



## Fast Track Troubleshooting

**Model: WF210ANW/XAA**

**Please Note:** There are Serial # changes on this model, verify you are ordering the correct parts for the Serial # you are servicing by reviewing Bulletins.

**IMPORTANT SAFETY NOTICE – “For Technicians Only”** This service data sheet is intended for use by persons having electrical, electronic, and mechanical experience and knowledge at a level generally considered acceptable in the appliance repair trade. Any attempt to repair a major appliance may result in personal injury and property damage. The manufacturer or seller cannot be responsible, nor assume any liability for injury or damage of any kind arising from the use of this data sheet.

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**Caution:** Error codes must be retrieved from **Service Mode** **BEFORE** entering the **Quick Test mode**.

### Service Mode:

This mode allows more detailed operation tests and troubleshooting, to enter press **Signal & Extra Rinse** simultaneously with the **power on**.

In Service Mode the following tests can be performed:

**Quick Spin Test:** Press **Delay Start & Temp.** This accelerates the drum motor from 0 to max.RPM over a few minutes. Press **Start/Pause** during the test to hold speed up to 10 min. before going back to Quick Spin Test Mode. To return, press **Delay Start & Temp.**

**Cycle Count:** Press **Signal** to see how many times the unit was used.

**Soft Ware #:** Press the **Soil Level** to see the software version information

**Fault Code Test:** Press **Spin** to view the stored fault codes – then turn Dial to view error codes (Push **Start/Pause** while code is displayed to view the number of cycles since the error occurred, push **Start/Pause** again to get back to faults)

### Peripheral (Main PCB) input Tests:

Press **Extra Rinse**, then:

1. Turn the Dial CCW to **Normal**, Temperature will be displayed in Celsius.
2. Turn the Dial CCW to **Heavy Duty**, Temperature will be displayed in Fahrenheit .
3. Turn the Dial CCW to **Perm Press**, The door switch status will be displayed (CL if Closed, OP if Open).
4. Turn the Dial CCW to **Sanitize**, The door lock Switch status will be displayed (UL if unlocked, LO if locked).

### Water Frequency/Water Sensor Test:

Select a cycle & start the washer, enter **Service Mode & press Extra Rinse**.

Turn the Dial so **Rinse+Spin LED** is turned on. Next, press the **Start/Pause**. The Water Frequency will be displayed. The frequency will change as the unit fills.

### Quick Test Mode:

To enter press **Spin, Soil, & Power** simultaneously with the **power off**.

1. All LED's light up and the washer beeps as it enters the Quick Test Mode.
2. The unit displays the software version.
3. After software version displayed, turn **Jog dial** CCW until version disappears.

Press **Spin** to test Door Lock/Unlock circuit.

Press **Temp (with door locked)** to cycle through the Water Valves circuit test in this order: Cold Main, Bleach, Hot, then off.

Press **Soil** to test the Heater

Press **Signal Key** to test the Pump

### Spin Only option:

Power on, Press and hold **Spin** until display changes. Press **Spin** to select spin time.

Press **Start/Pause** to start cycle, Normal Cycle 10/12 minutes, Heavy Duty Cycle 11/13 minutes, Delicate Cycle 8 minute. Spin speed varies with cycle.

### EEPROM Clear Check

Power off, Press **Delay Start, Signal and Power** at the same time. Good = Good Fail = FAIL

All memory will be cleared, including Fault Codes This should be done when a new Main PCB is installed

### Fabric Softener Dispenser Test:

Start Rinse and Spin Cycle. After fill is completed remove detergent drawer, place towel below opening and within 3 minutes the dispenser will activate

# PCB SUB(DISPLAY)

1 2 3 4 5 6 7 8

CN3 WHT  
1 2 3 4 5  
WHT  
BLK  
BLK  
BLK

# PCB MAIN CONTROL

1 2 3 4 5 6 7 8

RY1

CN1 WHT CN8 WHT

CN5 WHT

MAIN RELAY

CN2 WHT

WHT  
BLK  
BLK  
BLK

3 2 1  
BLU  
WHT  
RED

1 2 3 4  
PNK  
RED  
BLU  
GRY

2 3 1  
RED  
PNK  
BLU

4 6  
GRY  
WHT

2 1  
BLU  
WHT

3 2 1  
BLK  
BLU

WHT  
ORG  
VIO  
PNK

3P MOTOR POWER(U)  
3P MOTOR POWER(V)  
3P MOTOR POWER(W)

