

# HYDRIM<sup>®</sup> C51w

- **Service Manual**



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# 1. Introduction

## 1.1 Overview

This guide provides instructions for the servicing and repair of the Hydrim® C51w Instrument Washer. Every attempt has been made to provide accurate, detailed instructions.

All servicing of the Hydrim C51w should be done by certified personnel only. All local, provincial, state and national regulations regarding the servicing of the class of device and safety requirements must be observed.

Do not permit any person other than certified personnel to supply parts for, service, or maintain a Hydrim C51w. SciCan shall not be liable for incidental, special or consequential damages caused by any maintenance or services performed on the Hydrim C51w by a third party, including lost profits, any commercial loss, economic loss, or loss arising from personal injury.

The Hydrim C51w Instrument Washer should only be installed and serviced by a qualified contractor as it is an Installation Category 2 device. The contractor should be experienced in installing equipment that requires electrical hook-up as well as plumbing.

### Hydrim C51w Cycle Description Chart

	<b>P1 – Rinse &amp; Hold*</b>	<b>P2 – Wash</b>	<b>P3 – Heavy Duty Wash</b>
<b>Description</b>	Use to keep instruments moist when not being washed for 1 hour.	Use for moderately soiled loose instruments.	Use for heavily soiled instruments and cassettes.
<b>Cold Prewash</b>	<45°C / 113°F	<45°C / 113°F	<45°C / 113°F
<b>Wash</b>	N/A	50°C / 122°F 5 minutes	50°C / 122°F 9 minutes
<b>Rinse</b>	60°C / 140°F	60°C / 140°F	60°C/140°F
<b>Dry</b>	N/A	1-15 min.	1-15 min.
<b>Total Time** without drying</b>	8 minutes	19 minutes	23 minutes
<b>Water Consumption</b>	6L / 1.5 gal.	14L / 3.7 gal.	14L / 3.7 gal.

\* This cycle is not a wash cycle and is not suitable for processing instruments prior to reuse. Always run a wash cycle following the rinse and hold cycle.

# 1. Introduction

## 1.2 Specifications

Height:	475 mm / 18.75"
Width:	600 mm / 23.75"
Depth:	460 mm / 18.25"
Depth with door open:	780 mm / 30.7"
Weight:	35 kg / 75lbs
Running Noise:	60 dB(A)
Hot water connection:	50-70°C / 122-158°F
Water softener:	0.5 kg / 1.1lbs. salt capacity
Filling system:	3.5 L safety maximum / 120 U.S Fl. Oz
Dryer Heater	1kW
Wash temperature:	50°C / 122°F +/- 5°C / 9° F
Electrical Rating:	208 - 240V 60 Hz 10 A
Equipment pollution degree:	Pollution Degree 2
Equipment Installation Category:	Installation Category II
Maximum relative humidity:	80% for temperatures up to 31°C / 88°F 50% for temperatures up to 40°C / 104°F
Operating temperature range:	- 5°C to 40°C / 23-104°F
Maximum altitude:	2000 m / 6561.7'
Mains supply:	+ / - 10% of nominal

\* If hot water temperature is less than 50°C / 122°F, and if the power line is 240V, allow 30 minutes between cycles.

Pay close attention to the following symbols that appear on the unit:



Caution, a potential hazard to the operator



Caution, hot surface

Pay close attention to the following symbols that appear in this book.



Caution, a potential hazard to the operator



Important information



A situation which may lead to a mechanical failure

# 1. Introduction

## 1.3 Safety Information

### Safe operation



The following apply to both operators and service technicians:

- Exercise caution and seek assistance when lifting or carrying the unit.
- Cleaning solutions may irritate. Avoid contact with eyes and mouth.
- Never lean on the open door. The unit may tip forward causing injury.
- Always turn the unit **OFF** before adding softener salt or solutions. Before performing routine maintenance or servicing the unit, turn the unit **OFF** and unplug the power cord from the power source.
- The operator should never remove the cover of the unit or insert objects through holes or openings in the cabinetry. Doing so may damage the unit and/or pose a hazard to the operator.
- If the unit is used in a manner other than that specified, the protection provided by the equipment may be impaired.

### Safe servicing



- The Hydrim C51w Instrument Washer should only be installed and serviced by a qualified contractor as it is an Installation Category 2 device. SciCan shall not be liable for incidental, special or consequential damages caused by any maintenance or services performed on the Hydrim C51w by a third party or for the use of equipment or parts manufactured by a third party, including lost profits, any commercial loss, economic loss, or loss arising from personal injury.
- All local, regional, state, and national regulations regarding the servicing of this class of device and safety requirements must be observed.

### When the cover is removed:



- Hazardous voltages are accessible. Disconnect the power cord before removing the cover.
- Sharp metal edges are exposed. Be careful, and wear long sleeves and gloves.

### Power main

- A dielectric strength test (hi-pot) must be performed on the unit if parts associated with the power main are serviced or replaced.

### Ground

- A protective bonding impedance test (ground continuity) must be performed on the unit if components of the protective earthing system are changed or if connections are broken and remade.

# 1. Introduction

## Reporting

- It is vital for SciCan to learn of any problem in the field. This information will help SciCan solve the problem quickly and improve product reliability in new units.

## Biological waste

- Waste water in the unit may contain biological contaminants; use a mechanical means to siphon the contents. Wear disposable rubber gloves. Dispose of absorbent material according to biological waste disposal regulations.

