

BX B7S BX BLED CONTROL SYSTEM (WASHING MACHINE SERVICE HANDBOOK



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3. Security Warnings

This section includes security instructions which may help prevent the injuries and material damage risks. All kinds of warranties shall be invalid if these instructions are not observed.

3.1. General Security

- This product can be used by the children who are at the age of 8 and over and the people whose physical, sensory or mental skills are not fully developed or who do not have necessary required experience and knowledge as long as they are supervised or trained about the safe use of the product and its risks. Children should not play with the device. Cleaning and user maintenance procedures should not be performed by the children unless they are supervised by a person.
- Do not place the machine onto a floor covered with a carpet. Electrical parts will get overheated since air cannot circulate from under the device. This may lead to failures in machine.
- If the product is faulty, it should not be operated before it is repaired by the authorized service! Risk of electric shock!
- This product is designed to resume operation when power is on again after a power cut. If you want to cancel a program, see the section titled "Cancelling a Program".
- Plug the product into a grounded outlet protected by a 16-ampere fuse. Be sure to make a qualified electrician arrange the grounding installation. If the machine is used without grounding which conform to the local regulations, our company will not be liable for any damages which may arise.
- Water mains and drain hose should be fixed securely and undamaged. Otherwise, water leak may occur.
- While there is still water inside the product, never open the loading door or remove the filter. Probable injuries will take place due to flood or hot water.
- Do not force open the locked loading door. Door can be opened a few minutes after the washing cycle ends. If you force the loading door to open it, door and lock mechanism may be damaged.
- Unplug the product if it is not in use.
- Do not wash the product by spraying or pouring water onto it! Risk of electric shock!
- Never touch the plug with wet hands! Do not grab the power cord to unplug the machine, always unplug it by holding its plug.
- Use only the detergents, softeners and additives intended for washing machines.
- Observe the instructions on the label of textiles and the detergent package.
- Product should be unplugged during installation, maintenance, cleaning and repair procedures.
- Always make the **Authorized Service** perform installation and repair procedures. Manufacturer cannot be held responsible for any damages which might arise due to the operations performed by unauthorized persons.
- If the power cord is damaged, it should be replaced by the manufacturer, after-sale service or a similarly qualified, certified person (preferably an electrician) or a person to be designated by the importer, in order to prevent the risk.

3.2. Intended Use

- This product is for domestic use only. It is not suitable for commercial use and it must not be used out of its intended use.
- The product must only be used for washing and rinsing of laundry that are marked accordingly.
- The manufacturer waives any responsibility arisen from incorrect usage or transportation.
- Service life of the product you purchased is 10 years. This is the period of time when the spare parts are made available in order for the product to operate as specified.

3.3. Child Safety

- Packaging materials may be dangerous for the children. Keep the packaging materials out of the reach of the children.
- Electric products are dangerous for children. Keep the children away from the product when it is in use. Do not allow them to play with the product. Activate child lock to prevent the children to tamper with it.
- Do not forget to close the loading door when leaving the room where the product it located.
- Keep all detergents and additives in a safe place out of the reach of the children with their lids or packages are closed.

3.4. Compliance to RoHS Directive

- This product does not contain the harmful and prohibited substances which are specified in Directive “Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipments” (Turkey RoHS) issued by the Ministry of Environment and Forestry of Republic of Turkey.
- Complies with the EEE Directive.

3.5. Packaging information

Packaging materials of the product are manufactured from recyclable materials in accordance with our National Environment Regulations.

Do not dispose of the packaging materials together with the domestic or other wastes. Take them to the packaging material collection points designated by the local authorities.

3.6. Disposal of waste product

This product has been manufactured with high quality parts and materials which can be reused and are suitable for recycling.

For this reason, do not discard this product with the domestic products and other wastes at the end of its service life. Take the product to a collection point for the recycling of the electric and electronic equipments. Ask these collection points to the local administration in your region. Help contribute to the protection of environment and conservation of the natural resources by delivering the used products to the recycling points. Before disposing the product, cut its power cord and break the lock mechanism of the loading door and make it inoperable for the safety of children.

3.7. Points to consider during service

- During panel installation, make sure that the cables to be mounted onto the electronic card are not pinched between the bracket sheets. It should be ensured that all the sockets on the electronic card are seated well.

- It should be ensured that cable in the installation of cable group is not damaged. Stripped or damaged cables should not be installed. Cable route should be taken into account during installation; cable's coming into contact with sharp surfaces should be avoided and it should not be pinched.
- It should be ensured that the sockets of all components which are serviced are seated well. Arc may occur in case of inadequate contact.
- It should be checked that the serviced product is connected to a grounded outlet which is protected by a fuse with suitable current. Connection should not be made with extension cable or multiple outlet. Moreover, no extension should be made to the power cord or internal cables.
- Put the serviced product onto a firm ground; do not put it on a carpet with high pile or other similar surfaces. Electrical parts may get overheated since air cannot circulate from under the device.
- Do not put the serviced product onto its power cord or another cable.
- If you have to unplug the serviced product from the mains, never grab it from its power cord, always unplug it by holding its plug only.
- Check the power cord and plug of the serviced product. If its power cord or plug is faulty, replace the power cord group completely with a new group. Please make sure that the cables are not shortened, snapped, stripped, hardened and plug ends are not broken, cracked, oxidized or loosened.
- Check the outlet which the serviced product is plugged in. Product should not be plugged in the outlets which are loosened, dislocated from its housing, broken, in contact with water, dusty, dirty, oiled.
- Along the route of the power cord from the outlet to the machine, make sure that the cord does not come under heating sources, cupboards, devices, etc. which may damage the product.
- During service, do not perform hot works on the machine, such as soldering, welding, etc. Do not leave these devices on the machine.
- During service, do not wipe the machine with flammable and combustible substances such as thinner, alcohol, etc.
- After the machine is serviced, do not forget any paper-based materials inside the machine such as service slip, brochure, etc.

IMPORTANT:

When the machine is required to be serviced by being tilted to the front, its transport safety bolts should be installed.

This is required for the front components of the machine not to be damaged.

4. Product Installation / Installation Rules / Settings

Apply to the nearest Authorized Service agent for the installation of your product. In order to make your machine ready for use, before calling the authorized service, make sure that electrical installation, clean water installation and water drain are appropriate by checking the user manual. If this is not the case, call for a qualified electrician and technician and take necessary actions.

	Customer is liable to prepare the place of installation for the product, electricity, clean water and waste water installations.
	Installation and electrical connections of the product should be performed by Authorized Service. Manufacturer cannot be held responsible for any damages which might arise due to the operations performed by unauthorized persons.
	WARNING: Before use, check whether there is any damage on the product. If the product is damaged, do not have it installed. Damaged products pose a risk for your safety.
	Make sure that the water inlet and drain hoses and the power cord of the machine are not folded, pinched or broken during when the product is pushed into its place after the installation or cleaning works.

4.1. Correct Place for Installation

- Place the product flat and level on a hard floor. Do not put it onto a carpet with high pile or other similar surfaces.
- The product should not be placed on the border or broken ground.
- When the washing machine and drier are placed on top of each other, their total weight – when loaded– amounts to 180 kilograms. Place the product onto a sound and flat surface having an adequate load bearing capacity!
- Do not place the product on the power cable.
- Do not install the product in the environments where the temperature falls below 0 °C.
- Leave a minimum space of 1 cm between the machine and the furniture.

4.2. Removing the Package Support



Figure 4.1

Tilt the machine backwards in order to remove the package support. Remove the packaging reinforcement by pulling the ribbon.

4.3. Removing the Transport Safety Bolts

	WARNING: Do not remove the transport safety bolts before removing the packaging support.
	WARNING: Before operating the washing machine, remove the transport safety bolts! Otherwise, the product will be damaged.

- 1 Loosen all bolts with an appropriate wrench until they turn freely.
- 2 Remove the transport safety bolts by turning them slightly.
- 3 Insert the plastic covers in the bag containing the user manual to the openings on the rear panel.



Figure 4.2

	Keep the transportation safety bolts in a safe place to reuse when the washing machine needs to be moved again in the future.
	Never transport the machine unless its transport safety bolts are installed!

4.4. Connection to the Supply Water

	Required water pressure is between 1-10 bar (0.1-1 MPa) for the proper operation of the machine. For the healthy operation of the machine, 10 – 80 liters of water per minute should be supplied from a fully opened tap. If the water pressure is higher, attach a pressure decrease valve.
	If you will use the double water inlet product as a single water inlet (cold), before operating the product, make sure you insert the plug supplied with the product to the hot water inlet. (It applies to the products with which blind plug group is supplied.)
	WARNING: Single water inlet models should not be connected to the hot water tap. Laundry may be damaged or product may not operate according to the protection status.
	WARNING: Do not use the old or used water inlet hoses for the new product. It may leave stains on your laundry.

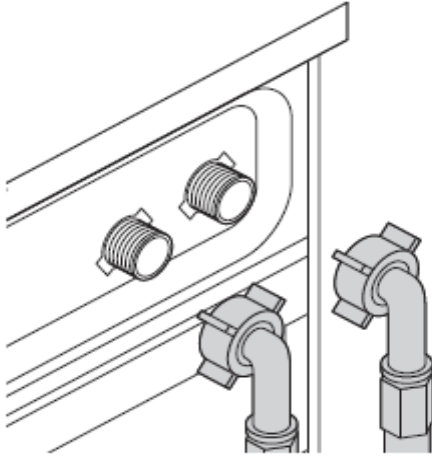


Figure 4.3

1. Connect the special hoses supplied with the product to the water inlets on the product. Hose with red inscriptions (left) (Max. 90 °C) is for hot water inlet, hose with blue inscriptions (right) (Max. 25 °C) is for cold water inlet.

	WARNING: Make sure that the hot and cold water taps are connected correctly when the product is being installed. Your laundry may come out hot at the end of the washing cycle and wear out.
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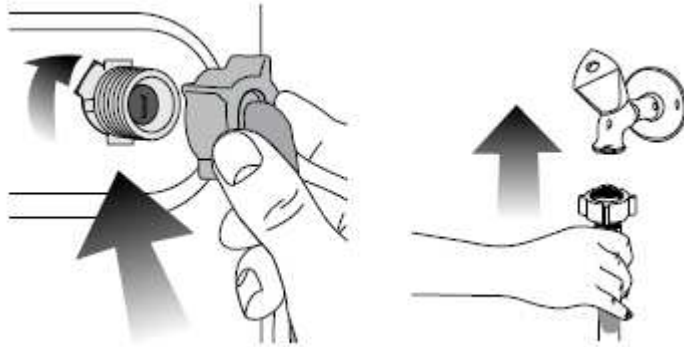


Figure 4.4

2. Tighten the nuts of the hose by hand. Never use a tool when tightening the nuts.

3. When hose connection is completed, check whether there is leak problems at the connection points by opening the taps fully. In case of any leakage, close the tap and remove the nut. Check the seal and tighten the nut again carefully. In order to prevent the water leaks and resultant damages, keep the taps closed when you do not use the product.

Connection to the water drain

- End of the drain hose should be attached directly to waste water drain, lavatory or bathtub.

	WARNING: If the hose is dislocated during water draining, it will flood your house. Also, there is risk of burning by hot water due to washing at high temperatures. In order to prevent such situations and make sure that the machine performs water intake and discharge processes without any problem, fix the drain hose securely.
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- The hose should be attached to a height of at least 40 cm, and 100 cm at most.



Figure 4.5

- If the hose is placed at floor level or near to floor (less than 40 cm) and heightened later on, water drain becomes difficult and laundry may come out extremely wet. Therefore, follow the heights described in the figure.
- To prevent the waste water to go back into the machine again and to ensure easy drainage, do not immerse the end of the hose into the waste water or do not insert it into the drain for more than 15 cm. Shorten it if it is longer than enough.
- End of the hose should not be bent, it should be stepped on and Hose should not be folded between the drain and the machine.
- If the hose is not long enough, add the original extension hose to be supplied and use it in this way. Hose cannot be longer than 3.2 m. In order to prevent water leaks, fasten the extension hose and the drain hose of the product securely with a clips to prevent any leak.

4.5. Adjustment of legs



WARNING: Product should stand on its legs stable and in a balanced way in order for it to operate silently and without vibration. Ensure balance by setting its legs. Otherwise, the product may move from its place and cause crushing and vibration problems.

- 1 Loosen the lock nuts on the feet by hand.
- 2 Adjust the feet until the product stands in a stable and balanced way.
3. Tighten all lock nuts by hand again.

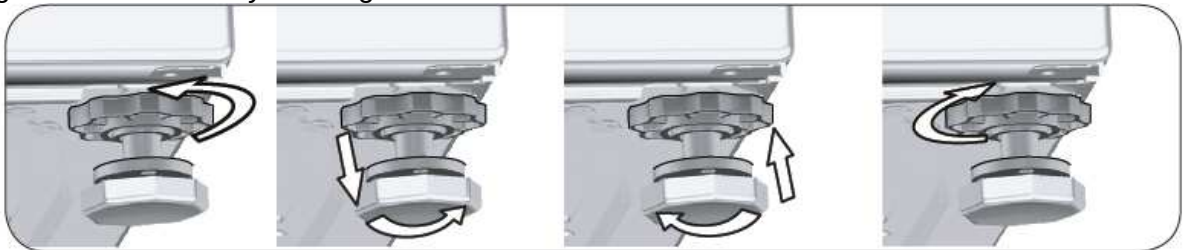


Figure 4.6



WARNING: Do not use any appliance or tool to loose the lock nuts. Otherwise, they may be damaged.

4.6. Electrical connection

Plug the product into a grounded outlet protected by a 16-ampere fuse. If the machine is used without grounding which conform to the local regulations, our company will not be liable for any damages which may arise.

- Connection should comply with the national regulations.
- Power cable's plug should be easily accessible after installation.
- If the current value of your fuse is below 16 amperes, make a qualified electrician connect a 16-ampere fuse.
- Voltage specified in the "Technical specifications" section should match the mains voltage.
- Do not connect to the extension cables or multiple outlets.



WARNING: Damaged power cables should be replaced by the Authorized Service.

4.7. Transportation of the product

1. Before handling the product, unplug it from the mains.
2. Remove the connections of water drain and water mains.
3. Discharge the entire amount of water left inside the product.
4. Install the transport safety bolts in reverse order of the disassembly procedure.



Never transport the machine unless its transport safety bolts are installed!



WARNING: Packaging materials may be dangerous for the children. Keep the packaging materials out of the reach of the children.

5. Use of Product and Byproducts

5.1. Preparation

5.1.1. Sorting the Laundry

- Sort laundry according to type of fabric, color, and degree of soiling and allowable water temperature.
- Always obey the instructions given on the garment tags.

LAUNDRY WASH SYMBOLS												
 WASH	Machine Wash Symbols	 Normal wash		 No Iron		 Sensitive-Delicate wash		 Hand wash		 Not washable		 No Spin
	Water Temperatures	Maximum	95°C	70°C	60°C	50°C	40°C	30°C				
		Symbol(s)	⬢⬢⬢	⬢⬢	⬢⬢	⬢⬢⬢	⬢⬢	⬢				
 DRYING	Drying Symbols	 Suitable for dryer		 No Iron		 Sensitive / Delicate dry		 Do not dry with dryer		 Do not dry		 Do not dry-clean
	Drying Settings	 At any temperature	 At high temperature	 At medium temperature	 At low temperature	 Without heating	 Hang to dry	 Lay to dry	 Hang wet to dry	 Lay in shadow to dry	 Dry-cleanable	
 IRON	Iron -			 Iron at high temperature		 Iron at medium temperature		 Iron at low temperature		 Do not iron		 Iron without steam
	Dry or Steam			200 °C		150 °C		110 °C				
	Maximum temperature											
 BLEACH	 All bleaches are allowed				 Bleach (sodium hypochlorite) can be used		 Bleach is not allowed		 Only bleaches without chlorine are allowed			

Figure 5.1 Washing Symbols

5.1.2. Preparation of the garments to be washed

- Laundry items which contain accessories such as support wire, buckle or metal button may damage the washing machine. Remove the metallic parts or wash the laundry by putting them into a bag or pillow case.

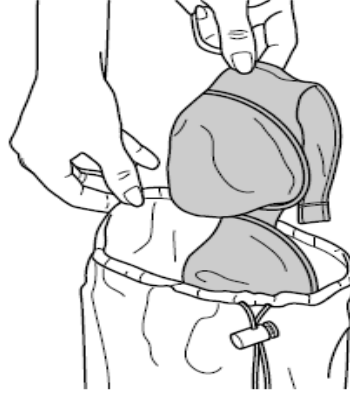


Figure 5.2

- Remove all objects such as coins, pens, paper clips, etc. and reverse the pockets and brush them. Such objects may damage the product or lead to sound problem.
- Put the small size laundry items such as children socks or nylon socks into a laundry bag or pillow case.
- Place the curtains without squeezing them. Remove the curtain fittings.
- Close the zips, sew the loose buttons, repair the tears and rips.
- Wash the items at appropriate programs according to “Machine Wash” or “Hand Wash” labels.
- Do not wash the colored items with whites. New, dark color cotton garments may release much dye. Wash them separately.
- Tenacious stains should be handled appropriately before wash. If you are not sure, check it with a dry cleaner.
- Only use the dyes / color changers and descaling agents which are appropriate to machine wash. Read the instructions on the packaging.
- Wash the pants and delicates by reversing them.
- Before washing the garments made of angora wool, wait them in the freezer compartment of the refrigerator for a few hours. Thus, the tuft amount which may be created will lessen.
- Before putting the laundry items which are frequently exposed to substances such as flour, lime powder, milk powder, etc., shake them well. Such dusts and powders on the laundry may build up on the inner parts of the machine in time and can cause damage.

5.1.3. Things to do for energy saving

- Following information will help you use the product in an ecological and energy-efficient manner.
- Operate the machine with the highest capacity permitted by the program you selected and do not over load it. See "Program and consumption table".
- Observe the temperature recommendations given on the detergent package.
- Wash your slightly soiled laundry at low temperatures.
- Prefer short programs for the slightly soiled and small amounts of laundry.
- Do not use pre-wash and high temperatures for your laundry which are not heavily soiled and stained.
- If you will dry your laundry in a drier, select the highest spin speed which is recommended for your washing program.
- Do not use detergent in excess of the amount recommended on the detergent package.

5.1.4. Correct load capacity

The maximum load capacity depends on the type of laundry, the degree of soiling and the washing programme desired.

Machine automatically adjusts the water amount according to the weight of the laundry put inside it.



WARNING: Observe the information written in the "Program and consumption table". When it is overloaded, washing performance of the machine will be decreased. Also, sound and vibration problems may occur.

Laundry type	Weight (g)
Bathrobe	1200
Napkin	100
Quilt cover	700
Bed sheet	500
Pillow case	200
Table cover	250
Towel	200
Hand towel	100
Night dress	200
Underwear	100
Men's smock	600
Men's shirt	200
Men's pajamas	500
Blouse	100

Figure 5.3 Laundry weights

5.1.5. Laundry loading

1. Open the laundry cover.
2. Put the garments into the machine in a loose manner.
3. Push and close the loading cover until you hear the locking sound. Make sure that the garments do not get pinched between the door.



Loading door gets locked when operating. Door lock opens soon after the program finishes.



WARNING: If the laundry is placed wrongly, sound and vibration problems may occur in the machine.

5.1.6. Use of detergent and softener



When using detergent, softener, starch, fabric dye, bleach or limescale remover read the manufacturer's instructions on the package carefully and follow the suggested dosage values. Use measuring cup if available.

DETERGENT DISPENSER

Detergent dispenser consists of three compartments:

- (1) For prewash
- (2) For main wash
- (3) For softener
- (*) Moreover, there is a siphon part in the softener compartment.

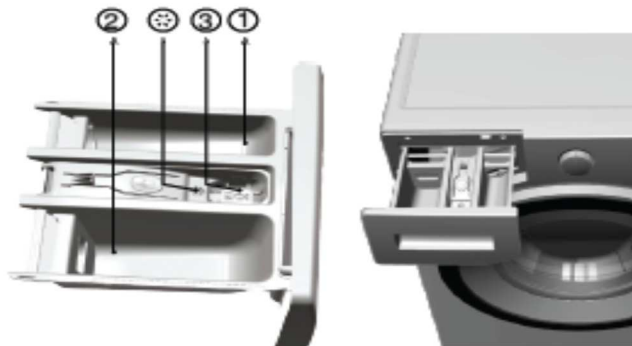


Figure 5.4 Compartments of the detergent dispenser

DETERGENT, SOFTENER AND OTHER CLEANING AGENTS

- Before starting the wash program, add detergent and softener.
- While the washing cycle is in progress, do not leave the detergent dispenser open!
- If you are using a program without prewash, do not add detergent into the prewash compartment (compartment number “1”).
- In a prewash program, do not add liquid detergent into the prewash compartment (compartment number “1”).
- If you are using detergent bag or dosage ball, do not select a prewash program. Place the detergent bag or dosage ball directly among the garments in the machine.
- If you are using liquid detergent, do not forget to place the liquid detergent container into the main wash compartment (compartment number “2”).

DETERGENT SELECTION

Detergent type to be used depends on the fabric type and color.

- Use separate detergents for color and white laundry items.
- Wash your delicate garments only with the special detergents which are used for delicates (liquid detergent, wool shampoo, etc.).
- You are recommended to use liquid detergent when washing dark color garments or quilts.
- Only wash the woolens with the special detergent used for woolens.

	WARNING: Only use the detergents which are intended and manufactured for the washing machines.
	WARNING: Do not use soap powder.

ADJUSTMENT OF DETERGENT AMOUNT

Amount of detergent to be used depends on the laundry amount, soil degree and hardness of water.

- Do not exceed the dosages which are recommended on the detergent package in order to prevent the excessive foam and bad rinse results, to save detergent and to protect the environment.
- Use lower amounts of detergent for a small amount of laundry or slightly soiled items.