MOTOR SENSOR(Vcc)  
MOTOR SENSOR(SIGNAL)  
MOTOR SENSOR(SIGNAL)  
MOTOR SENSOR(GND)

VALVE HOT  
VALVE BREACH  
VALVE MAIN

DRAIN PUMP  
DOOR LOCK SWITCH

WATER TEMPORATOR SENSOR  
[GND]  
[SIGNAL IN]  
[SIGNAL OUT]

SENSOR PRESSURE



SPLICE A BLK

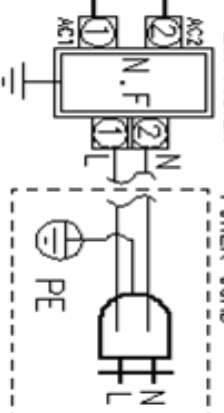
BLK

SPLICE B

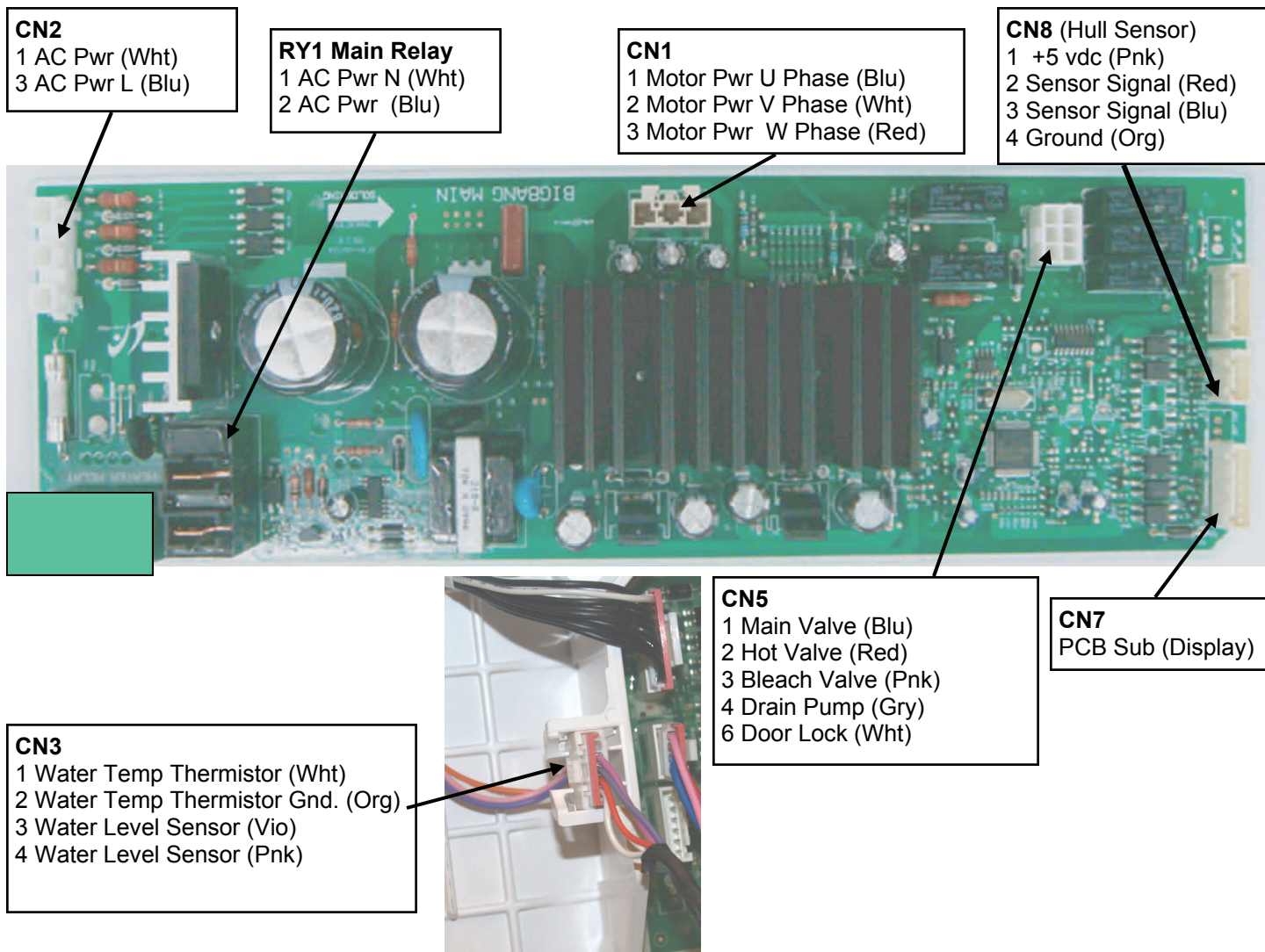
EMI FILTER

POWER CORD

\* Door Lock SW Condition  
: Door is opened, Doorlock is unlocked.



## Washer Connector Checks WF210

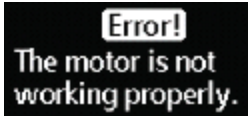


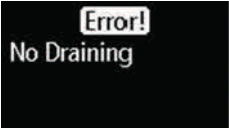
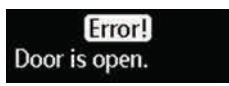
## SUPPORT INFORMATION

Training — Plus One <http://my.plus1solutions.net/clientPortals/samsung/>  
 Help — GSPN <http://service.samsungportal.com/>

| Water Level Sensor Check                                                                                             | Test 1                                                                      | Test 2                                     |
|----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|--------------------------------------------|
| Voltage: Connector CN 3 Pin 4 (Pink) and CN3 Pin 2 (Orange) And Connector CN 3 Pin 3 (Violet) and CN3 Pin 2 (Orange) | Operating voltage at no water in the drum-2.5VDC                            | Operating Resistance (Power off)           |
| Resistance: Connector CN 3 Pin 8 (Pink) and CN3 Pin 7 (Violet)                                                       |                                                                             | Pin 8 (Pink) and Pin 7 (Violet)<br>22- 24Ω |
| Hall Sensor Check                                                                                                    | Test 1                                                                      | Test 2                                     |
| Connector CN8 Pin 4 (Orange) and Pin 2 (Red) additionally Pin 4 (Orange) and Pin 3 (blue)                            | Manually spin the drum to see the voltage change, Power On. 0Vdc or 3.75Vdc | N/A                                        |
| Motor Check                                                                                                          | Test 1                                                                      | Test 2                                     |
