries.
- **Certain internal parts are intentionally not grounded and may present a risk of electric shock only during servicing. Service personnel - Do not contact the following parts while the appliance is energized.**
: Pump bracket, rotor and heater
- **Disconnect this appliance from the power supply before servicing. Turning the controls to the off position does not disconnect this appliance from the power supply.**
Failure to do this can result in shock.
- **Reconnect all grounded devices after servicing.**
Failure to do this can result in shock.

To reduce the risk of fire, electric shock, or personal injury when using this appliance, follow basic precautions, including the following.

CONTENTS

1. Specifications	3
2. Installation Instructions	
2-1. How to Adjust Level	4
2-2. Connecting Water Supply Hose	5
2-3. Connect the Drain Hose	7
3. Operating Instructions	
3-1. Identification of Parts	8
3-2. Before Starting to Wash	9
3-3. Function of Each Button(WT5101H*)	16
3-4. Function of Each Button(WT5001C*)	18
3-5. Washing Programs(WT5101H*)	20
3-6. Washing Programs(WT5001C*)	21
3-7. Care and Maintenance	22
4. Service Information	
4-1. Schematic Diagram	23
4-2. Wiring Diagram	24
4-3. Program Time Chart	25
4-4. Test Operation Without Water	32
4-5. Troubleshooting Methods for Common Washing Problems	33
4-6. Troubleshooting Methods According to Error Message	34
5. Exploded View	46
6. Replacement Part List	50

1. SPECIFICATIONS

Model	WT5101HW
Electrical	120VAC @60Hz.
Inner Tub	Stainless
Inlet Water Pressure	14.5 ~ 116 PSI (100 ~ 800 kPa)
Rating of Fuse	125V, 12A for 100~127V/60Hz
Spin Speed	1100 $\pm$ 50
Weight	145.5 lbs (66kg)
Cycles	Cotton/Normal, Bulky/Bedding, Heavy Duty, Perm Press Casual, Sanitary, Baby Wear, Tub Clean, Bright Whites™, Delicates, Pure Color™, Sports Wear, Speed Wash, Wool, Towels
Time Delay	1-18Hr
Lid Interlock Switch	Magnet Sensor
Child Lock	Yes
Softener Dispenser	Yes
Detergent Dispenser	Yes
Bleach Inlet	Yes
Auto Power Off	Yes
Smart Rinse™ with Jet Spray	Yes
Heater	Yes

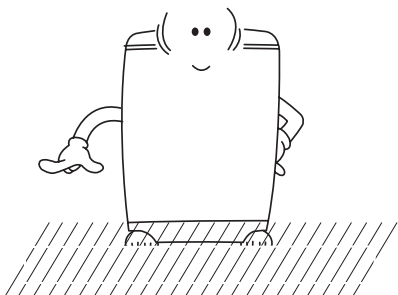
2. INSTALLATION INSTRUCTIONS

2-1. HOW TO ADJUST LEVEL

1

Installation area

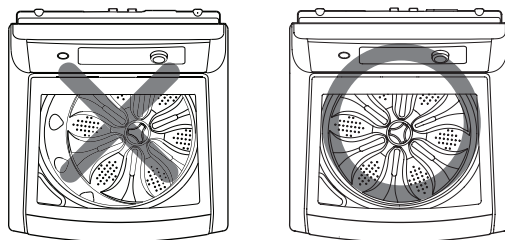
- Install the washer on a firm, flat surface.
- If the washer is installed on an unsuitable floor, it could make considerable noise and vibrate.



3

Checking level

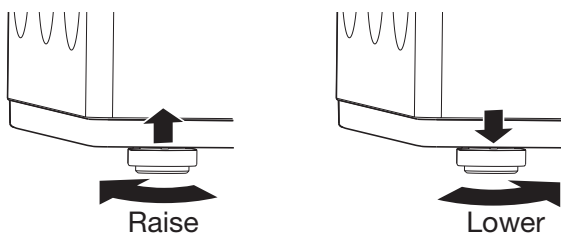
- Open the lid, check if the washer is correctly leveled by looking down from the top. If a gap is seen between the tub and drum, the washer is not level.



2

Set Leveling feet

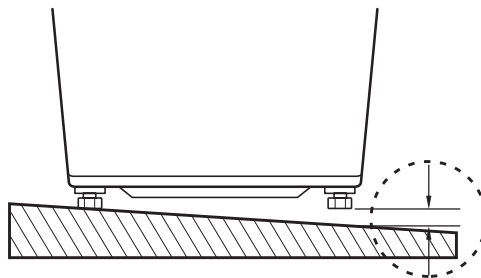
- Loosen the locknuts on 2 front leveling feet until you can turn the feet with the included wrench. Turn clockwise to raise the washer or counterclockwise to lower it.



4

Checking slope

- If installation surface is tilted, the washer will vibrate. Do not install on a sloping floor.



No shims. It would be dangerous. If the floor is that far from being level, it is a floor problem and not a washer problem.

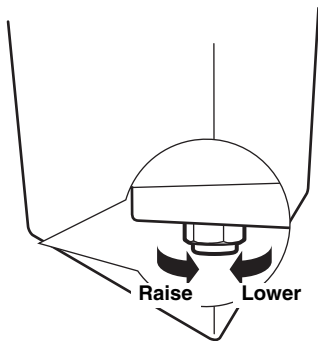
⚠ CAUTION

- The ventilating openings in the base area must not be obstructed by carpeting.
 - Install the washing machine on a level and firm surface, and tilt should be less than 1°
 - Wooden floors may need reinforcing to prevent the normal vibration which occurs with an unbalanced load.
 - Do not install the washer on an inclined floor.
- Improper installation of the washer may cause noise and malfunctioning.

5

Horizontal setting

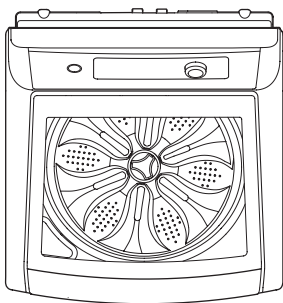
- Lift the front of the washer and adjust level by turnings the adjustable legs clockwise or using the adjusting plate.



6

Confirming level

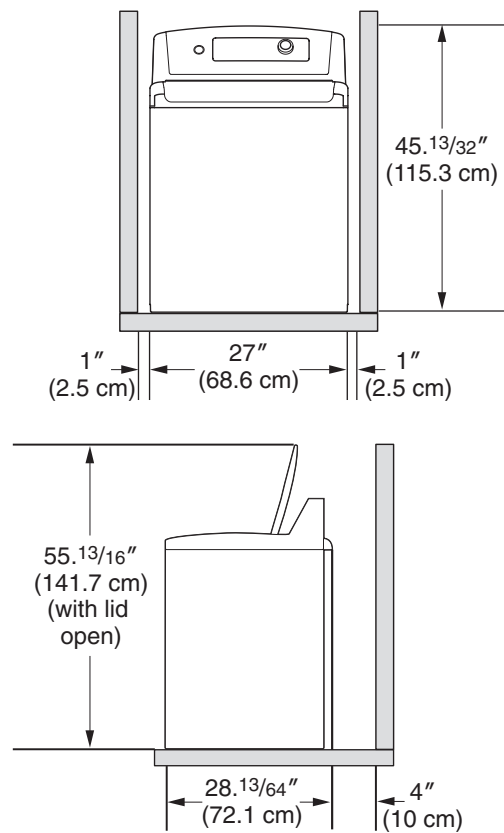
- Place the washer in original position, confirming the level.



7

Distance between the drain hose and the wall

- Distance between the drain hose and the wall should be more than 4 inches (10 cm), and the distance between any other part and the wall should be more than 1 inches (2.5 cm)



■ Do not install the washer in the following places.

- Where the washer is exposed to direct sunlight.
- Near a heater or heating appliance.
- Where the washer is exposed to freezing temperatures.
- In damp environments such as bathrooms or harmful environments.

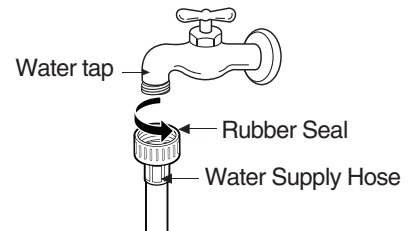
2-2. CONNECTING WATER SUPPLY HOSE

Before connecting the Water Supply Hose to the water tap, check the hose type and then choose the correct instruction here under.

Screw Type

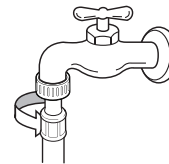
1 Attach the water supply hose to the tap.

Push the water supply hose up so that the rubber packing within the hose can adhere completely to the tap.



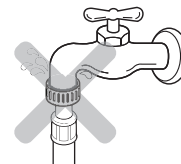
2 Connect the water supply hose to the tap.

Connect the water supply hose to the tap and then tighten it by screwing it to the right.



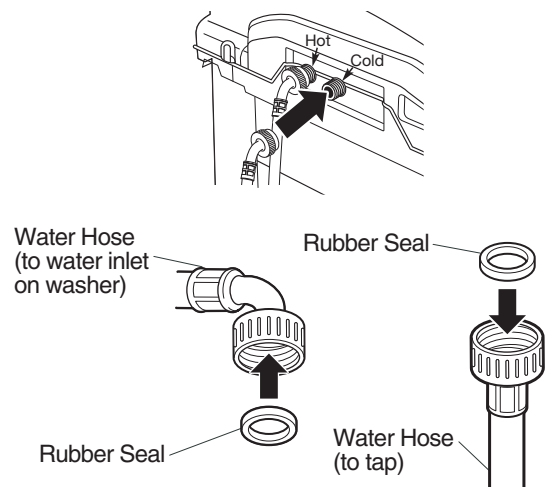
3 Check water leakage.

After connecting the hose, open the tap to check for any water leakage.



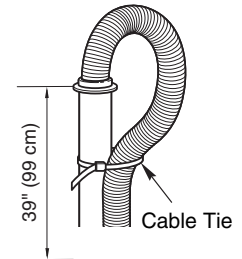
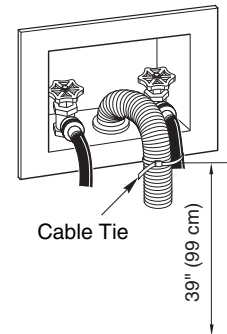
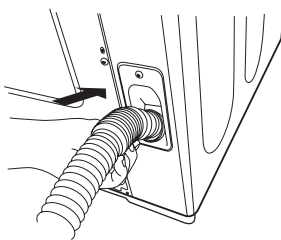
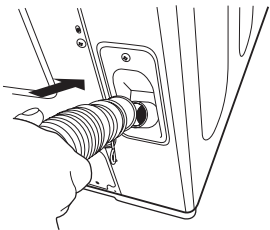
Connecting Water Supply Hose to the machine

- Connect the water supply hose to inlet valve of the washing machine, and then lock it by turning the hose connecting part.
- Check to see if there is a rubber seal inside the connector.
- A new washing machine should be installed with new hoses. The old hoses should not be reused.



2-3. CONNECT THE DRAIN HOSE

- Connect the drain hose to the outlet of the drain pump located at the rear of the washing machine.
- Attach the clip to the drain hose. And then push it toward the body of the washing machine as indicated by the arrow.
- Check that the drain hose is hung up over the edge of the laundry tub.
- Do not use an extension hose.



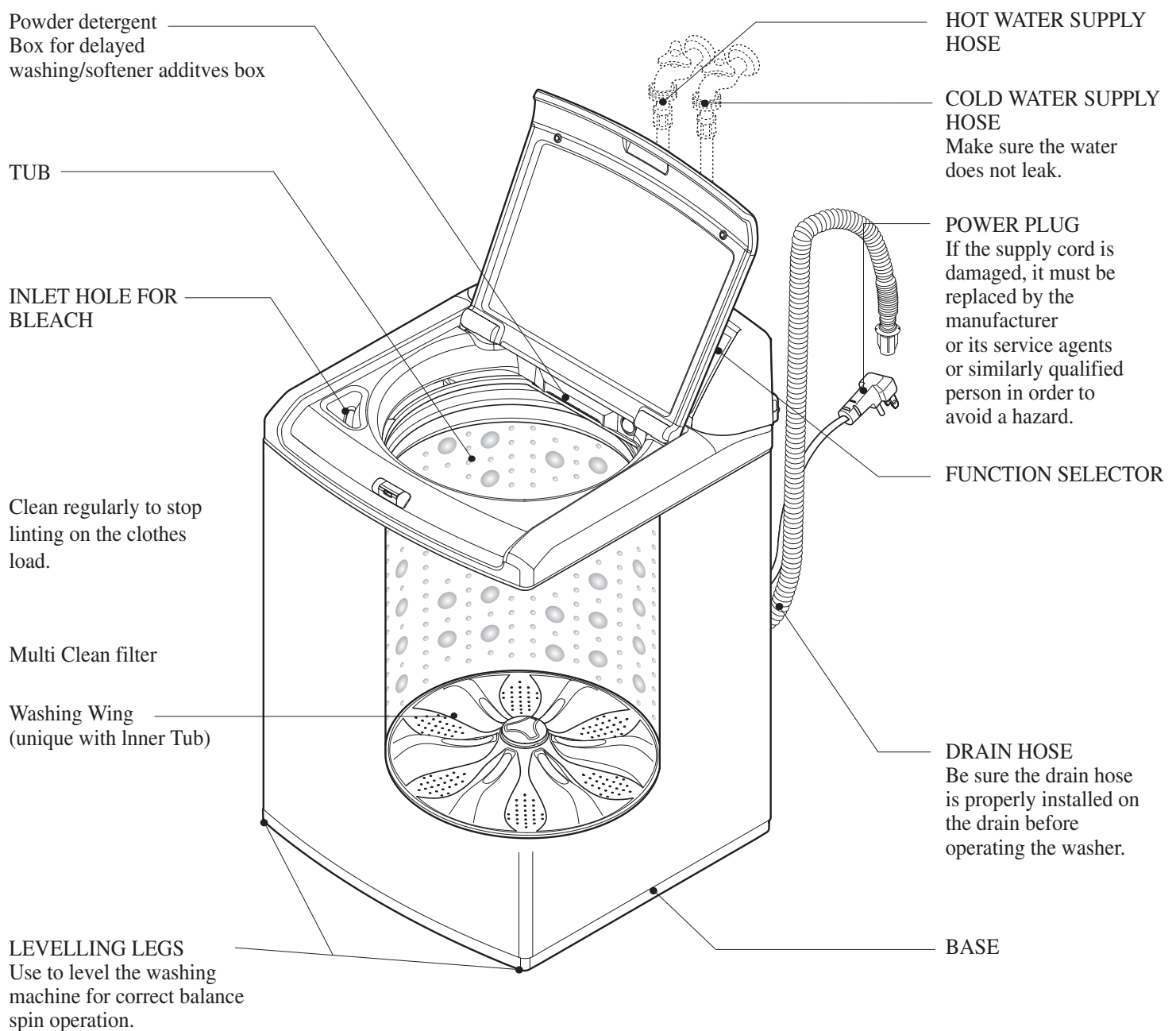
- NOTE :**
- The drain hose should always be properly secured. Failure to properly secure the drain hose can result in flooding and property damage.
 - The end of the drain hose should be placed 39" (99 cm) from the floor.
 - The drain must be installed in accordance with any applicable local codes and regulations.
 - Make sure that the water lines are not stretched, pinched, crushed, or kinked.
 - Do not insert the drain hose more than 12" (30 cm) into the drain pipe to avoid siphoning and odor build-up.

