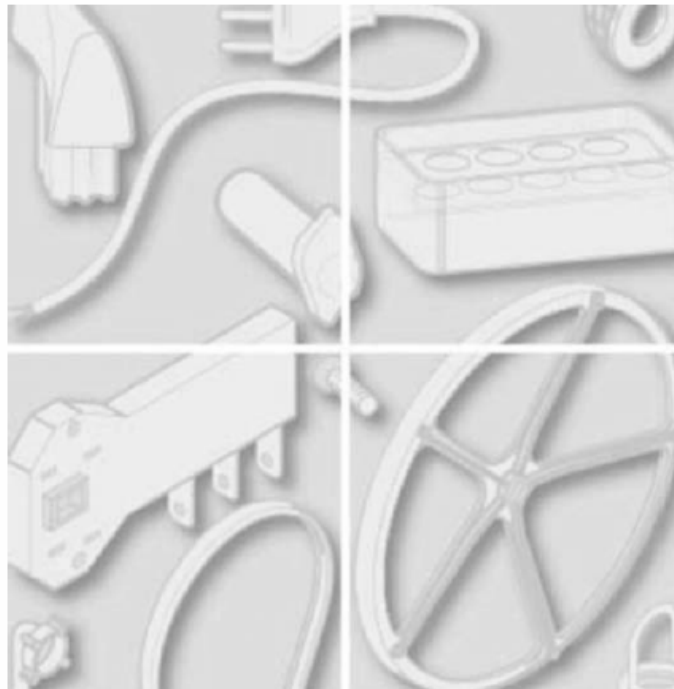




## REPAIR MANUAL

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**PRODUCT: WASHER**  
**MODEL: AW 129 NA / AW 149 NA**

## SAFE SERVICE PRACTICES

This Repair Manual is intended for persons having electrical and mechanical training and a level of knowledge of these subjects generally considered acceptable in the Appliance Service Industry. Ariston cannot be responsible, nor assumes any liability for injury or damages of any kind arising from the use or misuse of the information contained in this Repair Manual.

If you have any questions regarding the proper diagnosis, repair or operation of any Ariston Appliance, please contact the Ariston Customer Care Center or your Service Representative at 888-426-0825.

### SERVICING SAFEGAURDS:

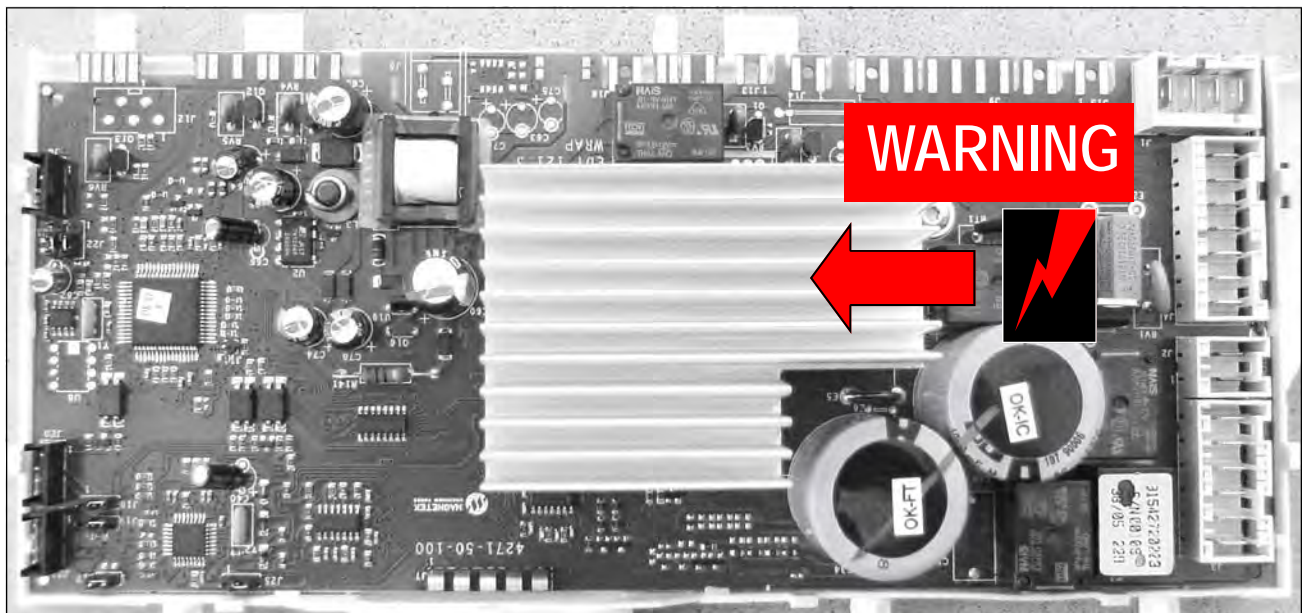
To avoid personal injury and/or property damage, it is important that safe servicing practices be observed at all times. Examples of safe service practices are listed below but are not limited to the following:

- 1) Never attempt a product repair if you have any doubts as to your ability to complete the repair in a safe and satisfactory manner.
- 2) Before servicing or removing an appliance:
  - Disconnect power to the appliance.
  - Turn off the gas / LP supply.
  - Turn off the water supply.
- 3) Never interfere with the proper operation of any safety device.
- 4) Use only genuine factory replacement parts as substitutions may interfere with compliances to home safety codes or standards.
- 5) It is extremely important that all safety ground connections be reestablished prior to the completion of the service call. Failure to do so will result in a hazardous condition being created.
- 6) Prior to returning the appliance back into active service, ensure the following:
  - All electrical connections are correct and secure.
  - Electrical leads are properly dressed and secured away from sharp edges, high temperature components and moving parts.
  - All non-insulated electrical terminals, connectors, heaters, etc. are adequately spaced away from metal parts or panels.
  - All safety grounds (both internal and external) are correctly and securely connected.
  - All access panels are properly and securely reassembled.

### ELECTRICAL SHOCK WARNING

#### IMPORTANT SAFETY WARNING:

The Control Board Heat Sink will remain charged for five (5) minutes after power is disconnected from the appliance. To avoid electric shock DO NOT come in contact with the Control Board until the appliance has been removed from live current for at least five (5) minutes, and the Heat Sink has had an opportunity to discharge.



# SAFETY WARNING

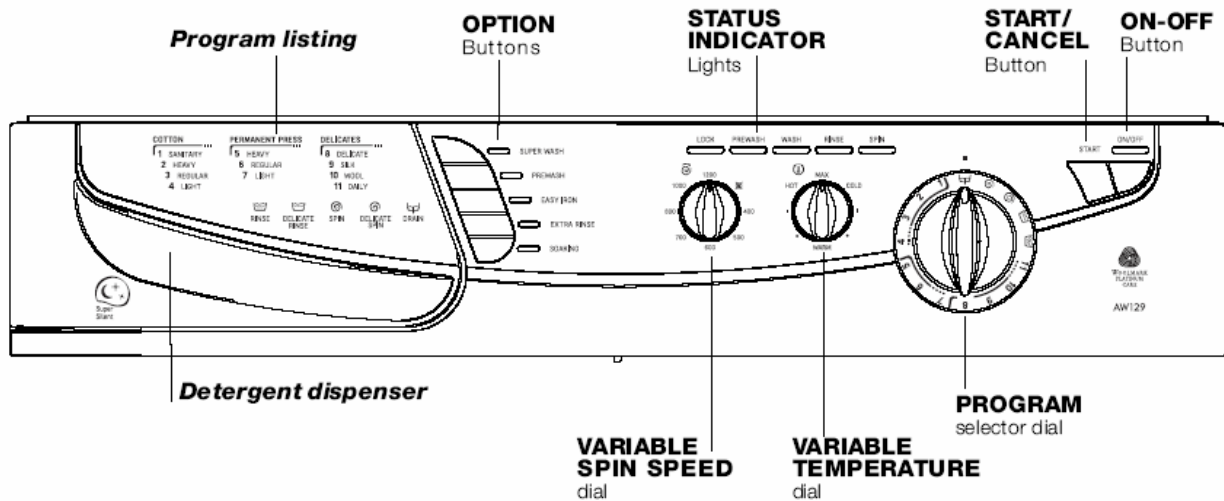
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# REPAIR MANUAL