| Connector CN9 Pin 1 (Blue), Pin 2 (White) and Pin 3 (Red)                                                            | Power Off 11.5Ω across Pins 1-2, Pins 1-3, & Pins 2-3                       | N/A                                        |

| Door Lock Check                                                                                  | Test 1                                                 | Test 2                                            |
|--------------------------------------------------------------------------------------------------|--------------------------------------------------------|---------------------------------------------------|
| Connector CN Pin 3 (Blk) and RY1 Pin 2 (Blue)                                                    | When Door is Unlocked 6VAC<br>When Door is Locked 0VAC | N/A                                               |
| Door Switch Check                                                                                | Test 1                                                 | Test 2                                            |
| Connector CN5 Pin 6 (Wht) and RY1 Pin 2(Blu)                                                     | 48Ω Door Closed, ∞Ω Door Open                          |                                                   |
| A/C Power Check                                                                                  | Test 1                                                 | Test 2                                            |
| Connector CN 2 Pin 1 (Blu) and RY1 Pin 1 (Wht)<br>Connector CN 2 Pin 1 (Blu) and RY1 Pin 2 (Blu) | Power Off 120VAC<br>Power Off 0VAC - Power On 120VAC   | N/A                                               |
| Drain Motor Check                                                                                | Test 1                                                 | Test 2                                            |
| Connector CN5 Pin 4 (Gry) and RY1 Pin 2 (Blu)                                                    | 120VAC with the pump On and 0VAC with the pump off     | Power Off, the resistance should be 14Ω           |
| Water Valve Check                                                                                | Test 1                                                 | Test 2                                            |
| Connector CN2 Pin (Blu) to CN5 Pin 3 (Pink), Pin 2 (Red) , Pin 1 (Blue)                          | 120VAC with the Valve On and 0VAC with the Valve off   | Power Off, valve resistance is from 1202Ω - 1245Ω |