⚠ WARNING:

- The washer should never be installed or stored in a location subject to freezing temperatures. If the washer was exposed to freezing temperatures prior to installation, allow it to stand at room temperature for several hours before use. Damage to the water lines and internal mechanisms of the washer can result.
- Water supply pressure must be between 14.5 psi and 116 psi (100 ~ 800kPa). If the water supply pressure is more than 116 psi, a pressure reducing valve must be installed. If you have uncontrolled water temperature and pressure you should fit a temperature and pressure relief valve to ensure that water temperature and water pressure remain within the safe limits. Consult a plumber or electrician if you are unable to adjust water temperature and/or pressure. Failure to do so can result in damage to the machine.
- Plug the power cord of washer into a properly grounded outlet. Failure to do this can result in shock or serious injury.

3. OPERATING INSTRUCTION

3-1. IDENTIFICATION OF PARTS



3-2. BEFORE STARTING TO WASH

Care Labels

- Look for a care label on your clothes.

This will tell you about the fabric content of your garment and how it should be washed.

Sort clothes into loads that can be washed with the same wash cycle, water temperature, and spin speed.



Sorting

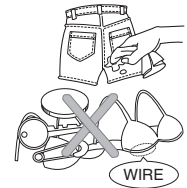
To get the best results, different fabrics need to be washed in different ways.

- | | |
|--|--|
| • SOIL (Heavy, Normal, Light) | Separate clothes according to the type and amount of soil. |
| • COLOR (Whites, Lights, Darks) | Separate white fabrics from colored fabrics. |
| • LINT (Lint producers, Collectors) | Separate lint producers and lint collectors. |
| Lint Producers | Terry cloth, Chenille, Towels, Diapers |
| Lint Collectors | Synthetics, Corduroy, Permanent Press, Socks |



Check before Loading

- **Check all pockets to make sure that they are empty.** Things such as nails, hairclips, matches, pens, coins, and keys can damage both your washer and your clothes.
- **Mend any torn garments or loose buttons.** Tears or holes may become larger during washing.
- Remove belts, underwires, etc. to prevent damage to the machine or your clothes.
- **Pretreat any dirt and stains.**
- Make sure the clothes are washable in water.
- Check the washing instructions.
- Remove any paper or tissue in the pockets.
- **WIRE**



Pretreatment on stains or heavy soil

- Pretreat shirt collars and cuffs with a pre-wash product or liquid Detergent when placing them in the washer. Before washing treat special stains with bar soaps, liquid detergent or a paste of water and granular detergent.
- Use a pretreat soil and stain remover. Treat stains **AS SOON AS POSSIBLE**. The longer they are left, the harder they are to remove. *(For more detail refer to page 13)*

Loading

Do not wash fabrics containing flammable materials(waxes, cleaning fluids, etc.).

Load Size

The **WATER LEVEL** should just cover the clothes. Adjust the load size accordingly. Loosely load clothes no higher than the top row of holes in the washer tub. To add items after washer has started, press the Start button and submerge additional items. Close the lid and press the Start button again to restart.

- ※ Do not wash waterproofed fabrics (such as skiing outfits, diapers, or nappy auto seat covers.)

Light and Large-sized clothing

Clothes like downs and woollens are light weight, large and float easily. Use a nylon net and wash them in a small amount of water. If the laundry floats during the wash cycle, it may become damaged. Use dissolved detergent to prevent the detergent from clumping.

- ※ Do not wash water-proof textiles (Skiing outfit, baby diaper, nappy automobile seat covers.)

Long laundry items

Use nylon bag nets for long, **DELICATES** items. For laundry with long strings or long length, a bag will prevent tangling during washing. **Fasten zippers, hooks, and strings** to make sure that these items don't snag on other clothes.

- ※ The nylon washing bag is not supplied by LG.

⚠ WARNING

Fire Hazard

Never place items in the washer that are dampened with gasoline or other flammable fluids.
No washer can completely remove oil.
Do not dry anything that has ever had any type of oil on it (including cooking oils).
Doing so can result in death, explosion, or fire.



Using Water

Water Temperature

- The machine sets the appropriate temperature automatically according to the wash program .
You can override the preset selection by pressing the **WASH/RINSE temperature.** button.
 - The temperature of the water impacts the effectiveness of all laundry additives and therefore, the cleaning results.
 - We recommend temperatures of:
 - HOT 120°F (120-140°F) White items, diapers, underclothing and heavily soiled, colorfast items.
 - WARM 90°F (85-105°F) Most items
 - COLD 66°F (65-75°F) Only very bright colors with light soil.
 - When washing in COLD water additional steps may be needed:
 - Adjust Detergent amount and pre-dissolve Detergent in WARM water
 - Pretreat spots and stains
 - Soak heavily soiled items
 - Use appropriate bleach
- * Temperature below 18°C (65°F) will not activate laundry additives and may cause lint, residue, poor cleaning, etc. In addition, detergent manufactures and care labels define COLD water as 26~29°C...(80-85°F).
If the temperature of the water in the tub is too cold for your hands, the detergent will not activate and clean effectively.

Note

If iron is present in the water the clothes may become an all-over yellow or they may be stained with brown or orange spots or streaks. Iron is not always visible. Installation of water softener or an iron filter may be necessary for severe cases.

Using Detergent

Detergent

Follow the detergent package directions. Using too little detergent is a common cause of laundry problems. Use more detergent if you have hard water, large loads, greasy or oily soils or lower water temperature.

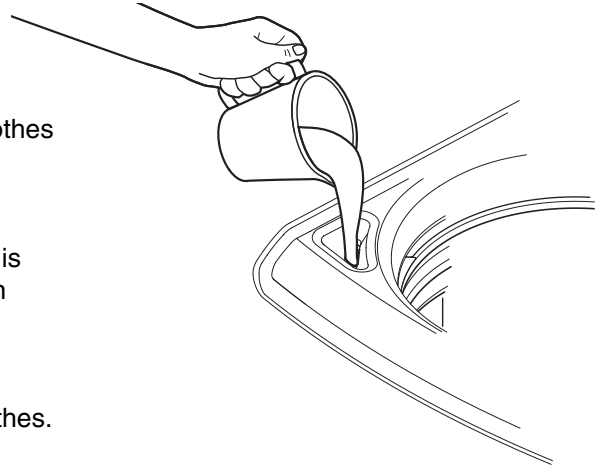
Choosing the right detergent

Your washing machine is designed for use with only High-Efficiency (HE) detergents. HE detergents are formulated specifically for Top-load washers and contain suds-reducing agents. Always look for the HE symbol when purchasing detergent. HE detergents produce fewer suds, dissolve more efficiently to improve washing and rinsing performance, and help to keep the interior of your washer clean. Using a regular detergent will cause unsatisfactory performance, oversudsing, machine build-up, and could damage the machine.

Using the Liquid Bleach Dispenser

The bleach dispenser automatically dilutes and dispenses liquid chlorine bleach at the proper time in the wash cycle.

1. Check clothing care labels for special instructions.
2. Measure liquid bleach carefully, following instructions on the bottle.
 - Never pour undiluted liquid chlorine bleach directly onto clothes or into the wash basket.
 - Do not pour powdered bleach into bleach dispenser.
 - Avoid overfilling or splashing when adding bleach to the dispenser. The maximum capacity of the bleach dispenser is one cup of bleach per wash cycle. Overfilling could result in premature dispensing of bleach.
3. Before starting the washer, pour measured amount of bleach directly into bleach dispenser. If you prefer to use powdered bleach, add it into the wash basket directly before adding clothes.



⚠ WARNING: Do NOT mix chlorine bleach with ammonia or acids, such as vinegar or rust / scale remover. Mixing chemicals like these can produce irritating and toxic fumes. Put the manufacturer's recommended amount of undiluted liquid chlorine bleach into the bleach dispenser. During the final portion of the wash cycle, two sequential flushes of the dispenser put all the bleach into the wash load and completely flush the dispenser to eliminate the carryover of bleach to a subsequent load. Any liquid remaining in the bleach dispenser at the end of the cycle is water, not bleach. To prevent unintentional self-siphoning of the bleach, never fill the dispenser higher than the maximum fill level marked on the dispenser. When adding bleach to the dispenser, be careful to avoid spilling it into the laundry load or leaving droplets of bleach around the dispenser. These things will damage your laundry items.

Using the Dispenser Drawer

ABOUT THE DISPENSER

The automatic dispenser consists of two compartments which hold:

- Liquid fabric softener.
- Liquid or powdered detergent.

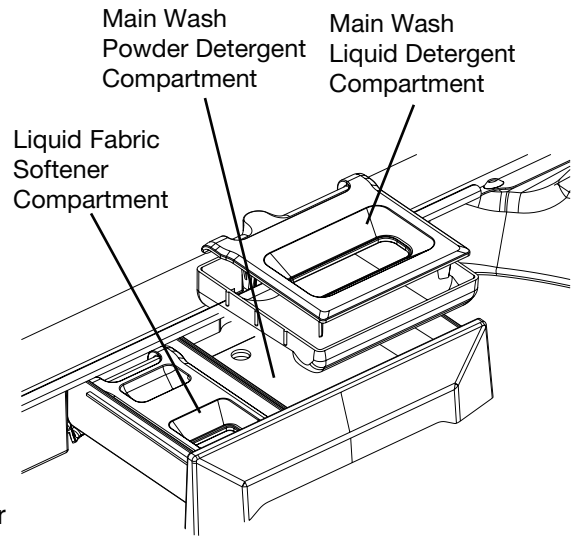
All laundry products can be added at once in their respective dispenser compartments. They will be dispensed at the appropriate time for the most effective cleaning. After adding the laundry products to the dispenser, close the dispenser drawer.

To add detergent, bleach, and fabric softener to the automatic dispenser:

- ① Open the dispenser drawer.
- ② Load the laundry products into the appropriate compartments.
- ③ Close the lid slowly and smoothly to avoid spilling, splashing, or premature dispensing of the contents.

NOTE: It is normal for a small amount of water to remain in the dispenser compartments at the end of the cycle.

NOTE: Do not use powdered or liquid bleach in the dispenser drawer.



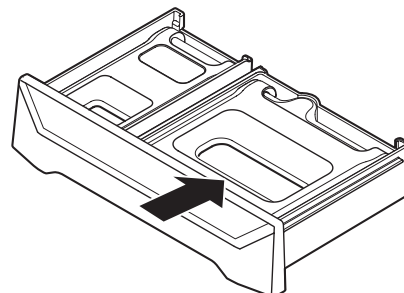
Adding Detergent

Add measured detergent to the detergent compartment of the dispenser drawer.

- **Do not exceed the maximum fill line.**

Detergent is flushed through the dispenser at the beginning of the wash phase. Either powdered or liquid detergent can be used, but the drawer insert must be removed to use powder.

Detergent usage may need to be adjusted for water temperature, water hardness, size and soil level of the load. Avoid using too much detergent in your washer, as it can lead to oversudsing and detergent residue being left on the clothes.



Adding Fabric Softener

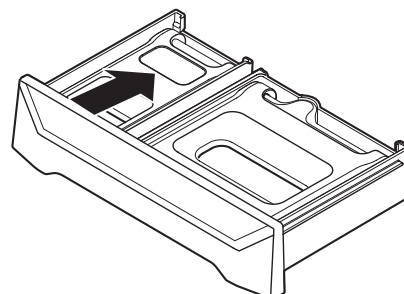
Pour the recommended amount of liquid fabric softener into the left-hand compartment. Use only liquid fabric softener.

Dilute with water to the maximum fill line.

- **Do not exceed the maximum fill line.**

Overfilling can cause early dispensing of the fabric softener, which could stain clothes.

NOTE: Do not pour fabric softener directly on the wash load. It may stain the clothes.



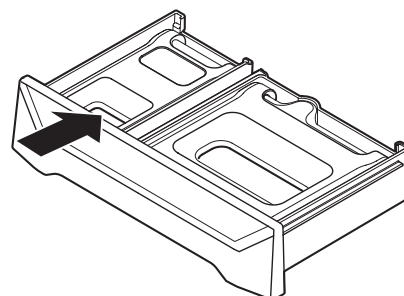
Adding Wash Boost Additives

The Wash Boost dispenser may be used to clean heavily soiled or stained garments more efficiently.

If desired, place the additives for the wash boost setting in the right-hand compartment. Use only liquid additives.

- **Do not exceed the maximum fill line to avoid**

Overfilling can cause early dispensing of presoak additives, which could result in damaged clothes.



NOTE : Do not pour additives directly on the wash load. It may stain the clothes.

Special Guide for Stain Removal

WARNING

- Do not use or mix liquid chlorine bleach with other household chemicals such as toilet cleaners, rust removers, acid, or products containing ammonia. These mixtures can produce dangerous fumes which can cause serious injury or death.
- To reduce the risk of fire or serious injury to persons or property, comply with the basic warnings listed below:
 - Read and comply with all instructions on stain removal products.
 - Keep stain removal products in their original labeled containers and out of children's reach.
 - Thoroughly wash any utensil used.
 - Do not combine stain removal products, especially ammonia and chlorine bleach. Dangerous fumes may result.
 - Never wash items which have been previously cleaned in, washed in, soaked in or spotted with gasoline, dry cleaning solvents, or other flammable or explosive substances because they give off vapors that could ignite or explode.
 - Never use highly flammable solvents, such as gasoline, inside the home. Vapors can explode on contact with flames or sparks.