USE OF SOFTENER

Put the softener into the softener compartment of the detergent dispenser.

- Do not exceed the (>max<) level sign on the softener compartment.
- If the softener lost its fluidity, dilute it with water before putting it into the compartment.

USE OF LIQUID DETERGENTS

If the product has a liquid detergent container

- Make sure that you place the liquid detergent container into the compartment number "2".
- If the liquid detergent lost its fluidity, dilute it with water before putting it into the detergent container.

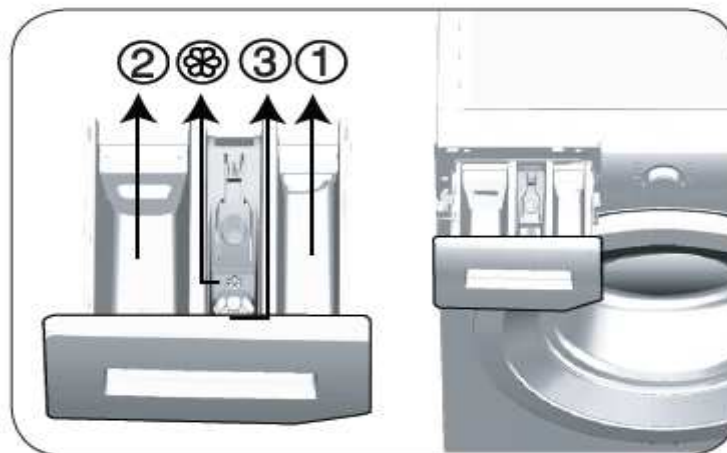


Figure 5.5 Use of liquid detergent container

If the product does not have a liquid detergent container

- In a prewash program, do not use liquid detergent for prewash.
- Liquid detergent leaves stains on your items when delayed start function is used. Do not use liquid detergent if you will use Delayed Start feature.

Use of gel and tablet detergent

Apply the following actions when using tablet, gel detergents, etc.

- If the gel detergent is fluid and if your machine does not have a special liquid detergent container, put the gel detergent into the main wash detergent compartment during first intake of water. If your machine has a liquid detergent container, fill the detergent into this container before starting the program.
- If the gel detergent is not fluid or it is a capsule liquid tablet, put it directly into the drum before starting the washing cycle.
- Put the tablet detergents into the main wash compartment (number "2") or directly into the drum before starting the washing cycle.

	Tablet detergents may leave a residue in the detergent compartment. If you encounter such a problem, place the tablet detergent among the laundry items at the bottom of the drum.
	Use the tablet or gel detergent without selecting the prewash function.

Use of Soda

- Put the liquid soda, powder soda or the fabric dye into the softener compartment.
- In a wash program, do not put softener and soda at the same time.
- After using soda, wipe the inside of the machine with a damp and clean cloth.

Use of bleach and decolorant

- Add the bleach at the beginning of the washing cycle by selecting a prewash program. Do not put detergent into the prewash compartment. As an alternative application, add the bleach while the machine is taking water from the detergent compartment in the first rinse step by selecting a program with additional rinse.
- Do not use bleach by mixing it with detergent.
- Use a small amount of bleach (1/2 tea glass-approx. 50 ml) and rinse the laundry well since bleach will cause skin irritation. Do not pour the bleach onto the laundry and do not use it with the colored items.
- When using oxygen-based decolorant, select a program which washes the laundry at a low temperature.
- Oxygen-based decolorant can be used with the detergent; however, if it is not at the same consistence, first put detergent in the compartment number "2" in the detergent dispenser and wait for the machine to flush the detergent when taking in water. While the machine continues taking in water, add decolorant in the same compartment.

Use of descaling agent

- When it is necessary, only use the descaling agents which are intended and manufactured for the washing machines.

5.1.7. First Use

Before starting to use the product make sure that the preparations are made which are in line with the “Important Safety Instructions” and the instructions in the “Installation” section.

In order to make the machine ready to wash laundry, perform the first washing cycle with the Drum Cleaning program. If your machine does not have a Cauldron Cleaning program. In order to make the machine ready to wash laundry, perform the first washing cycle in line with the method which is described under the heading Cleaning the Loading Door and Drum in section 7.2.



Figure 5.6 Cleaning the bellows

	Use an anti-limescale suitable for the washing machines.
	There might be a little amount of water left inside the product due to the quality control procedures during manufacturing. This does not damage the product at all.

5.1.8. Recommendations for correct washing

Clothes					
	Light Colored Items and Whites	Colored Items	Black/Dark Colored Items	Delicates/Woolens/Silk Items	
	(Washing temperature range recommended for the soil amount: 40-90C)	(Washing temperature range recommended for the soil amount: cold-40C)	(Washing temperature range recommended for the soil amount: cold-40C)	(Washing temperature range recommended for the soil amount: cold-30C)	
Soiling Amount	Heavily Soiled (Tenacious stains such as grass, coffee, fruit, blood stains.)	Prewash may be necessary in order to perform a preliminary process for the stains. Powder and liquid detergents which are recommended for the whites can be used at the doses which are recommended for the heavily soiled laundry. It is recommended that powder detergents are used to clean the stains which are sensitive to the decolorants and the clay and soil stains.	Powder and liquid detergents which are recommended for the colored items can be used at the doses which are recommended for the heavily soiled laundry. It is recommended that powder detergents are used to clean the stains which are sensitive to the decolorants and the clay and soil stains. Detergents not containing decolorants should be used.	Liquid detergents which are appropriate for colored and black/dark items can be used at the doses which are recommended for the heavily soiled laundry.	Prefer the liquid detergents which are manufactured for the delicate laundry. Woolens or silk clothes should be washed with the detergents which are specially manufactured for woolens.
	Normally Soiled Items (Body dirt stains at the collars and cuffs are examples.)	Powder and liquid detergents which are recommended for the whites can be used at the doses which are recommended for the normally soiled laundry.	Powder and liquid detergents which are recommended for the colored items can be used at the doses which are recommended for the normally soiled laundry. Detergents not containing decolorants should be used.	Liquid detergents which are appropriate for colored and black/dark items can be used at the doses which are recommended for the normally soiled laundry.	Prefer the liquid detergents which are manufactured for the delicate laundry. Woolens or silk clothes should be washed with the detergents which are specially manufactured for woolens.
	Slightly Soiled (There are not visual stains.)	Powder and liquid detergents which are recommended for the whites can be used at the doses which are recommended for the slightly soiled laundry.	Powder and liquid detergents which are recommended for the colored items can be used at the doses which are recommended for the slightly soiled laundry. Detergents not containing decolorants should be used.	Liquid detergents which are appropriate for colored and black/dark items can be used at the doses which are recommended for the slightly soiled laundry.	Prefer the liquid detergents which are manufactured for the delicate laundry. Woolens or silk clothes should be washed with the detergents which are specially manufactured for woolens.

Table 5.1 Recommendations for correct washing

5.2. Control panel

Introduction of BX B7S Control System

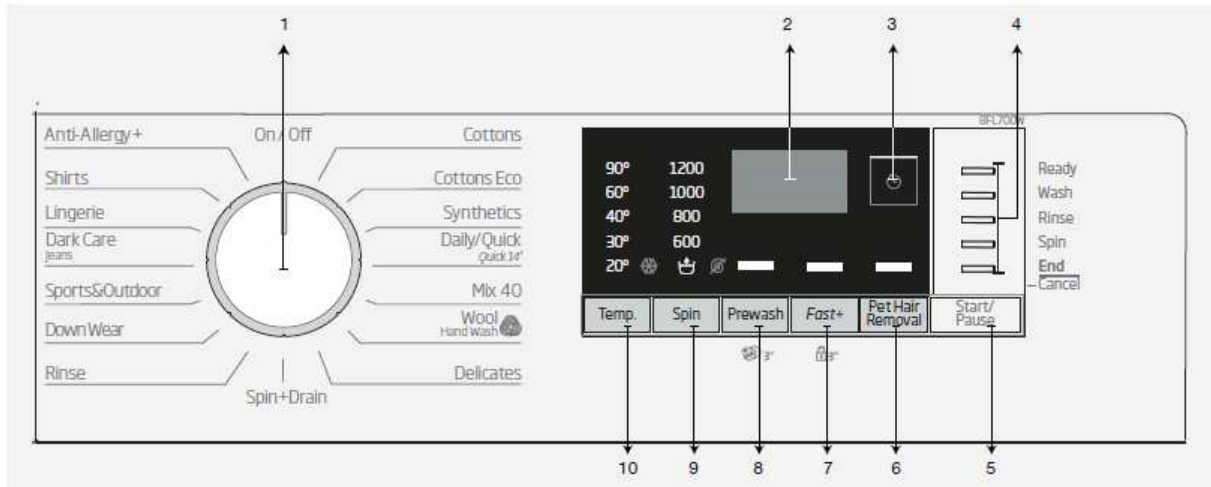


Figure 5.7 Control panel

- 1 - Programme Selection knob (Uppermost position On / Off)
- 2 - Display
- 3 - Delayed Start Indicator
- 4 - Programme Follow-up indicator
- 5 - Start / Pause button
- 6 - Auxiliary function button 3
- 7 - Auxiliary function button 2
- 8 - Auxiliary function button 1
- 9 - Spin Speed Adjustment button
- 10 - Temperature Adjustment button

5.2.1. BX BLED Control System

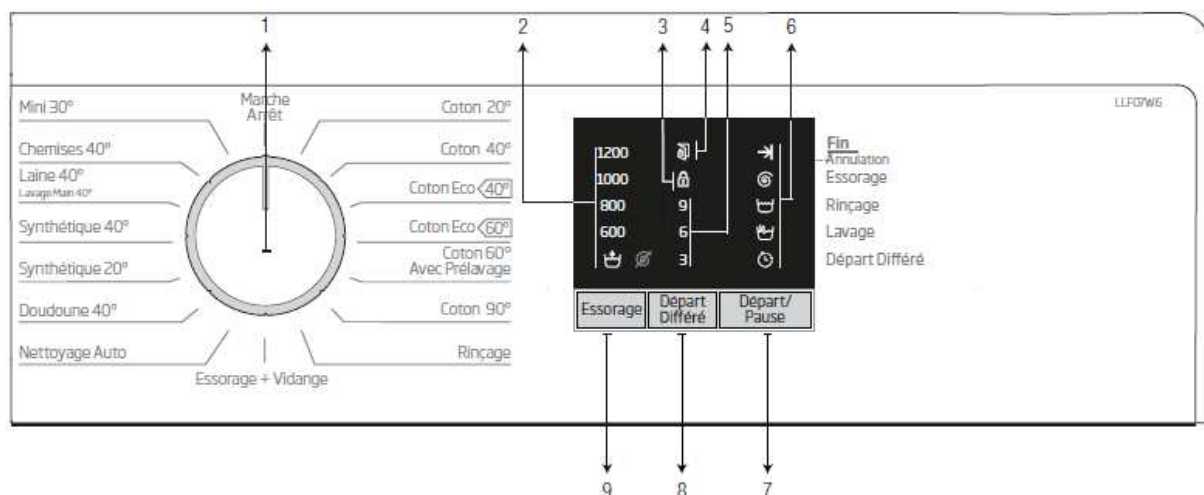


Figure 5.8 Control panel

- 1 - Programme Selection knob (Uppermost position On / Off)
- 2 - Crimping Cycle Indicator Leds
- 3 -Child Locked Enabled
- 4 - Door Lock Activated
- 5 - Late Start Indicator Leds
- 6 - Program Tracking Leds
- 7 - Start / Pause button
- 8 - Late Start Setting Key
- 9 – Tear-off toggle key

5.3. Preparing the Machine

1. Make sure that the hoses are secured tightly.
2. Plug in the machine.
3. Open the water tap fully.
4. Place the laundry inside the machine.
5. Add detergent and softener.

5.4. Program selection

- Switch it to the desired program (For the models in which temperature selection can be made by means of the program selection switch, turn the program selection Switch to the appropriate “Program+Temperature” position).
 - Recommended Speed Level conforming to the program chosen will be selected and its LED will light.
 - For the models equipped with Temperature Level Selection, Recommended Temperature Level conforming to the program chosen will be selected and its LED will light.
 - Program will only start when **Start/Standby** button is pressed on.
2. Select any program you want to use by using **Program Selection** switch.

	Programs are limited with the highest spinning speed which is appropriate to the fabric type.
	When selecting the program you will use, always take fabric type, color, soil degree and permitted water temperature into consideration.
	Always prefer the lowest temperature value which is fit to your laundry type. Higher temperatures mean higher power consumption.
	See “Program and consumption table” for detailed program information.

5.5. Main programs

Depending on the type of fabric, use the following main programs.

Cottons

- You can wash the durable laundry at this program. Your laundry is washed with intensive wash movement and its washing period is long. It is recommended that you use them for your cotton laundry (bed sheet, quilt cover set, towel, bathrobe, underwear, etc.).

Cottons Economic

- You can wash your laundry which you will wash in cotton programs for a longer period of time with very good washing performance.
Cottons economic program consumes less energy compared to the other cottons programs.

Synthetics

- You can wash your laundry which is not very durable in this program. Slower washing movements and shorter period of time is used when compared to the "Cottons" program. It is recommended for your synthetic laundry (shirts, blouses, synthetic/cotton blends, etc.). For curtains and tulles, with the prewash and crease-reduction functions being selected, using "Synthetic 40°C" program is recommended. Detergent should not be put into the prewash compartment. A small amount of detergent should be put into the main wash compartment since the tulle creates too much foam due to its porous structure.

Woolens

You can wash your machine-washable woolen laundry at this program. Wash your laundry by selecting an appropriate temperature written on its label. It is recommended that you use appropriate detergent for woolens.

Hand wash

You can wash your woolen/delicate laundry, on the label of which it is written that it is not machine washable and which is recommended to be washed by hand. It washes your laundry without wearing them with its very soft washing movement.

There are extra programs for special cases which may vary according to the model of the washing machine:

Quilt

- 8 Kg. It is a program particular for washing machines. Only machine washable quilts can be washed. More than 1 double fiber quilt should not be loaded. Quilts, pillows, etc. which contain cotton material should not be washed. Excessive use of detergent may lead to bad rinse results and formation of foam.

Baby/Hygiene/Bactistop

- It ensures a high hygiene level by means of longer heating period and an extra rinse. This program is recommended for baby dresses and for garments of allergic people.

Super 40 /A+A40/Active40

- This program gives the same result with the "Cottons 60°C" program by performing a wash cycle for a longer period of time at 40°C and thus saves energy. It is appropriate for the dresses for which you cannot use "Cottons 60°C" program.

Mini14

- This program is used to wash small amount and very slightly soiled (daily) cotton garments quickly.

- **Quick Daily (Mini_28: 28 Minutes and 30°C, Mini_58: 88_Minutes and 60°C, Mini_88: 88_Minutes and 90°C)**
- You can use this program to wash a small amount of slightly soiled and stainless cotton garments quickly. Each of these main wash programs is composed of an entire washing cycle which includes wash, rinse and where necessary spin cycles.

Viscose

- Items which are labeled as viscose and viscose blends can be washed in this program. Laundry is ensured to be cleaned without being deformed.

Delicate

- Delicate laundry can be washed in this program. It washes with a more sensitive wash movement compared to the synthetics program and it does not make intermediate spins. It should be used for laundry for which sensitive wash is recommended. For delicate laundry, using low spin cycles is recommended!

Shirts

- This program should be used for shirts and similar clothes. Program temperature and detergent amount should be used by taking the color and soiling level of the garment into consideration. Shirts are ensured to be less creased with the special spin profile. For this program, maximum load amount should be observed which is recommended for less creasing.

Outdoor/Sport

- This program is appropriate for the clothes which are worn for a short period of time such as sport clothes. It is used to quickly wash a small amount of clothes which are made of cotton/synthetic blend.

Tulles/Curtains

- This program should be used for tulles and curtains. Program temperature and detergent amount should be used by taking the color and soiling level of the curtains/tulles into consideration. Detergent should not be put into the prewash compartment in the curtains program. Prewash is applied in order to take away the easily-removable particles (such as dust, soot) on the tulles/curtains. Tulles and curtains are ensured to be creased less with its special spin profile. It is recommended to use special detergents dedicated for curtains in this program.

Lingerie

- Delicate underwear can be washed in this program. A small amount of laundry should be washed by putting into a laundry net. Hooks, buttons, etc. on the laundry should be fastened, zips, etc. should be closed. Washing is made by a very low mechanical movement and at low a temperature. Extra rinse is performed to obtain a better rinse result.

Dark Wash

- Washing is made by a low mechanical movement and at a low temperature in order not to discolor the dark garments. Extra rinse is applied to eliminate any detergent stains on the garments at the end of the washing cycle.

Jeans

- For the stone-wash jeans, a low mechanic movement is applied at the wash cycle and low speed is applied at the spinning cycles in order to prevent any washing damage.

Mix

- You can use this program in order to wash the cotton and synthetic garments together in a short period of time without needing to sort them (such as sportswear). Program temperature and detergent amount should be selected by taking the color, soiling level and the label on the item into consideration. A small amount of laundry should be loaded in order to achieve a better wash result.

Sports

Use this program to quickly wash a small number of cotton/blended fabric garments. It is appropriate for the clothes which are normally worn for a short period of time such as sport clothes.

5.6. Special programs

You may select any of the following programs for special applications.

Rinse

Use this program when you want to perform the rinse (with softener/without softener) or starch applications separately.

Spinning/Pump

- This program is used to apply extra rinse to the laundry or drain the water inside. Before selecting this program, select the spinning speed you want and press “Start/Standby” button. Machine applies the set Spinning Speed and drains the water. If you want to drain the water only without spinning your laundry; select the “Spinning/Pump” program and “No Spinning” level (the lowest speed) by means of the spinning speed selection button, press the “Start/Standby” button. (see Speed Selection.)

 Always set the program according to the fabric type, color, soil degree and permitted water temperature

Always comply with the recommendations written on the garment label. Different temperatures can be selected for most of the main programs.

 Always select the lowest temperature degree which is required. A higher temperature means higher power consumption.

5.7. Speed Selection

- Programs are limited with the highest speed which are appropriate to the fabric type. When the program is selected for the first time, the speed level which is recommended for the program selected is automatically set and relevant level's LED is lightened. Press on the **Spinning Button** in order to adjust (to decrease or increase) the spin speed to one of the levels which are determined according to the selected program. The highest level corresponds to the maximum spinning level which is determined for the machine and varies depending on the machine. One machine can have maximum 5 Speed levels. This lowest one is “**No Spinning**” option. Second lowest level in some models is used for “**Soaking**” feature.

5.8. Temperature Selection

Models equipped with Temperature Button:

Programs are limited with the highest temperature which is appropriate to the fabric type. When the program is selected for the first time, the temperature level which is recommended for the program selected is automatically set and relevant level's LED is lightened. Press on the **Temperature Button** in order to adjust (to decrease or increase) the temperature to one of the levels which are determined according to the selected program.

There are 5 Temperature Levels:

- **90°C**

- 60°C
- 40°C
- 30°C
- Cold

Models which do not have a temperature button and in which temperature is selected by the Program Selection Switch:

Each level in the Program Selection Switch (on Rotary) corresponds to the appropriate textile type and the temperature for this textile type. For example, when Cotton_60 is selected, laundry is washed at 60°C for cottons and Cotton_40 °C is selected, laundry is washed at 40°C for cottons and when Synthetic_60 is selected, laundry is washed at 60°C for synthetic items.

5.9. Functions

Auxiliary Function Selection Buttons:

Depending on the model, one machine can have minimum 2 and maximum 3 Auxiliary Function buttons. For the LED models which have at least “3, 6, 9 hours Delayed Start” feature and minimum 2 Auxiliary Function Buttons, the third auxiliary function button is defined as Delayed Start button and this button has 3 LEDs on it (corresponding to “3 hours, 6 hours and 9 hours” delayed start steps).

Depending on the program, desired auxiliary function can be selected by pressing on the relevant auxiliary function buttons.

Press the required buttons before the program is started.

Some combinations cannot be selected together. For example: Prewash (11a) and Quick Wash

Warning light on the selected Auxiliary Function will light up.

Auxiliary Function Selection:

- Warning light on the selected Auxiliary Function will light up.
- If an auxiliary function which is invalid with the previously selected auxiliary function is selected, the previously selected function will be cancelled and the last selected auxiliary function will remain selected.
- For example: If prewash is selected first and then quick wash is wanted to be selected, prewash becomes cancelled, quick wash remains valid.
- Auxiliary Functions which are not suitable for the program cannot be selected and this invalid selection is reported to the user by flashing the relevant LED for 3 times (see Program Selection Table).
- Depending on the model, a machine can have minimum 2 and maximum 3 auxiliary functions as given below:

Prewash:

- A prewash can be activated with the Prewash Auxiliary Function button.
- If the prewash auxiliary function is selected, laundry is washed with a medium level mechanical movement at the beginning of the wash for the laundry to be soaked, detergent to be solved and permeate through the laundry. Before the next wash step, draining is applied. This function is preferred to remove the easily removable particles on the laundry such as dust, etc.

i A prewash cycle is necessary for heavily soiled laundry only. If you do not use a prewash cycle, you save energy, water, detergent and time.

Prewash without detergent is recommended to wash curtains.

Quick Wash:

Washing time is shortened with the Quick Wash Auxiliary Function button.

If the Quick Auxiliary Function is selected, duration of the heating and washing steps are shortened.

Use this function for smaller loads or less soiled laundry.

Extra Water:

With the Extra Water Auxiliary Function button, water amount used in the wash and rinse steps can be increased.

This function is preferred to wash and rinse with more water.



Energy and water consumption will be increased, Time will be extended.

Extra Rinse:

- If the Extra Rinse Auxiliary Function is selected, an extra rinse is applied before the softener step.
- This function is preferred for more rinse.