| Error Type                             | Error Mode        |                                                                                     | Details                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------------------|-------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                        | LED               | LCD                                                                                 |                                                                                                                                                                                                                                                                                                                                                                             |
| Water Level Sensor                     | LE 8              |  | Check the Hose where the sensor is connected, may be loose, pinched, damaged or clogged. Also check the sensor it may be disconnected or defective. The Main PCB may also be defective                                                                                                                                                                                      |
| Water Level Sensor                     | 1E                |                                                                                     | Water Level Sensor Trouble, Signal out of range                                                                                                                                                                                                                                                                                                                             |
| Motor Drive Error or Hall Sensor error | 3E                |  | Check the motor drive connector, it may be loose. The hall sensor may be disconnected, loose or damaged . Check for a foreign object inside the motor or motor damage. The stator might be loose or damaged. The drum might be overloaded from too many clothes or the relay or PCB might be defective.                                                                     |
|                                        | E3                |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                             |
|                                        | bE 25             |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                             |
| Water Supply Error                     | nF 3              |  | Check the water valve wiring harness.<br>Check whether the water supply valve is clogged with foreign material and whether water is supplied properly.<br>Check for reversed fill hoses<br>Check water temperature, if sensed as higher than 50 °C in the Wool or Lingerie cycle it will create error.<br>Check the relays, if they operate correctly replace the Main PCB. |
| Fill Hoses Reversed                    | nF1               |                                                                                     | Correct Hot/Cold hose connections                                                                                                                                                                                                                                                                                                                                           |
| System Error                           | SF1<br>SF2<br>SF3 |                                                                                     | Replace PCB                                                                                                                                                                                                                                                                                                                                                                 |

| Error Type                         | Error Mode                     |                                                                                     | Details                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------|--------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                    | LED                            | LCD                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Drain Error                        | nD<br>1                        |    | <p>Check for Foreign material entering the pump or hoses.</p> <p>Check to make sure the wiring harness is connected properly.</p> <p>Check the water pump terminal .</p> <p>Check for freezing</p>                                                                                                                                                                                                                                             |
| Power Error                        | 2E<br>91<br>92                 |    | <p>Make sure to check the operating voltage. (An error occurs when under or over voltage is supplied.) Check whether a plug receptacle is used. When the connecting wires are too small (extension cord use), a momentary low voltage may drop up to 10 V</p> <p>Main PBA fault (sometimes)</p>                                                                                                                                                |
|                                    | PF                             |                                                                                     | Momentary Power Failure                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Communication Error                | AE                             |    | <p>Check the wire connections and terminal contacts between the sub and main PBAs.</p> <p>Check for disconnected wires.</p> <p>Check whether the sub PCB is short circuited because of moisture. If the main PCB's communication circuit is faulty, replace it.</p>                                                                                                                                                                            |
| EEPROM Fault.                      | 11                             |                                                                                     | Go to "EEPROM Clear Mode" If display shows "FAiL", Replace Machine Control Board                                                                                                                                                                                                                                                                                                                                                               |
| Switch Error<br>(Main Relay Error) | E2<br>15                       |  | <p>Check whether either the Power switch or a tact switch (any button) is stuck down.</p> <p>Check whether the service PBA holding screws are fastened too tight pinching the contacts</p> <p>If the main PBA switching IC on/off error has occurred, replace the main PBA.</p> <p>The "E2" error occurs if the main relay connections are incorrect. Check the connections. If there is no error in the connections, replace the main PBA</p> |
|                                    | SR                             |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                    | dS<br>22<br>(Before operation) |  | <p>Check the door switch and latch alignment .</p> <p>Check the latch for damage</p> <p>Check the wiring harness to the latch.</p> <p>Check the door switch. Replace if faulty.</p> <p>Check the main PBA door sensing circuit. Replace if faulty.</p> <p>Finally verify the operation of the Main PCB</p>                                                                                                                                     |
| Door Error                         | dL<br>18<br>(During operation) |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                    | LO<br>2<br>(Unlock Fail)       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                    | FL<br>4<br>(Lock Fail)         |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                |