For successful stain removal:

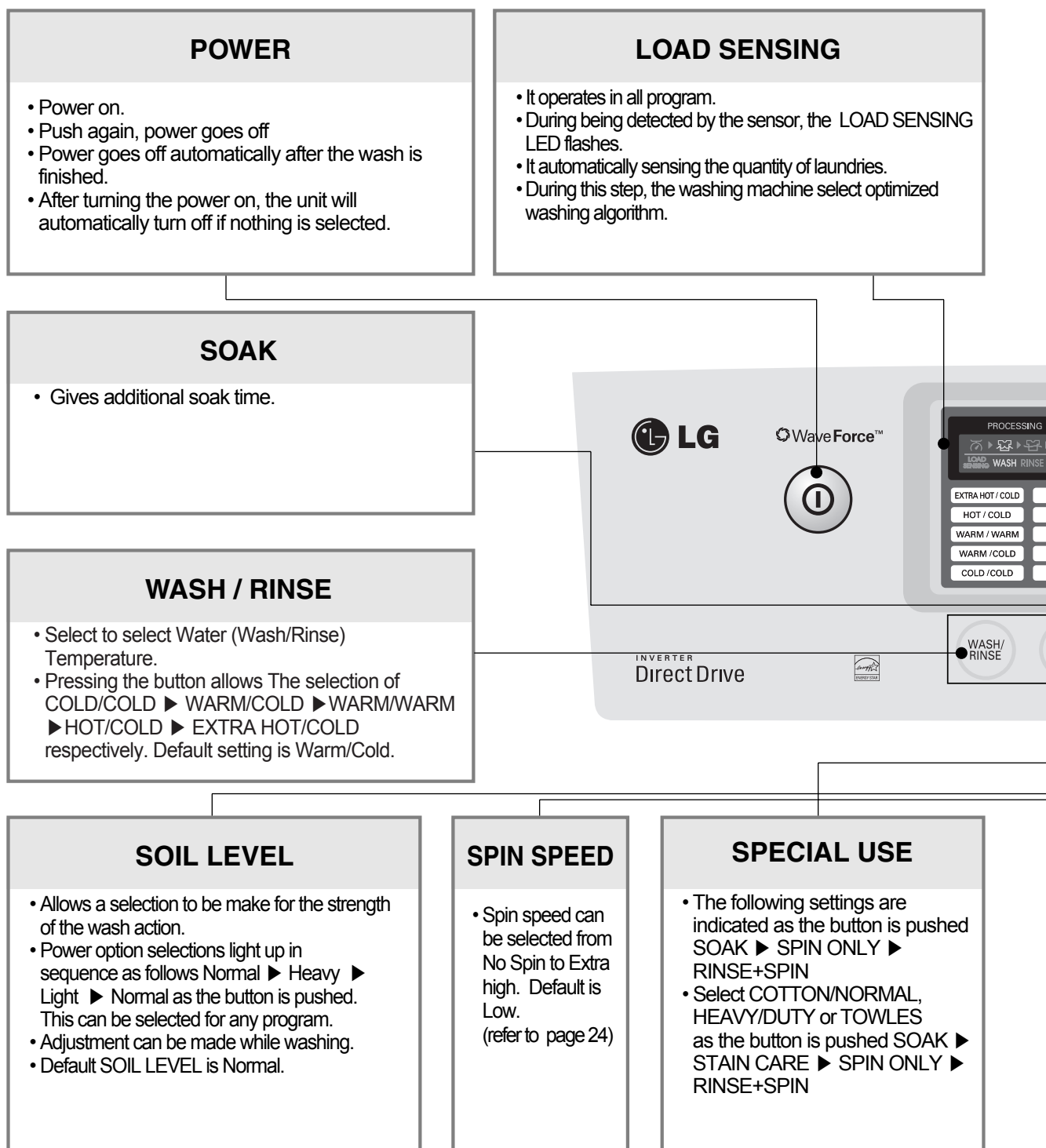
- Remove stains promptly.
- Determine the kind of stain, then follow the recommended treatment in the stain removal chart below.
- To pretreat stains, use a prewash product, liquid detergent, or a paste made from granular detergent and water.
- Use COLD water on unknown stains because HOT water can set stains.
- Check care label instructions for treatments to avoid on specific fabrics.
- Check for colorfastness by testing stain remover on an inside seam.
- Rinse and wash items after stain removal.



Stain Removal

STAIN	TREATMENT
Adhesive tape, chewing gum, rubber cement	Apply ice. Scrape off excess. Place stain face down on paper towels. Saturate with prewash stain remover or nonflammable dry cleaning fluid.
Baby formula, dairy products, egg	Use product containing enzymes to pretreat or soak stains.
Beverages (coffee, tea, soda, juice, alcoholic beverages)	Pretreat stain. Wash using COLD water and bleach safe for fabric.
Blood	Soak the item in a bowl of COLD water for at least 30 minutes. Then launder as usual.
Candle wax, crayon	Remove all surface wax. Put the garment in the freezer for a couple of hours, then remove and break away as much wax as possible. Try a commercial removal product like Goo-Gone, Goop, or Go-Jo cleaner for the remaining wax stains. DO NOT ATTEMPT TO REMOVE WITH HEAT!
Chocolate	Pretreat or soak in WARM water using product containing enzymes. Wash using bleach safe for fabric.
Collar or cuff soil, cosmetics	Pretreat with prewash stain remover or rub with bar soap.
Dye transfer on white fabric	Use packaged color remover. Wash using bleach safe for fabric.
Grass	Pretreat or soak in WARM water using product containing enzymes. Wash using bleach safe for fabric.
Grease, oil, tar (butter, fats, salad, dressing, cooking oils, car grease, motor oils)	Scrape residue from fabric. Pretreat. Wash using hottest water safe for fabric. For heavy stains and tar, apply nonflammable dry cleaning fluid to back of stain. Replace towels under stain frequently. Rinse thoroughly. Wash using hottest water safe for fabric.
Ink	Some inks may be impossible to remove. Washing may set some inks. Use prewash stain remover, denatured alcohol, or nonflammable dry cleaning fluid.
Mildew, scorch	Wash with chlorine bleach if safe for fabric. Or, soak in oxygen bleach and HOT water before washing. Badly mildewed fabrics may be permanently damaged.
Mud	Brush off dry mud. Pretreat or soak with product containing enzymes.
Mustard, tomato	Pretreat with prewash stain remover. Wash using bleach safe for fabric.
Nail polish	May be impossible to remove. Place stain face down on paper towels. Apply nail polish remover to back of stain. Repeat, replacing paper towels frequently. Do not use on acetate fabrics.
Paint, varnish	WATER BASED Rinse fabric in cool water while stain is wet. Wash. Once paint is dry, it cannot be removed, OIL BASED AND VARNISH Use solvent recommended on can label. Rinse thoroughly before washing.
Rust, brown or yellow discoloration	For spots, use rust remover safe for fabric. For discoloration of an entire load, use phosphate Detergent and nonchlorine bleach. Do not use chlorine bleach because it may intensify discoloration.
Shoe polish	LIQUID Pretreat with a paste of granular detergent and water. Paste scrape residue from fabric. Pretreat with prewash stain remover or nonflammable dry cleaning fluid. Rub detergent into dampened area. Wash using bleach safe for fabric.

3-3. FUNCTION OF EACH BUTTON. (WT5101H*)



Note

The time shown on the display is the estimated cycle time. If the sensors and microprocessor elect to make changes during the cycle, the display will be adjusted accordingly.

EXTRA RINSE BUTTON

- This includes an extra rinse cycle for a better rinsing action.

DELAY WASH (Selection) BUTTON

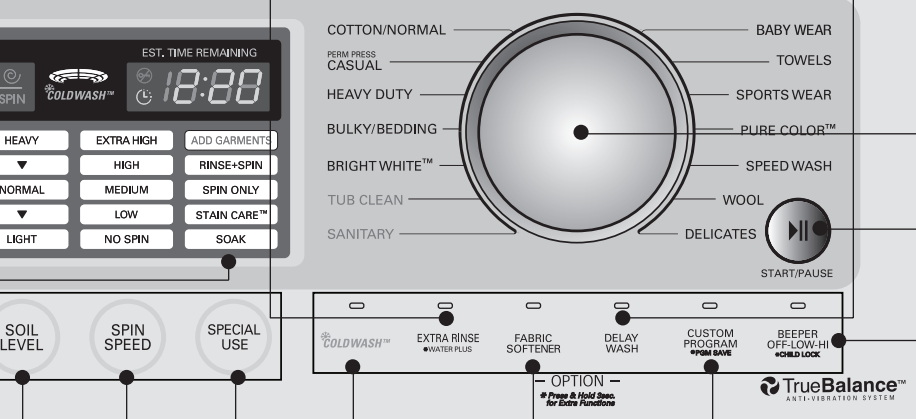
- Delayed finishing time.
- The time increases when the button is pushed. 1 ▶ 2 ▶ 3 ▶ 4 ▶ ... 12 ▶ 14 ▶ 16 ▶ ▶ Reservation off ▶ 1 ...
- To cancel delay time, turn the power switch off or push DELAY WASH button until off.

START/ PAUSE BUTTON

- Use to start or pause the wash cycle. Changes while be made to the wash settings while the machine is paused.
- Repeats start and pause by pushing the button.

CYCLE BUTTON

- Use for selecting wash program.
- This button allows the selection of 10 different programs for different kinds of laundry and dirtiness.
- Program selections light up in sequence as follows:
COTTON/NORMAL ▶ PERM PRESS CASUAL ▶ HEAVY DUTY ▶ BULKY/BEDDING ▶ BRIGHT WHITE ▶ TUB CLEAN ▶ SANITARY ▶ BABY WEAR ▶ TOWELS ▶ SPORTS WEAR ▶ PURE COLOR ▶ SPEED WASH ▶ WOOL ▶ DELICATES Select the desired program by pressing the button.



COLDWASH™

- Runs a cycle without hot water or the wash heater. For greater efficiency, we recommend washing a small load (less than 8 pounds) and a low spin speed.

FABRIC SOFTENER

- Causes the dispensing of fabric softener in the final rinse cycle.

Custom Program BUTTON

- This button allows you to store a customized wash cycle for future use .

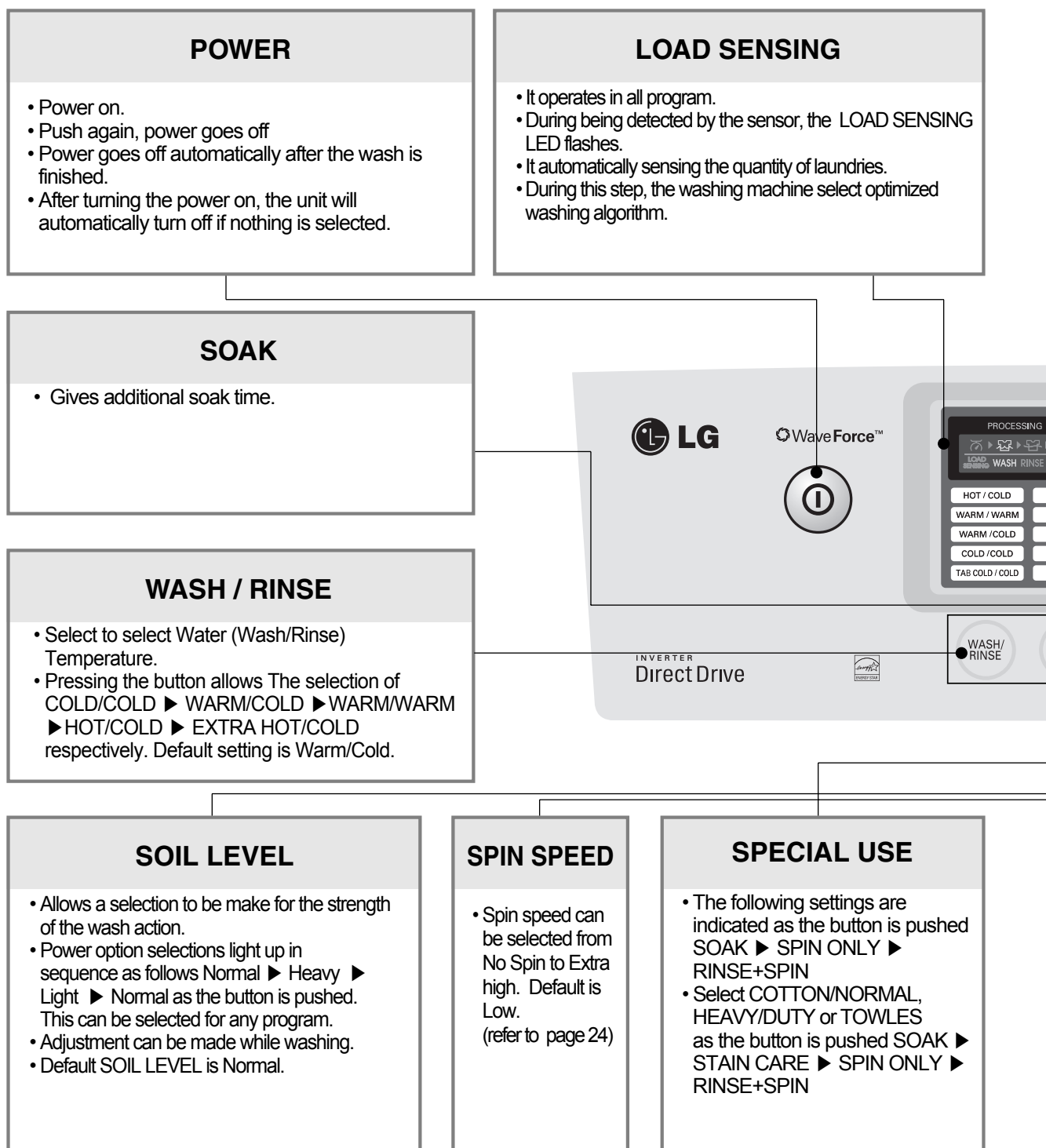
BEEPER BUTTON

- The beeper sounds at the end of the cycle. The clothing should be removed at that time to prevent the setting of wrinkles.
- Touch the BEEPER button to cycle through the volume settings between OFF and high.

CHILD LOCK FUNCTION

- Use to lock or unlock the control buttons to prevent settings from being changed by a child.
- To actuate or release the CHILD LOCK, press and hold the BEEPER button until the lock is turned ON or OFF.

3-4. FUNCTION OF EACH BUTTON. (WT5001C*)



Note

The time shown on the display is the estimated cycle time. If the sensors and microprocessor elect to make changes during the cycle, the display will be adjusted accordingly.

EXTRA RINSE BUTTON

- This includes an extra rinse cycle for a better rinsing action.