Crease Reduction

- If the Crease Reduction Auxiliary Function is selected, intermediate spinning steps are bypassed, last spinning step is performed at a low speed with a special spinning profile. This function provides crease reduction and makes it easy to iron the items.

Soaking:

- If the Soaking Auxiliary Function is selected, the laundry is soaked in water in the softener step (in the last rinse water) and the spinning function is suspended. For the spinning process, spinning speed should be preferred and "Start/Standby" button should be pressed. (If the spinning speed is not selected, only pumping is performed without spinning and the program is ended.)
- This function is applied for the laundry to crease less since the laundry will not be taken out of the machine immediately at the end of the program. In addition to this, this function can be preferred for the laundry to smell softener more.

• Drum Cleaning

Press and hold the auxiliary function button 1 for 3 seconds to select the programme. Use regularly (once in every 1-2 months) to clean the drum and provide the required hygiene. Operate the programme while the machine is completely empty. To obtain better results, put powder lime-scale remover for washing machines into the detergent compartment no. "2". When the programme is over, leave the loading door ajar so that the inside of the machine gets dry.



This is not a washing programme. It is a maintenance programme.

Do not run the programme when there is something in the machine. If you try to do so, the machine detects that there is load inside and aborts the programme.

• Child lock

Use Child Lock function to prevent children from tampering with the machine. Thus you can avoid any changes in a running programme.



If the Programme Selection knob is turned when the Child Lock is active, "Con" appears on the display. The Child Lock does not allow any change in the programmes and the selected temperature, speed and auxiliary functions.

Even if another programme is selected with the Programme Selection knob while the Child Lock is active, previously selected programme will continue running.

Soaking:

- If the Soaking Auxiliary Function is selected, laundry is washed with a medium level mechanical movement at the beginning of the wash for the laundry to be soaked, detergent to be solved and permeate through the laundry, and is heated at a low temperature. Then the laundry is washed with a very slow mechanical movement for a long time. Next washing step is carried on without draining.
- This function is used for pre-operation before wash, which ensures that the tenacious and old stains on the laundry are softened.

Time display

- When a program is running, remaining time for the program to be completed is displayed. Time is shown as "1:45" in hours and minutes. ":" is flashed once in a second and this emphasizes that the machine is operating.



Length of a program depends on the program type and selected auxiliary functions. Details given in the "Technical data and consumption figures" table are for the programs which do not have auxiliary functions.

Time Delay (in all of the 7Segment models and in some of the LED models)

- You can delay the starting time of the program with the Time Delay function.

➤ 7Segment model:

Time Delay can be applied up to "19" hours. Time delay can be set in increments of 1 hour (1,2,3, .. 19). When the Time Delay is set, 3 horizontal lines are shown in the far left segment (step) of the 7S display and to the right of this the set hour is shown. When the Time Delay is started (when "Start/Standby" button is pressed), to show that the time delay is counting down, 3 horizontal lines at the far left are flashed in turn (the animation that the Time Delay is emphasized).

➤ Some LED models with Time Delay feature:

It is achieved by assigning the Third Auxiliary Function button as Time Delay Button. There are 3 LEDs on the button which is assigned as Time Delay and these LEDs correspond to "3 hours, 6 hours and 9 hours" from top to bottom. Therefore, time may be delayed up to 3 or 6 or 9 hours. When the Time Delay is started (when the "Start/Standby" button is pressed), first the LED of set Time Delay segment is lightened, LEDs of the other steps are turned off. When this segment comes to an end after 3 hours, LED of the one-step-below segment is lightened and others are turned off. For example, if 9 hour Time Delay is set, first the 9 hour step LED is lightened, 6 hours and 3 hours step LEDs are turned off. If the set Time Delay is started by pressing the "Start/Standby" button, 9 hour LED which corresponds to the first set Time Segment is kept on for 3 hours and the others are turned off. After 3 hours, 9 hours step LED is turned off, 6 hours step LED is lightened (3 hours LED remains off).



When you set Delayed Start, do not use liquid detergent! There is risk of staining the laundry.

- Open the door, load the laundry and fill in detergent.
- Set the washing program, temperature, spinning speed and, if necessary, auxiliary functions.
- Set any time delay by pressing the Time Delay button (15).
- Press the Start/ Pause button and the Time Delay will start to count down.



More laundry can be added during the Time Delay period. At the end of the Time Delay countdown, the selected program will start running and the "Ready" LED turns off and the relevant tracking LED turns on according to the first step of the started program.

Changing the Time Delay

- If you want to change the time during the countdown, you can realize this in 2 ways:

Without pressing the Start/Standby button (without switching to Pause Mode):

- Set the new Time Delay duration which you want to set by pressing the Time Delay button consecutively with intervals shorter than 3 seconds. If you do not press the Time Delay button for 3 seconds, Time Delay will be started from the last set Time Delay (automatically without pressing the Start/Standby button).

By pressing the Start/Standby button (by switching to Pause mode):

- Press the **"Start/Standby" button**. Delayed Start Animation will stop in the 7Segment models

(all three horizontal lines which are flashed in turn at the far left of the 7S display are turned on solid at the same time). Also, the tracking LED corresponding to the first step of the program

which is selected then turns off.

* By pressing the **Delayed Start button**, set the desired Time Delay.

Press the **"Start/Standby" button** again. In this way, time delay will start to count down from the newly set time delay duration

. Time delay animation starts also thanks to this

(3 lines at the far left of the 7S display are flashed in turn).

Also, the Tracking LED corresponding to the first step of the program which is selected turn on again.

Cancellation of the Time Delay

- If you want to cancel the time delay countdown and start the program immediately:
- You can set the time delay to zero by pressing the Time Delay button consecutively with intervals shorter than 3 seconds (by switching to or not switching to "(Pause)" mode) (until you see "E00" on 7Segment display, and until all Time Delay LEDs are off in the LED model).

5.10. Starting the selected programs

If the Time Delay duration has been reset by switching to "Pause" mode:

-Press the **"Start/Standby" button**. Selected program will be started.

If the Time Delay duration has been reset without switching to "Pause" mode:

- If the Time Delay button is not pressed on for 3 seconds after the Time Delay duration is set, selected program will be started automatically (It is not necessary to press the "Start/Standby" button).
- After the program is started by cancelling the time delay with one of these two methods, "Ready" LED will turn off and the tracking LED corresponding to the first step of the started program will turn on (7Segment display will show the total duration of the selected program, if any)

Starting the Program

- Program is started by pressing the **Start/Standby button**.
- Door is locked electronically and therefore "Ready" Tracking LED is turned off. The **program tracking indicator LED** corresponding to the first step of the program started is turned on.

Progress of the Program

- Progress of an ongoing program is shown by the program tracking indicator LEDs.

 At the beginning of each program step, indicator LED corresponding to the first step is turned on. For example if "Rinse" program is started, "Rinse" tracking LED is turned on and others are turned off. When each phase of wash is finished, the corresponding LED is turned off and LED of the next wash phase is turned on. For example, if the Cotton program

is started, first (after the door is locked), "wash" LED is turned on, other tracking LEDs are turned off). After the washing phase is finished, "Wash" LED is turned off and the "Rinse" LED is turned on until the last spinning phase. After the softener step is finished and last spinning phase is applied, "Rinse" LED is turned off and "Spinning" LED is turned on. After the last Spinning step is finished, "Spinning" LED is turned off and the "End" LED which indicates that the operated program has finished is turned on. 7Segment display, if any, shows "End".

After the program is finished in this way, if the conditions to open the door are met (if the water level is appropriate, etc.), door is unlocked electronically and the door lock is left to 1-2-minute cooling phase. "Ready" tracking LED flashes in this 1-2-minute duration. When the door lock contact is opened mechanically (when the door lock is disengaged), "Ready" LED turns on solid and the machine switches to "Standby" (energy saving) mode. All LEDs on the machine apart from "Ready" and "End" tracking LEDs are turned off. (7Segment, if any, is also turned off). "Stand By" mode is maintained for 3 minutes. Microprocessor is "RESET" at the end of the 3 minutes. After microprocessor is "RESET", those LEDs corresponding the Temperature, Speed and Auxiliary Function of the finished program will be turned on for 1 minute (7Segment, if any, "End" is displayed again). Entry into and exit from the "Stand By" mode is maintained in this way.

- ❗ If the machine does not spin, program may be in the soaking mode or automatic spinning correction system might have been activated due to excessive unbalance (Please see ERROR CODES table).

"Standby" Mode:

- "Standby" mode is assigned in order to save energy when your washing machine is not in use (when there is Energy but the WM does not work). Therefore, there are two modes for which "Standby" is valid and the application in these modes is as follows:

"Standby" Application in the Program Selection Mode:

- When the machine is energized for the first time, if no action is taken for approx. one minute (if the Program Selection Switch is not turned or no button is pressed on), WM goes into "Standby" mode. In this mode, temperature, speed and "Ready" LEDs are turned on. All other LEDs and 7Segment display, if any, are turned off. Thus, energy saving is ensured. If the settings of the washing machine are not changed (with Program Selection Switch or buttons), it stays at "Standby" mode for 109 minutes. Microprocessor is reset at the end of 109 minutes. If WM settings are not changed after the microprocessor is reset, it again switches to "Standby" mode.

"Standby" application in the "Program End" Mode:

- The machine goes into **"Standby"** mode (approx. at the moment when the door lock is disengaged mechanically) one minute after a program is finished (after the "End" LED is turned on and "End" is displayed on the 7Segment display, if any) and "Ready" and "End" tracking LEDs are turned on. All other LEDs and 7Segment Display, if any, are turned off. If the settings of the washing machine are not changed in "Standby" mode in this way, microprocessor is reset after 3 minutes. After it is reset, LEDs corresponding to the settings of the finished program are turned on again. "Ready" and "End" tracking LEDs continue to light up. 7Segment display, if any, shows "End". Machine goes into "Standby" mode again after approx. 1 minute.
❗ "Standby" mode is not assigned in the other modes apart from "Program Selection Mode" and "Program End Mode". For example; while the washing machine is working, "Standby" mode is not possible.

Changing the Position of the Program Selection Switch after a Program Has Started:

- When the program is in normal progress, turning the program switch will cause the ongoing program to be cancelled. However, if there is water in the washing machine, it is not drained. If water is wanted to be drained, "Pump" program should be started. If another program is started without first starting the "Pump" program and if the water taken in the previous cycle is adequate for the newly started program, newly selected program is started from its beginning without taking in water again. If the water is not adequate, firstly water is added. Later, the newly selected program is continued. If the newly selected program is a "Rinse" program and if there is water inside the WM when the previous program is cancelled by turning the Program Selection Switch, first this water is drained. After draining, water is taken from the softener compartment and the "Rinse" program is started.

Changing the Settings of an Ongoing Program:

Changing the Program Settings by Switching the Machine into the Standby Mode:

- When a program is in progress in the washing machine, the machine is switched to pause mode by pressing the **"Start/Standby"** button briefly. In order to show that the machine is switched to pause, program tracking LED corresponding to the washing step when the machine is switched to pause mode is flashed. For example, if it is switched to "PAUSE" at the WASHING step, "WASH" LED flashes. If it is taken into the "PAUSE" in the last spin step, "SPIN" LED flashes. When the WM is in pause mode, auxiliary functions appropriate to the current step of the machine can be cancelled and selected, spinning speed can be changed (if it is not at the spinning step), temperature level can be changed in the models having temperature button (if it is not switched into the "Pause" mode in the heating step). Door can be opened in the water level is appropriate; "READY" warning LED flashes until the door lock opens. When the "READY" LED starts to light solid, the door can be opened. If the front door cannot be opened due to security reasons, "READY" LED remains off. If the **door lock** "READY" LED flashes, it means that the door is not opened yet due to safety reasons. Door can be opened when the "READY" LED starts lighting solid. New laundry can be put into the machine from this time on. To change the program settings, it is not possible to add extra laundry in the second method described below.

Without pressing the Start/Standby button when a program is in progress (without switching to Pause Mode):

Changing the Program Settings:

- When the washing machine is in progress, without switching the machine to "Standby" position, the temperature, speed and auxiliary function settings of the then current program (appropriate to the then current program) can be changed. The single condition for this is that the desired change should not concern the steps which are already in progress then.
- For example, if the spinning speed is wanted to be changed, no spinning should be in progress.

Child Lock

- You can prevent the children to tamper with the machine with the child lock. No change can be effected in an ongoing program when the child lock is engaged.
- Child lock is engaged by pressing the 2nd auxiliary function buttons for 3 seconds. 7S display, if any, shows this 3-second time as "C03, C02 and C01" and the **"C-on"** (child lock is active) is displayed at the end of the 3rd second. If any button is pressed when the machine is in child lock or the Program Selection Switch is turned on, the same sentence is shown. In addition to this warning, LEDs of the 1st and 2nd auxiliary function buttons are turned on and off for 3 times. When any program is operating, if the program selection switch is turned to "On/Off" position and another program is selected afterwards, program which was operating previously resumes from where it was interrupted. To alert the user

that the Child Lock is engaged, LEDs of the 1st and 2nd auxiliary function buttons are flashed for 3 times. Also, the 7Segment display, if any, displays "Con" for 3 seconds.

Deactivation of the Child Lock:

- There are two different situations in order to cancel the child lock:

Cancelling the Child Lock when any program is in progress

- When a program is in progress with the machine, it is only possible to cancel the Child Lock by pressing the 1st and 2nd Auxiliary Function buttons for 3 seconds. 1st and 2nd auxiliary function buttons which are pressed on flash for 3 seconds during this 3-second pressing time. 7Segment display, if any, shows this 3-second time as "C03, C02, C01". Later "COF" is shown on the display indicating that the Child Lock is deactivated.
- When any program is in progress, the only method to cancel the Child Lock is this one.
- Child Lock may not be cancelled by cutting off the power of the machine or by turning the Program Selection Switch to "On/Off" position.

Cancelling the Child Lock when no program is in progress

- In addition to the above method, Child Lock is disengaged again if the program selection switch is turned to "On/Off" position and another program is selected.
- When no program is in progress, child lock is not disengaged by disconnecting from the power supply.

End of the Program

- When the program ends, "END" program tracking LED keeps on. If the door opening conditions are ensured, "READY" LED flashes until the door is opened mechanically (for 1-2 minutes). When the door is openable mechanically, "READY" tracking LED is turned on solid. Other program tracking LEDs are turned off. In this mode, if the conditions to open door are not met (for example, if the water level is high, etc.) program tracking LED "READY" remains off. Also the auxiliary function, spinning and temperature data which was selected at the beginning of the program remain selected. 7S display, if any, shows "END".
- When the machine waits in this situation ("Program End" mode), if the program selection switch is not changed or buttons are not pressed for 1 minute (approx. until the moment when the door is opened mechanically), machine goes into "**Standby**" mode. "Ready" and "End" tracking LEDs are turned on in the "**Standby**" mode. All other LEDs and 7Segment Display, if any, are turned off. If the settings of the washing machine are not changed in "Standby" mode in this way, microprocessor is reset after 3 minutes. After it is reset, LEDs corresponding to the settings of the finished program are turned on again. "Ready" and "End" tracking LEDs continue to light up. 7Segment display, if any, shows "End". Machine goes into "Standby" mode again after approx. 1 minute.

Ending the program by cancelling it:

- To cancel the program in progress, the only method is **to change the position of the Program Selection Switch**. When the program is cancelled in this way, **the water inside the washing machine is not drained**. If the water is to be drained, "**Pump/Spinning**" program should be selected, Speed level should be set to zero and "Start/Standby" button should be pressed. If another program is selected and operated without performing "Pump", the water inside the washing machine is not drained. If this water is adequate for the newly started program, it is resumed. If it is not adequate, water is taken by opening the valve and the washing started after the water level is completed.

**5.11. Quick Instructions for Daily Use
Preparation**

- Open the water tap fully. Check whether the pipes are tightened securely or not. Also check that the drain pipe is hooked to the drain properly.
- Load the laundry into the machine.
- Add detergent and softener.

Starting

- Turn the Program Selection Switch to the desired position
- (Except the "On/Off" position. Energy of the machine is cut at the "On/Off" position);
- Select the temperature (for the models having Temperature Selection Button);
- Set the spinning speed;
- Select the desired Auxiliary Function;
- Set the Time Delay if required;
- Close the loading door;
- Press the Start/Standby button.

➤ In the models having the segment screen:

- If Time Delay is set, Time Delay amount is shown in hours and animation starts to show the Time Delay countdown (3 horizontal lines at the far left of the 7Segment are flashed in turn). After elapsing of some time equal to the set Time Delay, display shows "E00" and selected program is started automatically. After this moment, total time which is required for the completion of the program is shown on the screen ("h:mm" h: hours, m: minutes). ":" flashes once in a second in order to indicate that the program is in progress. If the Time Delay is not set, selected program is started and total time which is required for the completion of the program is shown on the screen ("h:mm" h: hours, m: minutes). ":" flashes once in a second in order to indicate that the program is in progress.
- Check from the program tracking LEDs that the "READY" LED is turned off. If it is not turned off, it means that there is a problem with the door circuit or mechanics. Open and close the door again. From the other program tracking LEDs, program tracking LED corresponding to the first step of the started program is turned on and others are turned off.

Cancellation of Program

- To cancel the program in progress, the only method is to change the position of the Program Selection Switch. When the program is cancelled in this way, the water inside the washing machine is not drained. If the water is wanted to be drained, "Pump/Spinning" program should be selected, Speed level should be set to zero and "Start/Standby" button should be pressed.

Starting a New Program after Program Cancellation

- If the program in progress is cancelled with the position of the program selection switch being changed, water will not be drained as described above. If the program is started in the new position in this way ("by pressing the Start/Standby" button), likewise the water inside the washing machine is not drained. If this water is adequate for the newly started program, it is resumed. If it is not adequate, water is taken by opening the valve and the washing started after the water level is completed.

Adding More Laundry



This is possible only in the following situations:

During a Time Delay

At the beginning of a wash (machine may let you add laundry at a later step only if the water level in the machine is low or the temperature is low).

- Press the **Start/Standby button**. If the door opening conditions are met, "READY" LED starts to flash. It goes on for 1-2 minutes. When the "READY" LED keeps on solid, the door

can be opened mechanically. Open the loading door after this moment and add more laundry.

- Close the loading door.
- Press the **Start/Standby button**.

Program in Soaking Position

- If this feature is selected for any program, program proceeds until completion of the Softener step. Then it waits without draining the water. Meanwhile, since the program is switched to "Standby" position in the "Spinning" step, "**SPINNING**" program tracking **LED is flashed**. In addition to this, 7Segment display, if any, **shows the bucket symbol "_/"**. If you want to perform intermediate spinning:
 - Set the spinning speed.
 - Press the **Start/Standby button**. Program continues, drains the water and spins.If you want to **drain the water without spinning**:
 - Press the "Start/Standby" button without pressing the speed setting button. Program continues and completes the program by only draining the water.

Re-spinning the Laundry

- Automatic spinning-correction-system may prevent spinning in case the drum loses its balance. If you want to spin the laundry again:
 - Re-arrange the laundry which is previously available in the drum;
 - Set the spinning program;
 - Set the spinning speed.Restart the spinning program by pressing the "Start/Standby" button.

After the Program Ends

- When the program ends, "END" tracking LED keeps on solid. 7Segment display, if any, shows the "End". If the door opening conditions are met when the program ends, "READY" program tracking LED is turned on and off. When the door is opened mechanically, "READY" LED is kept on solid. From this moment,
 - Open the loading door and remove the laundry;
 - Turn the Program Selection Switch to "On/Off" position;
 - Shut the water tap;
 - Eliminate the bending in the rubber seal and check for any foreign particles;
 - Keep the loading door and the detergent dispenser open to dry.Waters coming from the prewash and main wash inlets at the same time are made to crash into each other and directed to softener compartment. There is not any separate valve outlet for the softener compartment. Machine keeps on washing process after the softener is taken.

6. MAINTENANCE AND CLEANING

Service life of product extends and frequently experienced problems will be reduced if it is cleaned at regular intervals.

6.1. Cleaning the detergent dispenser

Clean the detergent drawer at regular intervals (every 4-5 washing cycles) as shown below in order to prevent accumulation of powder detergent in time.



Figure 6.1 Cleaning the detergent compartment

1. Pull the detergent compartment towards yourself and remove it out by pushing onto the marked point of the siphon on the softener compartment.



If water and softener more than a normal amount start to stay on the softener compartment, siphon cleaning should also be performed.

2. Wash the dispenser and the siphon in the lavatory with an ample amount of lukewarm water. In order to prevent the residues to contact your skin, clean it with an appropriate brush by wearing a pair of gloves.
3. After the cleaning, replace the dispenser in order to make sure that the siphon is seated into its place well.

6.2. Cleaning the Loading Door and the Drum

Softener, detergent and dirt residues may accumulate in your machine in the course of the time and lead to complaints of odor and bad wash results. To prevent this, use **Drum Cleaning** program. If your machine does not have **Drum Cleaning** program, use the Cottons-90 program by selecting the Extra **Water** or **Extra Rinse** auxiliary function. Run these processes definitely without any laundry and when the machine is empty. Before starting the program, put one teaspoon (max. 100 g) powder descaling agent into the main wash detergent compartment (number 2). If the descaling agent is a tablet, put one tablet into the compartment number 2. After the program finishes, wipe dry the inside of the bellows with clean cloth.



Repeat the drum cleaning work at every 2 months.



Use a descaling agent which is appropriate for the washing machines.

Make sure that there is not any foreign bodies left inside the drum after each wash.



Figure 6.2 Cleaning the bellows

If the holes in the bellows shown in the Figure are clogged, open the holes by means of a toothpick.



Rust stains may form inside the drum due to the metal objects. Clean the stains on the surface of the boiler with stainless steel cleaning agents. Never use steel wool or wire wool.



WARNING: Never use sponge or scrub materials. These will damage the painted and plastic surfaces.