AW 129 NA / AW 149 NA

## 1. CONTROL PANEL AW 129



### Control panel features

**Program Listing:** To consult a straightforward chart of the different programs available.

**Option Buttons:** To select the options available (see *Program Table and Option Modifiers*).

**Variable Temperature Dial:** To modify the temperature according the chosen programs \*.

**Variable Spin Speed Dial:** To reduce the spin speed or exclude the spin cycle completely.

**On/Off Button:** To turn the washing machine on and off.

**Start/Cancel Button:** To start the program or to cancel it, if incorrect settings were selected.

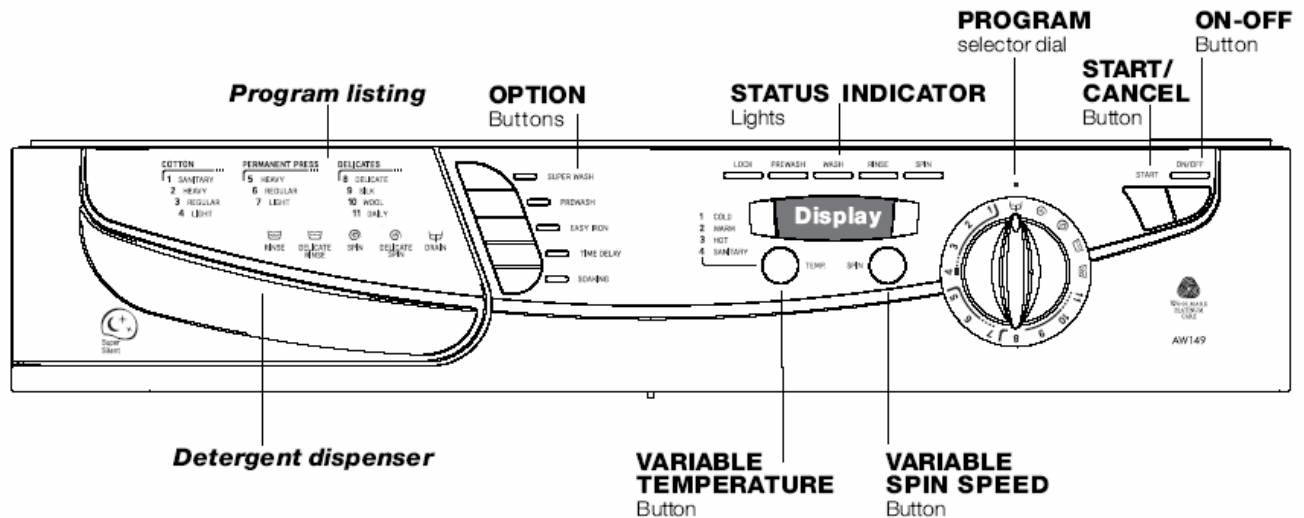
**Program Selector Dial:** to select the wash programs. The knob stays still during the cycle.

**Status Indicator Lights:** Show if the door is locked (when lit, the door cannot be opened) and the stage of the program that the machine has reached (wash, rinse or spin).

# REPAIR MANUAL

AW 129 NA / AW 149 NA

## 1. CONTROL PANEL AW 149



### Control panel features

**Program listing:** To consult a straightforward chart of the different programs available.

**Display** to program the washing machine and follow the wash cycle progress (*see opposite page*).

**Option buttons:** To select the options available (*see Program Table and Option Modifiers*).

**Variable Temperature button:** Use this option to reduce the wash temperature below the maximum for the program you have chosen.

**Variable Spin Speed button:** To reduce the spin speed or exclude the spin cycle completely \*.

**On/Off button:** To turn the washing machine on and off.

**Start/Cancel button:** To start the program or to cancel it, if incorrect settings were selected.

**Program selector dial:** to select the wash programs. The knob stays still during the cycle.

**Status Indicator lights:** Shows if the door is locked (when lit, the door cannot be opened) and the stage of the program that the machine has reached (wash, rinse or spin).

## 2. MODEL & SERIAL NUMBER LOCATION



Fig. 2-1

- The Model and Serial Number Tag is located on the front of the Washer behind the washer door (Fig. 2-1)



Fig. 2-2

- The Model number is listed as "TYPE" and the Serial Number is a nine (9) digit number located on a separate tag (Fig. 2-2).

## 3. TOP PANEL



Fig. 3-1

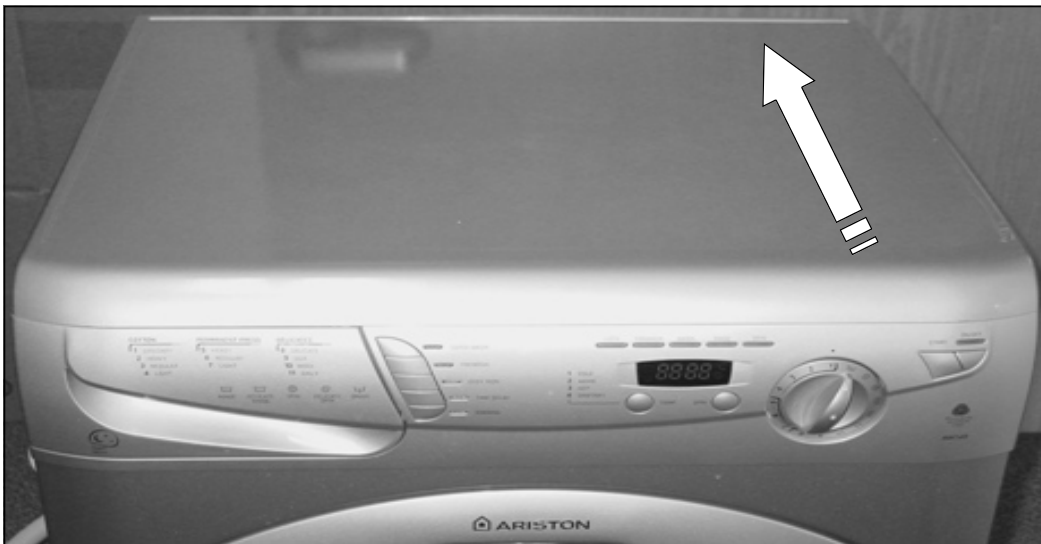


Fig. 3-2

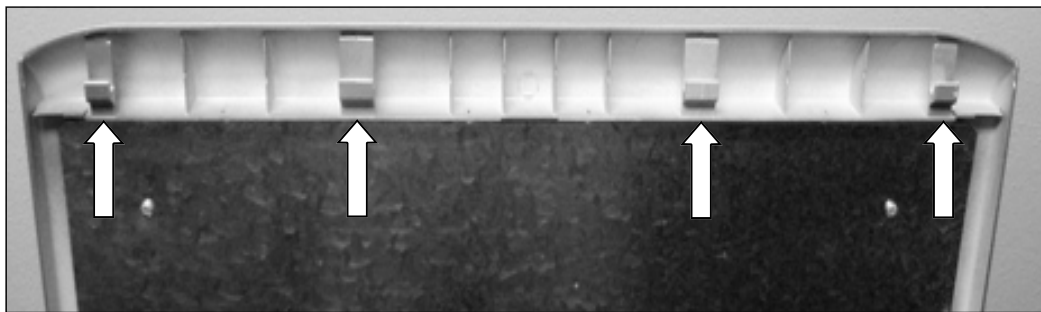


Fig. 3-3

- To remove the Top Panel, first remove the two Phillips screws located at the rear corners of the panel (Fig. 3-1). With the two screws removed slide the Rear Panel back and off the unit (Fig. 3-2). When reinstalling the Top Panel, Slide the Top Panel Clips under the Control Panel and then replace the two Phillips Screws (Fig. 3-3).



## 4. CONTROL PANEL REMOVAL



Fig. 4-1

- To remove the Control Panel, first remove the two Phillips screws located on the top left and right corners (Fig. 4-1).



Fig. 4-2

- Next, remove the Soap Dispenser Drawer and then remove the two Phillips screws located behind the Soap Dispenser Drawer. (Fig. 4-2).