DELAY WASH (Selection) BUTTON

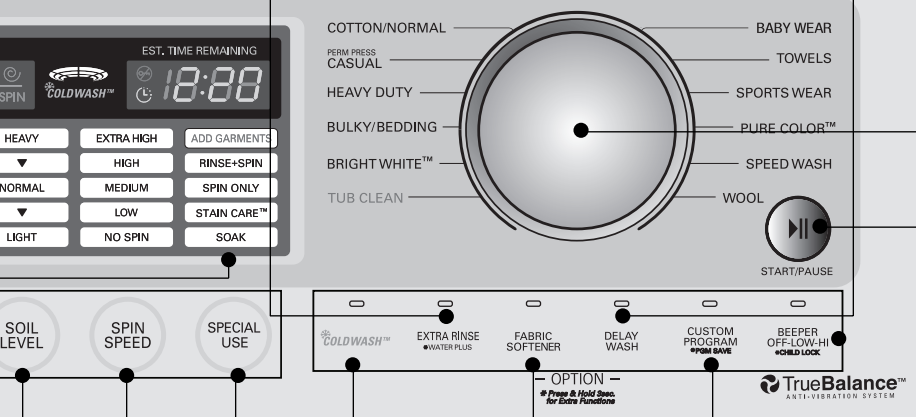
- Delayed finishing time.
- The time increases when the button is pushed. 1 ▶ 2 ▶ 3 ▶ 4 ▶ ... 12 ▶ 14 ▶ 16 ▶ ▶ Reservation off ▶ 1 ...
- To cancel delay time, turn the power switch off or push DELAY WASH button until off.

START/ PAUSE BUTTON

- Use to start or pause the wash cycle. Changes while be made to the wash settings while the machine is paused.
- Repeats start and pause by pushing the button.

CYCLE BUTTON

- Use for selecting wash program.
- This button allows the selection of 10 different programs for different kinds of laundry and dirtiness.
- Program selections light up in sequence as follows:
COTTON/NORMAL ▶ PERM PRESS CASUAL ▶ HEAVY DUTY ▶ BULKY/BEDDING ▶ BRIGHT WHITE ▶ TUB CLEAN ▶ BABY WEAR ▶ TOWELS ▶ SPORTS WEAR ▶ PURE COLOR ▶ SPEED WASH ▶ WOOL Select the desired program by ressing the button.



COLDWASH™

- Runs a cycle without hot water or the wash heater. For greater efficiency, we recommend washing a small load (less than 8 pounds) and a low spin speed.

FABRIC SOFTENER

- Causes the dispensing of fabric softener in the final rinse cycle.

Custom Program BUTTON

- This button allows you to store a customized wash cycle for future use .

BEEPER BUTTON

- The beeper sounds at the end of the cycle. The clothing should be removed at that time to prevent the setting of wrinkles.
- Touch the BEEPER button to cycle through the volume settings between OFF and high.

CHILD LOCK FUNCTION

- Use to lock or unlock the control buttons to prevent settings from being changed by a child.
- To actuate or release the CHILD LOCK, press and hold the BEEPER button until the lock is turned ON or OFF.

3-5. WASHING PROGRAMS. (WT5101H*)

The cycle guide below shows the options and recommended fabric types for each cycle.

 =Default setting

Cycle	Fabric Type	Wash/Rinse	Soil Level	Spin Speed	Stain Care™	Cold Wash™	Extra Rinse	Fabric Softener	Delay Wash
Sanitary	Heavily soiled underwear, work clothes, diapers, etc. (less than 11 lbs.)	Extra Hot/Cold	Heavy	High					
			Light Normal	Extra High No Spin Low Medium					
Tub Clean	Refer to page 24.			High					
Bright Whites™	White fabrics	Hot/Cold	Heavy	Medium					
		Warm/Cold	Light Normal	High Extra High No Spin Low					
Bulky/Bedding	Large items such as blankets and comforters	Warm/Cold	Normal	Medium					
		Warm/Warm Hot/Cold Cold/Cold	Heavy Light	High Extra High No Spin Low					
* Use the Bulky/Bedding cycle for items such as pillows, comforters and other articles which have difficulty absorbing water. ONLY WASH SMALL LOADS to make sure there is plenty of room for the load to move during washing. Keep like items together; do not mix large bulky items with smaller clothing items. Failure to follow these instructions may result in damage to the clothing or to the washer.									
Heavy Duty	Heavy soiled cotton fabrics	Warm/Cold	Heavy	High					
		Warm/Warm Hot/Cold Cold/Cold	Light Normal	Extra High No Spin Low Medium					
Perm Press Casual	Dress shirts/pants, wrinkle-free clothing, poly/cotton blend clothing, tablecloths	Warm/Cold	Normal	Low					
		Warm/Warm Cold/Cold	Heavy Light	Medium High No Spin					
Cotton/Normal	Cotton, linen, towels, shirts, sheets, jeans, mixed loads	Warm/Cold	Normal	High					
		Hot/Cold Cold/Cold	Heavy Light	Extra High No Spin Medium					
Baby Wear	Small and lightly soiled loads, specially skin sensitive user.	Warm/Warm	Light	High					
		Hot/Cold Warm/Cold	Normal Heavy	Extra High No Spin Low Medium					
Towels	Towels, shirts, sheets, jeans, mixed loads	Warm/Cold	Normal	High					
		Warm/Warm Hot/Cold Cold/Cold	Heavy Light	Extra High No Spin Low Medium					
Sports Wear	Active sports, exercise clothing	Warm/Cold	Normal	Medium					
		Warm/Warm Cold/Cold	Heavy Light	High No Spin Low					
Pure Color™	Lightly soiled and colored clothing	Cold/Cold	Normal	Medium					
		Warm/Cold Warm/Warm	Heavy Light	High Extra High No Spin Low					
Speed Wash	Lightly soiled and small loads	Warm/Warm	Light	High					
		Cold/Cold Warm/Cold	Normal Heavy	Extra High No Spin Low Medium					
Wool	Item labeled machine washable wool (less than 8 lbs.)	Warm/Cold	Light	Low					
		Cold/Cold	Normal Heavy	Medium No Spin					
Delicates	Dress shirts/blouses, nylons, sheer or lacy garments (less than 8 lbs.)	Cold/Cold	Light	Low					
		Warm/Cold Warm/Warm	Normal Heavy	Medium No Spin					

NOTE: To protect your garments, not every wash/rinse temperature, spin speed, soil level, or option is available with every cycle.

3-6. WASHING PROGRAMS. (WT5001C*)

The cycle guide below shows the options and recommended fabric types for each cycle.

 =Default setting

Cycle	Fabric Type	Wash/Rinse	Soil Level	Spin Speed	Stain Care™	Cold Wash™	Extra Rinse	Fabric Softener	Delay Wash
Tub Clean	Refer to page 24.			High					
Bright Whites™	White fabrics	Hot/Cold Tap Cold/Cold Cold/Cold Warm/Cold Warm/Warm	Heavy Light Normal	Medium High Extra High No Spin Low					
Bulky/Bedding	Large items such as blankets and comforters	Warm/Cold Warm/Warm Hot/Cold Tap Cold/Cold Cold/Cold	Normal Heavy Light	Medium High Extra High No Spin Low					
* Use the Bulky/Bedding cycle for items such as pillows, comforters and other articles which have difficulty absorbing water. ONLY WASH SMALL LOADS to make sure there is plenty of room for the load to move during washing. Keep like items together; do not mix large bulky items with smaller clothing items. Failure to follow these instructions may result in damage to the clothing or to the washer.									
Heavy Duty	Heavy soiled cotton fabrics	Warm/Cold Warm/Warm Hot/Cold Tap Cold/Cold Cold/Cold	Heavy Light Normal	High Extra High No Spin Low Medium					
Perm Press Casual	Dress shirts/pants, wrinkle-free clothing, poly/cotton blend clothing, tablecloths	Warm/Cold Warm/Warm Tap Cold/Cold Cold/Cold	Normal Heavy Light	Low Medium High No Spin					
Cotton/Normal	Cotton, linen, towels, shirts, sheets, jeans, mixed loads	Warm/Cold Hot/Cold Tap Cold/Cold Cold/Cold	Normal Heavy Light	High Extra High No Spin Medium					
Baby Wear	Small and lightly soiled loads, specially skin sensitive user.	Warm/Warm Hot/Cold Warm/Cold	Light Normal Heavy	High Extra High No Spin Low Medium					
Towels	Towels, shirts, sheets, jeans, mixed loads	Warm/Cold Warm/Warm Hot/Cold Tap Cold/Cold Cold/Cold	Normal Heavy Light	High Extra High No Spin Low Medium					
Sports Wear	Active sports, exercise clothing	Warm/Cold Warm/Warm Tap Cold/Cold Cold/Cold	Normal Heavy Light	Medium High No Spin Low					
Pure Color™	Lightly soiled and colored clothing	Cold/Cold Warm/Cold Warm/Warm Tap Cold/Cold	Normal Heavy Light	Medium High Extra High No Spin Low					
Speed Wash	Lightly soiled and small loads	Warm/Warm Tap Cold/Cold Cold/Cold Warm/Cold	Light Normal Heavy	High Extra High No Spin Low Medium					
Wool	Item labeled machine washable wool (less than 8 lbs.)	Warm/Cold Tap Cold/Cold Cold/Cold	Light Normal Heavy	Low Medium No Spin					

NOTE: To protect your garments, not every wash/rinse temperature, spin speed, soil level, or option is available with every cycle.

3-7. CARE AND MAINTENANCE

When there is the possibility of freezing temperatures

- Close the water taps and remove the water supply hoses.
- Remove the water which remains in the water supply.
- Lower the drain hose and drain the water in the sump and the drain hose by running a spin cycle.

If frozen

- Remove the water supply hose and immerse it in HOT water. (40° C or 104° F).
- Pour approximately 2 liters (4½ pounds) of HOT water (40° C or 104° F) into the sump and allow it to stand for at least 10 minutes.
- Connect the water supply hose to the water tap run a SPEED WASH cycle to confirm that the machine fills, drains, and operates properly.

Wash Inner-Tub

Leave the lid open after washing to allow moisture to evaporate. If you want to clean the inner-tub use a clean soft cloth dampened with liquid detergent, then rinse. (Do not use harsh or gritty cleaners.)

Inlet Hoses

Hoses connecting washer to faucet should be replaced every 5 years.

Exterior

Immediately wipe off any spills. Wipe with damp cloth. Avoid hitting surface with sharp objects.

Long Vacations

Be sure water supply is shut off at faucets. Drain all water from hoses if weather will be below freezing.

Cleaning the inside of your washer

If you use fabric softener or do regular COLD water washing, it is very important that you clean the inside of your washer occasionally as described below.

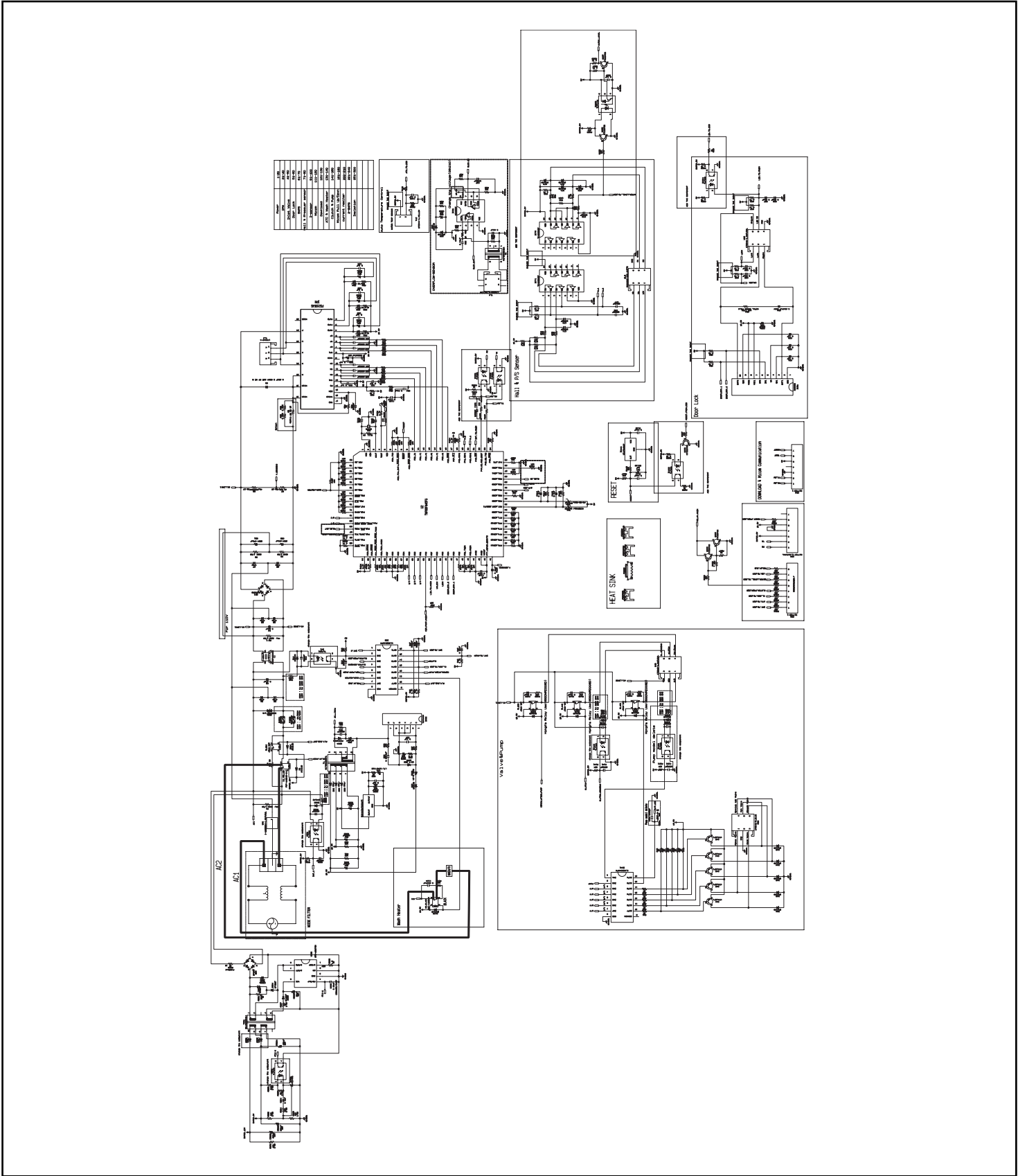
- Fill your washer with HOT water.
- Add 1 cup of bleach.
- Let it operate for several minutes.
- Stop the washer, open the lid, and leave it to soak overnight.
- After soaking, drain the washer and run it through a normal cycle.