6.3. Cleaning the body and control panel

Wipe the body of the machine with soapy water or non-corrosive mild gel detergents as necessary, and dry with a soft cloth.

Use only a soft and damp cloth to clean the control panel.

6.4. Cleaning the water inlet filters

There is a filter at the end of each water intake valve at the rear of the machine and also at the end of each water intake hose where they are connected to the tap. These filters prevent the foreign substances and dirt in the supply water to enter into the machine. Filters should be cleaned when they become dirty.

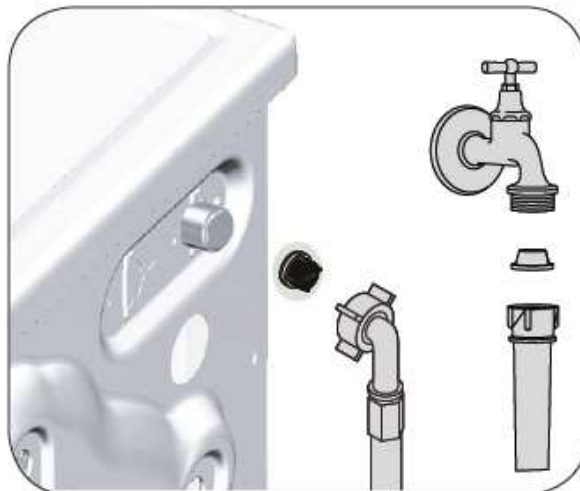


Figure 6.3

1. Shut the taps.
2. Remove the nuts of the water inlet hoses and clean the sediments on the filters of the water inlet valves with an appropriate brush. If the filters are too dirty, remove them from their places with a pliers and clean in this way.
3. Remove the filters on the flat end of the water inlet hoses along with their seals and wash them under running water well.
4. Replace the seals and filters carefully and tighten their nuts by hand.

6.5. Draining the remaining water and cleaning the pump filter

The filter system in your machine prevents solid items such as buttons, coins and fabric fibers clogging the pump impeller during discharge of washing water. Therefore the waste water is discharged without any problems and the service life of the pump is increased.

If the machine does not drain the water, pump filter may have been clogged. Filter should be cleaned when clogged or once in 3 months. In order to clean the pump filter, first the water should be drained.

Also, before transporting the machine (for example when moving to new house) and when the water has the risk of freezing, water may have to be fully drained.



WARNING: Foreign objects which stay inside the pump filter may damage your machine or cause noise problem.



WARNING: If the product is not being used, tap should be closed, mains pipe should be removed and the water inside the machine should be emptied against any likely freezing.



WARNING: After each use, turn off the tap which the mains pipe of the product is connected to.

In order to clean the dirty filter and discharge the water:

1. Unplug the machine and disconnect the power.



WARNING: Temperature of the water inside the machine may rise up to 90 °C. In order to avoid the burning risk, filter should be cleaned after the water inside the machine is cooled down.

2. Open the filter cover.



Figure 6.4 Cleaning the filter

3 Follow the below procedures in order to drain water.

The product has an emergency water draining hose, in order to drain the water:

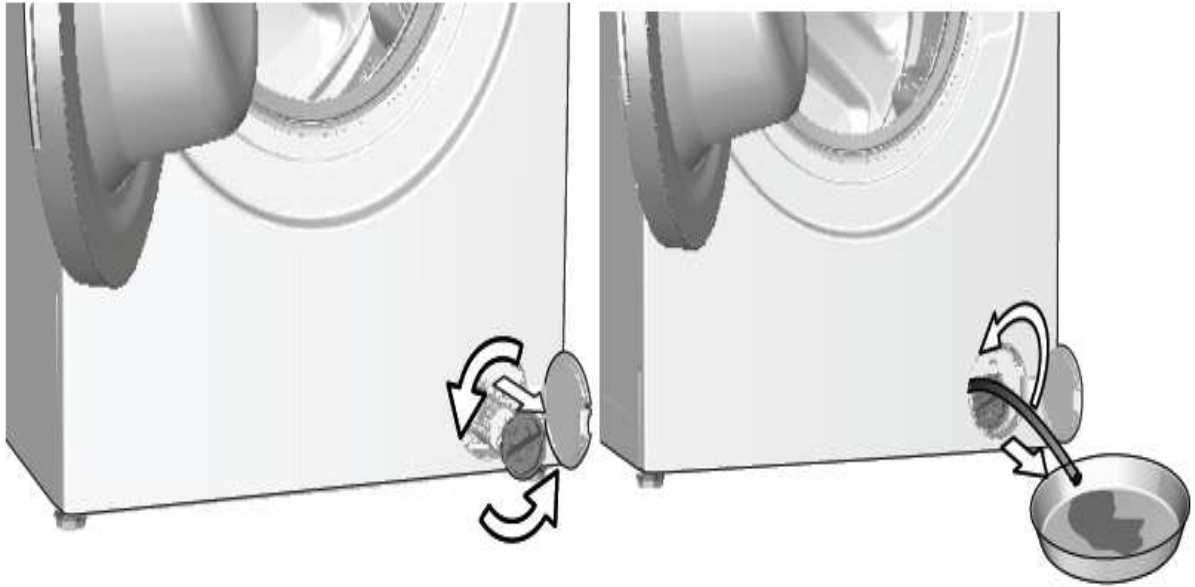


Figure 6.5 Cleaning the filter

- a Pull the emergency draining hose out from its seat
- b Place a large container at the end of the hose. Drain the water into the container by pulling out the plug at the end of the hose. When the container is full, block the inlet of the hose by replacing the plug. After the container is emptied, repeat the above procedure to drain the water in the machine completely.
- c When draining of water is finished, close the end by the plug again and fix the hose in its place.
- d Turn and remove the pump filter.

7. . COMPONENTS

7.1. Mechanical Parts

- All drums are made of a special plastic which is made of high-resistant plastic and reduces the level of the sound strength and does not have a oxidation problem. Drum cover which is used in the YOC series machines is also made of plastic and attached to the drum with special clips. There is one concrete counterweight each for upper and lower part of the drum. Motors are connected and screwed with two rubber bushing and bolts in the YOC series machines. There are transport safety bolts at the rear of the drum. Drum group is hung onto the body from the sides with two springs and fixed to the underside of the body with the two horizontal friction shock absorbers. Drum is made of stainless steel.

7.2. Shock Absorber System

- Body is hung onto the body with 2 springs. Also the drum is fixed to the body from its underside with 2 friction shock absorbers. Springs and shock absorbers transmit vibrations which are created inside the drum to the body and prevent the machine to move and operate with noise. Shock absorbers are connected to the chassis and the drum with the plastic pins instead of bolts.

7.3. Electronic Control and Visual Card

- By means of the control and visual card which is designed to have a single face and manufactured by ARÇELİK; the wash programs which are written onto the microprocessor, washing and spinning motor profiles, protection algorithms and components (motor, heater, pump, valves, door safety lock, ntc, water level selection switch, spinning/temperature selection potentiometer) are controlled.
- There are feeding circuit on the front face of the card (smmps), motor and other component control circuits -triac and relays - and component connection terminals and on its rear face there are microprocessor, function and time delay button and LEDs and program tracking LEDs.
- Necessary wash program is operated in line with the information read from the program selection switch which is connected to the card (rotary switch), spinning/temperature setting potentiometer, auxiliary function and Time Delay switches.
- From the card, auxiliary function, speed/temperature and time delay options and functions can be selected.





Picture 7.1 Electric control card

7.4. Safety Switch (Door Lock)



Picture 7.2 Safety switch

Rated Operating Voltage	: 250V 50-60Hz
Operating Current	: 10-50 mA
PTC Resistance	: Min. ≥ 50 ohm
Contact Locking time	: ≤ 8 s
Contact Engaging time	: 35...70s
Operating Temperatures	: T85

PTC door safety lock was used. When any wash program is started after the door is closed, PTC disk is heated and the door is locked and it is prevented to be opened when the program is in progress.

After the program finishes, PTC cools down in 70s and the door is unlocked.

Current of all components passes over the door safety lock. Machine will not work in case it is faulty.

When 220V is supplied between the contacts numbered 3 and 1, the distance between the contacts numbered 3 and 2 should switch to closed position.

7.5. Motor

Universal series motor is used. Universal series motor consists of stator and rotor. Stator and rotor windings are connected in series by means of collector and brush and current is transmitted to the rotor windings. Motor speed control is made over electronic card. Motor triac on the card adjusts the motor/drum speed by changing the triac triggering angle according to the signal coming from the tacho. In case of abnormal situations (continuous operation-locked rotor), thermocouple is available on the motor winding to protect the winding from overheating.

Rated Operating Voltage	220-240V 50-60Hz
Current	6A max (washing) / 3A (spinning)
Input Power	300 / 450 W

Starting Current	5...8A (washing) / 10A max (spinning)
Technical specifications of tachogenerator	
Number of double pole	8
Tacho output voltage at 300 rpm	>0.9 V
Tacho output voltage at 16500 rpm	<45 V



Picture 7.3. Motor

7.6. Heater

It is used to heat the water inside the drum.

Since it is an electronically controlled machine, there is a double thermocouple at each of the heater inlets.

When the heater operates dry, the overheated thermocouple open circuits the heater. Open circuited heater cannot be used again. In order to prevent the heater to operate without water "during heating", heater safety water level is defined to the microprocessor (Psafety). When the water level which is measured by the water level sensor comes under the defined Psafety level, heater is disabled.

When the water temperature which is read by NTC reaches to the "selected temperature", heater is disabled by the microprocessor.



Picture 7.4 Heater

Operating Voltage	: 230VAC 50-60 Hz
Power	: 1950W
Resistance	: $26\Omega \pm 3\Omega$

When the resistance is measured from both ends with multimeter, approx. 26Ω should be read.

7.7. Water Inlet Valve (with water meter)

It is used to take water inside the machine in required amounts when needed.



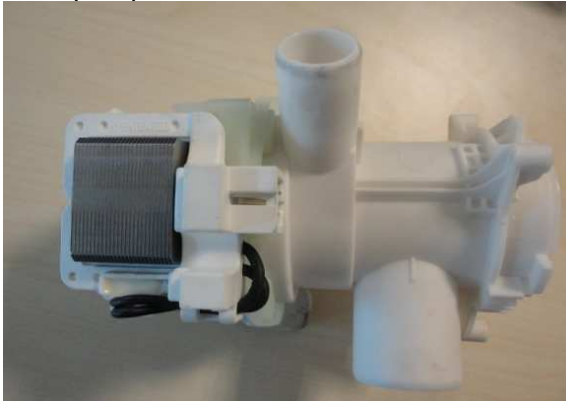
Picture 7.5 Water inlet valve

Operating Voltage	: 220 / 240VAC 50-60 Hz
Nominal Power	: 5 – 8 W
Flow	: 10 L/min
Operating Temperatures	: T85°C
Coil resistance	: 3400 – 4850 Ω

7.8. Drain Pump

It is a synchronous motor equipped with a mono-phase bipolar magnet rotor. At the draining step, electronic control card is activated by the triac on it. It is protected by impedance for continuous operation and blocking situation of the rotor.

Drain pump drains the water inside the drum.



Picture 7.5 Drain pump

Rated Voltage	220-240 V 50Hz
Resistance	145 ohm
Current	<0.2A
Flow	>14 l/min
Starting performance	<=4s (160V)

7.9. Ntc

It is a component which is used to measure the water temperature inside the drum and resistance of which decreases when the temperature increases.

When the water temperature reaches to the adjusted temperature, heater is disabled by means of the heater relay on the card.



Picture 7.7 NTC

Resistance (25 °C) : 4773 ohm ($\pm 4.2\%$, Siemens)-
4837 ohm ($\pm 3.2\%$, elth)

Operating Temperature : $-10^{\circ}\text{C} \dots +100^{\circ}\text{C}$

Thermal time constant : 16 ± 2 s

Resistance values which are read from the NTC ends by means of multimeter are compared to the below table. These approximate values should be read.

Sıcaklık Temperature (°C)	Nom.Direnç RNom (Ω)
-10	26424
-5	20205
0	15589
5	12119
10	9499
15	7498
20	5962
25	4773
30	3846
35	3118
40	2544
45	2087
50	1721
55	1428
60	1190
65	996.9
70	839
75	709.4
80	602.4
85	513.7
90	439.9
95	378.1
100	326.3

Table 7.1 NTC values

7.10. Water Level Sensor

An analog water level sensor which is fed by 5 V voltage is used. This sensor ensures that the water level is determined instantly with the frequency values which it generates against the pressure created. There are frequency values corresponding to the all pressure values. An infinite number of levels can be determined in the analog water level sensor. Water levels change according to the wash criteria of the designed program depending on the selected program, temperature and auxiliary function.

Analog water level sensors are pressure – displacement inverter components in general.

Analog water level sensors generate frequency modulation as output.

There are basically 2 capacitors, 1 coil and an inverter circuit on itself or the control system to which it is connected.

Pressure increase pushes a ferrite part inside the sensor into the coil. Therefore L (inductance) value of coil winding changes and the output value of the sensor – inverter system changes. Therefore pressure value can be measured in an analog manner.

The amount of water to be taken in for the programs is controlled by the water meters.

Water level sensor serves the basic functions of deciding to take in water again, control the heater safety level, door opening level or foam level.

Also, if there are any error in the water meters or its connections, water is taken in with the water level sensor.



Picture 7.8 Water level sensor

Cable inputs

5VDC / Data / GND.

Operating Voltage : 5 VDC

When it is empty, 625 ± 2 Hz frequency value should be read from the Data and GND terminals.

7.11. Dc Cart



Picture 7.8 Dc Cart

DC used in UMDC engines module.

8. Service Mode Steps:

Following important points should be considered in service testing:

➤ **Method for Entering to Service Mode:**

To enter "Service" mode, the first program adjacent to the Rotary "ON/OFF" position in clockwise direction (CW) should be selected while pressing "Start/Pause".

➤ To activate the components being controlled at each step of the service mode, the door must be mechanically locked, that is, components must be energized. For example, to have the motor rotate, the door must be locked; in other words, power should be supplied to the motor.

➤ If the door contact is not closed for any reason when switched into the service mode (if the door lock is out of order or in case of door lock triac failure), i.e., if the driven components (heater, motor, pump, etc.) cannot be energized although the electronic board has power:

a) in Models with LED: "Ready" follow-up LED is lit constantly. Meanwhile, if there is an **"Error Code"** in EEPROM;

It is coded in **"Speed Phase"** LEDs (in DECIMAL base (in BCD format)). If no error is present, all of the "Speed Phase" LEDs will be off. Moreover, in case of pressing the **"Start/Pause"** key, there will be no change in the above-mentioned points and as the door is not actually locked, no progress will be made in "Service Mode" steps and it will remain in the continuous "Error Code" display step.

b) in 7S Models: If there is an "Error Code" in the EEPROM, this error shall be shown as **"E??"** on **7S display**.

If there is no error, **"E—"** shall be written on the **7S display**. Moreover, in case of pressing the **"Start/Pause"** key, there will be no change in the above-mentioned points and as the door is not actually locked, no progress will be made in "Service Mode" steps and it will remain in the continuous "Error Code" display step.

➤ If the power of the machine is cut off in any service test step for any reason (as a result of "ON/OFF" or in case of power failure), it will go back to "Selection Mode" again when the WM is re-energized.

➤ When the machine **waits more than 2 minutes in any service test step**, WM will go back to the selection mode.

Components are activated one by one by pressing the Start/Stop key in the service mode. **Respectively:**

1)

During the initial entry, the "Error Code" which occurred last and recorded in EEPROM will be displayed.

Following points should be considered while an **"Error Code"** is being displayed:

I. In 7S Models:

- If there is any "**Error Code**" present, the code corresponding to this one on decimal basis will be displayed on 7S (in BCD format) with an "**E**" preceding it. E.g., "**E09**" or "**E13**".
- If there is no "**Error Code**" present, this will be shown on 7S as "**E--**".

II. Only in models with LED:

- If there is an "**Error Code**" present, corresponding code of this one on decimal basis (in BCD format) will be coded to "**Spin Phase LEDs**" which is constant in all appearances. Step weights from the lowest to the highest while coding must be $2^0=1$, $2^1=2$, $2^2=4$, $2^3=8$, $2^4=16$ respectively. According to this, for example, if the "**Error Code**" is "**03**", **1st** and **2nd** Spin LEDs from bottom **will be lit** and others will be turned off. If the "**Error Code**" is "**08**", only **4th Spin LED** from bottom will be lit and the others will be turned off.
- If there is no "**Error Code**" present, all spin LEDs must be off.

You may go to the next step by pressing the "**Start/Pause**" key;

2)

The "Error Code" and the other data stored in EEPROM (resume on data) will be deleted from EEPROM and

- In **7S** models, **3-digit software version is shown on the display** and "**Start/Pause**" key is pressed to switch to the next step;

➤ **Only in models with LED, next step is switched automatically** (without pressing the "**Start/Pause**" key).

3)

"Display" test is performed by flashing all segments of 7S and all LEDs. "Display" test is finalized by turning off all segments of 7S and all LEDs when "**Start/Pause**" key is pressed and the mode is switched to the next step.

4)

Turn right (CW) 52rpm. Meanwhile;

- In **7S** models, "Service mode step number" of this step, "**4**" is shown in display;
- In models with **LED**, **3rd LED from the bottom among the "Program Follow-up LEDs"** on the "**Start/Pause**" key is lit (step weights from the bottom towards uppermost are $2^0=1$, $2^1=2$, **$2^2=4$** , $2^3=8$, and $2^4=16$);

You may go to the next step by pressing the "**Start/Pause**" key;

5)

Turn left (CW) 52rpm. Meanwhile;

- In **7S** models, "Service mode step number" of this step, "**5**" is shown in display;
- In models with **LED**, **1st and 3rd LEDs from the bottom among the "Program Follow-up LEDs"** on the "**Start/Pause**" key is lit (step weights from the bottom towards uppermost are $2^0=1$, $2^1=2$, **$2^2=4$** , $2^3=8$, and $2^4=16$);

You may go to the next step by pressing the "**Start/Pause**" key;

6)

Motor movement in the previous step is stopped and the person conducting the test is informed in various ways after performing the following controls:

a) If the Water Level Value read on the Water Level Sensor is out of limits (if Water Level Sensor socket is not mounted properly or if there is loose contact), mode is switched to the next step "7". Therefore, if there is not any drum movement in step 6 so that step 7 is switched automatically, the person performing the test will perceive this situation as a "Water Level Sensor Error".

b) If the Water Level Value read on the sensor is above "Safety Level" although it is within the limits of Water Level Value, the pump is operated and when the level drops below the "Safety Level", actual controls of this step will be carried out (drain pump is active at this time). According to priority sequence, these are;

I. In case of NTC Error, turn it 100rpm;

II. If there is no NTC Error, but if the values read on the Mains Supply Voltage Reading Inputs (Line_Voltage_ADC) are below 185 Volts or above 265 Volts, turn it 140rpm. Two conditions can cause this error: Either the microprocessor's ADC inputs are failed, or the mains supply voltage is actually out of limits.

III. If there is not an NTC error and also any error at the Line_Voltage_ADC inputs, it is rotated at a speed of ~~"MAX_RPM / 2"~~ **MAX_RPM (Rev03_28112012): MAX_RPM**

Meanwhile, "6", which is the service mode step

➤ number is shown in display in **7S** models.

➤ In models with **LED**, **2nd** and **3rd LEDs from the bottom among the "Program Follow-up LEDs"** on the **"Start/Pause"** key is lit (step weights from the bottom towards uppermost are $2^0=1$, $2^1=2$, **$2^2=4$** , $2^3=8$, and $2^4=16$);

You may go to the next test step by pressing the **"Start/Pause"** key.

7)

Motor movement that was started in the previous step is stopped and the pump is turned off. "ON_YIKAMA_VANASI" (FRONT_WASH_VALVE), which is the actual test in this step is opened and checked.

Meanwhile, "7", which is the service mode step

Ø number is shown in display in **7S** models.

Ø In models with **LED**, **1st, 2nd** and **3rd LEDs from the bottom among the "Program Follow-up LEDs"** on the **"Start/Pause"** key is lit (step weights from the bottom towards uppermost are $2^0=1$, $2^1=2$, **$2^2=4$** , $2^3=8$, and $2^4=16$);

You may go to the next test step by pressing the **"Start/Pause"** key.

8)

FRONT_WASH_VALVE, which was opened for test purpose in the previous step, is closed.

MAIN_WASH_VALVE, which is the actual test in this step is opened and checked.

Meanwhile, "8", which is the service mode step

➤ number is shown in display in **7S** models.

➤ In models with **LED**, **4th LED from the bottom among the "Program Follow-up LEDs"** on the **"Start/Pause"** key is lit (step weights from the bottom towards uppermost are $2^0=1$, $2^1=2$, **$2^2=4$** , $2^3=8$, and $2^4=16$);

You may go to the next test step by pressing the **"Start/Pause"** key.

9)

MAIN_WASH_VALVE, which was opened for test purpose in the previous step, is closed.

SOFTENER_VALVE which is the actual test in this step, is opened and checked.

Meanwhile, “9”, which is the service mode step

- number is shown in display in **7S** models.
- In models with **LED**, **1st** and **4th LEDs from the bottom among the “Program Follow-up LEDs”** on the “**Start/Pause**” key is lit (step weights from the bottom towards uppermost are $2^0=1$, $2^1=2$, **$2^2=4$** , $2^3=8$, and $2^4=16$);

You may go to the next test step by pressing the “**Start/Pause**” key.

10)

SOFTENER_VALVE, which was opened for test purpose in the previous step, is closed.

HOT_WATER_VALVE which is the actual test in this step, is opened and checked (if there is no hot water valve, this step will be skipped automatically).