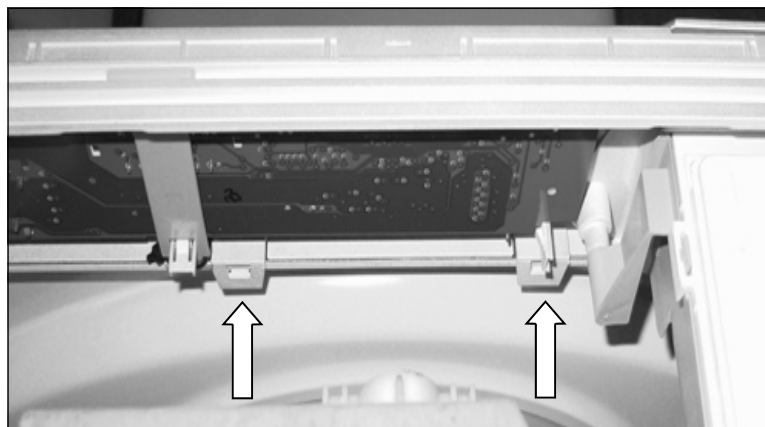


Fig. 4-3

- From the inside rear of the Control Panel, release the two Control Panel Mounting Tabs (Fig. 4-3), disconnect the wire harness and the Control Panel can be lifted off as a complete assembly.

## 5. CONTROL PANEL PROGRAM BOARD REMOVAL



Fig. 5-1

- To remove the Control Panel Program Board, first remove the Program Dial by carefully prying it out from the Control Panel, making sure not to damage the knob or Control Panel (Fig. 5-1).

**NOTE:** The Control Panel does NOT have to be removed from the Washer to remove the Control Panel Program Board.

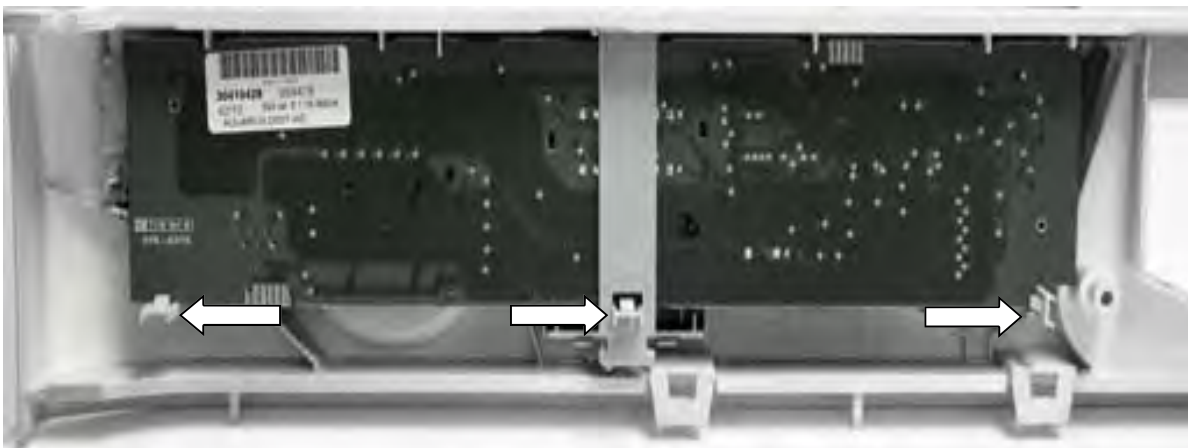


Fig. 5-2

- Next, release the three Program Board locking tabs and removed Program Board from the Control Panel (Fig. 5-2).



Fig. 5-3

- The Program Board is replaced as a complete assembly (Fig. 5-3).

## 6. FRONT PANEL & DRUM BOOT REMOVAL



Fig. 6-1



Fig. 6-2

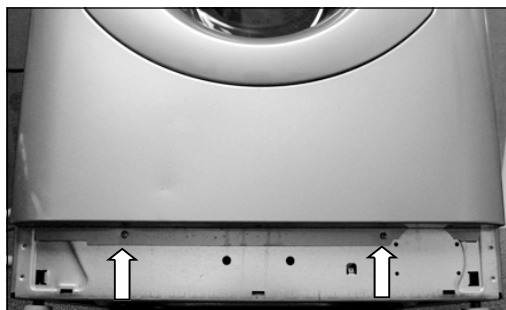


Fig. 6-3

### FRONT PANEL:

- First remove the Control Panel (see Section 4, Page 6).
- With the Control Panel removed, remove the two Phillips screws located at the top left and right corners of the panel (Fig. 6-1).
- Next remove the Outer Drum Boot Retainer Spring and then disconnect Door Locking Mechanism Wiring Harness (Fig. 6-2).
- Remove the lower Toe Kick and then the two bottom Phillips screws (Fig. 6-3). The Front Panel can be lifted up and off from the four panel alignment pins (Fig. 6-4).

### DRUM BOOT:

- The Drum Boot is held to the Drum with a reusable Zip Retainer Clamp (Fig. 6-4). Remove the Inner Drum Clamp by pushing down on one of the clamp spring arms (Fig. 6-5).

**TECH NOTE:** When installing the Boot make sure to align the drip edge at the 6 O'clock position (see Note in Fig. 6-4).

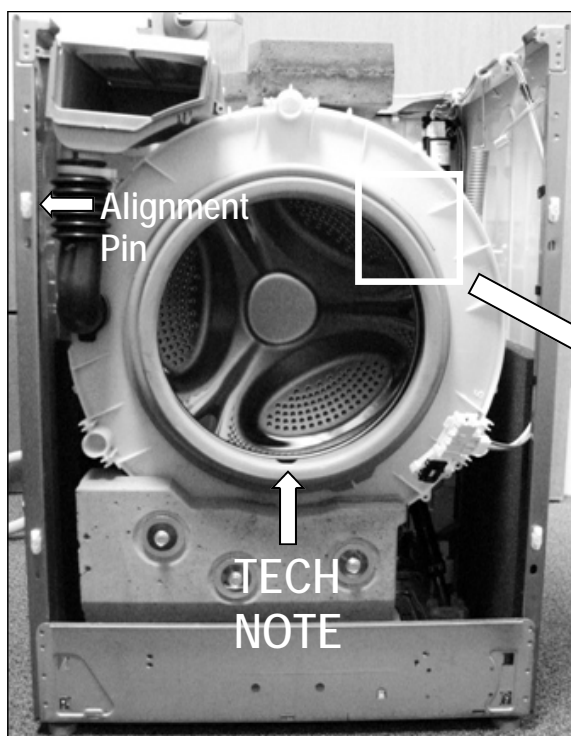


Fig. 6-4

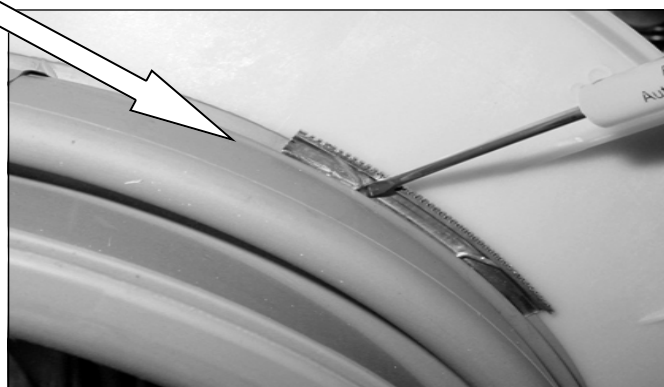


Fig. 6-5

## 7. DRUM AGITATOR



Fig. 7-1

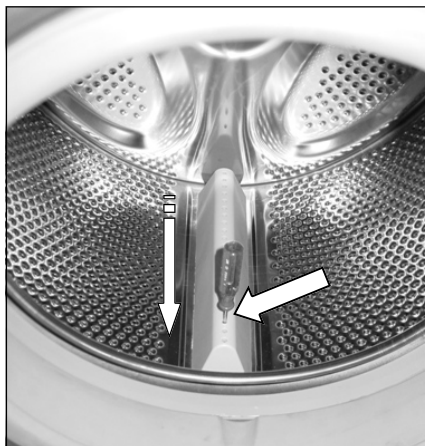


Fig. 7-2

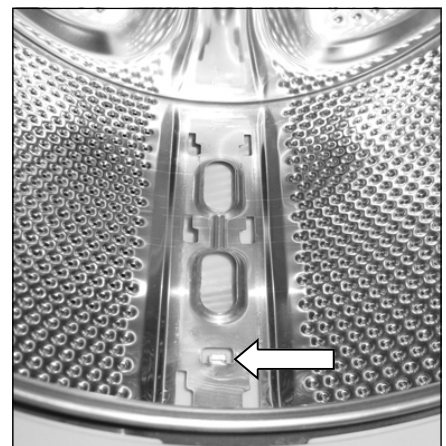


Fig. 7-3

- To remove and replace the Drum Agitators (Fig. 7-1), insert a small screwdriver into the third hole from the front of the Agitator Paddle and push down (Fig. 7-2), this will bend down the locking tab that holds the Agitator in place. Slide the Agitator forward and off. To replace the Agitator, bend the locking tab up into the locking position (Fig. 7-3) and then slide the new Agitator into place.