Products that might damage your washing machine

- Concentrated bleaches and diaper sanitizer will cause damage to the paintwork and components of your washer.
- Hydrocarbon solvents, i.e. petrol, paint thinners and lacquer thinners, etc. can dissolve plastic and blister paint.
(Be careful when washing garments stained with these solvents as they are flammable, DO NOT put them in washer or dryer.)
- Some pretreatment sprays or liquids can damage your washer's control panel.
- Use of dyes in your washer may cause staining of the plastic components. The dye will not damage the machine but we suggest you thoroughly clean your washer afterwards. We do not recommend the use of dye strippers in your washer.
- Do not use your washer lid as a work surface.

4. SERVICE INFORMATION

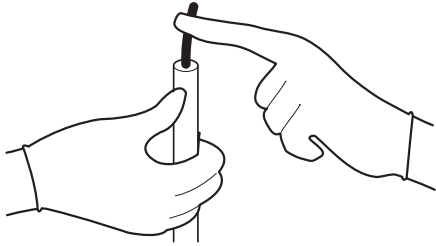
4-1. SCHEMETIC DIAGRAM



WIRING DIAGRAM

COLOR CODE			
LETTERS	COLOR	LETTERS	COLOR
WH	WHITE	RD	RED
BK	BLACK	GY	GRAY
BN	BROWN	GN	GREEN
OR	ORANGE	VL	VIOLET
PK	PINK	YL	YELLOW
BL	BLUE	SKY	SKY BLUE
※ WT5001CW doesn't have ㉑ part.			

4-3. DISASSEMBLY INSTRUCCION



- Be sure to unplug the power to repair and replace electric parts.

ESD (ElectroStatic Discharge) WARNING

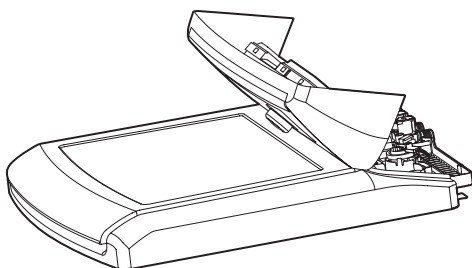
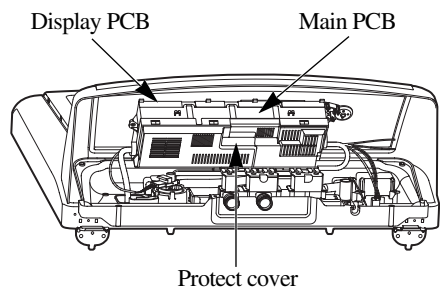
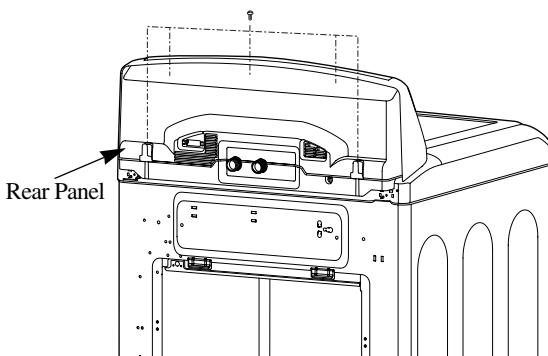
Be sure to follow proper ESD and grounding precautions for diagnosis and repair. If this is not possible, touch the ground wire on a regular basis to remove any static charge built up on your person.

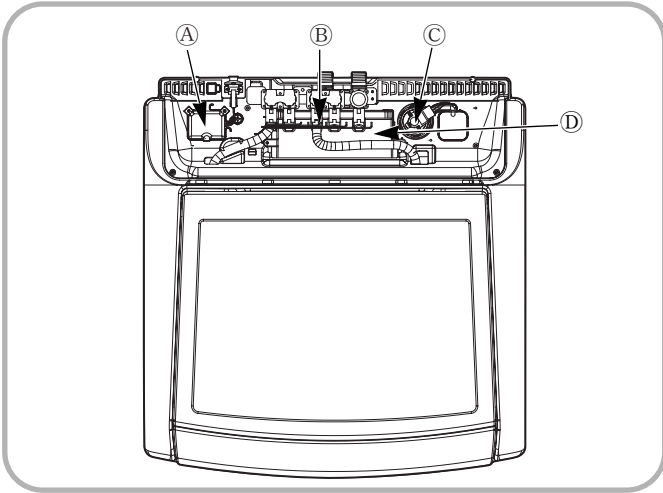
1) Remove front panel and main PCB assembly

- ① Remove 5 panel fixing screws attaching the panel on the back.
- ② Disassemble Rear Panel.

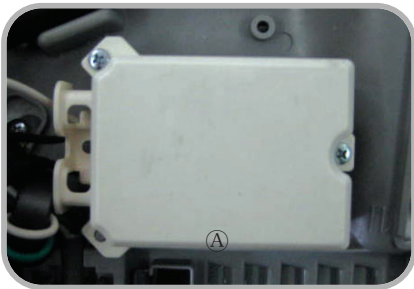
- ③ Pull the front panel forward.
- ④ Disassemble the protective cover.
- ⑤ Disconnect the leads from the controller.

- ⑥ Remove 8 screws on the PCB assembly.
- ⑦ Disassemble PCB assembly.



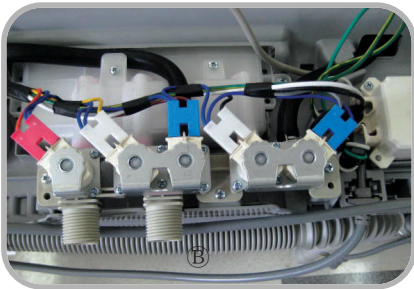


2) Disassembly of the Noise Filter, Power Cord, Inlet Valve, Pressure Switch, and DT Housing.



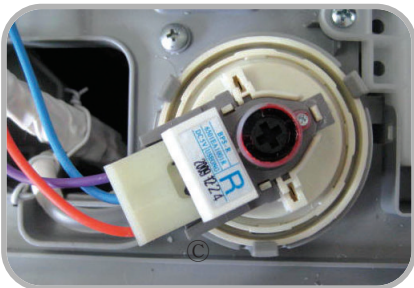
Noise Filter and Power Cord(Figure A)

- ① Remove the two screws attaching the noise filter.
- ② Disconnect 2 connector in Noise Filter and Disassemble Noise Filter and Power Cord.



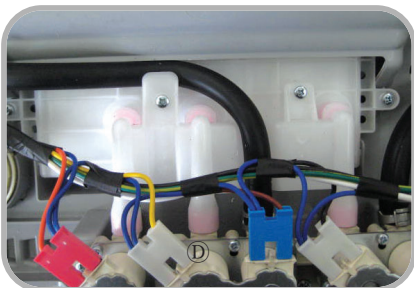
Inlet Valve (Figure B)

- ① Disconnect the leads from the inlet valve and remove three screws.
- ② Remove the hoses and output pipes from the input valve.
- ③ Remove the inlet valve.



Pressure Switch (Figure C)

- ① Disconnect the leads from pressure switch and disassemble pressure switch
- ② Disconnect pressure tube from the pressure switch .



DT Housing (Figure D)

- ① Remove the hoses and output pipes from the input valve.
- ② Disassemble the connector pipe and the DT housing.



3) Disassembly of Top Cover and Lid

- ① Insert a flat blade between the cabinet and the top cover to release the latches.



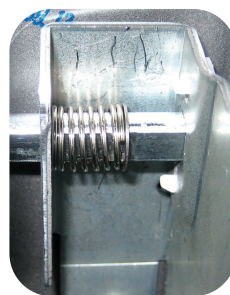
- ② Lift the top cover.



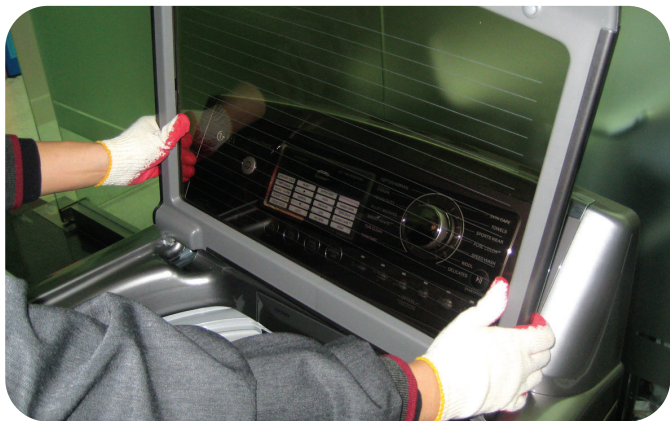
- ③ Use the blade to push the left hinge out of the way and to displace the hinge pin to remove the lid.



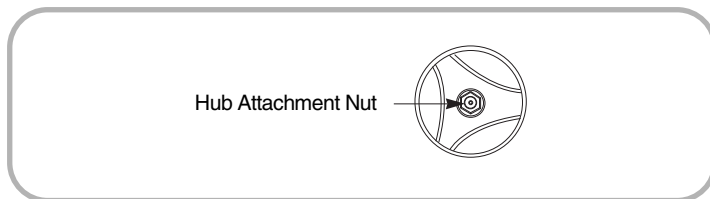
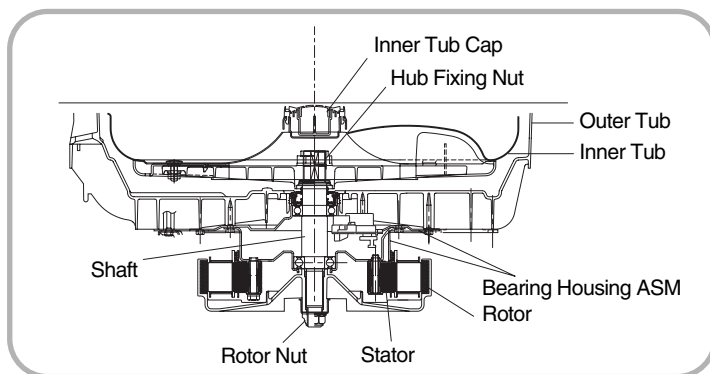
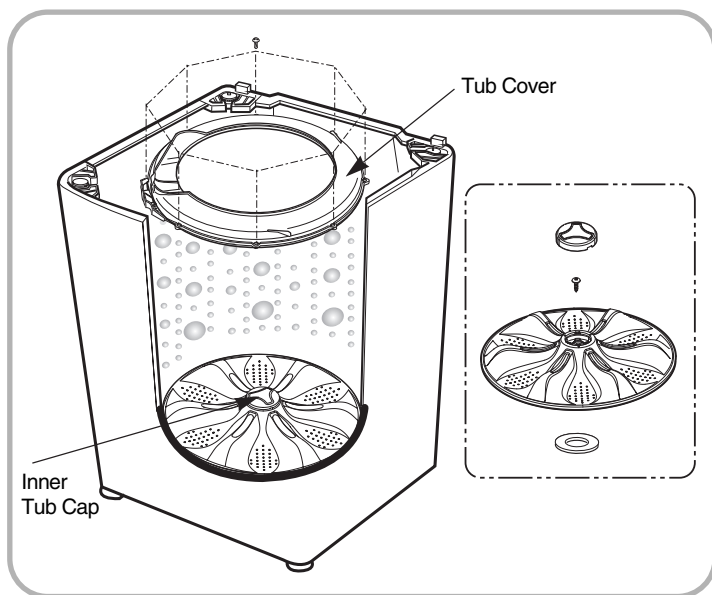
close



open



- ④ Remove the lid by pulling the right hinge pin out of its holder.



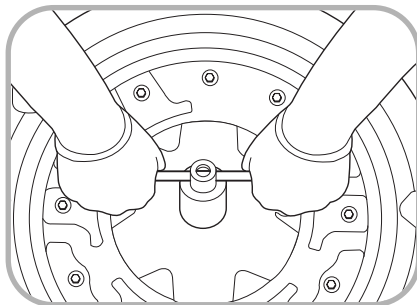
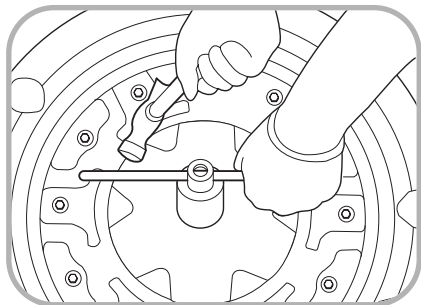
4) Disassembly of Tub Cover and Pulsator

- ① Remove 8 screws and take off the tub cover.
- ② Remove the pulsator cap.
- ③ Remove the pulsator screws and take it out.
- ④ Remove the pulsator washer and take it out.

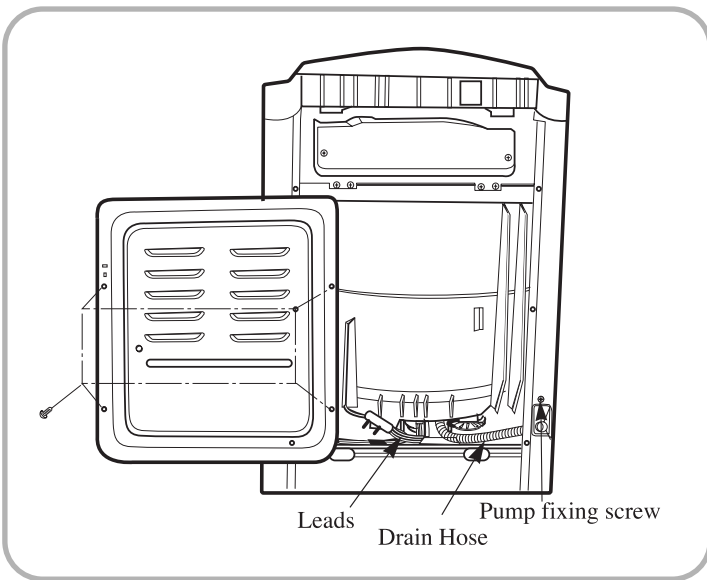
5) Assemble the service tool (38 mm wrench)



6) Remove the hub attachment nut. (38 mm)



- ① Hit the bar using the hammer.
- ② Disconnect hub fixing nut and disassemble the inner tub.