Meanwhile, “10”, which is the service mode step

- number is shown in display in **7S** models.
- In models with **LED**, **2nd** and **4th LEDs from the bottom among the “Program Follow-up LEDs”** on the “**Start/Pause**” key is lit (step weights from the bottom towards uppermost are $2^0=1$, $2^1=2$, **$2^2=4$** , $2^3=8$, and $2^4=16$);

You may go to the next test step by pressing the “**Start/Pause**” key.

11)

HOT_WATER_VALVE, which was opened for test purpose in the previous step, is closed.

HEATER test, which is the actual test in this step, will be performed as follows:

- a) If the Water Level Value read on the Water Level Sensor is out of limits (if Water Level Sensor socket is not mounted properly or if there is loose contact), mode is switched to the next step "12". Therefore, if there is not any increase in the current drawn by the washing machine in step 11 so that the step 12 is switched automatically, person performing the test can perceive this situation as a “Water Level Sensor Error”.

(Rev02_07102011):

b) If the Water Level Sensor is OK but the water level is NOT above "Safety_Level + 20 units", all valves

are opened. When the water level is above "Safety_Level + 20 units", all valves are automatically closed.

Then the following checks are performed according to washing machine configuration:

i) If the washing machine does NOT have "Main Valve Flow Meter":
The HEATER is turned on automatically, and the motor is started to turn with 52 rpm clockwise direction. (REV_04_04042014 -- Motor movement is canceled.) The person performing the test checks if there is any increase in the current drawn by the WM and controls the heater.

ii) If the washing machine has "Main Valve Flow Meter":
Just before turning on the heater, The Main Valve Flow Meter pulse value is checked as follows:

If the pulse value is greater than 50, the HEATER is turned on automatically, and the motor is started

to turn 52 rpm clockwise direction. Person performing the test checks if there is any increase in the

current drawn by the WM and controls the heater.

If the pulse value is NOT greater than 50, the HEATER is NOT turned on and service mode is switched to the next step (step 12). So, by this way, the person performing the test can perceive this situation as a "Main Valve Flow Meter Error".

Meanwhile, "11", which is the service mode step

➤ number is shown in display in **7S** models.

➤ In models with **LED**, **1st**, **2nd** and **4th LEDs from the bottom among the "Program Follow-up LEDs"** on the "**Start/Pause**" key is lit (step weights from the bottom towards uppermost are $2^0=1$, $2^1=2$, **$2^2=4$** , $2^3=8$, and $2^4=16$);

You may go to the next test step by pressing the "**Start/Pause**" key.

12)

"HEATER", which was opened for test purpose in the previous step, is turned off. At the same time, motor movement which was started in the previous step is also finished and all valves are closed.

"PUMP", which is the actual test in this step, is turned on and the water in the WM is drained until the water falls below "Safety_Level". Pump is turned off when the water level falls below the "Safety_Level".

At the beginning of this step, **MAIN_WASH_VALVE** and **HOT_WATER_VALVE** are opened (ON) for 5 seconds and then closed (OFF). (Rev01_22072011)

Meanwhile, "12", which is the service mode step

➤ number is shown in display in **7S** models.

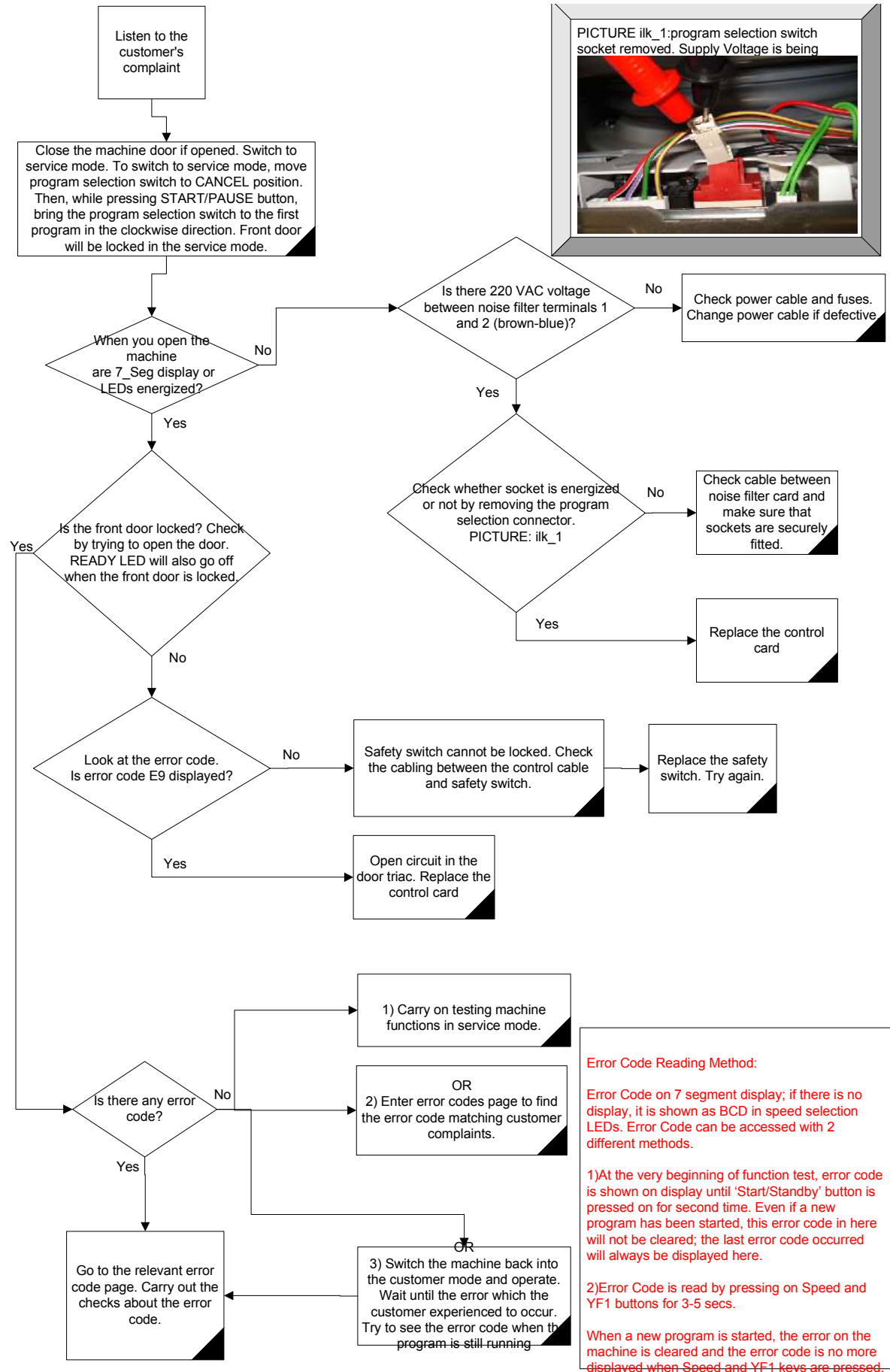
➤ In models with **LED**, **3rd** and **4th LEDs from the bottom among the "Program Follow-up LEDs"** on the "**Start/Pause**" key is lit (step weights from the bottom towards uppermost are $2^0=1$, $2^1=2$, **$2^2=4$** , $2^3=8$, and $2^4=16$);

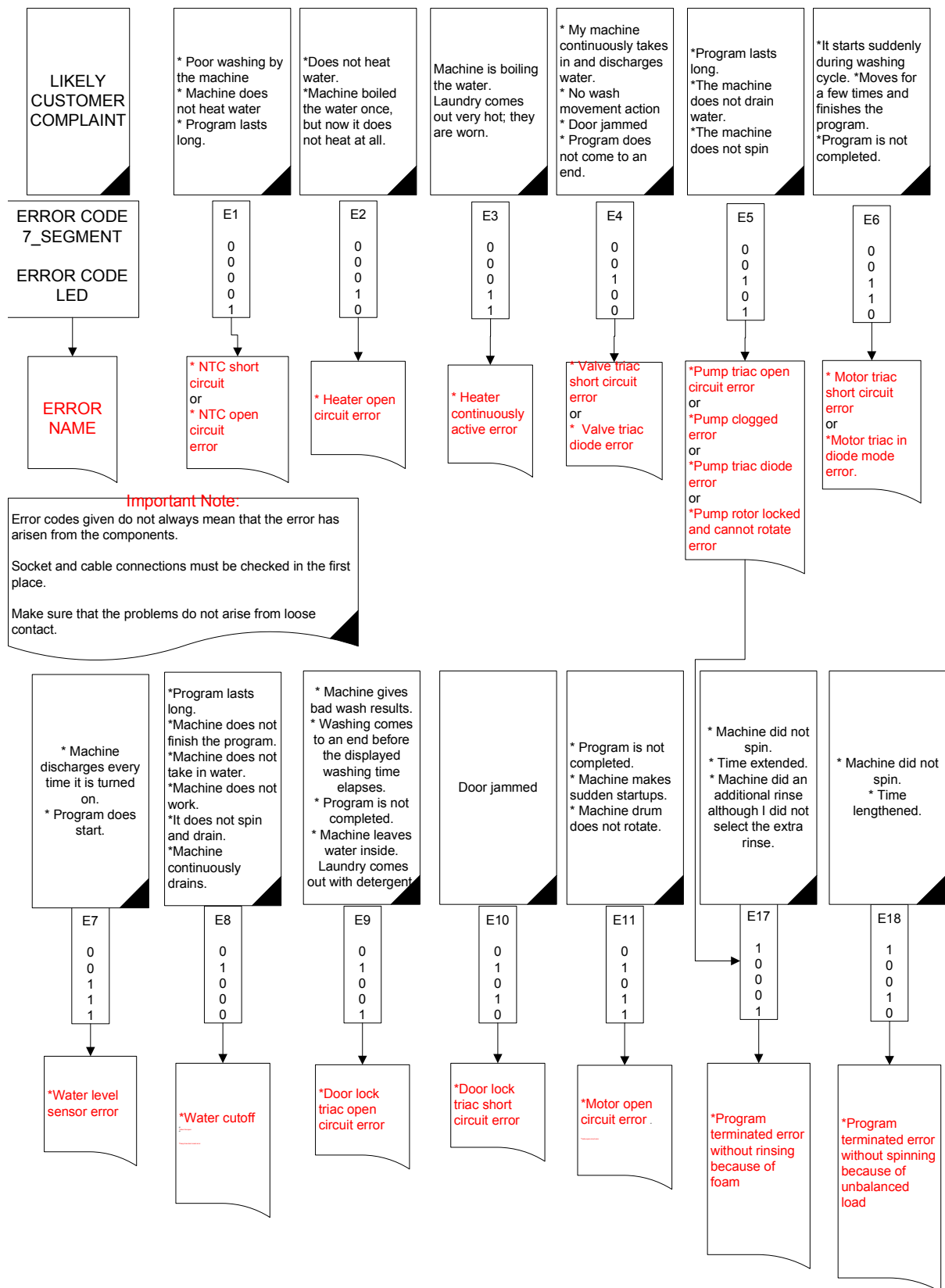
Since this step is the last step of the Service Test, if the "**Start/Pause**" key is pressed one more time, the mode will go back to step 1.

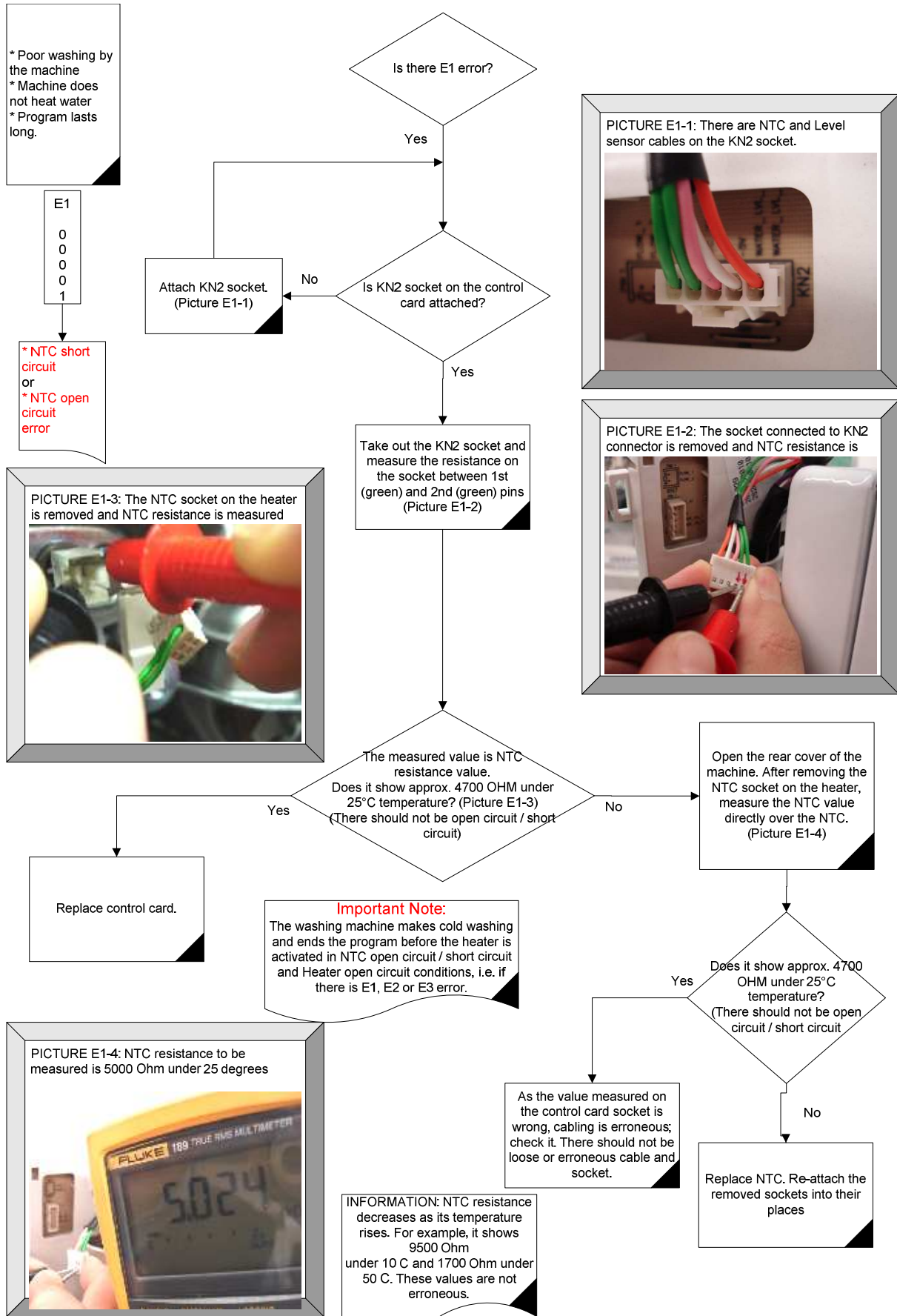
9. FAILURE FLOW DIAGRAM

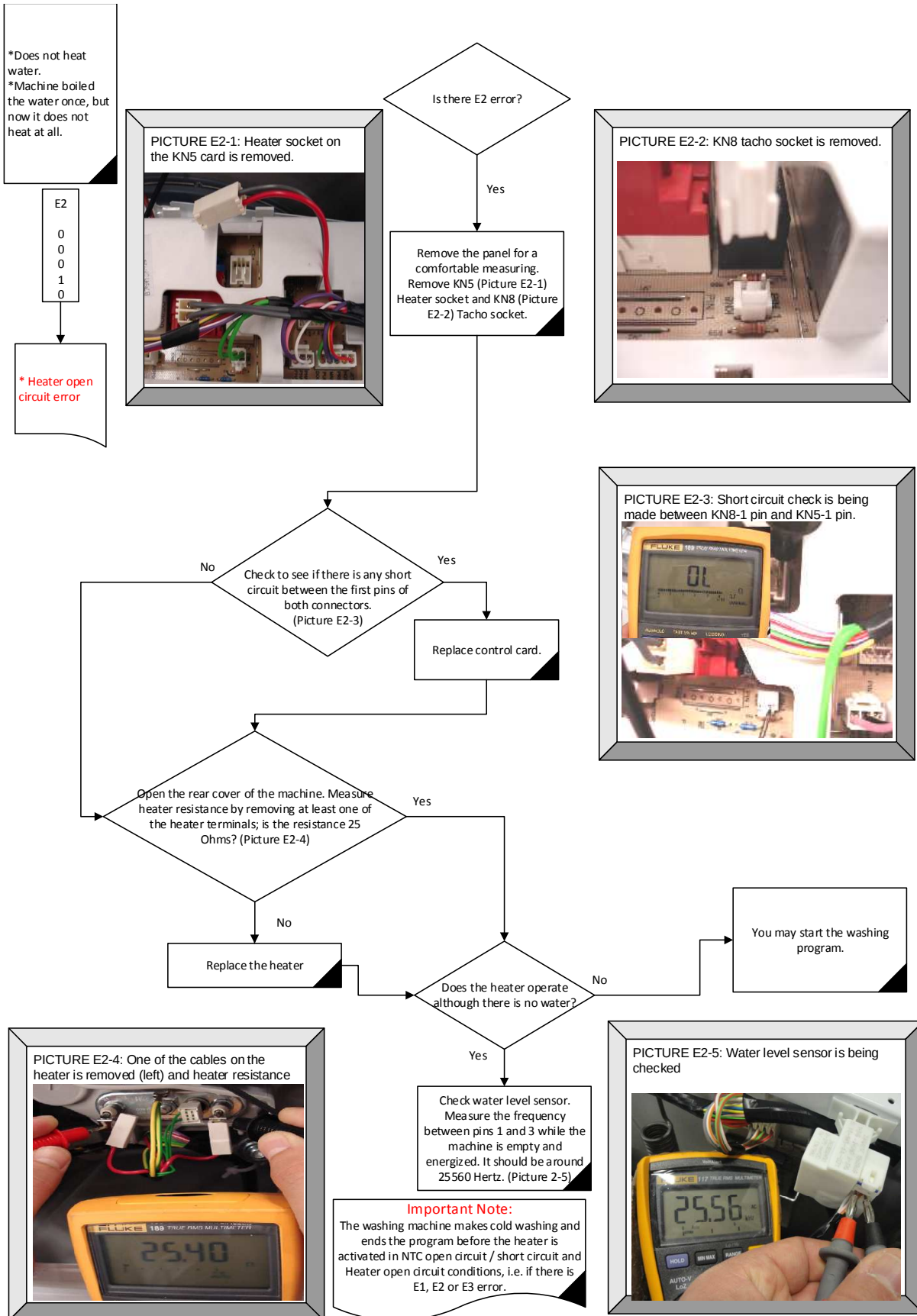
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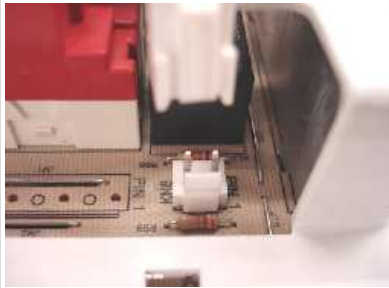
Machine is boiling the water. Laundry comes out very hot; they are worn.

E3

0
0
0
1
1

* Heater continuously active error

PICTURE E2-2: KN8 tacho socket is removed.



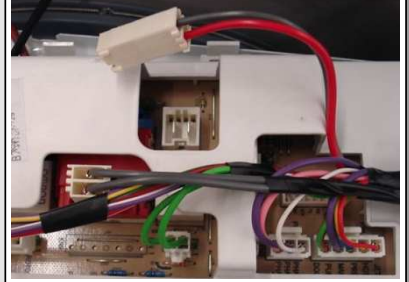
PICTURE E2-3: Short circuit check is being made between KN8-1 pin and KN5-1 pin.



PICTURE E2-4: One of the cables on the heater is removed (left) and heater resistance

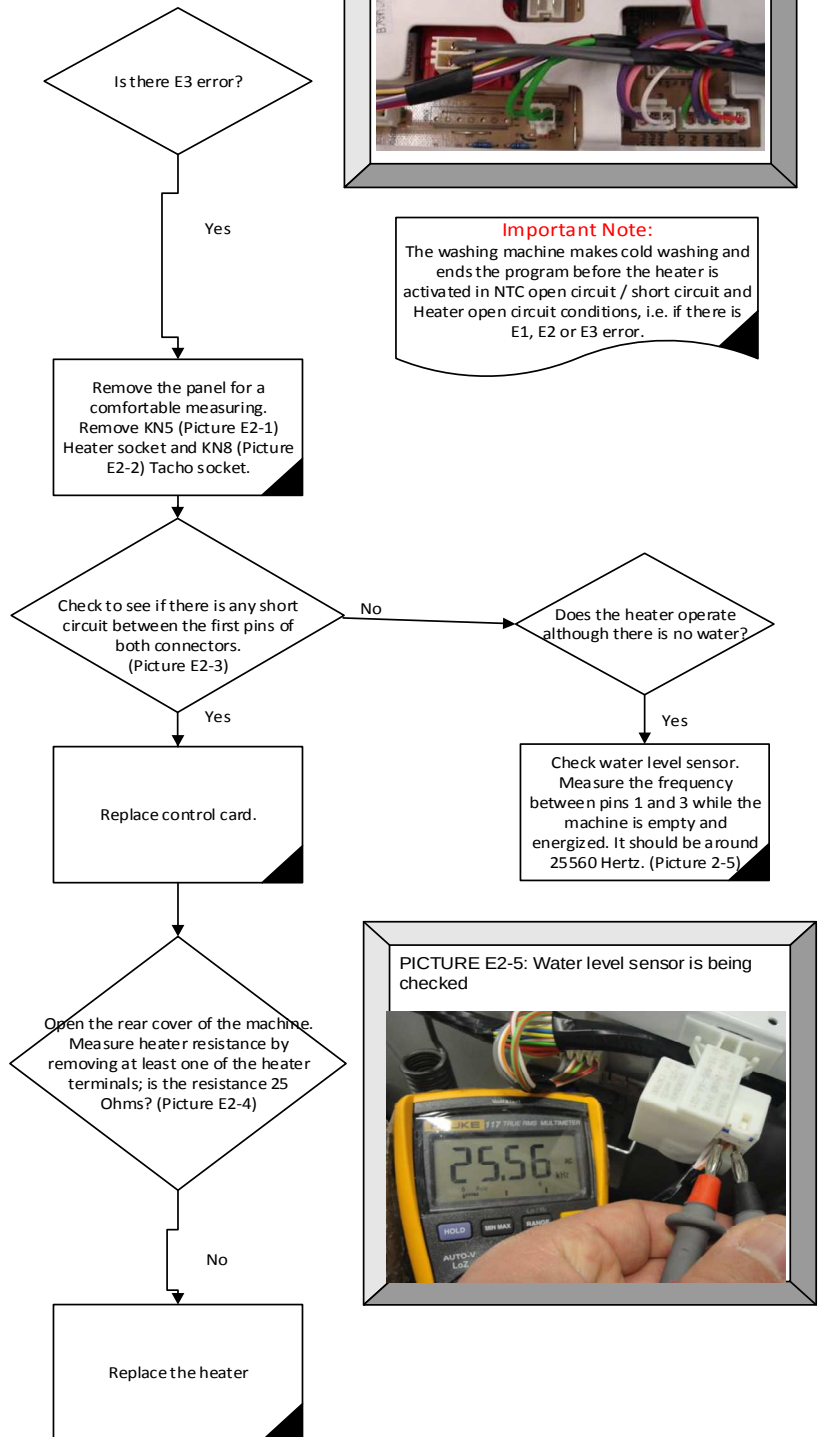


PICTURE E2-1: Heater socket on the KN5 card.