## 8. REAR ACCESS PANEL & COMPONENTS

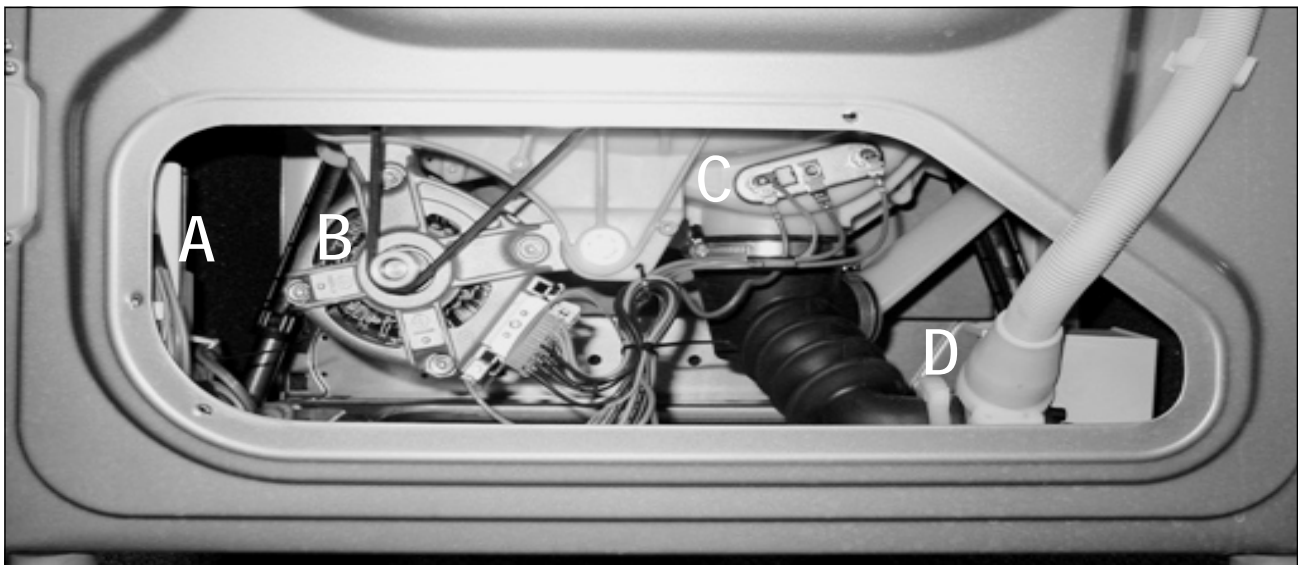


Fig. 8-1

- With the Rear Access Panel Removed you have access to the following components (Fig. 8-1).
  - A - Control Board and EEPROM Chip (See **Electrical Shock Warning Page ii**)
  - B - Main Motor
  - C - Heater
  - D - Drain Motor

## 9. MAIN MOTOR

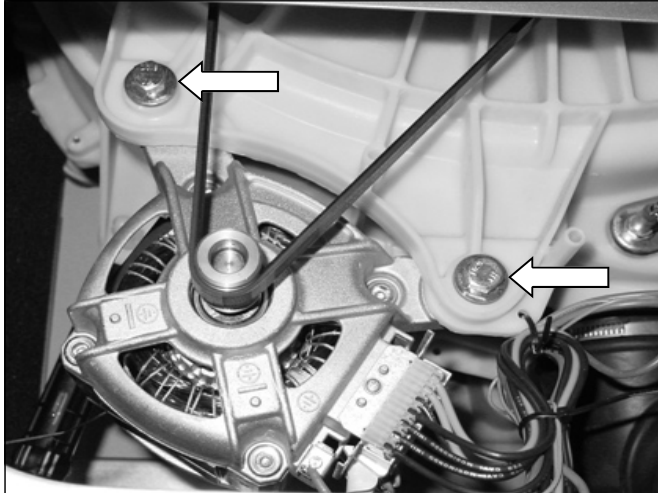


Fig. 9-1

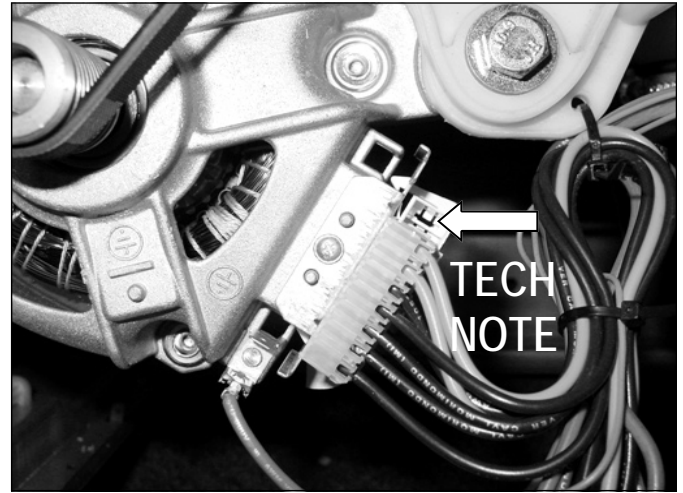
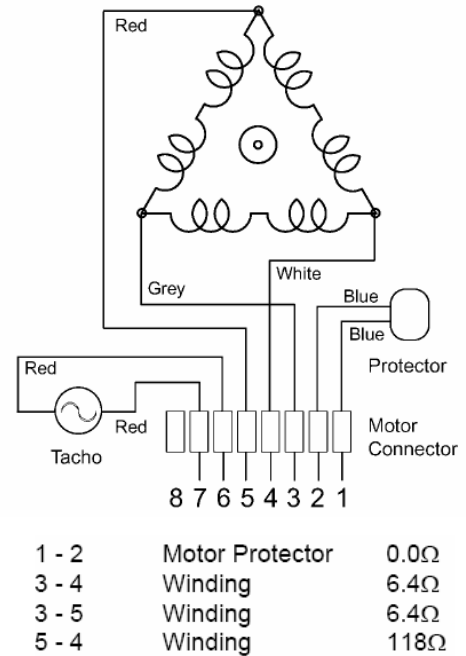


Fig. 9-2



Fig. 9-3



- To remove the Main Motor, first remove the Drive Belt and then the wiring connection. Now remove the two 13mm motor mounting bolts, each bolt also has a washer and lock washer (Fig. 9-1).

**TECH NOTE:** The male wire connection of the motor has an open terminal. Make sure when installing the wire connector that it lines up as shown with the top terminal left open (Fig. 9-2).