## 1.4 Tools & Hardware

DESCRIPTION	DESCRIPTION	DESCRIPTION
1. Nose pliers 2. Screwdriver PH1 3. Screwdriver PH2 4. Screwdriver Slot 5. T20 Torxdriver 6. Dental Wedge 7. Wire stripper	8. Wire cutter 9. Small screwdriver 10. Nut driver 1/4" 11. Nut driver 5.5 mm 12. Nut driver 7 mm 13. Nut driver 8 mm 14. Nut driver 13 mm	15. Wrench 7/16" 16. Wrench 1/4" 17. 11/16" socket 18. Allen key 2.5 mm 19. Mallet 20. Tension Gun

The unit contains the following types of hardware:

- Phillips pan head self-tapping metal screws
- Phillips flat head stainless steel machine screws
- Torx pan head machine screws
- Torx pan head plastite screws

## 1.5 Shipping Instructions

The unit should be serviced on site. If it is necessary to send the unit back to the dealer, follow these instructions. Before shipping the unit, run the drain pump to remove most of the water from the system. If there is standing water in the chamber, siphon or ladle as much water as possible and use an absorbent cloth to remove the rest.

**Disconnect and remove the cleaning solution container and then drain the dosing reservoir.** Completely screw in the levelling legs. Specify upright, heated, and insured shipping.

## 2. Installation

### 2.1 Pre-Installation

The machine must be installed and levelled correctly for the unit to function as described. All electrical work must be carried out by a qualified electrician and in compliance with all local and national electrical codes.

North American Voltage/Frequency:	208 - 240V / 60Hz
International Voltage/Frequency:	220 - 240V / 50Hz
Rated load:	2 kW
Circuit breaker:	10 A per phase



The electrical outlet should not be located directly behind the unit. The outlet needs to be accessible after the unit is installed. The power cord must be routed away from the back panel and hot water inlet hose.

This appliance must be correctly grounded! The manufacturer cannot be held responsible for damage or injury caused by incorrect or missing grounding.

- The Hydrim unit is heavy (35 kg / 75 lbs.). Exercise caution and obtain assistance when moving it.
- The Hydrim is equipped with an air gap / anti-suction device to prevent backflow of dirty water into the water supply. No other air gap device is necessary.
- If you need to extend the water inlet and drain hoses, ensure that you use commercial grade plumbing hose. The maximum length of the drain hose is 3.3 m / 13".

### 2.2 Tools and Supplies Required to Install the Hydrim

- Slot screwdriver
- Channellocks

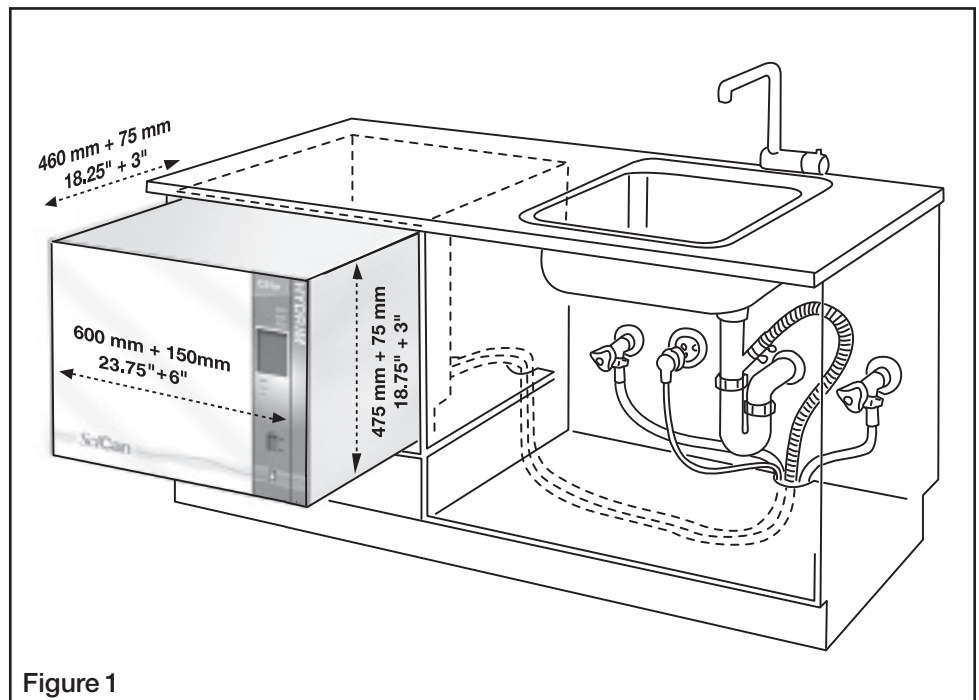
Ensure that HIP Cleaning Solution (instrument wash chemical) is available. All other supplies are included with the Hydrim unit.