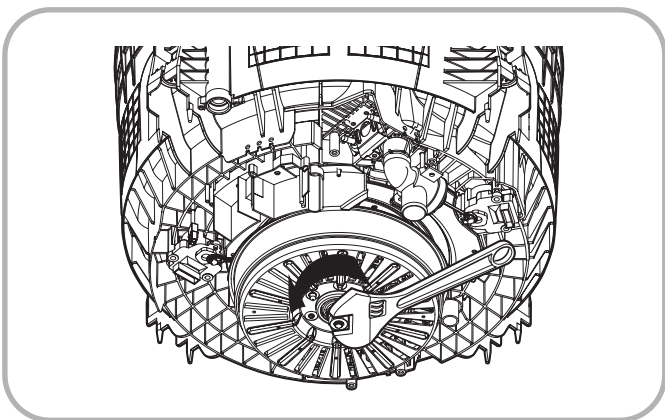
7) Disassembly of the Back Cover and Drain Pump

- ① Remove the screws that attach the back cover and take it off.
- ② Disconnect the leads and the drain hose from the drain pump.
- ③ Remove the pump attachment screws and the lead connector. Take the pump assembly out of the washer.



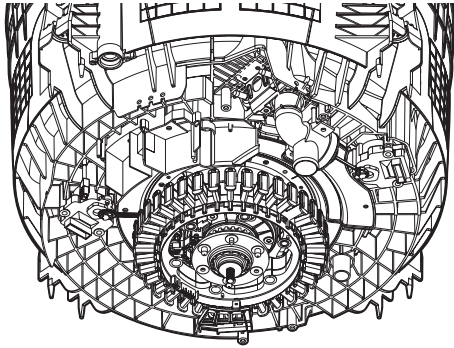
8) Disassembly of Damper Assembly

- ① Remove the top cover of the washing machine.
- ② As shown in the drawing, lift the damper assembly and remove it along with the outer tub assembly.
- ③ Damper assembly shall not be disassembled. Replace damper as assembly.

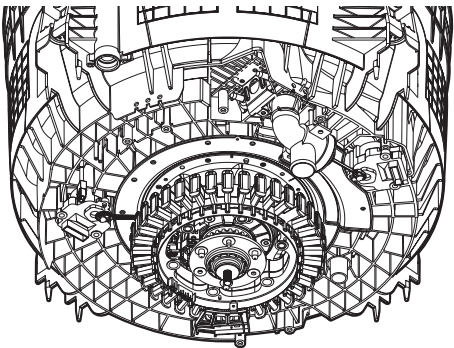


9) Disassembly of Rotor and Stator

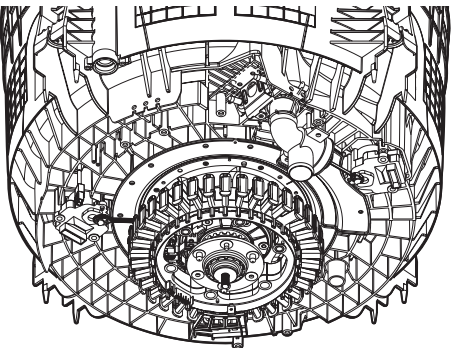
- ① Use a wrench (M24) to remove the nut that connects the rotor to the shaft.
(The torque should be 200 kgf/cm or 88 foot-pounds.)
- ② Remove the rotor by pulling it straight off the splined shaft.



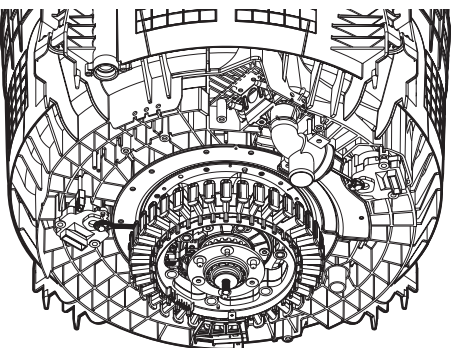
- ⑧ Remove the screws that secure the water guide.



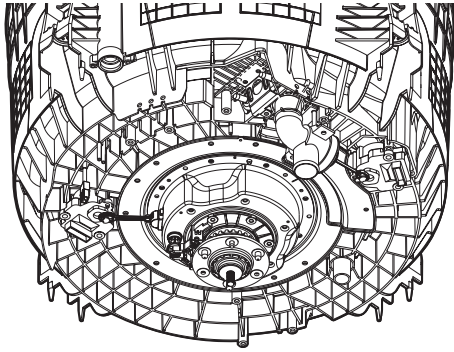
- ④ Disconnect the hall sensor and stator connection before removing the stator in the subsequent step.



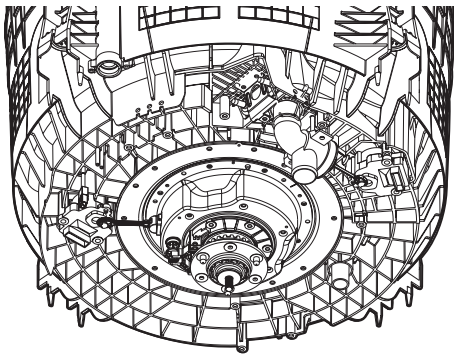
- ⑤ Remove the six screws securing the rotor.
- ⑥ Check the position of the snap ring, being sure it faces the rotor and stator.



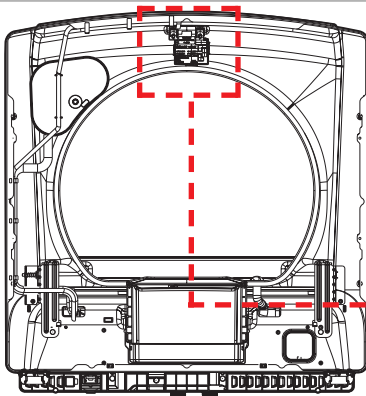
- ⑦ To keep from dropping the stator, loosen the six bolts almost all the way; then hold the stator in one hand while removing the bolts with the other.
- ⑧ Be careful during removal and replacement to avoid cutting, nicking, or pinching any of the wires. This could cause a short or electrical noise in the machine.



- ⑨ Remove four screws to release the tub bracket.

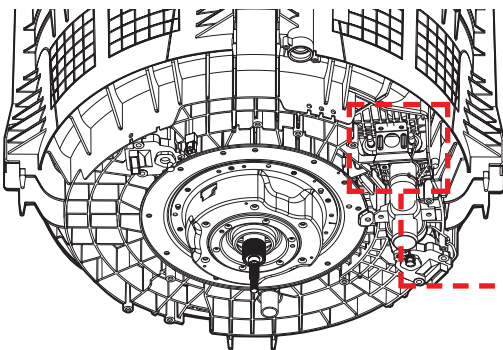
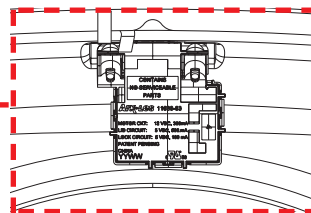


- ⑩ Remove 17 screws to release the bearing housing. Pull the housing away from the tub, but do not pry it with a screwdriver to avoid damage.



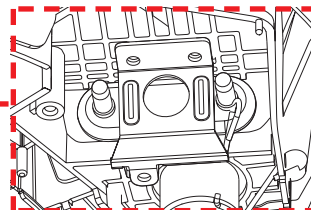
10) Disassembly of Door Lock Switch

- ① Remove the two door lock attachment screws.
② Remove the door switch and remove the attachment tube.



11) Disassembly of Heater

- ① Remove the three heater attachment screws.
② Loosen the nut at the middle of the heater to relieve the tension on the clamp. Then pull it out of the case.



4-4. TEST RUNNING WITHOUT WATER

1) SAFETY CAUTION

- The main power board assembly has exposed live 120 VAC and live DC voltages. Use care when disconnecting connectors during troubleshooting and testing. (Wear electrostatic discharge gloves when handling the board.)
- Unplug the power when handling the board assembly. (Wear electrostatic discharge gloves when handling the board. Store the board in an ESD [ElectroStatic Discharge] plastic bag.)

2) QC TEST MODE

- The washer must be empty and the controls must be in the off state.
- Press and hold the WASH / RINSE and SOIL LEVEL buttons; then press the POWER button. The buzzer will sound twice.
- Press the Start/Pause button to advance to the subsequent test mode step.

Number of times the START/PAUSE button is pressed	Check Pont	Display Status
None	Turns on all LED	T1 and Main Program Version
1 time	Button Check	T2 and Display Program Version
2 time	None	T3
3 time	Inlet valve for Bleach Detergent turns on. (Cold Water)	A and Water level frequency (1~10 Level)
4 time	※ On :67~33(26.7kHz~23.3kHz) Inlet valve for Softener Dispenser turns on. (Hot Water)	※ The meaning of 67~33 number is 26.7kHz~23.3kHz really B and Water level frequency (1~10Level)
5 time	Inlet valve for J-Dispenser turns on. (Cold Water)	C and Water level frequency (1~10Level)
6 time	Heater check	T4 and the coefficient of flood sensing
7 time	Wave force check	T5 and the coefficient of load sensing
8 time	Drain pump check	T6 and Water level frequency
9 time	Pulsator operates for 3 minutes.	T7 and the coefficient of load sensing
10 time	High speed spin	T8 and RPM
11 time	Off . Unlocks the door . Turns off all LED	None

4-5. TROUBLESHOOTING BY COMMON WASHING PROBLEMS

Many washing problems involve poor soil and stain removal, residues of lint and scum, and fabric damage. For satisfactory washing results, follow these instructions.

NOTE: NEVER use bar soap in the washing machine.

WASHING PROBLEM

Problems	Possible Causes	Solutions and Preventive Measures
Poor soil removal	· Insufficient detergent · Wash water temperature too low · Incorrect wash cycle · Laundry missorted · Stains not properly pretreated	· Use correct amount of detergent for load size, amount of soil and water hardness. · Use WARM or HOT water for normal soil. Different Water Temperature may be required according to soil type. (<i>refer to page 12</i>) · Reduce load size. · Wash with Heavy or Soak & Heavy wash cycle for heavy soiled laundry. · Separate heavily soiled items from lightly soiled ones. · Pretreat stain and heavy soil according to directions shown on page 11.
Blue Stains	· Undiluted fabric softener dispensed directly onto fabric	· Pretreat the stain with detergent or a stain removal agent. · Do not overfill fabric softener dispenser and do not pour liquid fabric softener directly onto fabric. See page 14 for more instructions.
Black or gray marks on clothes	· A buildup caused by the interaction of fabric softener and detergent can flake off and mark clothes · Not enough detergent	· Keep the recommendations against Scrud (waxy buildup). · Use correct amount of detergent for load size, soil level, and water Hardness.
Yellow or brown rust stains	· Iron or manganese in water supply, water pipes, or water heater	· To restore discolored load of whites, use rust remover safe for fabric. · Install nonprecipitating water softener or an iron filter in your water supply system for an ongoing problem. · Before washing, run water for a few minutes to clear lines.
Lint	· Incorrect sorting · Tissues left in pocket · Overloading the washer	· Wash lint-producing items, like flannel sheets, towels, and the like separately from dark fabrics and fabrics that tend to collect lint. Remove all items, including tissues and papers, from the pockets of items to be washed. See page 11 for sorting information. · Do not overload the washer
Residue or Detergent	· Overloading the washer · Undissolved detergent · Excessive detergent	· Do not overload the washer. · Some detergents need to be pre-dissolved, check the detergent instructions. Try pre-dissolving the detergent. · Increase Water Temperature using HOT water safe for fabric. · Use proper amount of detergent.
Holes, tears, or snags	· Incorrect use of chlorine bleach. · Unfastened zippers, hooks, buckles · Ribs, tears and broken threads · Overloading the washer · Degradation of fabric	· Never pour chlorine bleach directly on fabric. See page 13 for adding liquid bleach. · Fasten zippers, hooks, and buckles. · Remove objects in pockets. See page 11 for caring before loading. · Do not overload the washer.

4-6. TROUBLE SHOOTING METHODS ACCORDING TO ERROR MESSAGE

► For more detailed information for trouble shooting refer to page 42 to 51.

ERROR	ERROR DECISION BASIS	CAUSE FOR ERROR OCCURRENCE	REMEDY
WATER SUPPLY	· WATER LEVEL dose not rise to the set level in within 30 minutes. NO INLET lamp blinks	· Water faucet is closed? · Water supply is interrupted. · Inlet V/V is clogged with dirts. · Connector has bad contact to the inlet valve. · BLUE 6-pin connector has a bad connection at the main board.	· Open water faucet. Wait until water supply is resumed. · Clean or replace filter. · Correct the connector contact. · Same as above.
DRAINAGE	· Water is not completely within 12 minutes. 	· Is the drain hose located properly? · Drain hose is folded or clogged due to freeze or dirt. · Defective drain pump or the BLUE 3-pin connector to the main board has a bad connection.	· Drain hose properly positioned at 0.9 ~ 1.2 m (36 ~ 48 inches) above the floor. · Make sure the drain hose is not plugged with a foreign object. · Check drain pump motor contact. Replace the pump if necessary.
UNBALANCE	· Laundry unbalance during spin. 	· Laundry in the INNER TUB is filled unevenly. · Washer is tilted.	· Load the washer as evenly as possible. · Adjust the leg.
LID OPEN	· LID is opened in the course of intermittent spin, normal spin or processing reservation. 	· Lid is opened during intermittent spin or normal spin? · Lid is opened while processing reservation? · Check the connections to the lid switch and at the WHITE 6-pin connector at the main board.	· Close the lid. · Close the lid. · Check the connections. · If the connection is good, check the lead wire and replace it if necessary.

ERROR	ERROR DECISION BASIS	CAUSE FOR ERROR OCCURRENCE	REMEDY
PRESSURE SENSOR	Pressure switch has a bad connection or the switch has failed. 	- Check the connections at the pressure switch and at the BLUE 4-pin connector at the main board. - Test the pressure switch in TEST MODE. If the initial reading is less than 60 or more than 104, the switch has failed and must be replaced.	- Reseat the connector. - Replace the switch.
OVER FLOW ERROR		- Check the valves to be sure there is no input leakage. Then check the drain hose and make sure the drain pipe is between 0.9 ~ 1.2 m (36 and 48 inches) above the floor. - Check for blockages and leaks in the air hose between the tub and the pressure switch. - Check and repair any air leakages at the air hose connector on the outer tub and at any connecting parts.	- Install the drain hose between 0.9 ~ 1.2 m (36 and 48 inches) above the floor. - Replace pressure sensor switch - Remove the foreign objects in pressure sensor switch air hose.
MOTOR ERROR		- Check the connections at the hall sensor and at the WHITE 6-pin connector on the main board. - Check the connections at the stator and at the yellow 3-pin or WHITE 6-pin connector on the main board. Test the stator to determine it is not defective. - Test hall sensor to determine it is not defective. - Turn the drum to verify the bearings are not locked.	- Replace the stator if necessary. - Replace the hall sensor if necessary. - Replace the bearings if necessary.