## 10. CONTROL BOARD

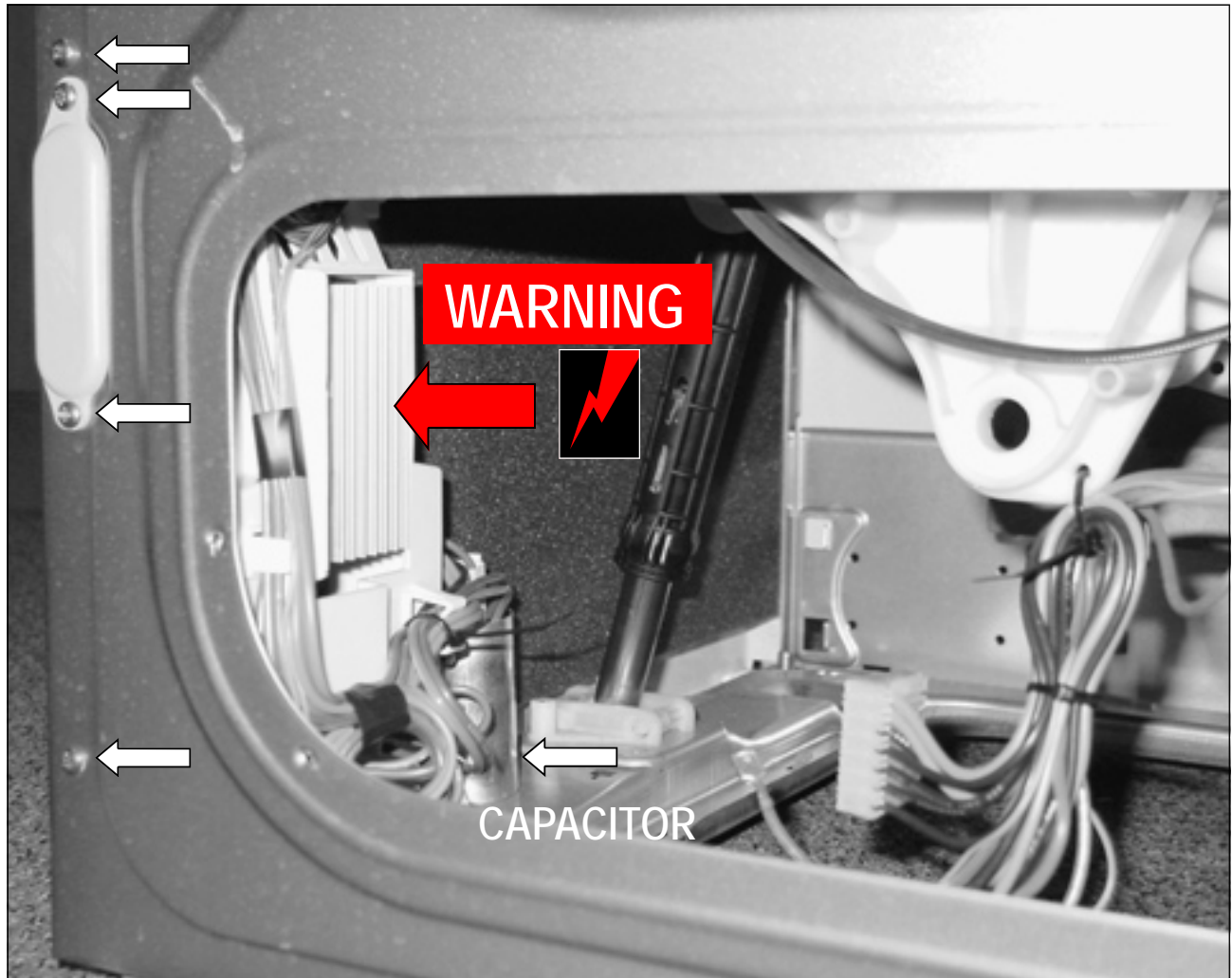


Fig. 10-1

### WARNING - ELECTRICAL SHOCK

The Control Board Heat Sink will remain charged for five (5) minutes after power is disconnected from the appliance. To avoid electrical shock **DO NOT** come in contact with the Control Board until the appliance has been removed from live current for at least five (5) minutes, and the Heat Sink has had an opportunity to discharge.

- To make the removal of the Control Board easier first remove the Main Motor (see section 9, page 9 for Main Motor removal).
- Next remove the four Phillips board mounting screws and the connector cover (Fig. 10-1).
- Tip the appliance forward and then remove the Capacitor by loosening the 13mm Capacitor Mounting Nut from the bottom of the unit (Fig. 10-1).
- *Control Board removal continued on page 11.*

## 10. CONTROL BOARD Cont.

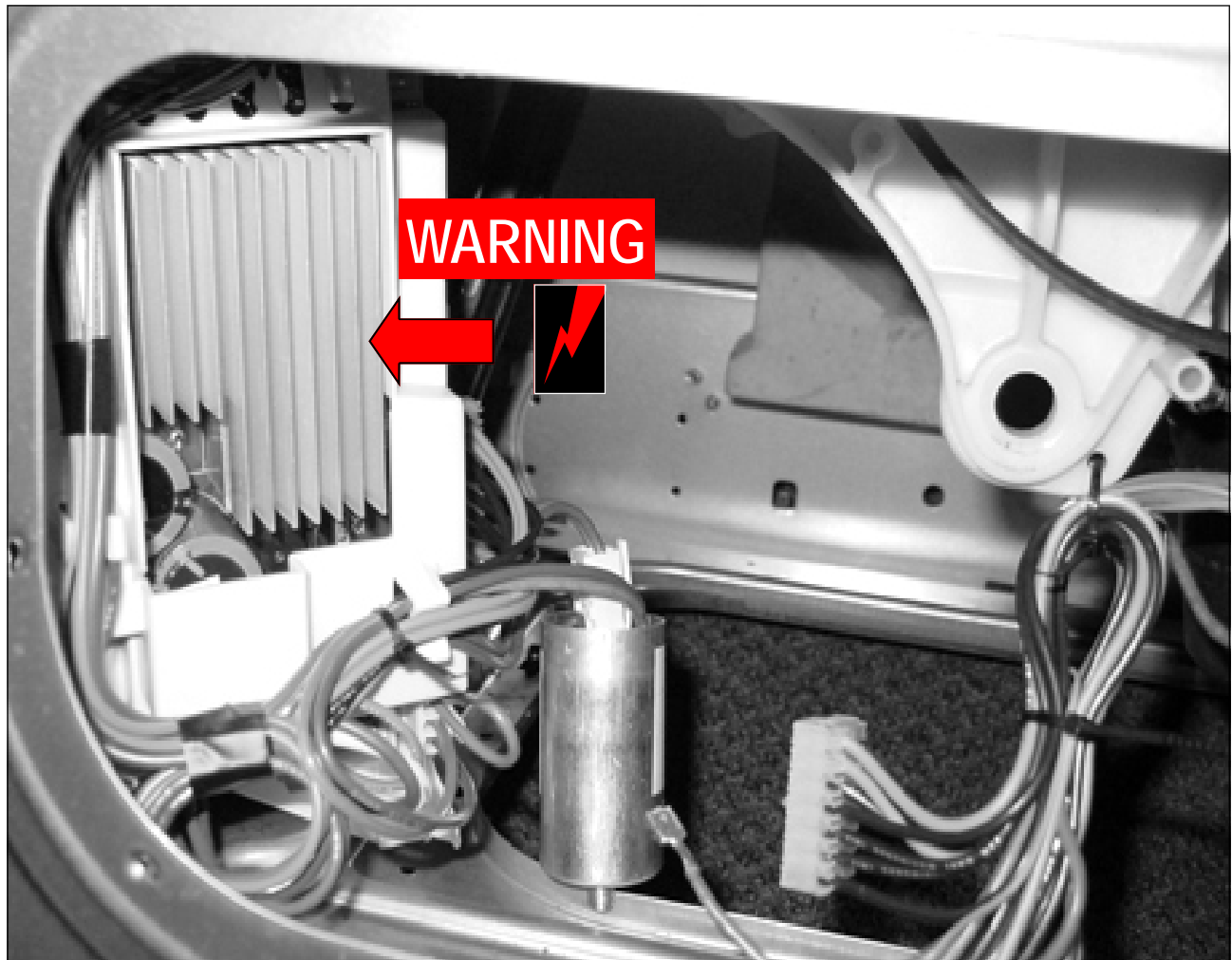


Fig. 10-2

### WARNING - ELECTRICAL SHOCK

The Control Board Heat Sink will remain charged for five (5) minutes after power is disconnected from the appliance. To avoid electrical shock DO NOT come in contact with the Control Board until the appliance has been removed from live current for at least five (5) minutes, and the Heat Sink has had an opportunity to discharge.

- With the four Control Board mounting screws and the Capacitor Nut removed you can now carefully remove the individual wire connections from the Board, and then remove the Control Board from the unit (Fig. 10-2).