## 2. Installation

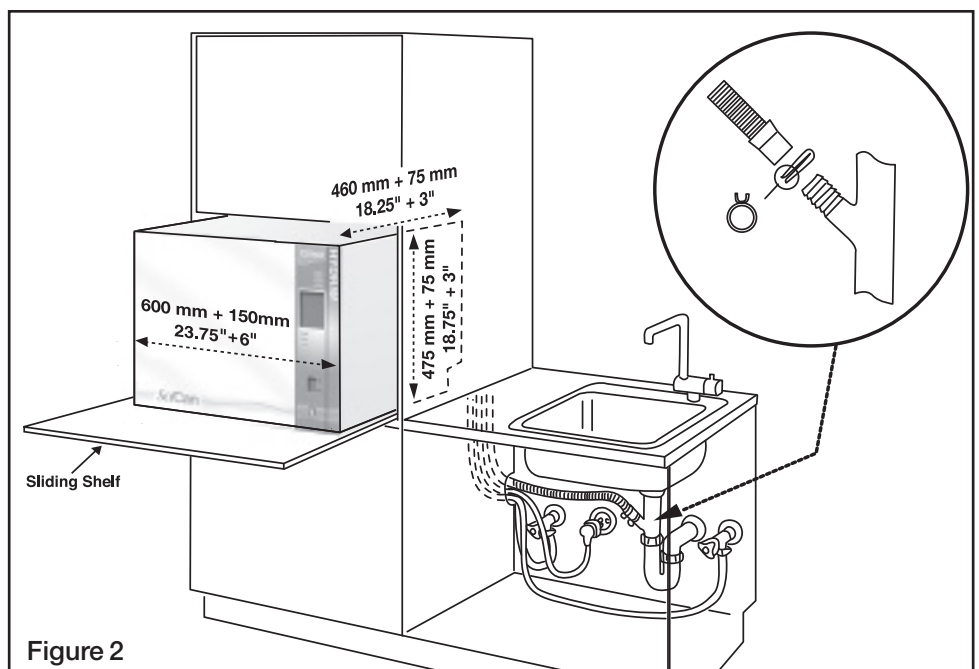
### 2.3 Installation Options

Ensure that there is a 75mm / 3" space at the top, rear and both sides of the Hydrim. This will facilitate installation, levelling, service access and air exhaust from the rear of the unit. Do not locate the electrical outlet directly behind the Hydrim, as this is where warm, moist air from the chamber is exhausted. Do not move the Hydrim into place by maneuvering the open wash chamber door. This may cause the door to become misaligned and leak.

#### Installation Option #1 Cabinet / Steri-Centre



#### Installation Option #2 Sliding Shelf





## 2. Installation

### Installation Option #3 Counter Top

Figure 3



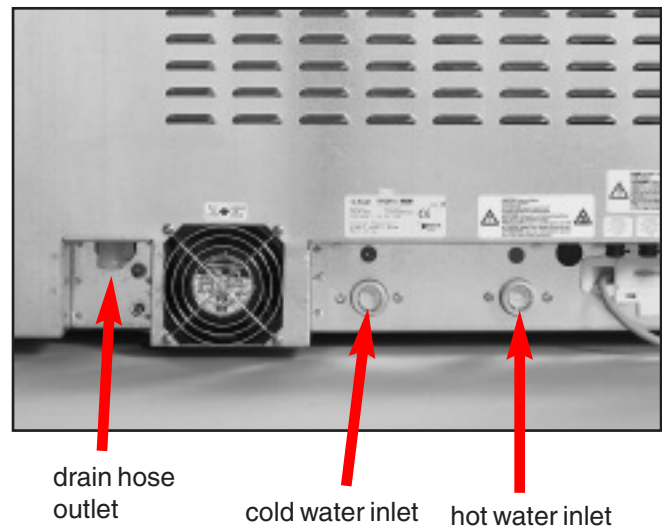
### 2.4 Connecting The Water Inlet Hoses

Connect the hot water hose (red) to the hot inlet valve on the Hydrim (indicated by a red dot) and the cold water hose (blue) to the cold water inlet valve on the Hydrim (indicated by a blue dot).

The connector with the elbow should be attached to the back of the Hydrim unit.

The washer with the screen goes to the water supply connector. Make sure that the inlet valves are free of debris.

Figure 4



drain hose outlet

cold water inlet

hot water inlet

Hose / Cord	Length / Diameter	Max. Distance from inlet / drain	Water Pressure (optimal)*	Shut-Off Valve
Hot Inlet	1.9 m / 6.2' 2cm / 3/4"	1.5 m / 5'	1-10 bar 14.5-145psi	Yes
Cold Inlet	1.9 m / 6.2' 2cm / 3/4"	1.5 m / 5'	1-10 bar 14.5-145psi	Yes
Drain	1.5 m / 5' 2cm / 3/4"	—	—	—
Electrical	1.8 m / 6' AWG 18-3	—	—	—

\*unit will function with water pressure down to 0.5 bar // 7psi.

## 2. Installation

### 2.5 Drain Requirements

Connect the drain hose to the drain outlet. The drain hose can be attached to existing drain lines using a 3.5 cm / 1.5" or larger standpipe / P-trap combination. If the hose is connected directly to the drain line, fittings and adapters should not reduce water flow.

The drain hose should be attached to the main drain at a point no more than 1 m / 3' above the base of the Hydrim. A floor drain is acceptable (check local codes).

### 2.6 Levelling the Hydrim

For the unit to function properly, it will need to be correctly levelled. To level the unit, follow these steps:

1. Adjust the legs underneath the unit.
2. Use the levelling bubble on the top right hand side as a guide.
3. When the bubble is in the centre, the unit is correctly levelled.

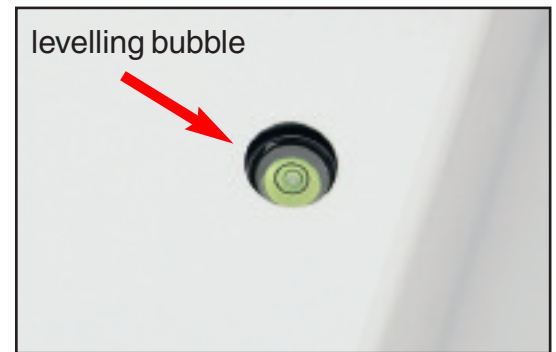


Figure 5

### 2.7 Installing Cleaning Solution

Ensure that the quick-disconnect cap on the HIP Hydrim Cleaning Solution bottle is tight. Install the bottle, and loosen the screw cap slightly (see Step 4) to prevent formation of a vacuum in the bottle.