4-6. HOW TO DIAGNOSE AND REPAIR BY SYMPTOM

1) Washer is not energized.

Where, what, and how to check	Result of Check	Possible Cause	How to repair
<u>Household Power supply</u>			
1. Check the cord, plug, and outlet.	Poor	Electrical defect.	Repair or replace as necessary.
2. Measure the voltage at the outlet.	120 VAC $\pm$ 10%	No defect	
	0 V	Defect of household power supply	Call for power supply company
<u>Wiring of the Washer</u>			
1. Measure resistance between both ends of the power supply cord with both the plug pins short-circuited.	Less than 1 Ω	No defect	
	$\infty \Omega$	Open circuit of the power supply cord	Change the power supply cord.
2. Check every connector for a loose connection.	Male & female connectors separated	Poor connection	Unplug and re-insert the connector.
3. Check resistance of every wire to find out a open wire.	$\infty \Omega$	Wire is opened.	Change the lead wire
<u>Electrical component</u>			
1. Check resistance with power relay switch turned on	Less than 0.5 Ω	No defect	
	More than 1.0 Ω	Poor contact	Change the AUTO OFF Switch
2. Check the secondary voltage of the transformer.	10~14 V	No defect	
	0 V	Coil is open	Replace the transformer.
3. Check for blown fuse.	Open	Blown fuse Note: US appliances are 120 VAC except for stoves, ranges, ovens, cooktops, and certain air conditioners.	Change the fuse. CAUTION Check the fuse rating. 125 VAC 12 AMPS
<u>Controller</u>			
If all the components test good, the defect is likely the main control board.	Over 120% voltage than rating check		Replace the main board if all the electrical components test good.

2) Defects on displaying function

When, what, and how to check	Result of Check	Possible Cause	How to repair
<u>Main voltage</u> 1. Measure voltage at wall outlet.	Expect 120 VAC $\pm$ 10%. If below 108 VAC, consult an electrician or your local power provider.	Low voltage	If incoming line voltage is below 108 VAC, consult an electrician or your local power provider.
<u>Controller</u> 1. Defective LED. 2. Defective LED driver circuit. 3. Defective Microprocessor.		Defective main board.	Replace the main board.

3) Reset During operation

When, what, and how to check	Result of Check	Possible Cause	How to repair
<u>Main voltage</u> 1. Measure voltage of the outlet that the washer is plugged into during wash and spin.	Less than 90% of the rating.	Input voltage is too low or the house wiring is insufficient for the load.	Consult an electrician.
2. The reset event occurs at about the same time every day.		Noise or spurious signals are introduced to the controller through the power input.	This could be caused by something outside the home. It is possible that a surge protector / line filter would help reduce the incidence.
3. Check for line noise sources inside the house.			Explain it is a problem of electric supply environment.
<u>Controller</u> 1. If the input voltage is correct and the pump works properly, the main board is probably defective.			Replace the main board.

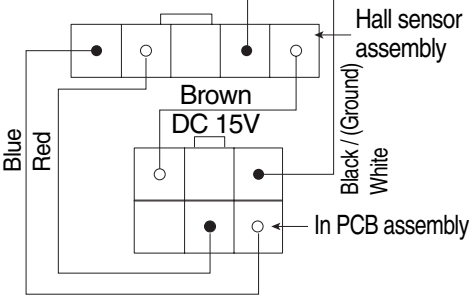
4) Water doesn't come into the wash tub.

When, what, and how to check	Result of Check	Possible Cause	How to repair
<u>Inlet Valve</u>			
1. If you hear the valve noise but get no water, check to see if the water is turned off outside the house.	No water coming from taps.	Water main turned off.	Explain.
2) Check to see if taps are opened.	Tap is closed.	User error.	Turn on the tap.
3) Hot and cold hoses are reversed.	Incorrect installation.	Incorrect installation.	Reconnect hoses to correct taps.
4) Incorrect water temperature selected.	Select correct temp.	User error.	Read and understand manual.
5) If items above check out OK, turn off the water, remove the hoses, and check the grit filters.	Grit, sand, and foreign substances plugging filter.	Normal sediment in water supply.	Remove the filters, clean them with a small brush, and replace them.
6) If everything checks out this far, check the vent hole in the pressure switch for blockage and make sure the plunger can move freely.		Water inlet valve(s) defective.	Replace the inlet valves.
2. If the inlet valve fails (no clicking or buzzing) when the washer should be filling, check the connectors on each valve and at the main board.	Loose connection.	Loose connection.	Remove and replace the connector(s).
2) Check resistance of the inlet valve.	$\infty \Omega$	Coil is open	Replace the valve.
<u>Pressure Switch</u>			
1. Does the display show a PE error code?	PE Error displayed.	Connector is loose, wire is broken, or the pressure switch is defective.	Remove and replace the connector. If this does not resolve the issue, replace the pressure switch.
2. Use TEST MODE to read the frequency of the pressure switch while filling an empty washer.	Less than 26.2 kHz	Pressure switch is defective.	Replace the pressure switch.
<u>Controller</u>			
1. If the pressure switch and inlet valves test good, the problem is probably a defective main board.			Replace the main board.

5) Water fills continuously or intermittently

When, what, and how to check	Result of Check	Possible Cause	How to repair
<u>Wrong Installation/Leakage</u> 1. Check to see that the drain hose is properly installed in a standpipe.	Drain hose is fallen and lying on the floor.	Incorrect installation.	Install the drain hose in a standpipe that is between 36 ~ 46 inches (0.9 ~ 1.2 m) from the floor.
2. Figure where the leak is starting.	Water leaks from a part.	Defective part.	Repair or replace the part.
<u>Pressure Switch</u> 1. Verify the pulsator is rotating while water is filling the tub.	No rotation.	Water level is not detected.	Check the pressure switch tube to verify it is not kinked, bent, blocked, or cut. Repair it as necessary.
2. If the pressure switch tests good, verify the vent holes on the tub's air chamber is not blocked.	Blocked.	Detergent buildup or a foreign object is blocking airflow.	Unstop it.
<u>Inlet Valve</u> 1. Water comes in though the inlet valve even when the washer is unplugged.	Water fills.	Inlet valve is defective.	Replace the valve.
<u>Controller</u> 1. Water fills the washer immediately when the washer is turned on, even before pushing the START button.		The triac has failed on the main board.	Replace the main board.

6) Display "LE" message and doesn't work

When, what, and how to check	Result of Check	Possible Cause	How to repair
1. LE error code appears. 1) Check the hall sensor, as shown. 			
	Gray-White DC 15V	Correct reading.	
	OV	Defective	Replace the main board.
	Gray - Red -Blue DC 12V	Correct reading.	
	OV	Defective	Replace the main board.
2) Check resistance of the motor.	Infinite resistance.	The motor has an open coil.	Replace the motor.
	Normal Resistance	Normal condition.	Motor is good.

7) Water does not drain.

When, what, and how to check	Result of Check	Possible Cause	How to repair
<u>Drain Pump</u>			
1. Can you hear the drain pump running?	Yes	Drain pump is blocked by foreign objects.	NOTE: There is no place to do this. Please include the correct pump information for this machine. This is useless.
2. Check resistance between terminals if there is no working sound of the drain pump.	$\infty \Omega$	The motor is open.	Replace the pump.
3. If the motor tests good, check the connector.	LEAVE BLANK	Defective connector.	Replace the main board.
	LEAVE BLANK	Connector OK.	Replace the main control board.
<u>Drain Hose</u>			
1. Verify the drain hose is not pinched, kinked, or mashed.	Pinched, kinked, or mashed.	Incorrect installation.	Reinstall correctly.
2. Verify the drain hose is not clogged or obstructed.	LEAVE BLANK	Blocked hose.	Unstop the hose and re-install it so it is not kinked, pinched, or mashed.

8) Water drains, but at the wrong time

When, what, and how to check	Result of Check	Possible Cause	How to repair
<u>PV asm</u>			
1. If water runs back into the machine after the drain cycle, inspect the pump's check valve to verify it is not obstructed by lint or foreign material.	Blockage in pump housing or drain bellows.		Remove the blockage or foreign objects.
	Check valve and / or drain bellows deformed or damaged.	LEAVE BLANK	Replace the check valve and / or the bellows. These soft rubber parts may swell if contacted by petroleum-based products.
<u>Controller</u>			
1. Check to see if the drain pump or drain motor runs at power up (before the POWER button is pressed).	The pump runs.	Defective triac on main board.	Replace the main board.

8) Water drains when it should not

When, what, and how to check	Result of Check	Possible Cause	How to repair
<u>Drain Hose</u> 1. Verify the drain hose is inserted in a standpipe or drain that is 0.9 ~ 1.2 m (36 ~ 46 inches) above the floor.	Discharge height incorrect.	Incorrect installation.	Insert the drain hose in a standpipe or drain that is 0.9 ~ 1.2 m (36 ~ 46 inches) above the floor.

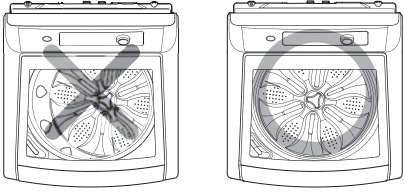
9) Drain error (DE) is displayed even when water drains normally

When, what, and how to check	Result of Check	Possible Cause	How to repair
<u>Pressure Switch</u> 1. In TEST MODE, check the pressure switch frequency with the tub empty.	Below 26.3 kHz	Defective pressure switch	Replace the pressure switch.
	Between 26.3 and 27.1 kHz	Defective main board	Replace the main board.

10) Machine spins even with lid open

When, what, and how to check	Result of Check	Possible Cause	How to repair
<u>Lid Switch</u> 1. Check resistance between both terminals on the lid switch with the lid open.	0~9 Ω	Contacts of switch are welded.	Change the lead wire assembly.
	$\infty \Omega$	Defective main board.	Replace the main board.

11) Vibration, Noise or Unbalance Error happens during spin.

When, what, and how to check	Result of Check	Possible Cause	How to repair
<u>Using conditions such as installation etc.</u> 	Not leveled.	Incorrect installation.	Level the washer.
2. Verify the load is not unbalanced, causing vibration and noise.	Laundry is unbalanced.		Rearrange items in the tub for a more even distribution.
	The pulsator rotates initially, then the inner tub rotates.	Defective clutch.	Replace the clutch spring of the clutch assembly, as necessary.
<u>Suspension</u> 1. Does the outer tub strike the top cover during a spin cycle when the washer is running empty?	Yes	One or more of the suspension rods is defective.	Replace all four suspension rods as a set. Be sure to get the rods in the correct positions.
※ It is very important to determine the cause of any noise or defect in order to repair the problem correctly the first time.			

12) Power turns ON or OFF by itself.

When, what, and how to check	Result of Check	Possible Cause	How to repair
Input voltage 1. This is usually caused by a spike or surge on the main power input to the house.		Noise on the power line.	If the issue persists, contact the local power provider.

12) Power is automatically turned off during operation or immediately turning on the power button.

When, what, and how to check	Result of Check	Possible Cause	How to repair & settle
<u>Auto Power Relay or Controller</u> 1. It would be defect of the controller if power is automatically turned off immediately when turning on the power switch even though there is no defects in the power switch.	Automatically turned off		Change the controller.

13) Sensor

(1) Sensor failure

Problems	Result of Check	Possible Cause
① Installation of a non-calibrated main board.	· If the value is not within 1~26 by checking the controller group.	Recalibrate or replace the controller.
② Short	· Check the value of the sensor electrode by using TEST MODE during the operation of a normal operation *washing, rinsing, spinning, etc.) If the value shows no change, the sensor is defective.	One of these should repair this. Clean the electrode of the sensor. Reset the sensor by entering and exiting the test mode. Check the wiring harness and connectors to the sensor.
③ The sensor is contaminated with a film of detergent, laundry additives, hard water scale, etc.	· The difference between the sensing value measured from the supplied water by a jig and the sensor value of the product is 5 or more.	One of these should repair this. Clean the electrode of the sensor. Reset the sensor by entering and exiting the test mode. Replace the sensor.
④ Sensor is out of order	· tE - Temperature Sensor Fault Verify the operation of the temperature sensor in the QC test mode.	Check the wiring harness. Replace the sensor. Replace the main board.
※ Stop or reset the sensor by entering and exiting the TEST MODE.		

(2) Sensor inaccuracy

Problems	Result of Check	How to repair
① Contamination on the sensor causes inaccurate readings.	· The difference between the sensing value measured from the supplied water by a jig and the sensor value of the product is 5 or more..	One of these should repair this. Clean the electrode of the sensor. Reset the sensor by entering and exiting the test mode. Replace the sensor.
② Inaccurate sensor readings.	· If the value measured from the jig is normal but the consumer is not satisfied with	Reset the sensor by entering and exiting the test mode.
** - To set the sensor to detect a higher detergent level, increase the sensor group by 1 or 2 steps. - To set the sensor to detect a lower detergent level, decrease the sensor group by 1 or 2 steps. (See below.)		

(3) Changing the controller group

Press and hold CUSTOM PROGRAM and DELAY WASH, then press the POWER button.