**IMPORTANT: WIRE CONNECTORS CAN ATTACHED TO THE CONTROL BOARD IN MANY LOCATIONS. ALWAYS MAKE SURE TO NOTE THE WIRE HARNESS LOCATION OF EACH CONNECTOR BEFORE REMOVING IT FROM THE CONTROL BOARD. THIS WILL INSURE THEY ARE RETURNED TO THEIR CORRECT LOCATIONS.**

## 11. CONTROL BOARD EEPROM

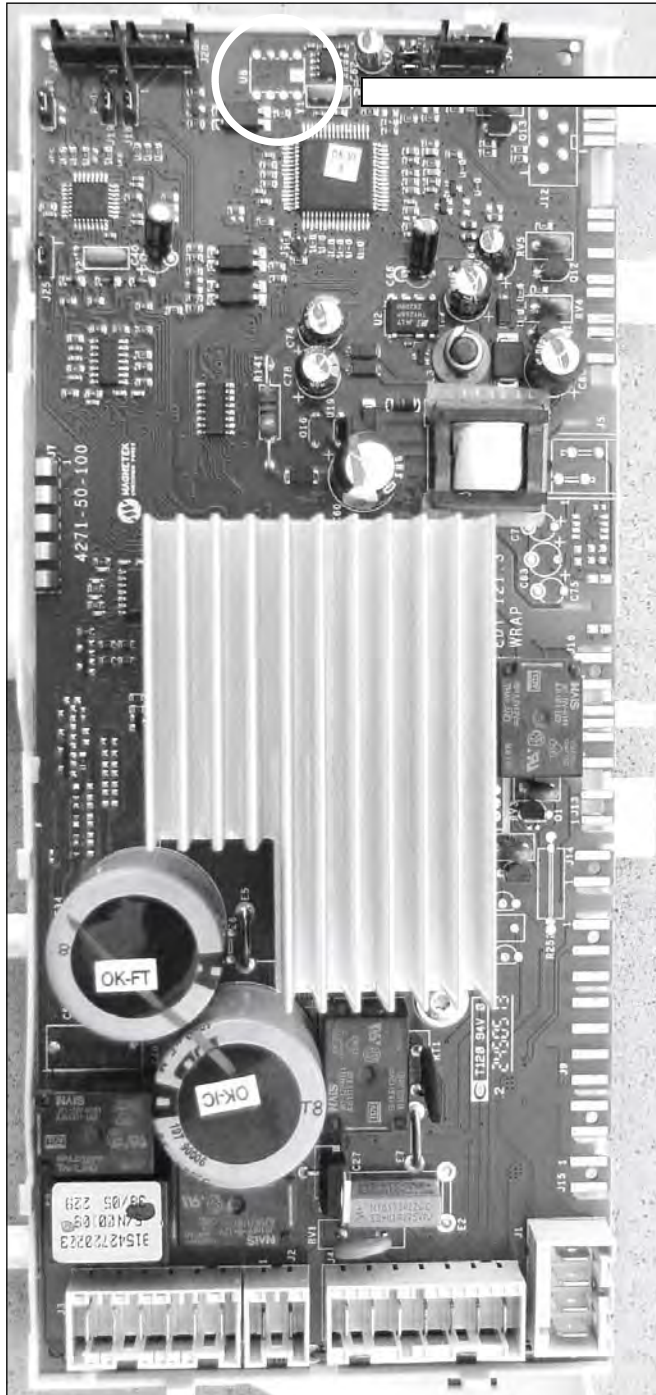


Fig. 11-1

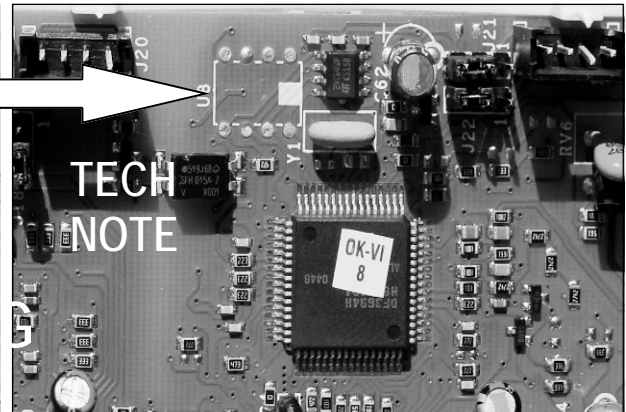


Fig. 11-2

- **TECH NOTE:** When replacing the Control Board you must also replace the EEPROM Chip. When ordering a the replacement Control Board make sure to also order the correct EEPROM Chip for the Appliance Model being serviced.
- The EEPROM Chip will insert into the Control Board (Fig. 11-1 & Fig. 11-2) at the eight pin receptacle. When installing the new EEPROM Chip make sure that both the Chip Cut Out and the Chip Receptacle Cut Out are aligned in the same direction (Fig. 11-3).

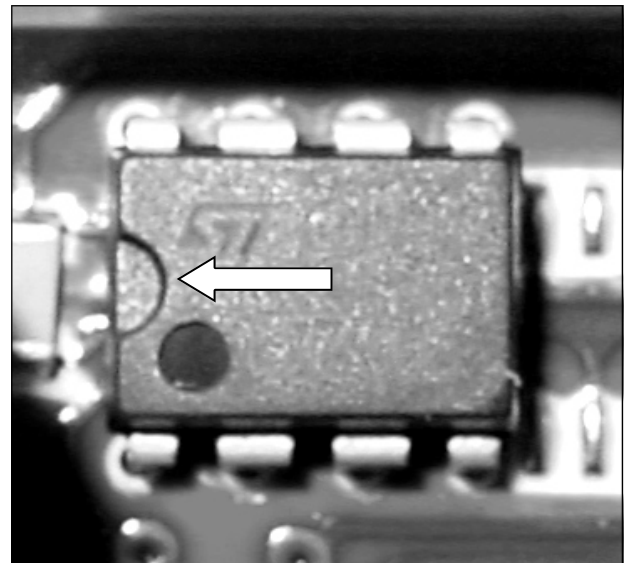


Fig. 11-3



## 12. DRAIN MOTOR



Fig. 12-1

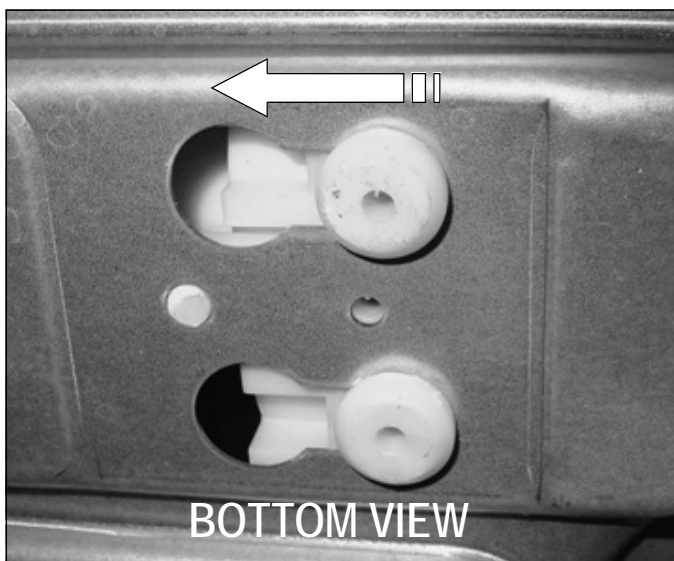


Fig. 12-2

- The Drain Motor is removed by first removing the two reusable plastic hose clamps, hoses and wiring (Fig. 12-1).
- Then lifting the Drain Motor slightly on the left side and sliding it from right to left releasing it from its keyhole mount (Fig. 12-2).

## 13. HEATER



Fig. 13-1

- The Heater is only used in the Sanitize Program (program #1) boosting the water temperature in that wash cycle to 167° degrees.
- The Heater Assembly consists of two components (Fig.13-1).

### NTC:

- The NTC is used to regulate water temperature.
- The NTC can be removed without removing the complete Heater Assembly but by first loosening the 10mm mounting nut. With the nut loosened pull the NTC straight out from the Heater Assembly. At room temperature the NTC has an Ohm of 20k Ohms (Fig. 13-1 & Fig. 13.2).

### HEATER ASSEMBLY:

- The Heater Assembly can be removed by first removing the 10mm nut and wiring. Then by using a flat bladed screwdriver carefully pry the Heater Assembly and Gasket away from the tank housing.