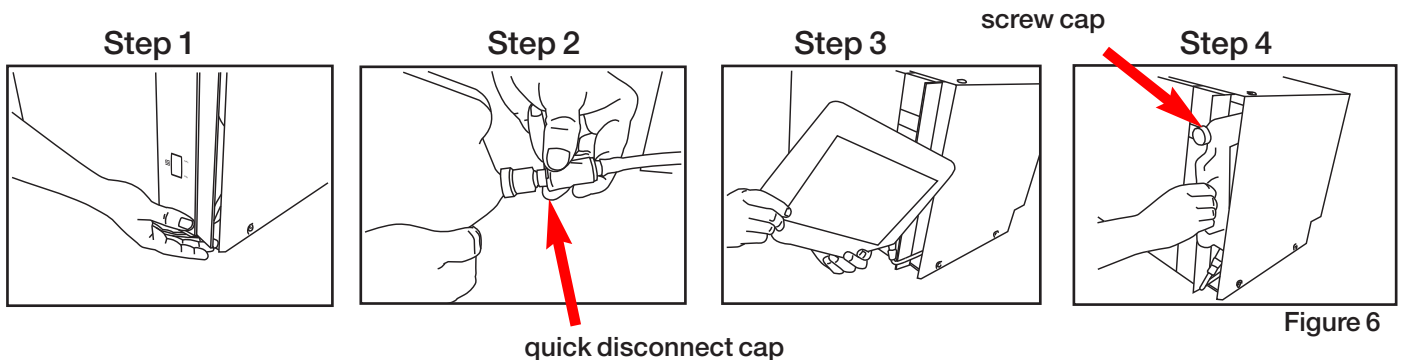


Figure 6

## 2. Installation

### 2.8 Setting the Water Softener (salt):

Hydrim is equipped with a built-in water softening system which needs to be adjusted according to the local water hardness. The Hydrim water test kit includes three water hardness test strips in bags. Take a water sample from the location where the machine will be installed. Open one of the bags and remove the test strip. Dip the strip in the water. Compare the color of the strip with the chart on the back of the bag. Determine the water hardness according to the chart on the water test kit envelope. Power the unit on. Touch the “i” in the lower right hand corner of the screen. Select “Technician”. Enter 7919 and touch EN. Select “Cycle Settings” and then “Set Regeneration”. Using the up and down arrows, set the water softener regeneration level according to the following table:

Hardness – ppm	Hydrim setting
0 - 180	0
190 - 400	1
410 - 540	2
550 - 890*	3
> 890	Additional water treatment required

\* consider using an additional water treatment

Pour 0.5 litre / 16oz of water into the water softener by pouring it into the salt container and inserting it into the chamber wall. Add 0.5 kg / 1.1 lbs of water softening salt in the same manner. Screw the salt container tightly into the wall of the chamber.



Figure 7

### 2.9 Installation Test

Turn on the shut-off valves. Run a test cycle, checking for leaks.

## 2. Installation

### 2.10 Printer / USB Setup

The Hydrim C51wd has an RS-232 port at the back, and can be used with an external printer or the SciCan Data Logger. The printers in the chart below have been tested with the Hydrim. To add or change a printer or SciCan Data Logger, follow these steps:



Turn off the Hydrim and the printer or Data Logger before connecting these devices to the unit.

1. With the printer or Data Logger connected, turn on the Hydrim and press the *i* to move to the Menu screen.
2. In the Setup menu, select Printer Selection.
3. Select Serial Printer if connecting a printer, or USB Flash/MSD if connecting the SciCan Data Logger. Press the back arrow to return to the Setup Menu.
4. In the Setup Menu, select Baud rate.
5. Select the rate required (refer to chart below for recommended Baud rates). Use the back arrow to return to the Start screen.
6. Now the Hydrim will write its cycle information to the device chosen.

<b>Printer Model</b>	<b>Serial Port Baud Rate</b>
Epson TM-U220D (C31C515603)	9600
Citizen IDP-3110-40 RF 115B	9600
Star Micro SP212FD42-120	9600
Star Micro SP216FD42-120	9600
Star Micro SP512MD42-R	9600

<b>SciCan Data Logger</b>	<b>Serial Port Baud Rate</b>
For Mass Storage Device	9600

## 3. Routine Maintenance

### 3.1 Filter Maintenance

Inspect the coarse and fine filters daily for debris and clean if necessary.

1. Grasp the handle in the centre of the coarse filter and turn it 90° counter-clockwise. (To reinsert the coarse filter, turn the handle clockwise.)
2. Remove the coarse filter.
3. Remove the fine filter.
4. Clean both filters by rinsing them with tap water.
5. Re-assemble, ensuring that the coarse filter is locked in place.

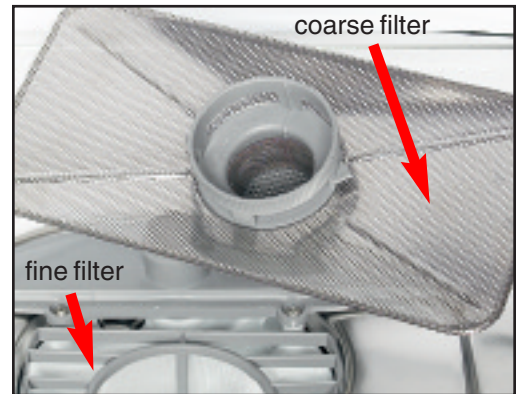


Figure 8

### 3.2 Wash Arm Maintenance

Inspect the wash arms weekly for debris and clean if necessary.