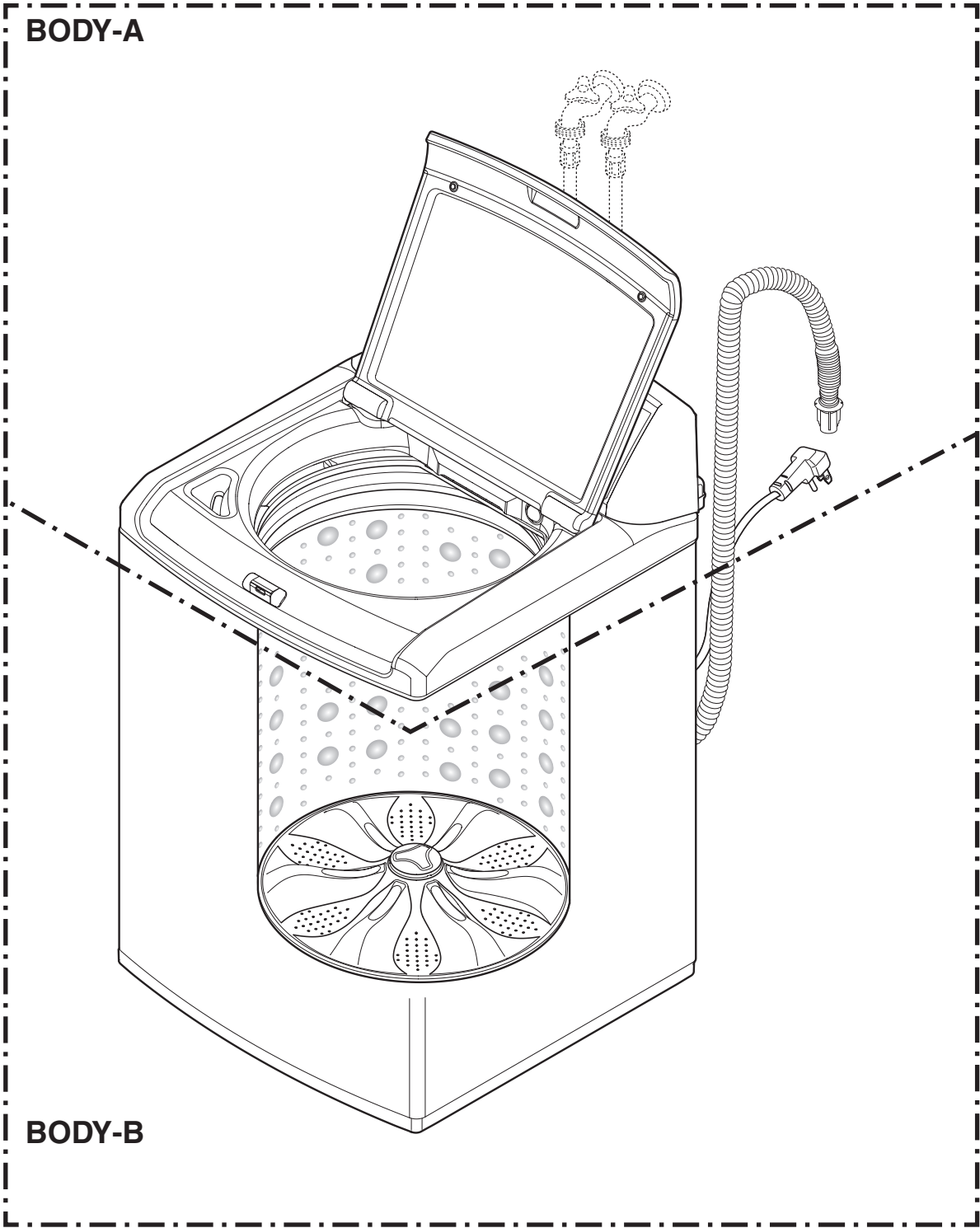
► **Initial Test mode display:** All LEDs are off, except I-SENSOR LED

Display the number of TR calibration times: Display  means not calibrated, / for the first time and so on.

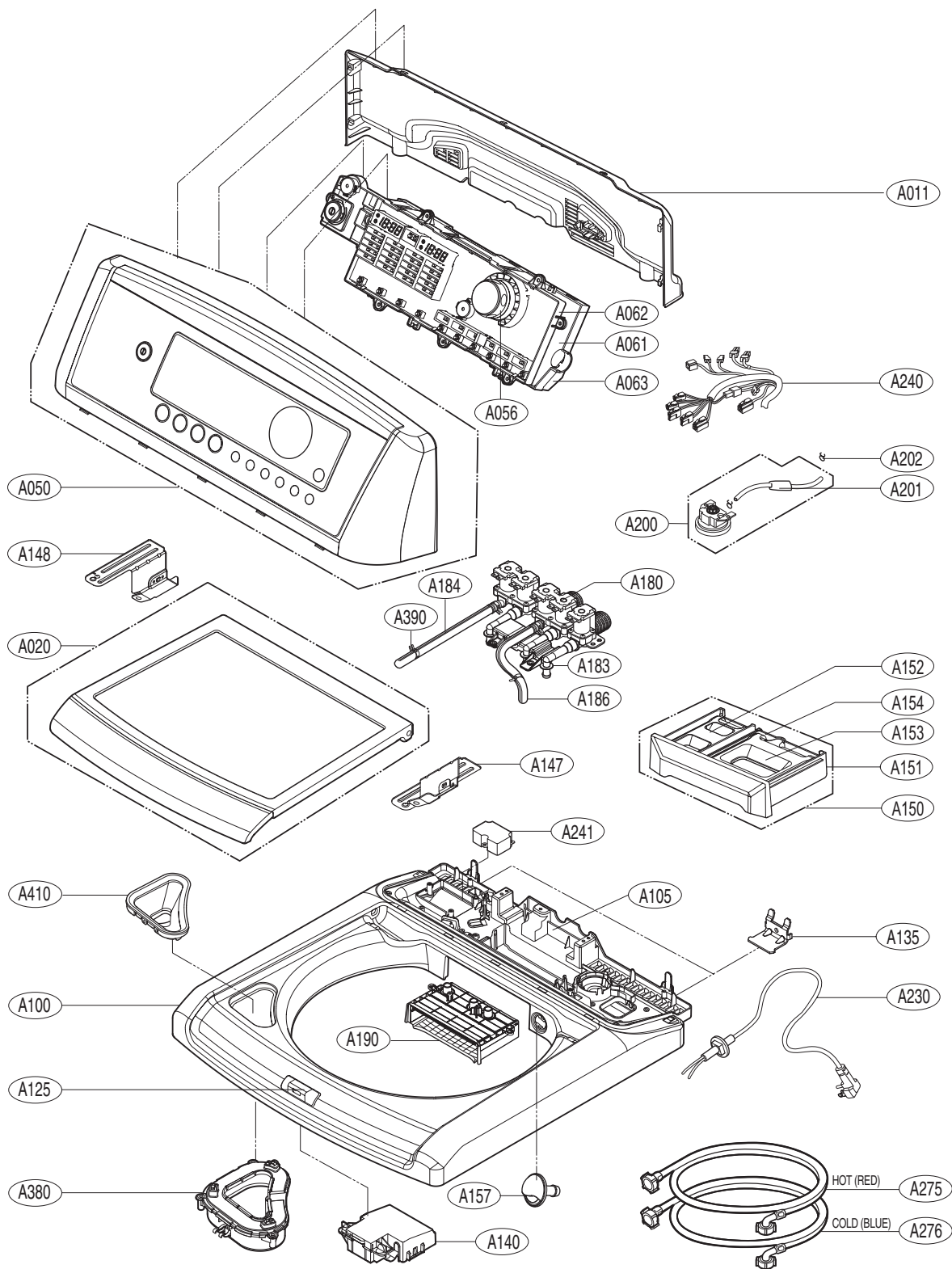
1. Press PROGRAM once. It will display the current controller group. (1 ~ 26)
Press PROGRAM again to decrease the controller group by 1.
2. Press START / PAUSE once. It will display the current controller group. (1 ~ 26)
Press START / PAUSE again to increase the controller group by 1.

※ The buzzer sounds if there is no controller group.

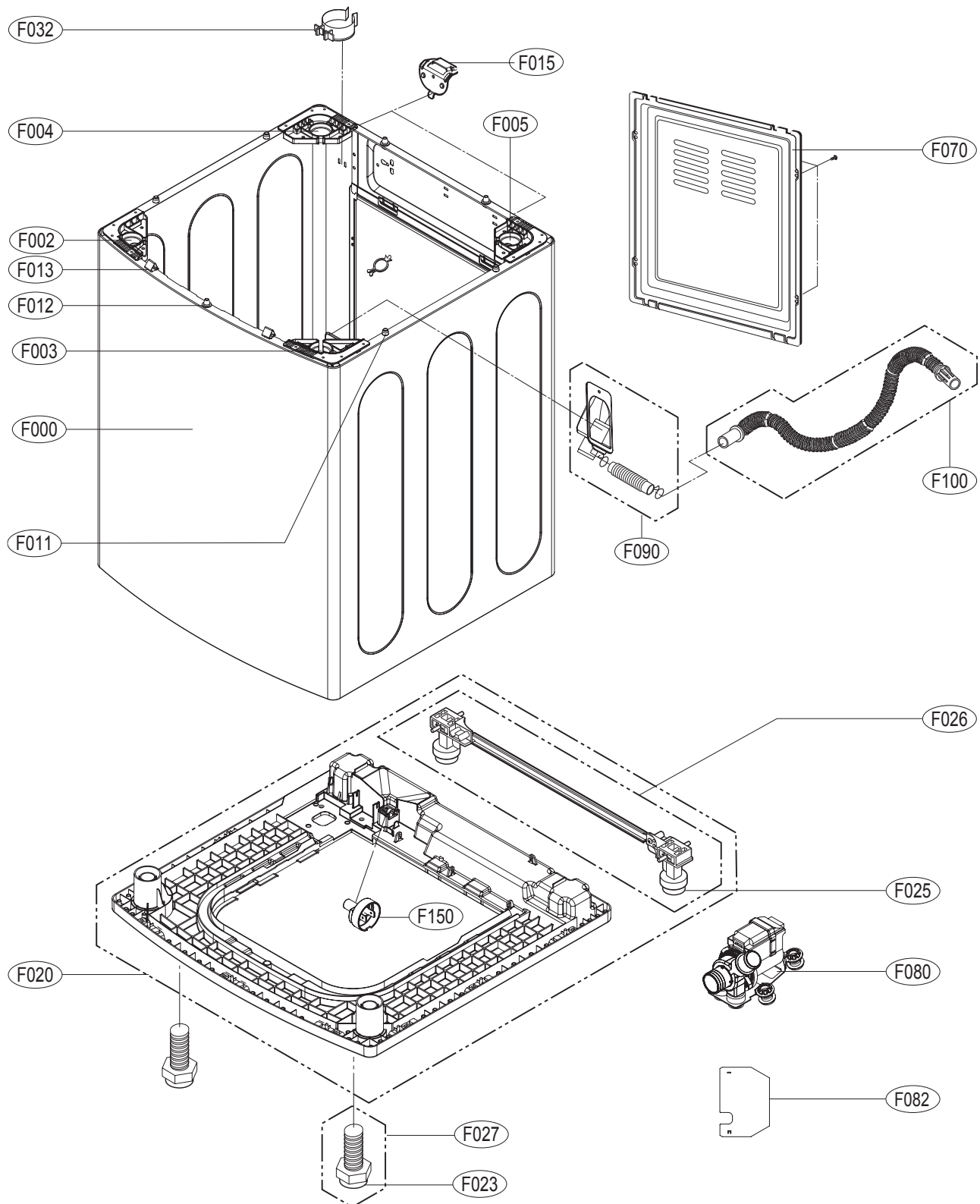
5. EXPLODED VIEW



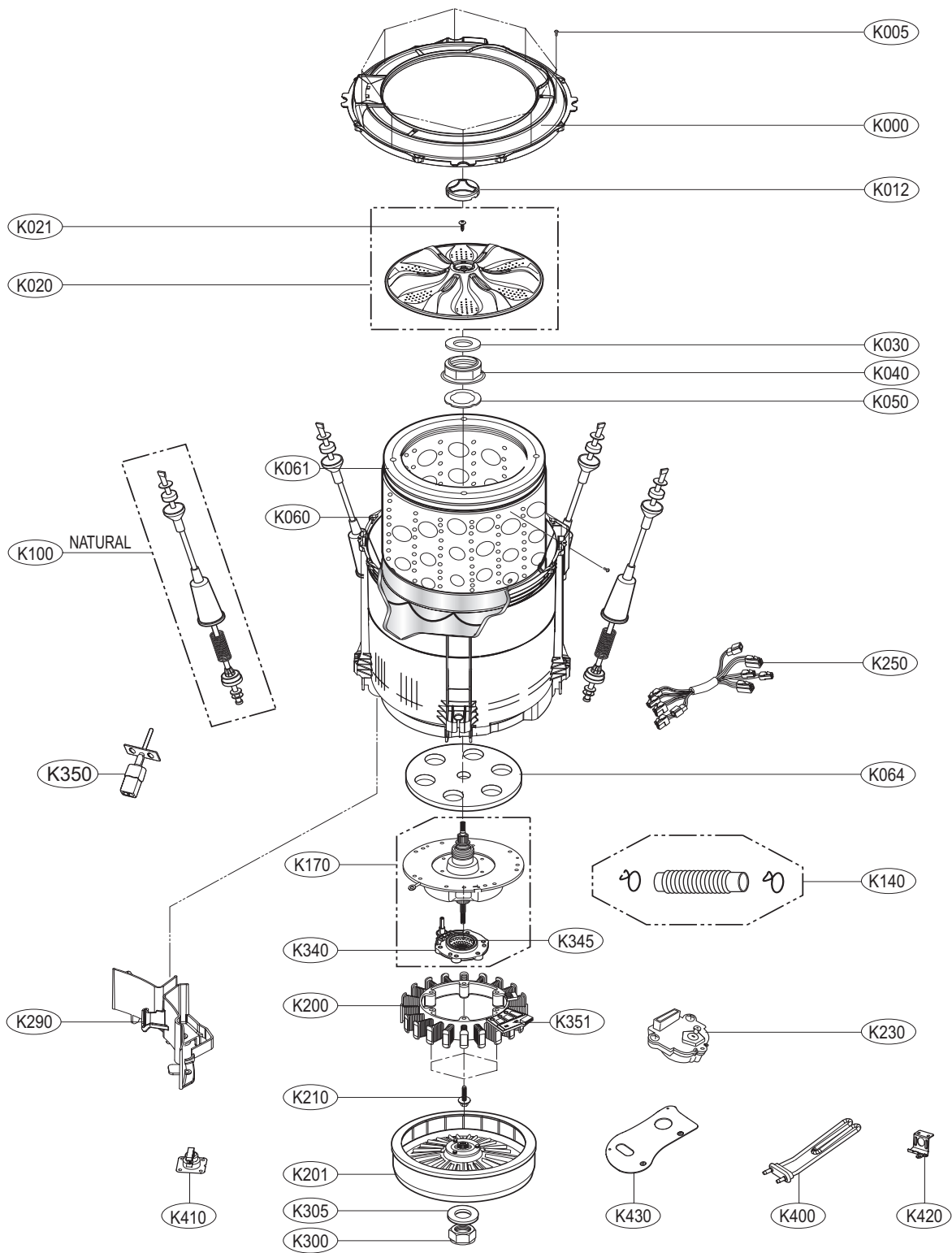
5-1. EXPLODED VIEW OF TOP COVER ASSEMBLY



5-2. EXPLODED VIEW OF OUT CASE ASSEMBLY



5-3. EXPLODED VIEW OF TUB ASSEMBLY



6. REPLACEMENT PART LIST



FEB. 2009 PRINTED IN KOREA

P/No. MFL40322123