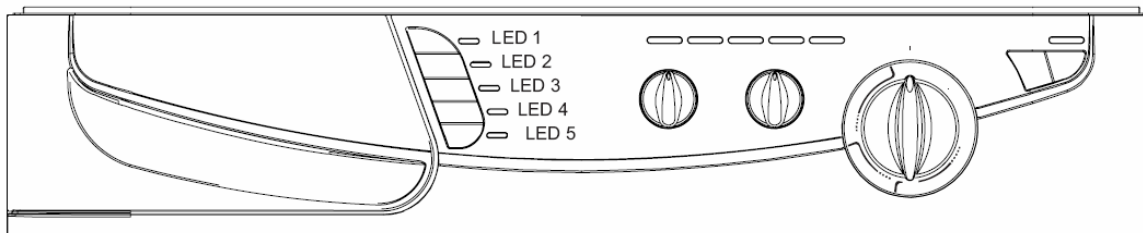


Fig. 13-2

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## 14. FAULT CODES AW 129 NA



FAULT	LED 1	LED 2	LED 3	LED 4	LED 5	FAULT	LED 1	LED 2	LED 3	LED 4	LED 5
F 1	OFF	OFF	OFF	FLASH	OFF	F 10	FLASH	OFF	FLASH	OFF	OFF
F 2	OFF	OFF	FLASH	OFF	OFF	F 11	FLASH	OFF	FLASH	FLASH	OFF
F 3	OFF	OFF	FLASH	FLASH	OFF	F 12	FLASH	FLASH	OFF	OFF	OFF
F 4	OFF	FLASH	OFF	OFF	OFF	F 13	FLASH	FLASH	OFF	FLASH	OFF
F 5	OFF	FLASH	OFF	FLASH	OFF	F 14	FLASH	FLASH	FLASH	OFF	OFF
F 6	OFF	FLASH	FLASH	OFF	OFF	F 15	FLASH	FLASH	FLASH	FLASH	OFF
F 7	OFF	FLASH	FLASH	FLASH	OFF	F 16	OFF	OFF	OFF	OFF	FLASH
F 8	FLASH	OFF	OFF	OFF	OFF	F 17	OFF	OFF	OFF	FLASH	FLASH
F 9	FLASH	OFF	OFF	FLASH	OFF	F 18	OFF	OFF	FLASH	OFF	FLASH

### F1. Motor Triac Short

Check Continuity of Motor.  
Check Motor / Control Board Wiring Connections.  
Replace Control Board and EEPROM.  
Or, Replace Motor.

### F2. Main Motor

Check Motor Rotation.  
Check Continuity of Motor.  
Check Motor / Control Board Wiring Connections.  
Check Tach Continuity 177 ohms.  
Replace Motor.  
Or, Replace Control Board and EEPROM.

### F3. NTC (Water Temp) Open / Short

Check Wiring Continuity to Control Board.  
Check NTC for 20K ohms, Replace NTC.  
Or, Replace Control Board and EEPROM.

### F4. Pressure Switch

Check Wiring Continuity to Control Board.  
Inspect Pressure Switch Hose for Damage or Holes.  
Replace Pressure Switch.  
Or, Replace Control Board and EEPROM.

### F5. Blocked Drain Motor or Pressure Switch shorted in Empty position

Check Drain Hose.  
Check Drain Motor Clean Out for Obstruction.  
Check voltage at Drain Motor.  
Inspect Pressure Switch Hose for Damage or Holes.  
Check Pressure Switch Wiring Continuity.  
Replace Drain Motor / Pressure Switch.  
Or, Replace Control Board and EEPROM.

### F6. Not Used

### F7. Heater Relay Stuck or Heater Element Open

This Fault Signaled when Pressure Switch in Empty Position.  
Check Wiring Continuity to Control Board.  
Check Continuity of Heating Element – 31 ohms.  
Inspect Pressure Switch Hose for Damage or Holes.  
Check Pressure Switch Wiring Continuity.

### F8. Heater Relay Shorted or Pressure Switch Shorted in Full Position

Check Wiring Continuity to Control Board.  
Check Continuity of Heating Element – 31 ohms.  
Inspect Pressure Switch Hose for Damage or Holes.  
Check Pressure Switch Wiring Continuity.

### F9. EEPROM Error

Incorrect Version of EEPROM.  
Change EEPROM.

### F10. Pressure Switch Shorted

Inspect Pressure Switch Hose for Damage or Holes.  
Check Pressure Switch Wiring Continuity.  
Replace Pressure Switch.

### F11. Drain Motor

Check Wiring Continuity to Control Board.  
Check Drain Motor Clean Out for Obstruction.  
Voltage Check at Drain Motor.  
Check Drain Motor Continuity 165 ohms.  
Check Pressure Switch.

### F12. No Communication Between Display and Control Board

Check Wiring Continuity.  
Voltage Check from Control Board to Display.

### F13. Not Used

### F14. Not Used

### F15. Not Used

### F16. Not Used

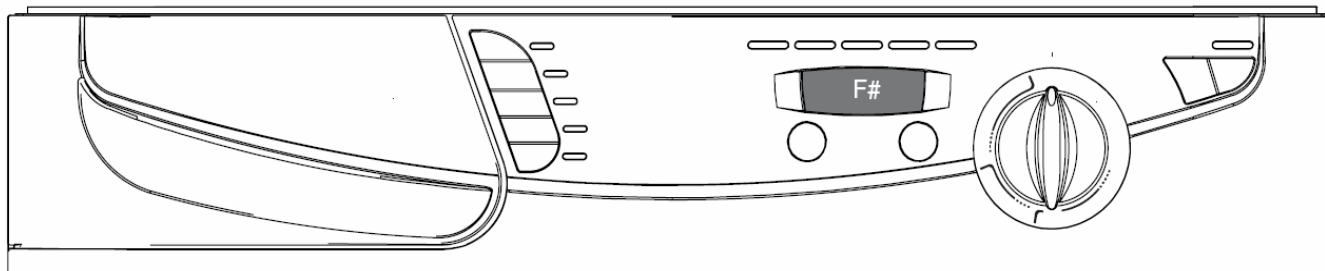
### F17. Door Open, or Door Lock Faulty

Check if Door is Closed.  
Check Door Lock Wiring Connector.  
Check Voltage to Door Lock.

### F18. 3 Phase Motor Control Faulty

Check Control Board.  
Change Control Board and EEPROM.

## 14. FAULT CODES AW 149 NA



### F1. Motor Triac Short

Check Continuity of Motor.  
Check Motor / Control Board Wiring Connections.  
Replace Control Board and EEPROM.  
Or, Replace Motor.

### F2. Main Motor

Check Motor Rotation.  
Check Continuity of Motor.  
Check Motor / Control Board Wiring Connections.  
Check Tach Continuity 177 ohms.  
Replace Motor.  
Or, Replace Control Board and EEPROM.

### F3. NTC (Water Temp) Open / Short

Check Wiring Continuity to Control Board.  
Check NTC for 20K ohms, Replace NTC.  
Or, Replace Control Board and EEPROM.

### F4. Pressure Switch

Check Wiring Continuity to Control Board.  
Inspect Pressure Switch Hose for Damage or Holes.  
Replace Pressure Switch.  
Or, Replace Control Board and EEPROM.

### F5. Blocked Drain Motor or Pressure Switch shorted in Empty position

Check Drain Hose.  
Check Drain Motor Clean Out for Obstruction.  
Check voltage at Drain Motor.  
Inspect Pressure Switch Hose for Damage or Holes.  
Check Pressure Switch Wiring Continuity.  
Replace Drain Motor / Pressure Switch.  
Or, Replace Control Board and EEPROM.

### F6. Not Used

### F7. Heater Relay Stuck or Heater Element Open

This Fault Signaled when Pressure Switch in Empty Position.  
Check Wiring Continuity to Control Board.  
Check Continuity of Heating Element – 31 ohms.  
Inspect Pressure Switch Hose for Damage or Holes.  
Check Pressure Switch Wiring Continuity.

### F8. Heater Relay Shorted or Pressure Switch Shorted in Full Position

Check Wiring Continuity to Control Board.  
Check Continuity of Heating Element – 31 ohms.  
Inspect Pressure Switch Hose for Damage or Holes.  
Check Pressure Switch Wiring Continuity.

### F9. EEPROM Error

Incorrect Version of EEPROM.  
Change EEPROM.

### F10. Pressure Switch Shorted

Inspect Pressure Switch Hose for Damage or Holes.  
Check Pressure Switch Wiring Continuity.  
Replace Pressure Switch.

### F11. Drain Motor

Check Wiring Continuity to Control Board.  
Check Drain Motor Clean Out for Obstruction.  
Voltage Check at Drain Motor.  
Check Drain Motor Continuity 165 ohms.  
Check Pressure Switch.

### F12. No Communication Between Display and Control Board

Check Wiring Continuity.  
Voltage Check from Control Board to Display.

### F13. Not Used

### F14. Not Used

### F15. Not Used

### F16. Not Used

### F17. Door Open, or Door Lock Faulty

Check if Door is Closed.  
Check Door Lock Wiring Connector.  
Check Voltage to Door Lock.