1. Open the unit door and remove the wash rack from the unit.
2. Unscrew the upper wash arm plug by turning the fitting at the hub (note: fitting is left threaded).
3. Remove the upper wash arm.
4. Using two hands, grasp both ends of the lower wash arm on the underside.
5. Pull the lower wash arm upwards.
6. Inspect both sides of the wash arms for debris in the nozzles. Remove the debris where necessary.
7. Rinse both wash arms with tap water and reassemble the wash arms.

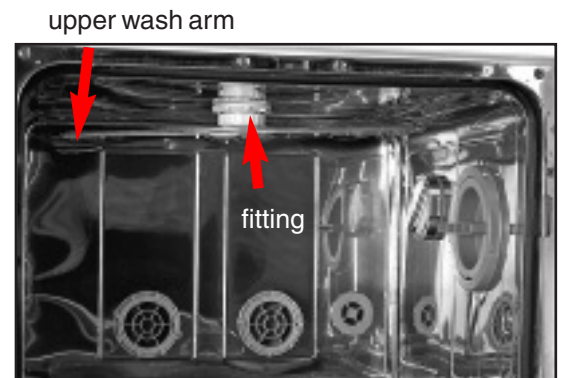
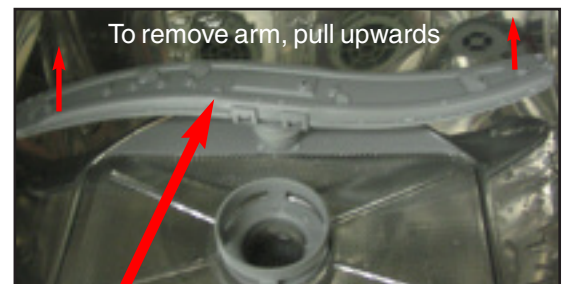


Figure 9



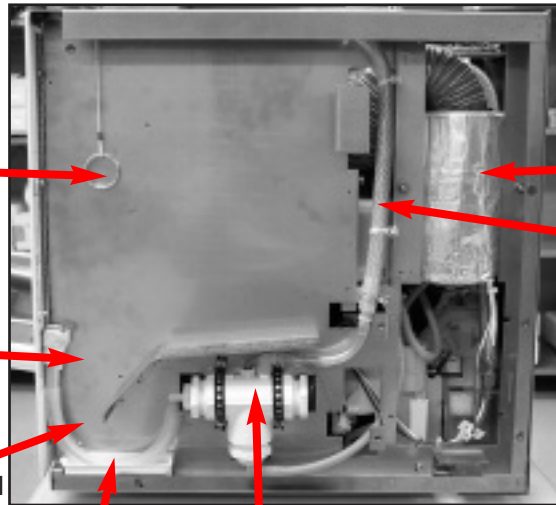
lower wash arm

Figure 10

# 4. Unit Overview

## 4.1 The Unit At A Glance

Right Side



manual door release (53)

quick connect (25)

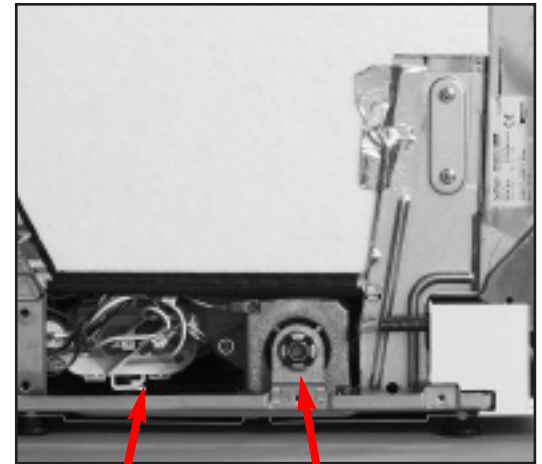
chemical tube (33)

drip tray (27)

dosing reservoir (32)

Figure 12

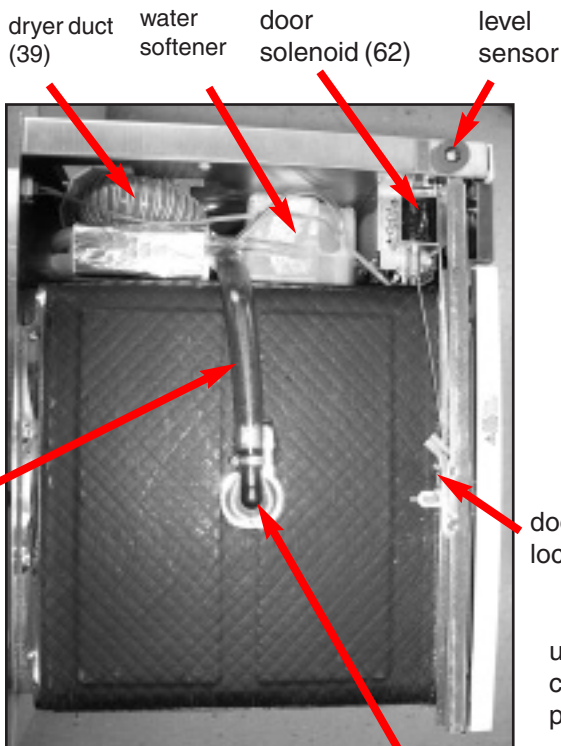
Left Side



heater (18)

lower circulation pump (7)