| Error Type                                 | Error Mode                                                                              |                                                                                     | Details                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------------------|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                            | LED                                                                                     | LCD                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Heater Error                               | Hr<br>36<br>(Heater Relay)                                                              |    | This can be a short or a wire disconnected to the heater circuit. This can also be problem with the tub contacting the heater or if the water in the tub is frozen or there is no water. The error is triggered by temperatures above 145C. If the heater has no error, this occurs because of a PBA relay malfunction. Check the wiring harness to the heater.<br><br>An Hr error occurs if the steam heater, is faulty, replace it. |
|                                            | 9E1                                                                                     |                                                                                     | EMC Filter issue or a noise spike from an external device                                                                                                                                                                                                                                                                                                                                                                             |
| Overflow error                             | OE<br>1E                                                                                |    | Water is supplied continually because the water level detection does not work. - Verify the drain is working properly, the water level detection does not work and water is supplied continually. Verify the water valves shut off fully. Finally check the water level sensor.                                                                                                                                                       |
| Temperature Sensor Error                   | 29<br> |    | The washing heater temperature sensor in the tub has an error. Check the connections for the washing heater temperature sensor connector.                                                                                                                                                                                                                                                                                             |
| Unbalance Error                            | dC<br>10                                                                                |   | Check the type of laundry. Check whether it may cause an unbalanced situation.- Educate the consumer in this case, to press pause, reposition the load or remove a few items. Press start to continue and complete the wash cycle.                                                                                                                                                                                                    |
| Silver Care Kit (Silver Care PCB) Failure. | 7E                                                                                      |                                                                                     | Check Silver Care PCB ,Main PCB & Wire-harness                                                                                                                                                                                                                                                                                                                                                                                        |
| Mems or Har-                               | 8E                                                                                      |                                                                                     | Check MEMS PCB ,Main PCB & Wire-harness                                                                                                                                                                                                                                                                                                                                                                                               |
| Foaming Detected                           | SUDS<br>Sd                                                                              |  | This occurs when too much foaming is detected. It is also displayed while foaming is removed. When the removal is finished, the normal cycle proceeds. (This is one of the normal operations. It is an error for preventing non-sensing faults.)                                                                                                                                                                                      |

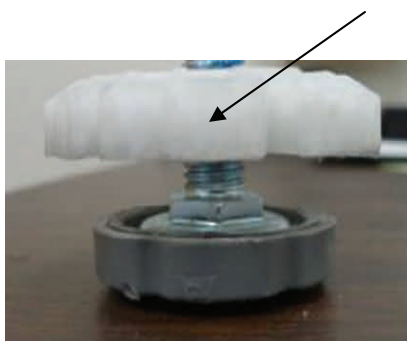
Check whether the washing machine is level to the floor with respect to the original position of the washing machine prior to service. Doing this now will reduce the need for a redo call and customer dissatisfaction.

✓ Vibrations can shorten the lifetime of the product.