Important Note:

The washing machine makes cold washing and ends the program before the heater is activated in NTC open circuit / short circuit and Heater open circuit conditions, i.e. if there is E1, E2 or E3 error.



PICTURE E2-5: Water level sensor is being checked

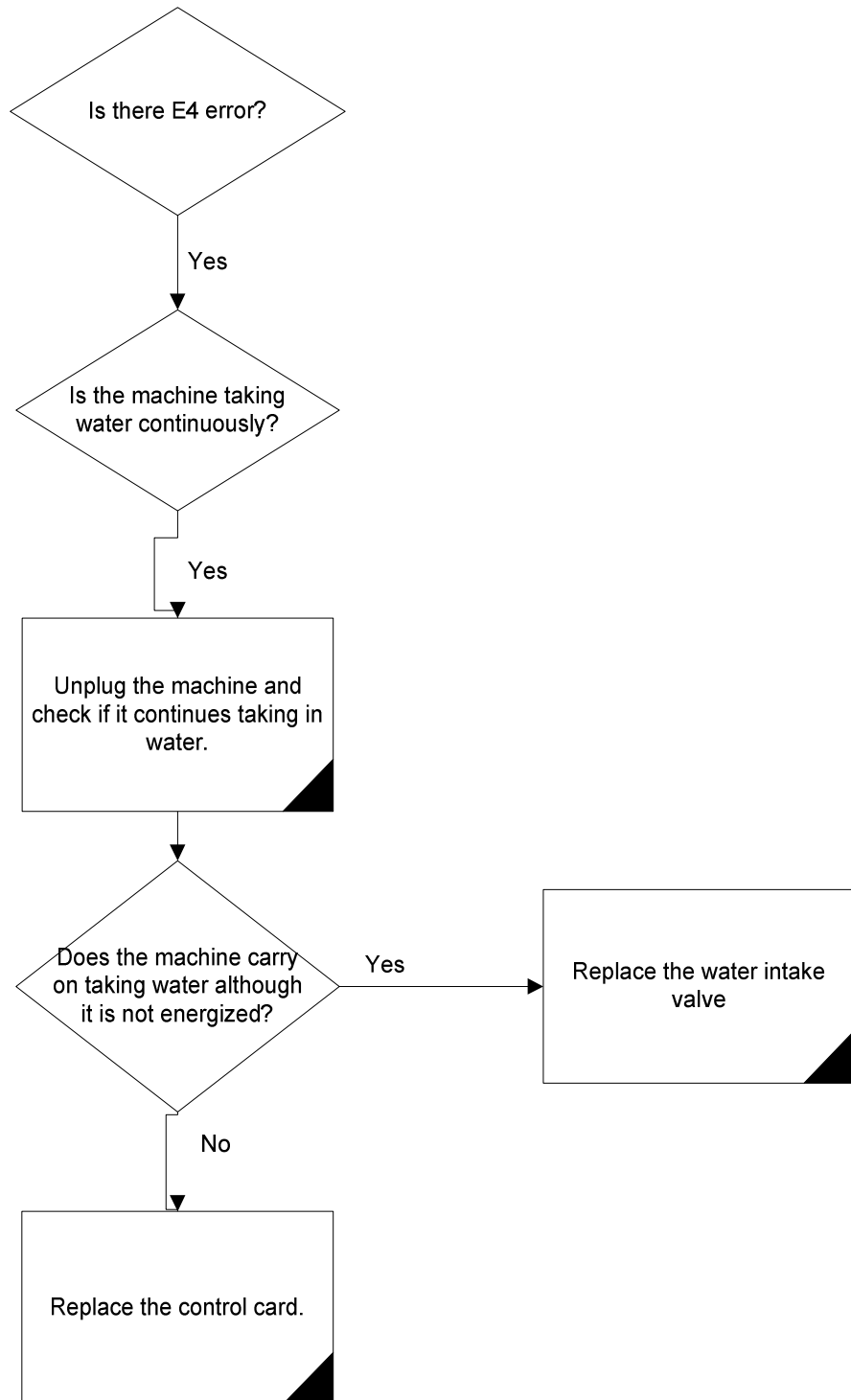


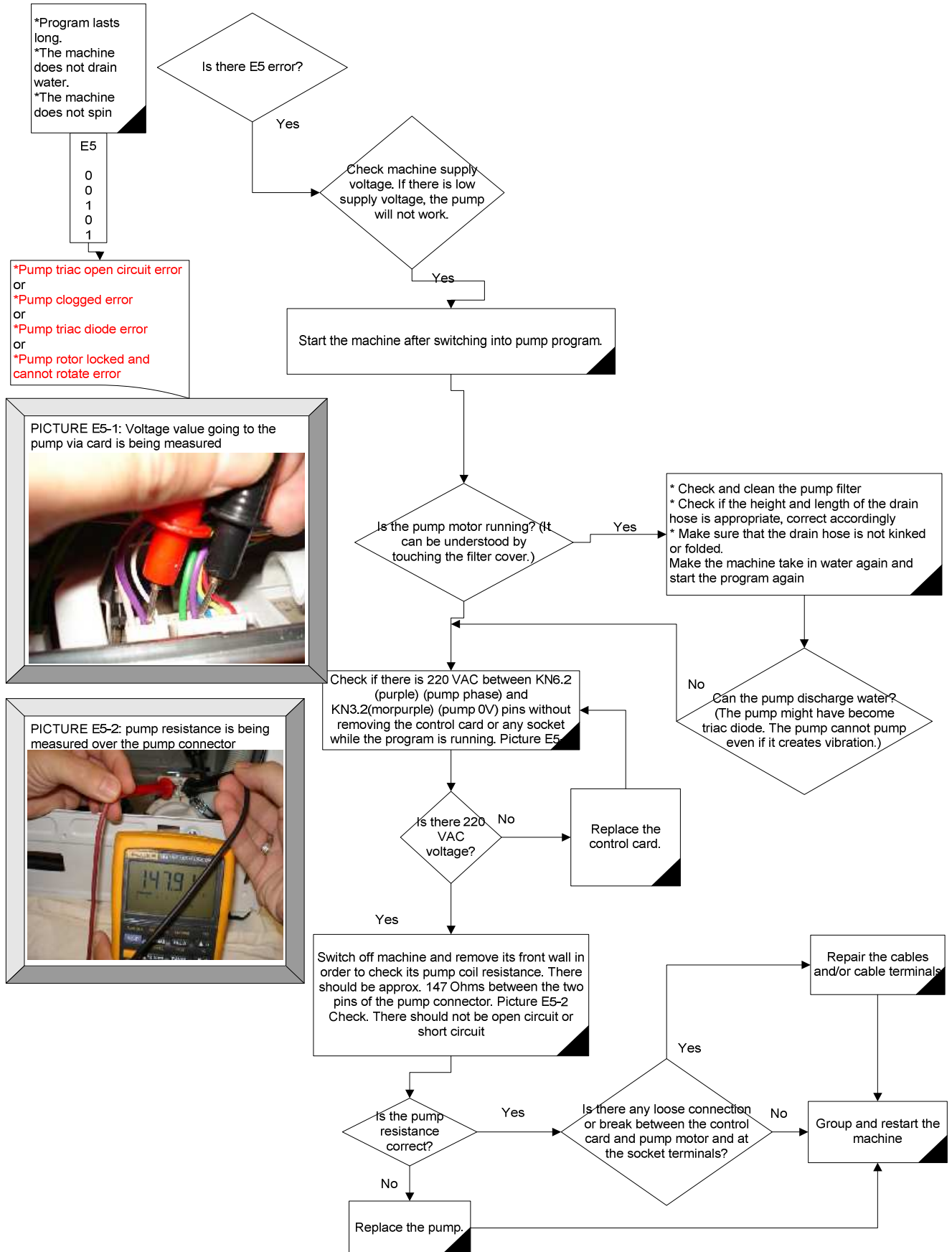
* My machine continuously takes in and discharges water.
 * No wash movement action
 * Door jammed
 * Program does not come to an end.

E4

0
0
1
0
0

* Valve triac short circuit error
 or
 * Valve triac diode error



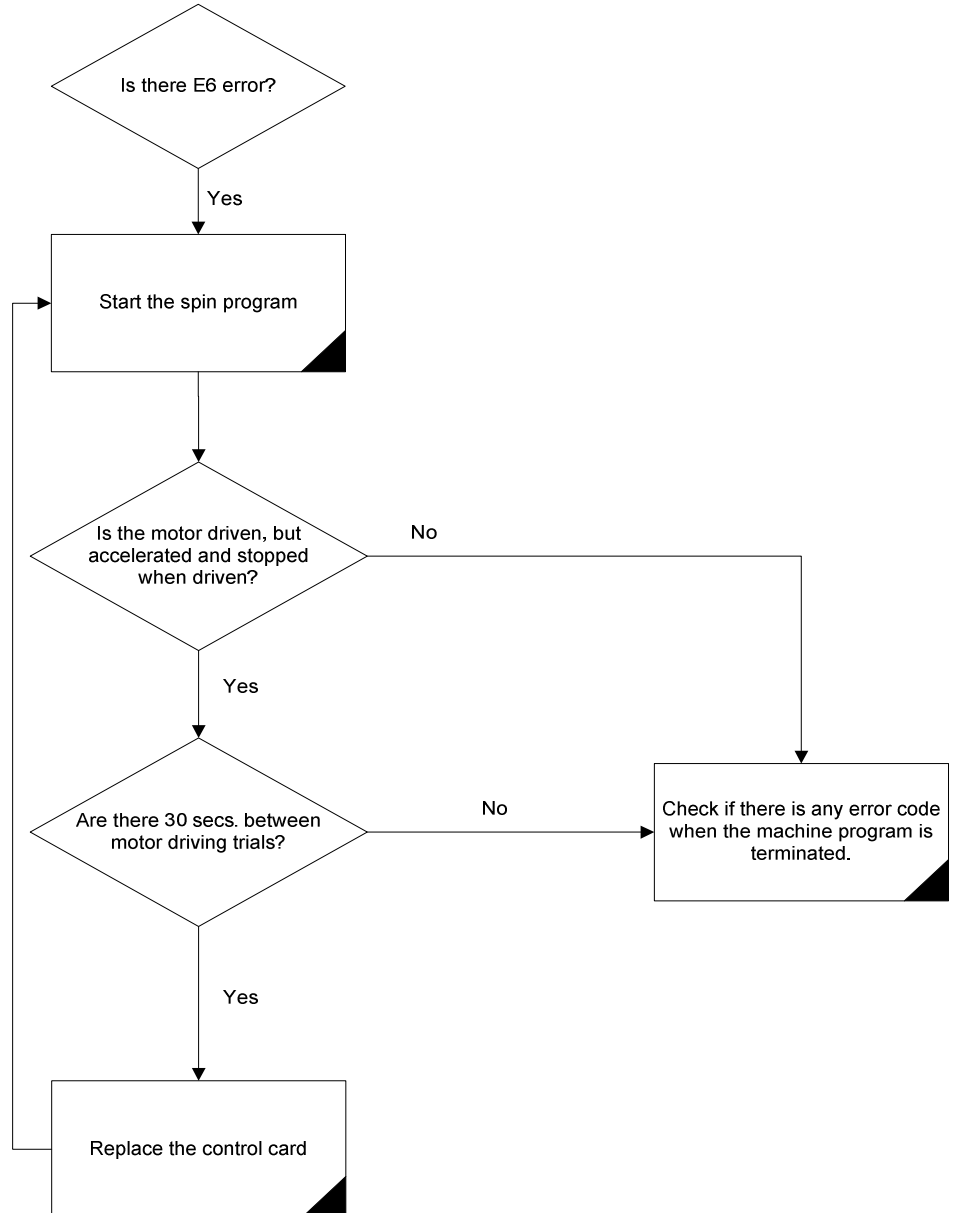


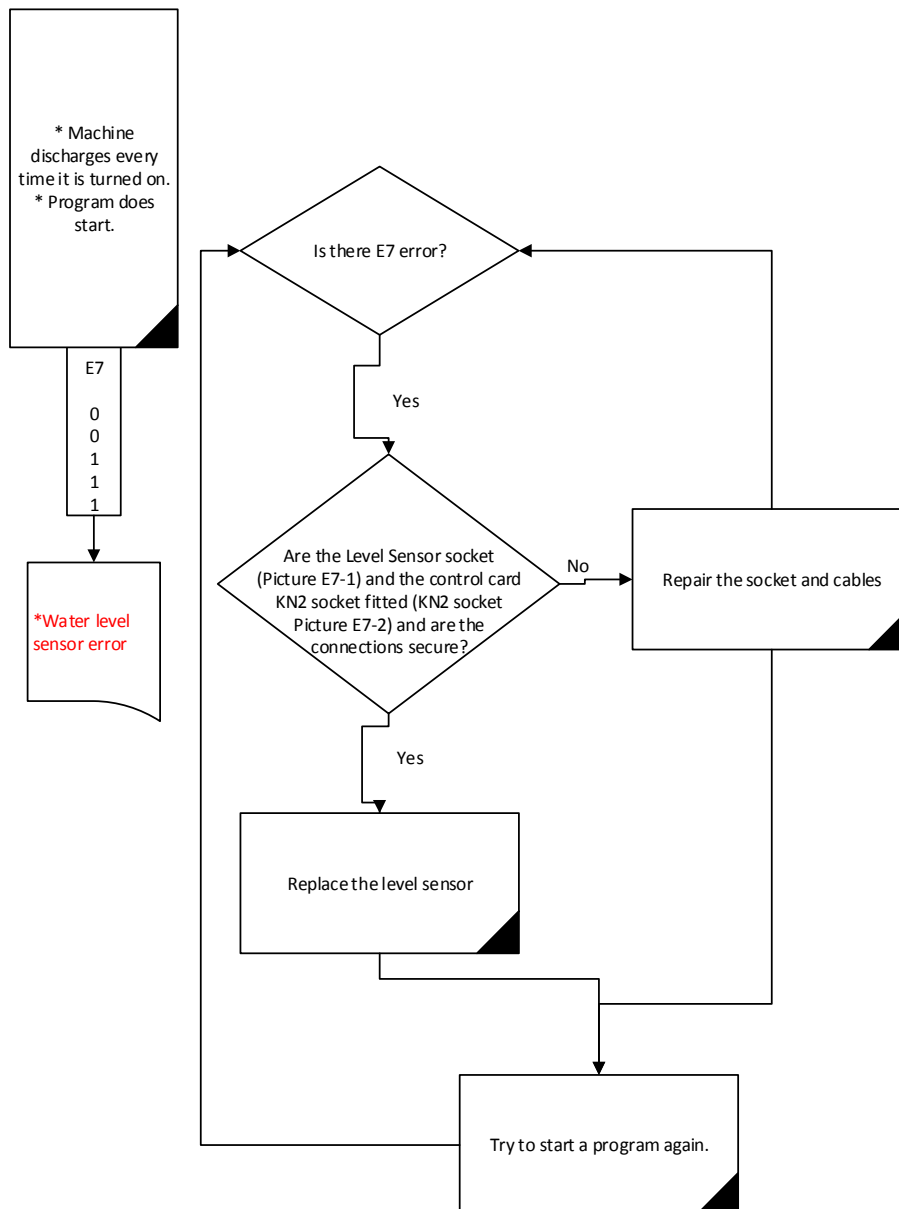
*It starts suddenly during washing cycle. *Moves for a few times and finishes the program.
*Program is not completed.

E6

0
0
1
1
0

* Motor triac short circuit error
or
*Motor triac in diode mode error.

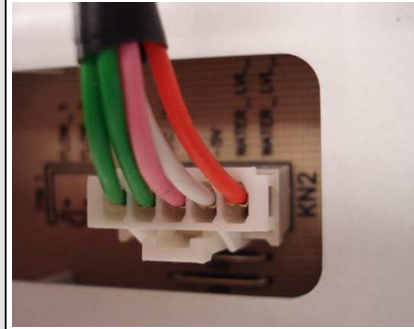




PICTURE E7-1: The socket on the level sensor must be fitted.



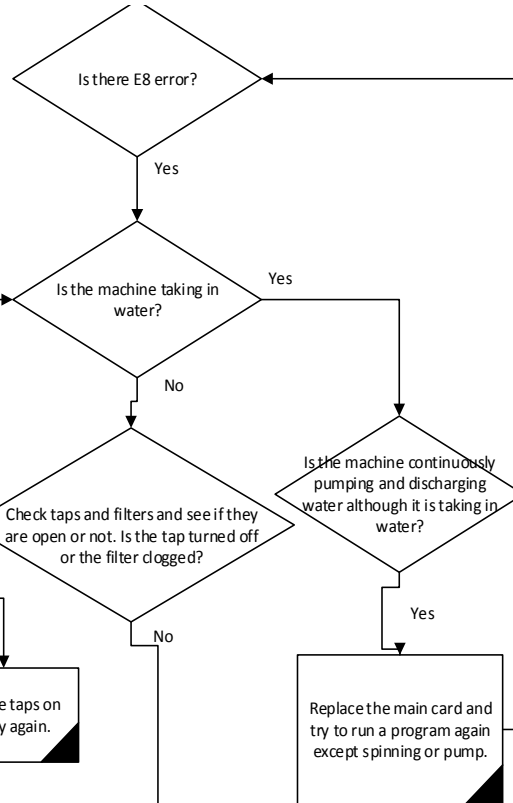
PICTURE E7-2: Socket to which the KN2 level sensor cables are attached



*Program lasts long.
*Machine does not finish the program.
*Machine does not take in water.
*Machine does not work.
*It does not spin and drain.
*Machine continuously drains.

E8
0
1
0
0
0

*Water cutoff
or
*Valve triac
open
or
*Pump triac
short circuit
error



PICTURE E8-2: KN3 connector connector on the card

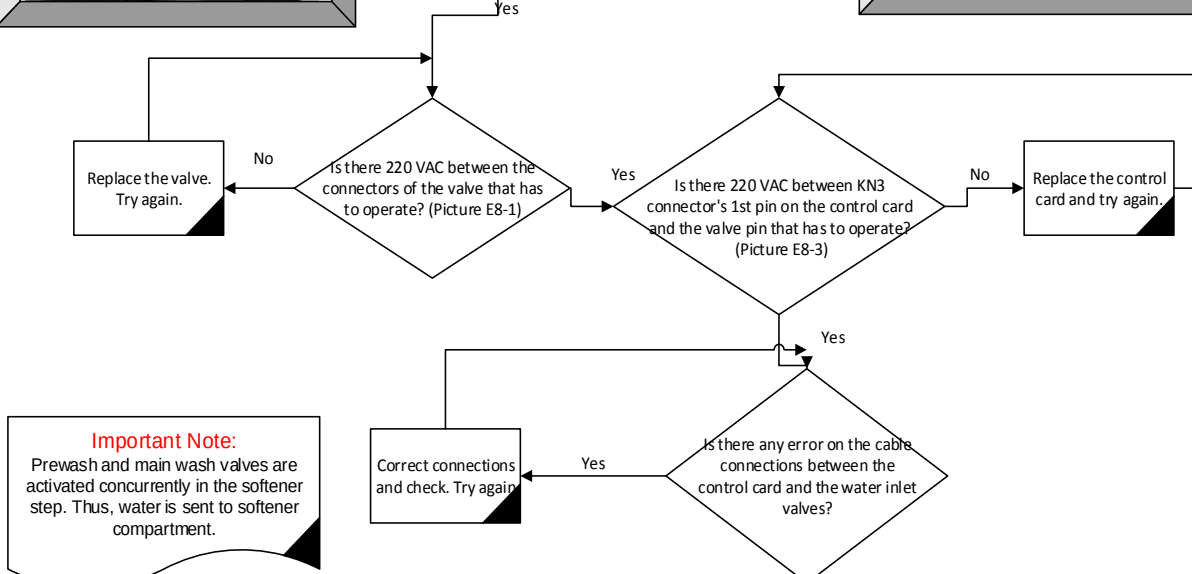


INFORMATION: Main wash pin 3 blue
Prewash pin 4 yellow
Hot wash pin 5 red

PICTURE E8-1: AC voltage is being measured over valve connectors



PICTURE E8-3: AC voltage is being measured over valve connectors



Important Note:

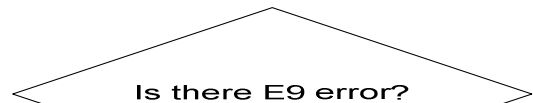
Prewash and main wash valves are activated concurrently in the softener step. Thus, water is sent to softener compartment.