Figure 13



dryer duct (39)

water softener

door solenoid (62)

level sensor

Tubing, top arm fitting (64)

door lock

top arm fitting (65)

Figure 14 Top View

low circulation pump pressure switch (safety) (19)

heater (18)

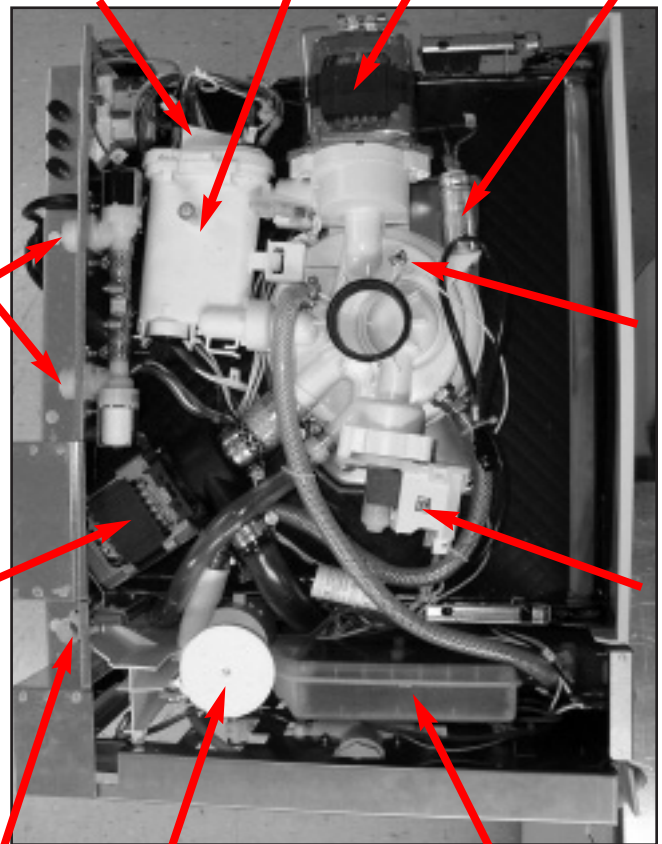
capacitor

valves (hot and cold) (12, 22)

temperature sensor (54)

upper circulation pump (8)

drain Pump (9)



drain connection

float

Bottom View

water softener

Figure 15

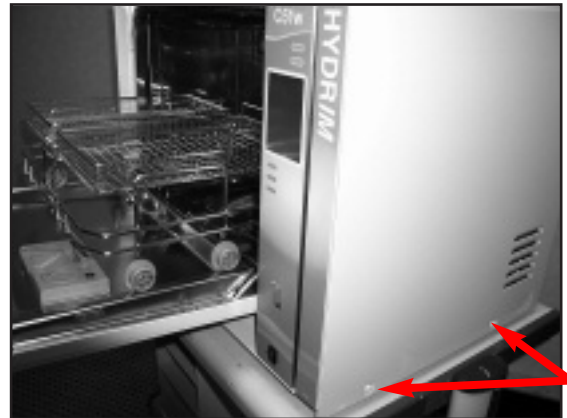
## 4. Unit Overview

### 4.2 Removing The Top Cover

To remove the top cover, follow these steps:

1. Power OFF the unit, and unplug.
2. Remove the screws that secure the top cover:
  - 2 screws and white caps on the right side of the cover (Figure 16a).
  - 2 screws and white caps on the left of the cover (not shown).
  - 7 Phillips washer screws on the back of the cover: (1 on the top, 3 on the right, 3 on the left.) (Figure 16b)
  - 6 Phillips flat head machine screws on the inside front of the unit (4 on the top, 2 on the left) (Figure 16c). The two screws on the right side do not secure the top cover and do not need to be removed.
3. Grasp the left and right sides of the cover. Pull sides slightly outward and lift straight up.
4. Remove the insulation on the top and sides.
5. When replacing the cover, ensure that the orange cap for the screw under the drip tray is replaced (Figure 16d).