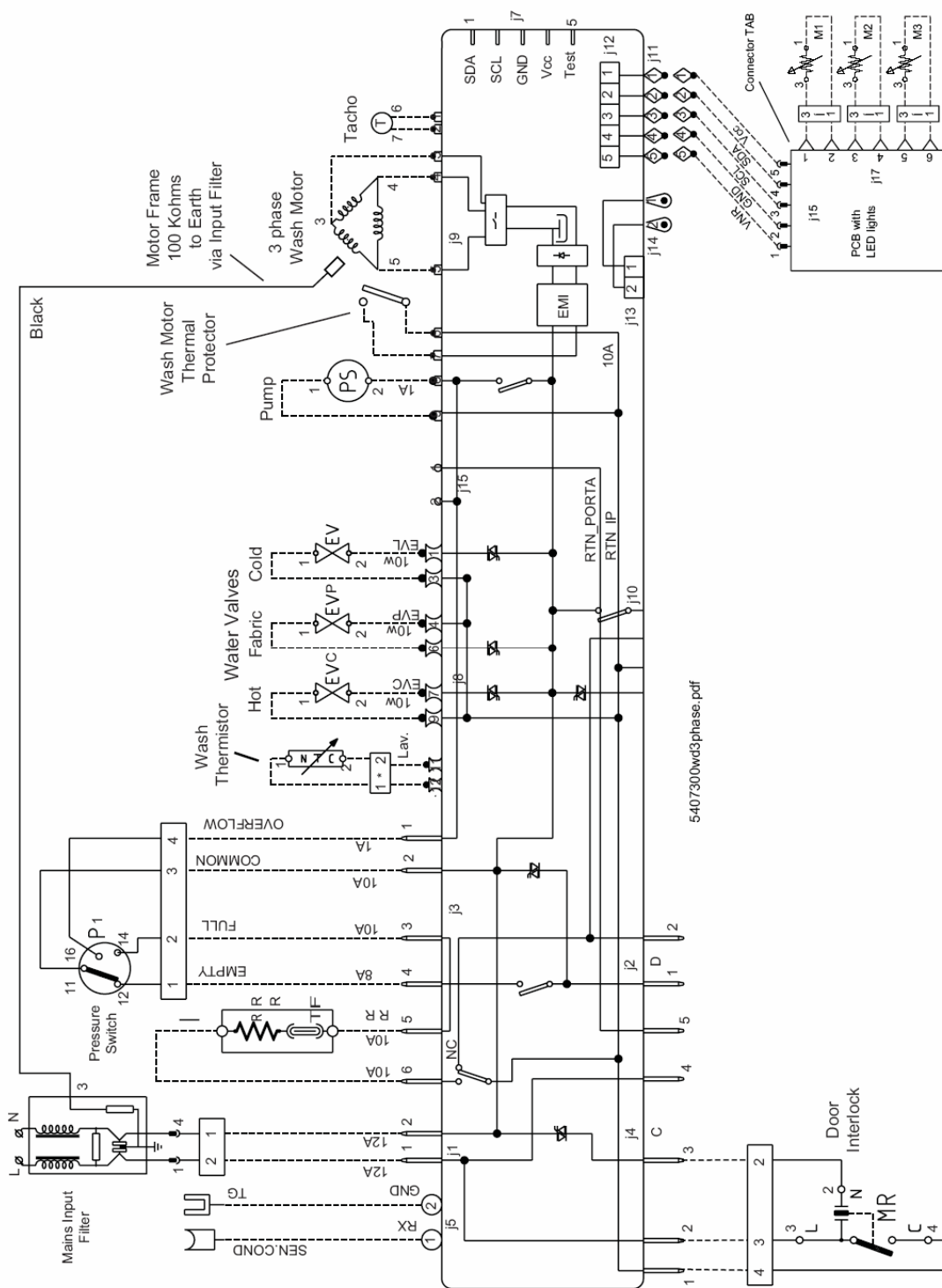
### F18. 3 Phase Motor Control Faulty

Check Control Board.  
Change Control Board and EEPROM.

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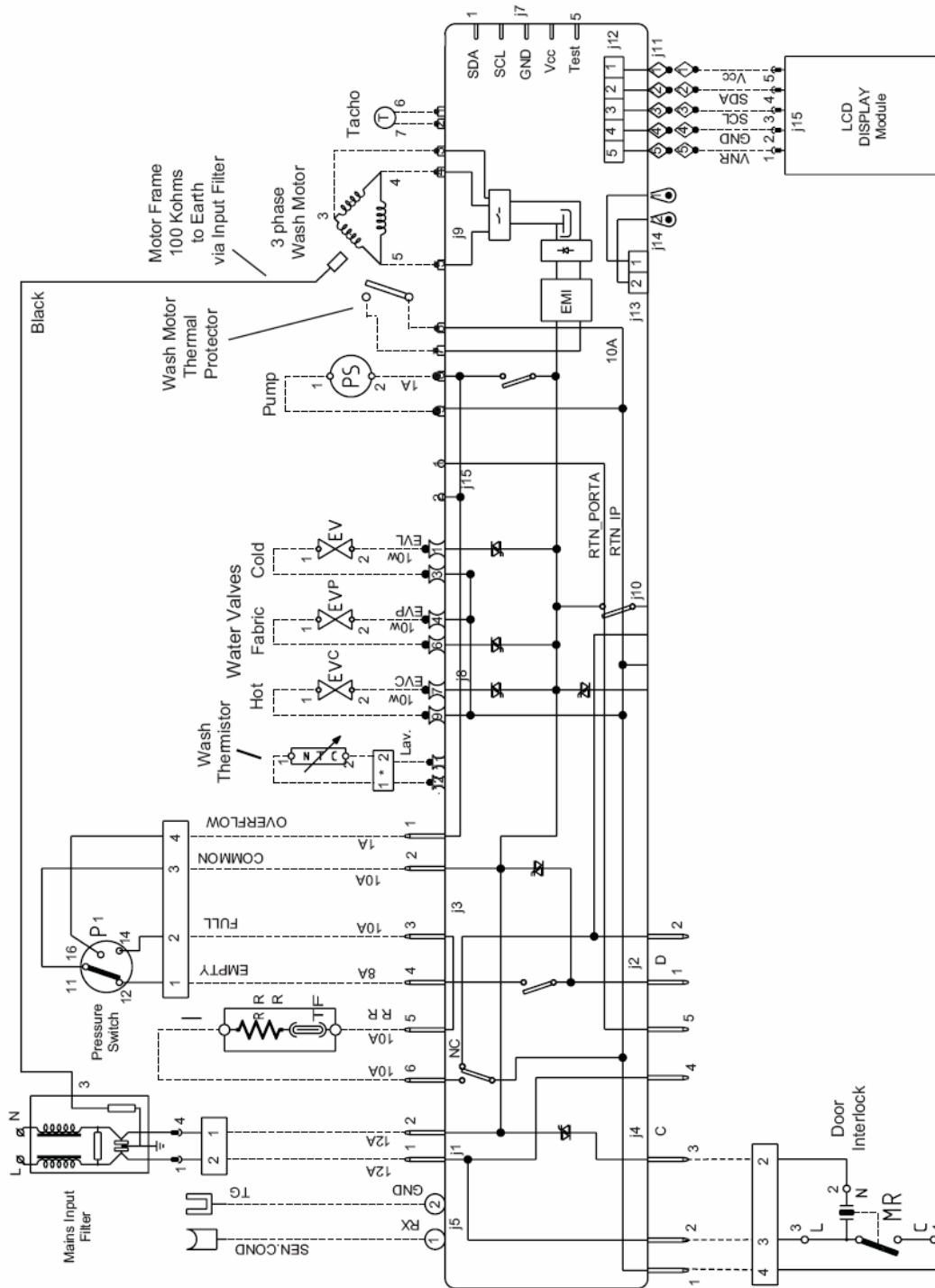
## 15. SCHEMATIC AW 129 NA



# REPAIR MANUAL

AW 129 NA / AW 149 NA

## 15. SCHEMATIC AW 149 NA



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Over the years of running a mobile RV repair service, having a dedicated place to access service manuals for all the different appliances and components found on RVs was something that I always had a desire to create.

I hope this resource makes your RV repairs easier, as it has mine, but please be careful and follow proper safety practices when attempting to repair your own RV.

If in doubt, please consult with a professional RV technician!



DARREN KOEPP - OWNER, MY RV WORKS, INC.

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