* Machine gives bad wash results.
 * Washing comes to an end before the displayed washing time elapses.
 * Program is not completed.
 * Machine leaves water inside.
 Laundry comes out with detergent

E9

0
1
0
0
1

*Door lock triac open circuit error



Is there E9 error?

Yes

Replace the control card and try again.



E10

0
1
0
1
0

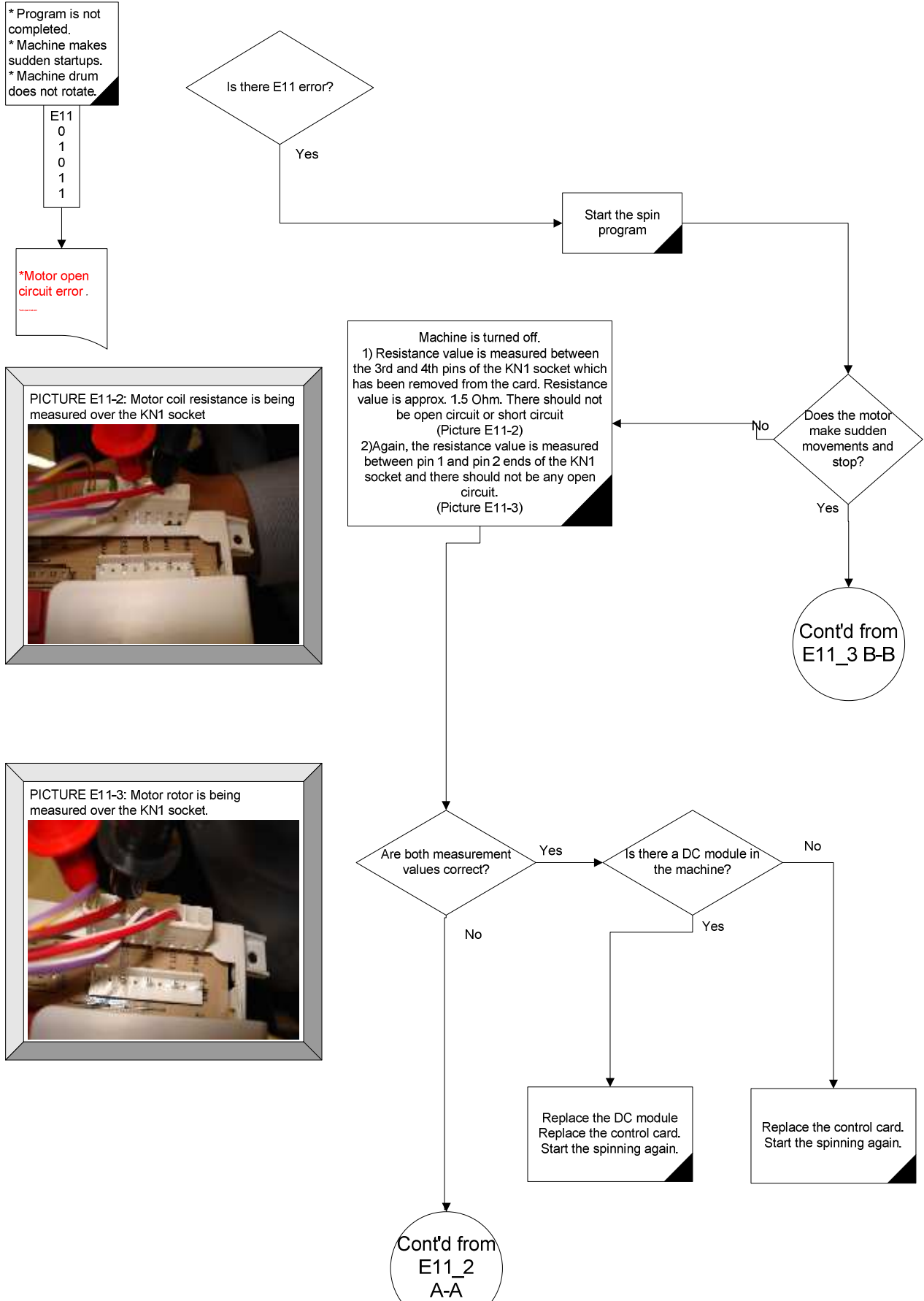
*Door lock triac short circuit error



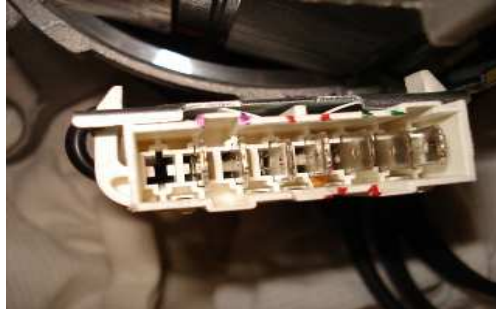
Is there E10 error?

Yes

Replace the control card and try again.



PICTURE E11-12: 8-pin motor connector



IMPORTANT: First connector on the 8-pin motor connector is empty. This connector is also counted.

Picture E11-12

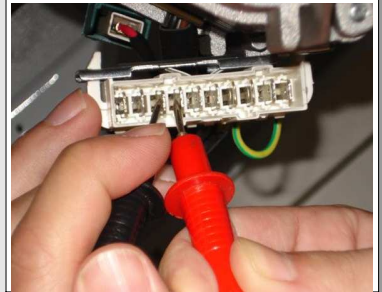
PICTURE 11-4: Motor coil resistance is being measured over the 8-pin motor.



A-A

8-pin Rear cover of the machine is opened. Is the motor connector 8-pin or 10-pin?

PICTURE E11-6: Motor coil resistance is being checked over the 10-pin motor



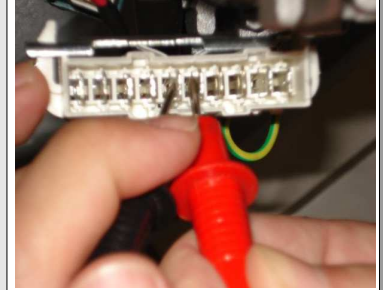
1) Motor socket is removed. Resistance value is measured between the 2nd and 3rd pins of the motor connector. Resistance value is approx. 1.5 Ohm. There should not be open circuit or short circuit (Picture E11-4)
2 Resistance value is measured between pin 4 and pin 5 ends of the motor connector and there should not be any open circuit. (Picture E11-5)

1) Motor socket is removed. Resistance value is measured between the 3rd and 4th pins of the motor connector. Resistance value is approx. 1.5 Ohm. There should not be open circuit or short circuit (Picture E11-6)
2 Resistance value is measured between pin 5 and pin 6 ends of the motor connector and there should not be any open circuit. (Picture E11-7)

PICTURE E11-5: Motor rotor is being checked over the 8-pin motor



PICTURE E11-7: Motor rotor is being checked over the 10-pin motor



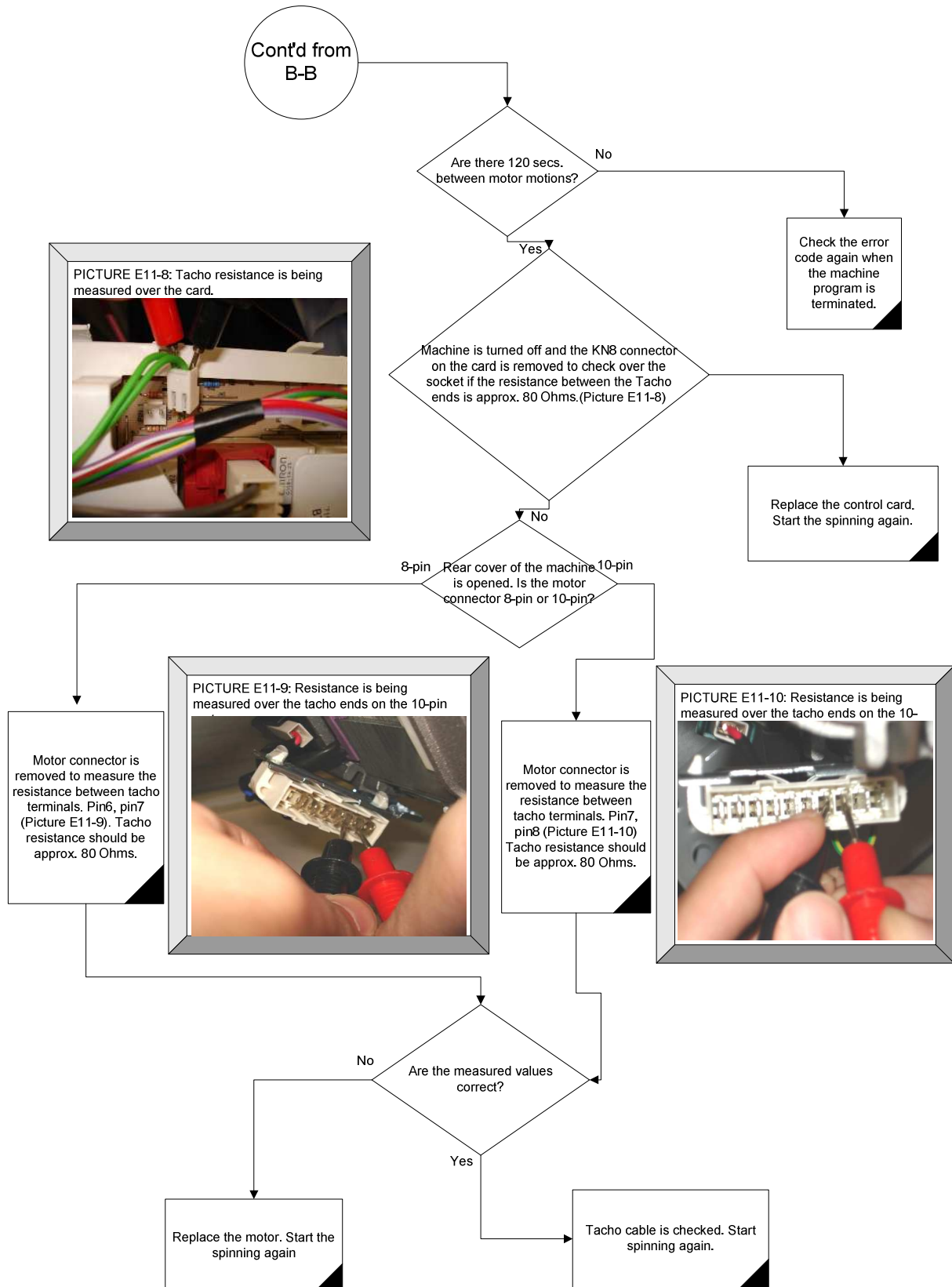
Are both measurement values correct?

No

Yes

Check the cabling between the card and the motor and correct accordingly. Start the spinning again.

Replace the motor. Start the spinning again



* Machine did not spin.
* Time extended.
* Machine did an additional rinse although I did not select the extra rinse.

E17

1
0
0
0
1

*Program terminated error without rinsing because of foam

Is there E17 error?

Yes

Check if the main wash and prewash valves are properly connected to the related compartment of the detergent drawer. If prewash is selected, water fills in the prewash compartment when the machine takes in first water. If prewash is not selected, first water is taken from the main wash compartment. Is it so?

No

Correct the water intake hoses.

Yes

Explain the customer the following Antifoam measures.

Reasons of foam creation and methods for preventing this,

- 1) If you add detergent in the prewash compartment although you have not selected a prewash cycle, detergent is taken from this compartment during rinsing the laundry which causes foam creation.
- 2) You should use laundry detergent in automatic washing machines.
- 3) Laundry may have detergent leftovers as a result of using excessive detergent. You should try to use only adequate amount of it.
- 4) Keep your detergent in a closed and dry place.
- 5) You should use less amount of detergent than ever for your lacy laundry.
- 6) You should not use too much softener.

* Machine did not spin.
* Time lengthened.

E18

1
0
0
1
0

*Program terminated error without spinning because of unbalanced load

Is there E18 error?

Yes

Explain the customer the following unbalanced load preventive actions.

Reasons for ending the program without spinning as a result of unbalanced load detection

- 1) Laundry may pile up on one side of the drum when you run your machine **with less laundry**. There is the risk of damaging the washing machine when it is operated in higher speeds with unbalanced load. Therefore, when the unbalanced load in the machine is calculated more than the limit value, the machine does not spin for safety reasons.
- 2) Piling up of laundry at one point in the drum will be higher when the machine is operated with a single pullover, bathrobe or towel. Avoid washing such laundry as one piece as much as you can.

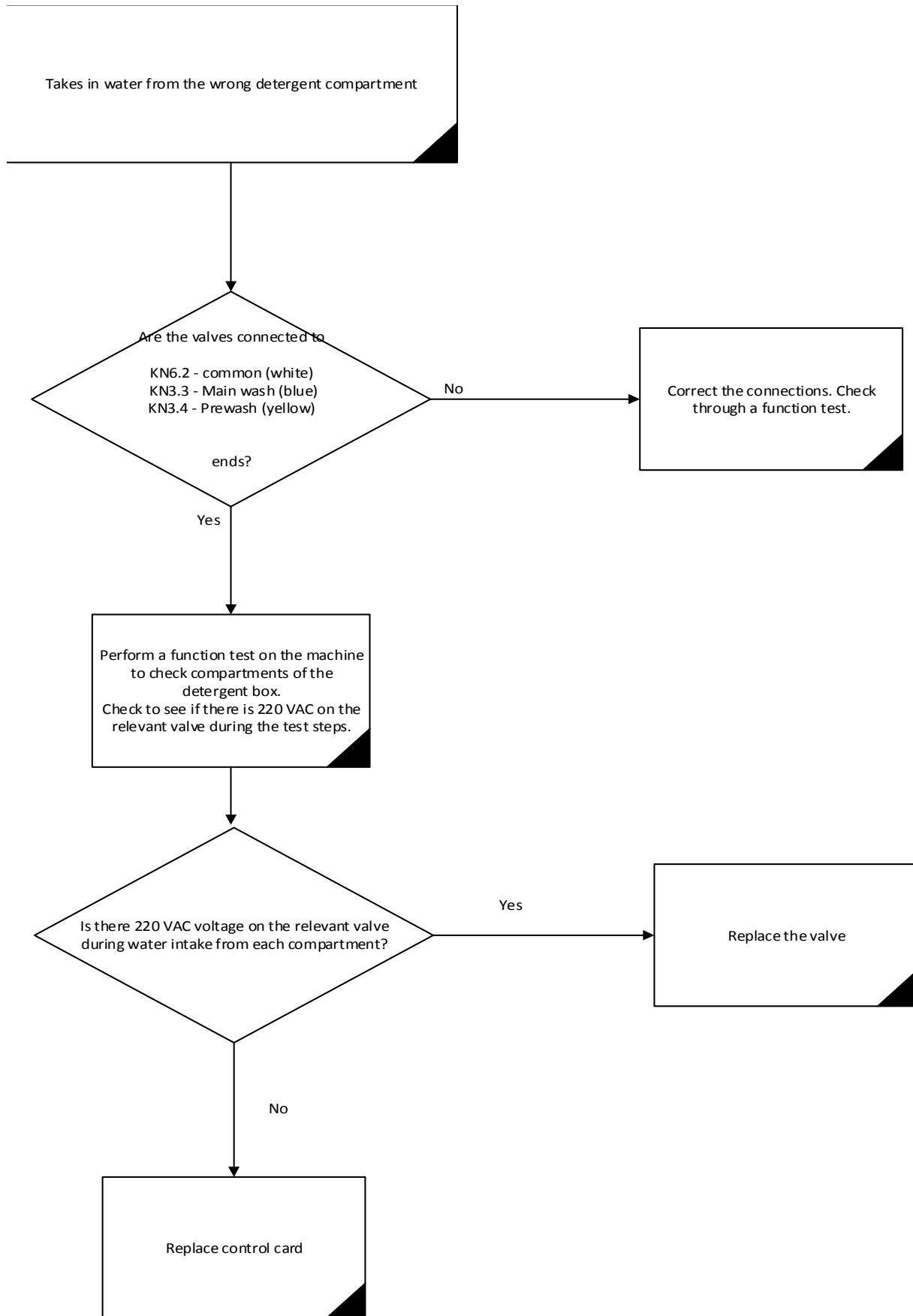
Yes

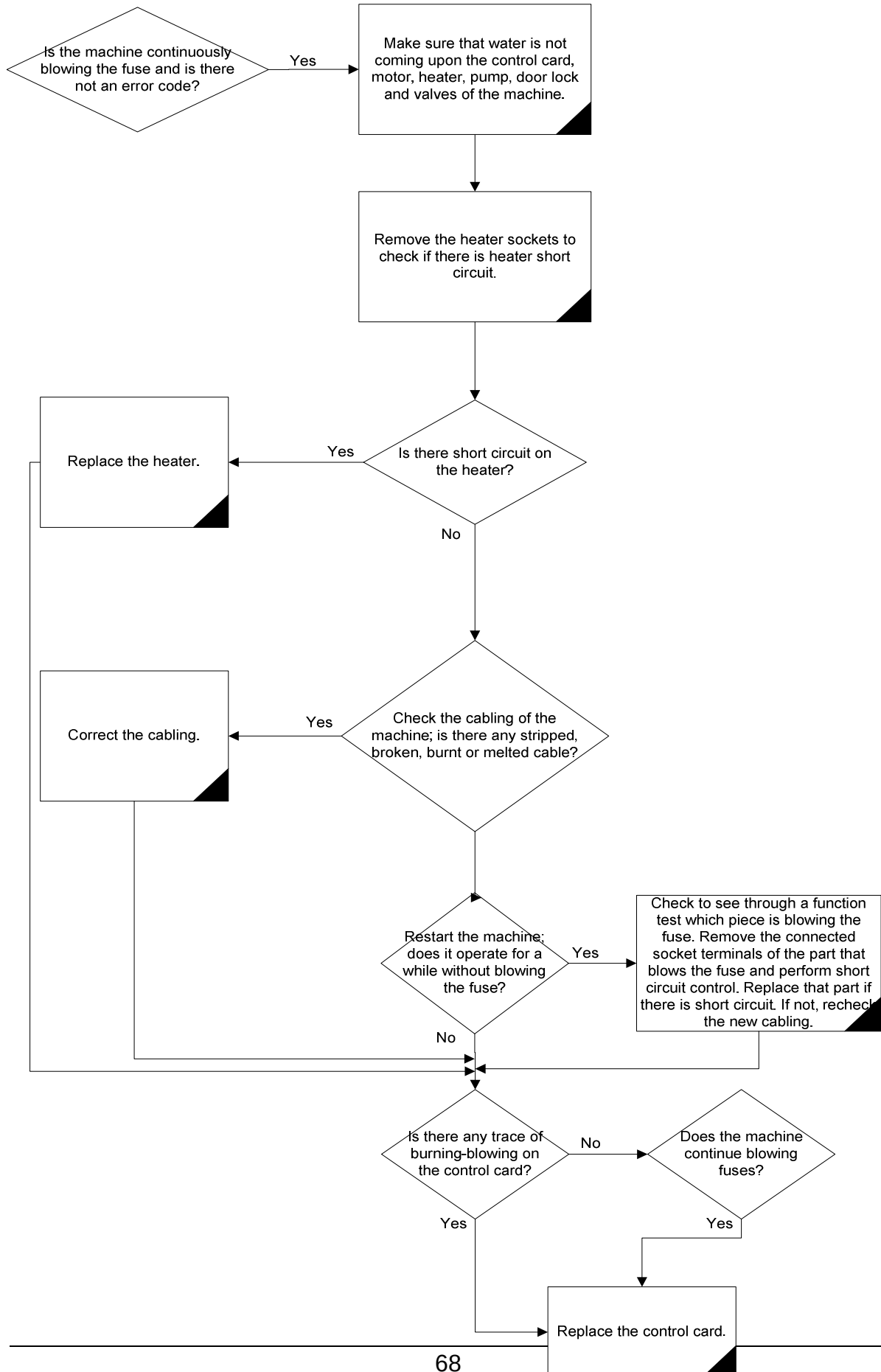
Program selection switch does not function.
Or the
selected program and the running program are not identical
or
some programs cannot be selected.

For example, although spinning is selected, the machine
takes in water.