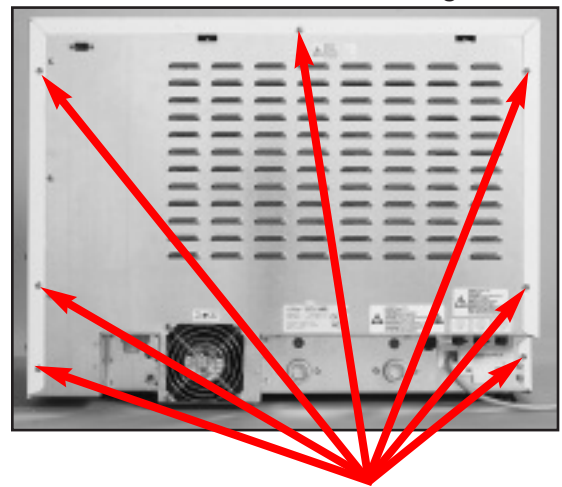
Figure 16a



2 screws and caps

Rear Of The Unit

Figure 16b



7 Phillips screws

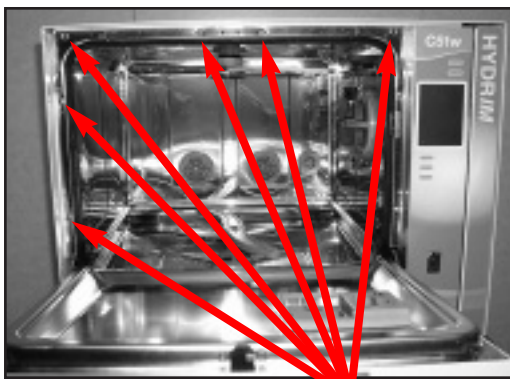


Figure 16c

6 Phillips screws

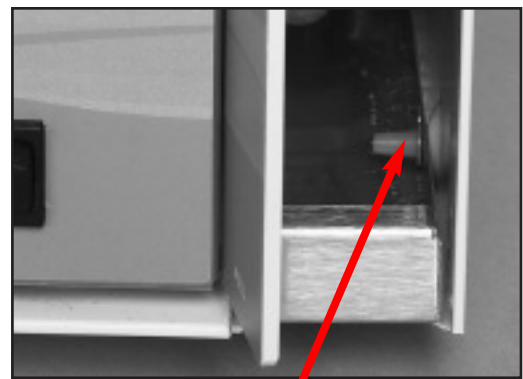


Figure 16d

orange cap

## 4. Unit Overview

### 4.3 Removing the Bottom Pan and Kickplate

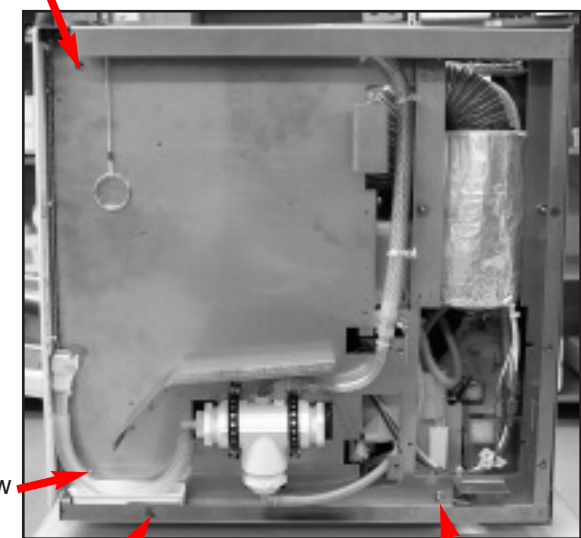
1. Completely open the front door.
2. Remove the two Torx screws from the kick plate and pull the kick plate forward to remove (Figure 17a).
3. Drain water from the unit and drain the chemical from the reservoir.
4. Turn the unit upside down. Please note that some liquid will remain.
5. Remove one Phillips and one Torx screw from the bottom of the chemical bracket (Figure 17b).
6. Remove the two Phillips screws connecting the back panel to the bottom pan (not shown).
7. Remove four Torx screws keeping the bottom pan in place (not shown).
8. Remove the bottom pan. Caution! Edges are sharp.
9. Be careful not to damage the bottom pan overflow float and make sure it is in place before reinstalling bottom pan.



Figure 17a

Torx screws

Figure 17b



Screw

Screw

Screw

Torx Screw

### 4.4 Removing the Chemical Bracket

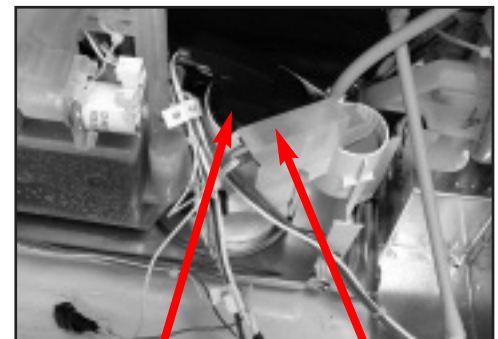
1. Power the unit OFF.
2. Remove the top cover.
3. Remove the Phillips screws as shown (Figure 17b).
4. Remove the three screws in the backpanel holding the chemical bracket.
5. Remove the screw on top of the door bracket (Figure 17c).
6. Pull chemical bracket away from the machine, loosen clip and disconnect the dryer hose.
7. This provides access to the chamber full switch (black) and the overflow switch (clear) (Figure 17d).

Figure 17c



Door Bracket Screw

Figure 17d



chamber full switch

overflow switch



## 4. Unit Overview

### 4.5 Removing the Controller Assembly

1. Remove the top cover.
2. Remove the two screws on the left of the chemical bracket and the screw on top that holds the bracket to the door latch bar (Figure 18a and b).
3. Remove the two screws that hold the fascia to the chamber (Figure 18c).
4. Pull chemical bracket away and swing fascia out as shown (Figure 18d).
5. Access the controller assembly and disconnect the following connectors from the i/o board:
  - J6 – one 4-pin connector
  - J3 and J5 – two 6-pin connectors
  - J2 and J1 – two 2-pin connectors
  - J7 – one 2-pin connector