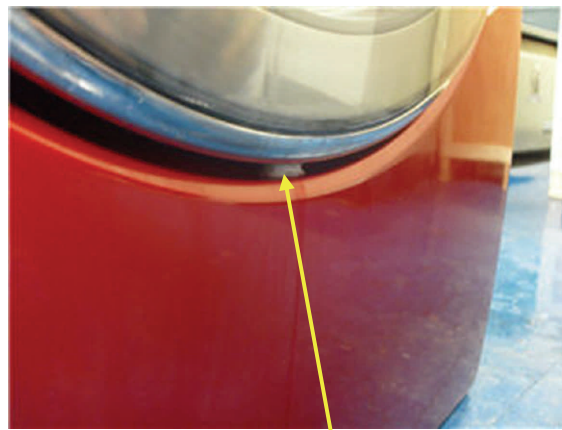
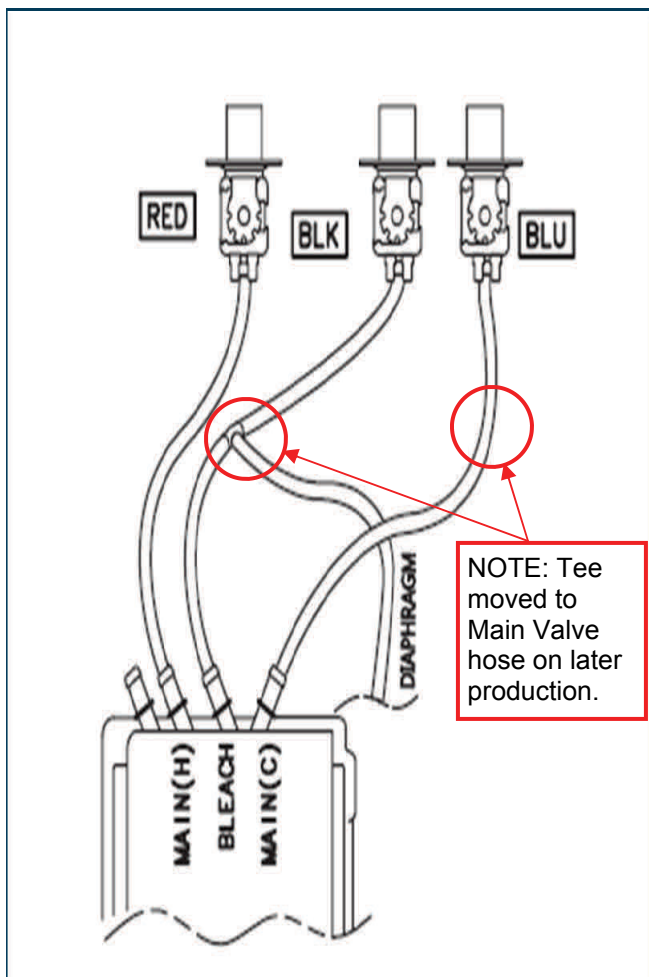
#### Location considerations

Do not install your washer in areas where water may freeze, since your washer will always maintain some water in its water valve, pump, and hose areas. This can cause damage the belts, the pump, hoses and other components. **Operating temperature should be above 60°F/16°C.**

When installing a washer and dryer on the first, or second floor, do not exceed this leg adjustment height for stability.



## Water valve connections for the Detergent Drawer



When using non-HE detergents, or using too much detergent for the water hardness and soil level of the clothing, over sudsing will occur. When this happens there will be leaks out of the detergent drawer and door. Please advise consumer of proper detergent usage.



It is normal for some water to remain in Detergent Drawer after it completes washing. Bleach is usually flushed out into the tub at the beginning of the washing. Also, its compartment is washed again during the following rinse cycle, removing any remnants.

### Items Packed With Washer

BOLT-SPANNER (10-13mm Wrench) DC60-40146A  
 ASSY HOSE WATER Cold DC97-15648A  
 ASSY HOSE WATER Hot DC97-15648B  
 CAP-FIXER DC67-00307A  
 HOSE-HANGER DC62-10278A

**To unlock the door** if washer is stuck in the door locked mode.

Remove top, remove console, remove screws for front panel, pull panel forward.

Picture "A" pull bottom of plastic cover away from front until it pops off.

Picture "B" pull down on plastic lever to release lock.

Remove lock ass'y to replace plastic cover.