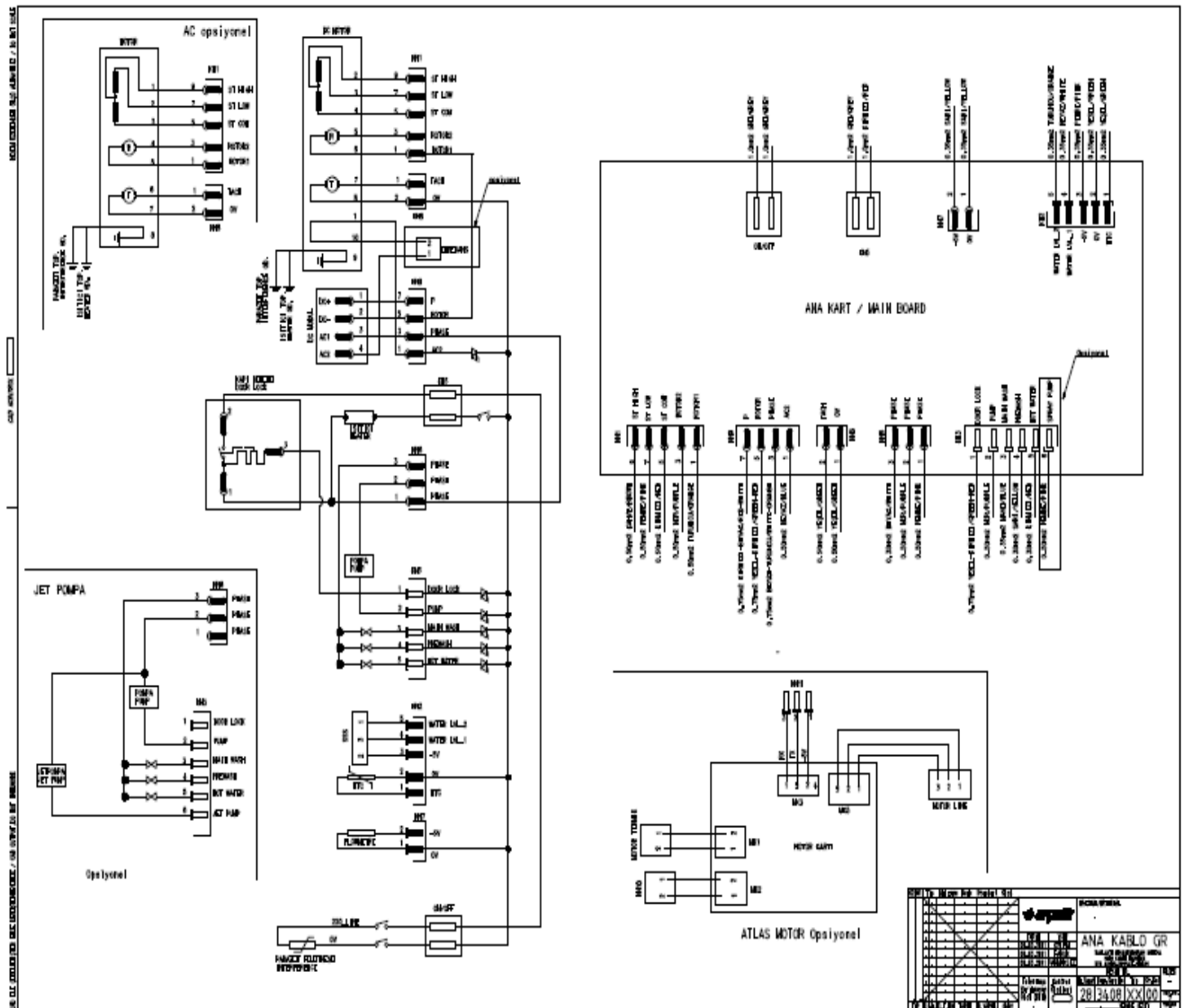


Replace the control card.





10. POWER CIRCUIT DIAGRAM



11. COMPONENT ASSEMBLY / DISASSEMBLY



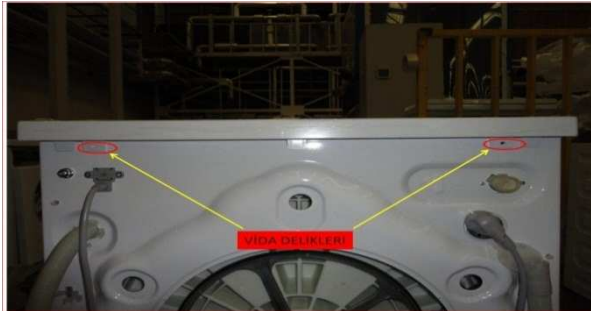
Front view of the machine is given in the Picture 11.1.

Picture 11.1 General appearance

11.1. Upper Table Assembly / Disassembly

2 sheet metal screws fixing the upper table to the body are removed.

Upper table is removed by being lifted to backwards and then upwards.

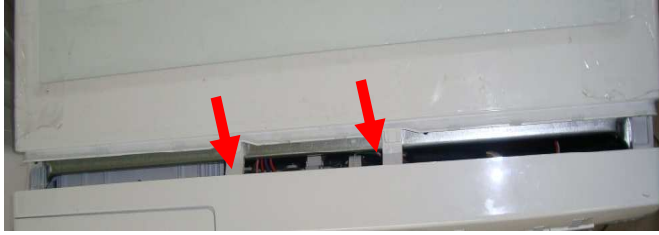


2 screws shown in Picture 11.2 are removed.

Picture 11.2 Upper table Disassembly/Assembly



Picture 11.3 Upper table Disassembly/Assembly



Upper table is pulled back and removed from the tabs which are shown in the Picture 11.4.

Picture 11.4 Upper table Disassembly/Assembly

11.2. Dispenser panel

Dispenser is pulled backwards from the detergent compartment.



Picture 11.5 Disassembly/Assembly of Detergent Dispenser

Dispenser is removed by pressing on the area shown with arrow on the siphon.



Picture 11.6 Disassembly/Assembly of Detergent Dispenser

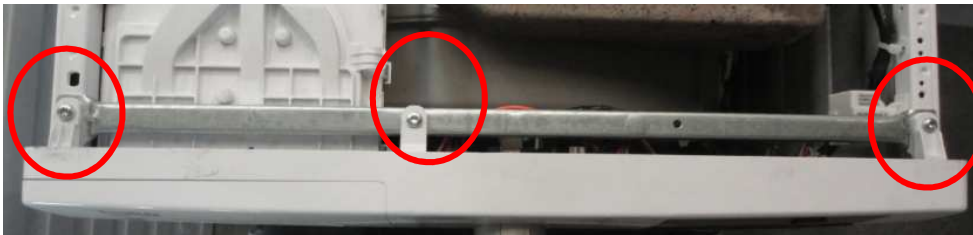
11.3. Panel

Dispenser is removed.

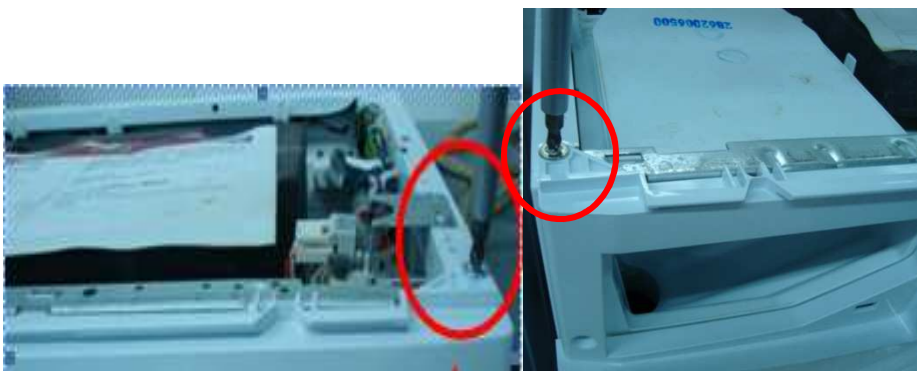


Picture 11.7 Panel Disassembly/Assembly

3 pt screws which fix the panel to the panel reinforcement bracket and the detergent compartment and shown separately in the following pictures are removed. Tabs fixing the panel to the reinforcement bracket are released and the panel is detached from the reinforcement bracket.



Picture 11.8 Panel Disassembly/Assembly



1 pt screw fixing the panel to the panel reinforcement bracket is removed.

1 pt screw fixing the panel to the panel reinforcement bracket is removed.

Picture 11.9 Panel Disassembly/Assembly



3 pt screw fixing the panel to the panel reinforcement bracket is removed.

Picture 11.10 Panel Disassembly/Assembly

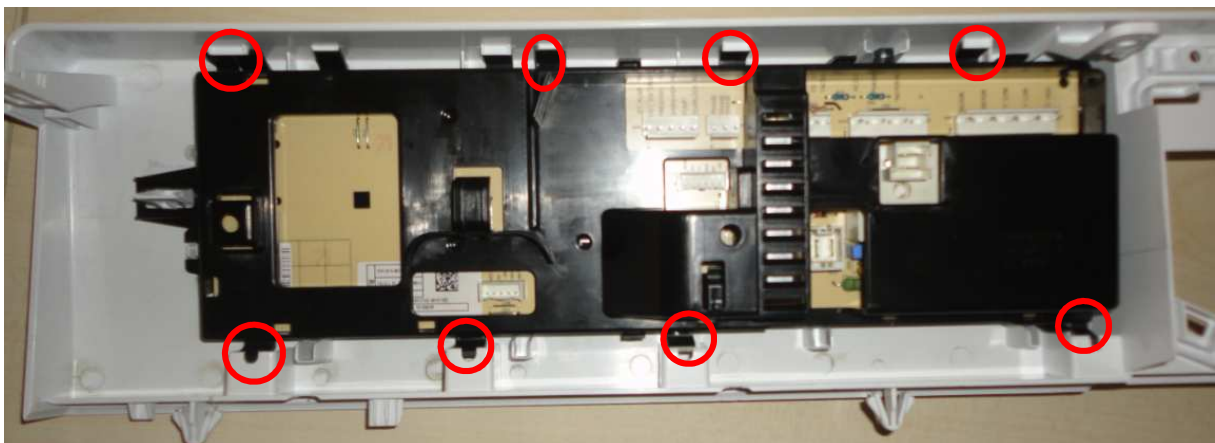


Picture 11.11 Panel Disassembly/Assembly



Picture 11.12 Panel Disassembly/Assembly

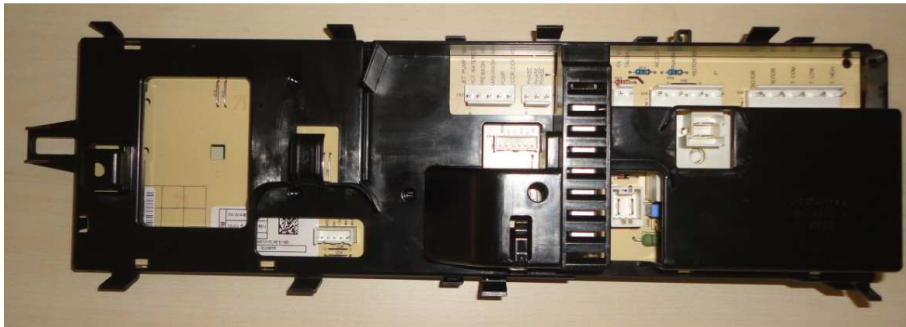
11.4. Program Control Card



Picture 11.13 Control card Disassembly/Assembly



Picture 11.14 Control card Disassembly/Assembly



Picture 11.15 Control card Disassembly/Assembly



Picture 11.16 Control card Disassembly/Assembly



Picture 11.17 Control card Disassembly/Assembly



Picture 11.18 Control card Disassembly/Assembly

11.5. Pump cover assembly/disassembly

Pump cover which is located on the right bottom side of the front wall is opened by being pushed from the tab.



Picture 11.19 Pump cover Disassembly/Assembly

11.6. Front Door Group Assembly/Disassembly

Front door is opened.

2 screws of the hinge holder that serves as front door holder by the hinge are unscrewed and the holder is removed. Front door is separated from the hinge.

2 hinge screws fixing the hinge to the front door are removed and hinge is removed from the front door.



Picture 11.20 Front door disassembly /assembly



Picture 11.21 Front door disassembly /assembly

11.7. Front Wall Disassembly/Assembly

Front door group is removed.

Body bellows clamp fixing the drum bellows to the front door is removed by use of a special bellows clamp pliers.

Door locking screws are removed.

Lock is pushed from its place inwards.

At the upper position of the panel connection, 2 screws ensuring the connection of the ears are removed.



Picture 11.22 Front Wall Disassembly / Assembly



Picture 11.23 Front Wall Disassembly / Assembly



Picture 11.24 Front Wall Disassembly / Assembly



Picture 11.25 Front Wall Disassembly / Assembly



Picture 11.26 Front Wall Disassembly / Assembly

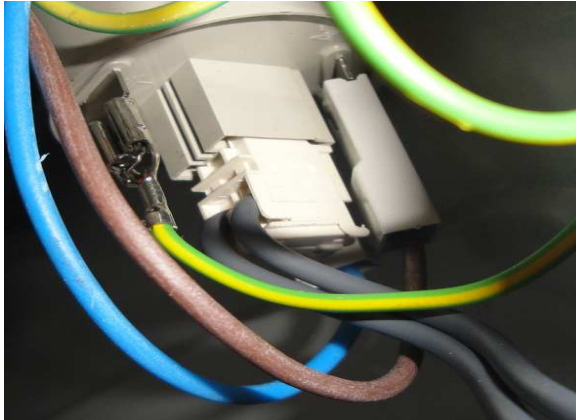
11.8. Parasite Filter

Upper table is removed.

Parasite Filter cable terminals are removed.

2 screws, at the back of the body, attaching the terminal group to the body are removed.

M8 nut which attaches the parasite filter to the terminal group is held by double-ended wrench and the parasite filter is removed by turning manually.



Picture 11.27 Disassembly/assembly of parasite filter

11.9. Detergent Compartment Connection Group



Picture 11.28 Detergent compartment connection group

11.10. Single Valve

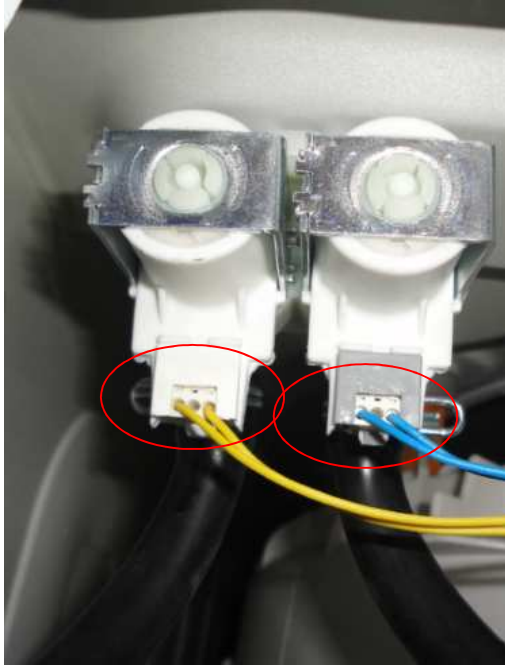
Upper table is removed.

Single valve cable terminals are removed.

Single Valve Hose clamp is pulled back over the hose.

Hose is ejected from the end on the valve.

At the back of the body, the tab fixing the valve to the body is pushed inside with a screwdriver and the valve is turned towards left.



Picture 11.29 Disassembly/Assembly of Two-way Valve

11.11. Water Level sensör Disassembly/Assembly



The fountain attached to the body of the water level sensor is removed by removing it. The water level sensor socket and the vent line are removed.

Resim 11.30 Water Level sensör Disassembly/Assembly

11.12. Safety Switch

Door is opened by pulling from the handle.

Drum bellows clamp fixing the drum bellows is removed.

2 screws fixing the safety switch to the front door are removed.

Safety Switch cable ends are removed.



Picture 11.31 Disassembly/assembly of safety switch

11.13. Heater

Front wall or back wall is removed.

Heater cable terminals are removed.

By loosening the M6 nut, heater is pulled and removed from the back part of the drum.

(It should be checked that the heater is attached to the Heater Fixing Wire inside the Drum. Also, before the M6 nut is tightened, NTC should be grabbed securely and installed to its place on the heater, later M6 nut should be tightened.)



Picture 11.32 Disassembly/assembly of Heater

11.14. Drain Pump Attachment / Detachment

- Upper table is removed.
- Panel is removed.
- Front wall is removed.
- Screws on the body are removed. Picture 13.139.
- Clamp at the pump inlet of the discharge hose is pulled backwards.
- Remove cable.
- Pump is removed.
-



Picture 11.33 Drain pump Attachment/Detachment



Remove wire clamps on pump.

Picture 11.34 Drain pump Attachment/Detachment

11.15. Drum Bellows

Front wall is removed.

Spiral spring connecting the bellows to the drum is removed.

Bellows is pulled and removed manually from the front door.



Picture 11.35 Disassembly/Assembly of Drum Bellows

11.16. Drum Bellows Assembly

The areas marked with arrows on the bellows and the drum cover are superimposed as to face each other.

The large area on the bellows water drain and the drum front cover (marked areas in the picture) are combined in a balanced way and the bellows is stroked from below to the upper part to perform the assembly. There should be no bending on the bellows when the operation is finished.



Picture 11.36 Disassembly/Assembly of Drum Bellows

11.17. Water Inlet Hose

Front wall is removed.

The clamp attaching the other end of the water inlet hose to the drum is removed.

The nozzle connecting the water inlet hose to the detergent compartment is seated well into its place in the compartment and the rubber hook is fixed to the tab in the compartment.

11.18. Poly V Belt

Rear cover is removed.

Poly V belt is turned and removed from over the drum pulley.



Picture 11.37 Disassembly/assembly Poly V Belt

11.19. Pulley

Rear cover is removed.

Poly V belt is turned and removed from over the pulley.

Bolt attaching the pulley to the drum shaft is removed.

Pulley is removed from the drum shaft.

11.20. Motor

Rear cover is removed.

Motor Socket is removed from the motor.

Poly V belt is turned and removed from over the pulley.

Bolt attaching the motor to the drum is removed. It is pulled backwards and removed by hand.



Picture 11.38 Disassembly/assembly of motor

11.21. Power Cable

Cable Holder Screw is removed.

Power Cord is removed with its terminals being detached from the parasite filter.



Picture 11.39 Disassembly/assembly of Power Cable

11.22. Upper Counterweight

Upper table is removed.

Upper Counterweight is removed with its retaining bolts detached.



Picture 11.40 Disassembly/assembly of upper counterweight

11.23. Lower Counterweight

Front wall is removed.

Lower Counterweight Retaining Bolts are removed. (When the upper and lower counterweights are assembled, torque value should be 2100 Ncm (-900 Tolerance).



Picture 11.41 Disassembly/assembly of lower counterweight

IMPORTANT: When the machine is required to be serviced by being tilted to the front, its transport safety bolts should be installed, if this is not necessary, lower counterweight bolts should not be fully removed.

11.24. Discharge Hose

Front Wall is removed.

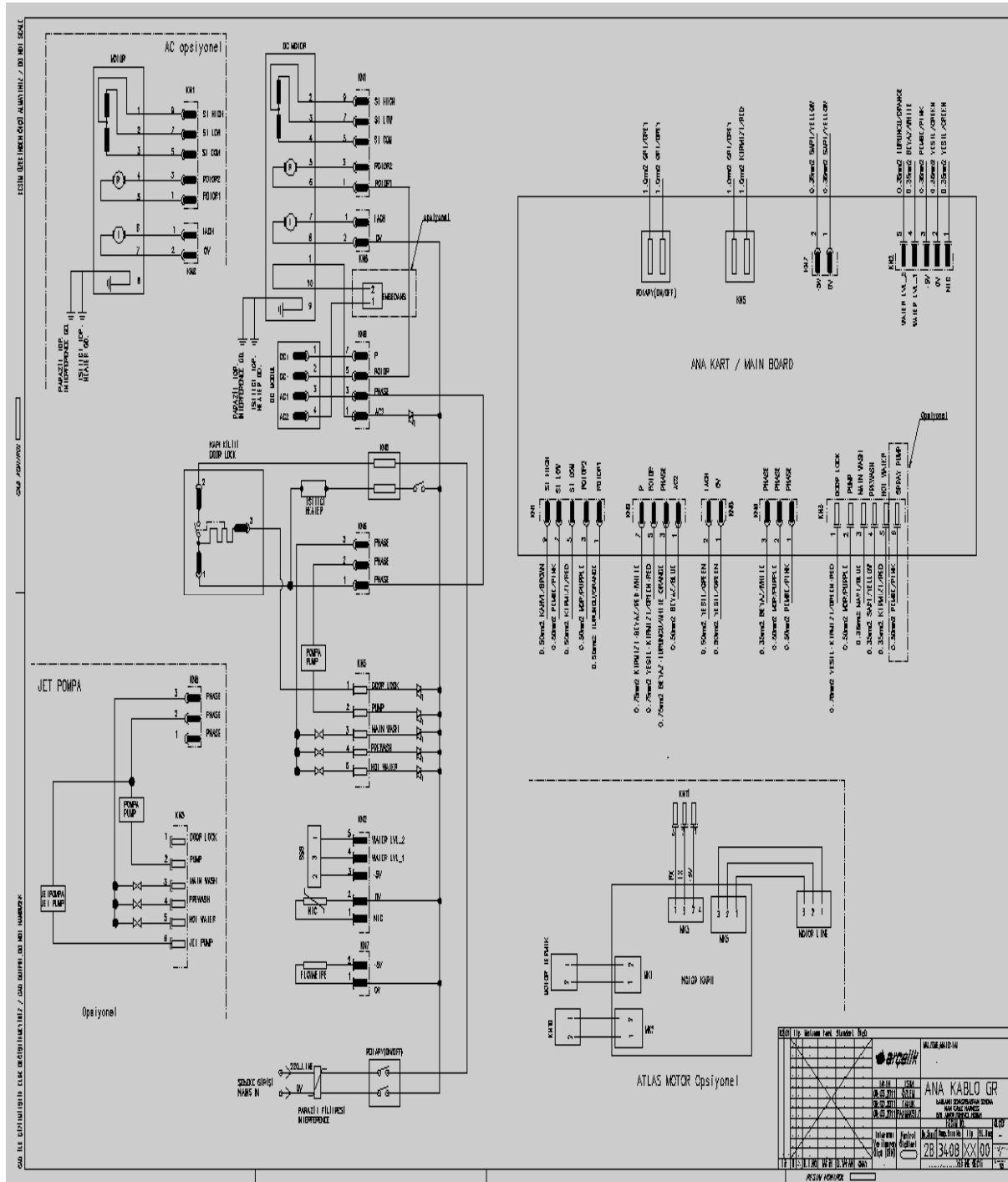
Clamp at the pump inlet of the discharge hose is pulled backwards.

Discharge Hose is removed from the Pump.

Hose at the back of the body is removed from the holding tabs.

Hose is removed from front of the machine.

12. POWER CIRCUIT DIAGRAM



13.Part List

SAP should be taken as a basis for the part list.

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