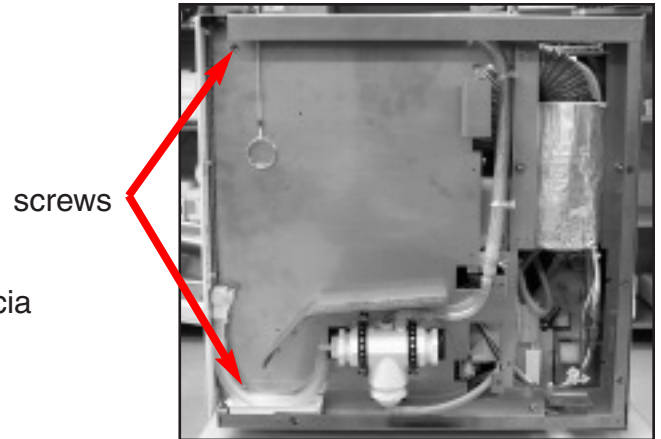


Figure 18a

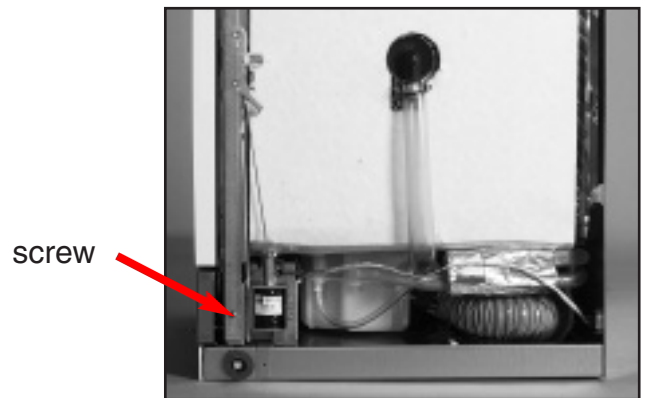


Figure 18b



Figure 18c

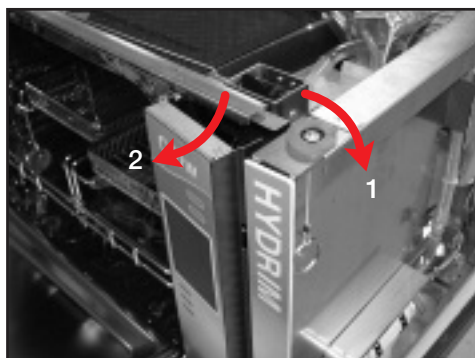


Figure 18d

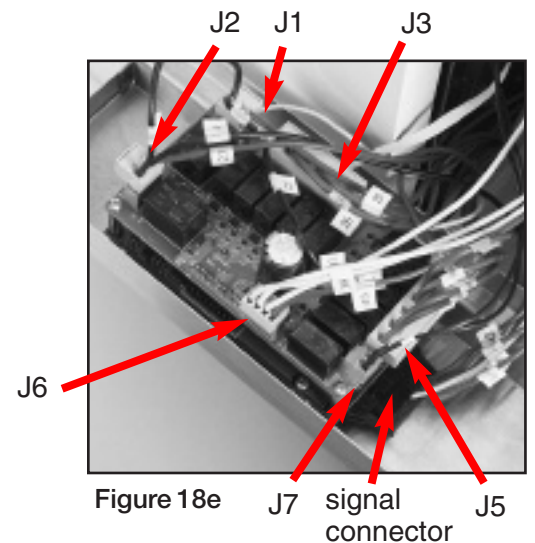


Figure 18e

## 4. Unit Overview

6. Disconnect the signal connector from the bottom of the logic board (Figure 18e).
7. Unclip the temperature sensor junction block (not shown).
8. Remove four screws (Figure 18f) and lift I/O board off.
9. Disconnect the printer cable from the side of the logic board (Figure 18g).
10. To remove logic board, remove upper standoffs and two screws (Figure 18g).
11. Reassemble in reverse order.

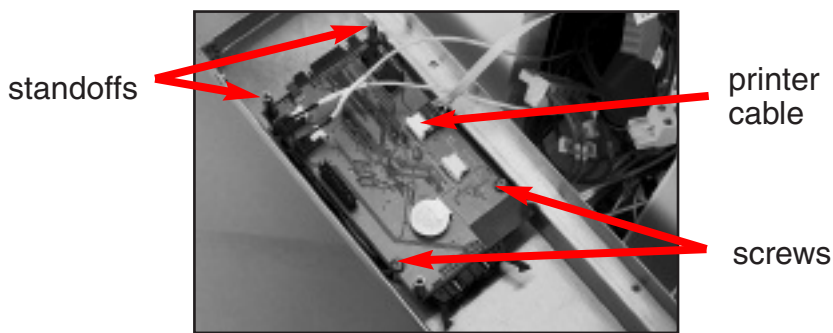
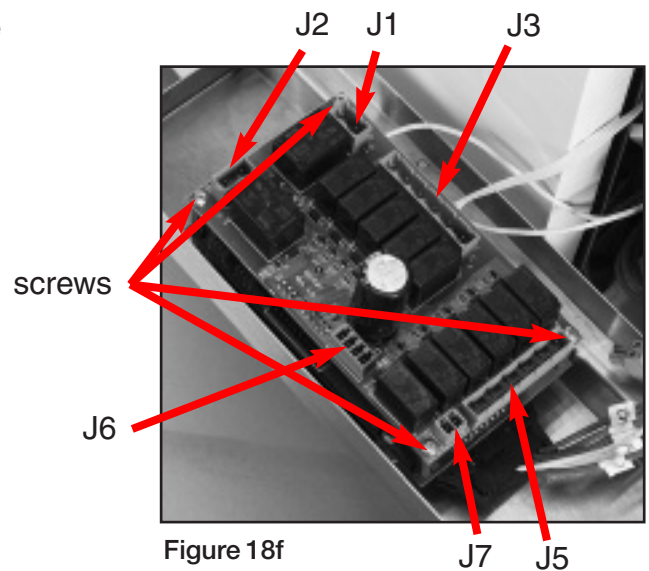


Figure 18g

### 4.6 Removing The Door Fascia

To remove the door fascia, follow these steps:

1. Power OFF the unit and unplug.
2. Open the door and remove the 4 Phillips screws on the perimeter of the door's inside face.
3. Pull the door fascia towards you and lift up.

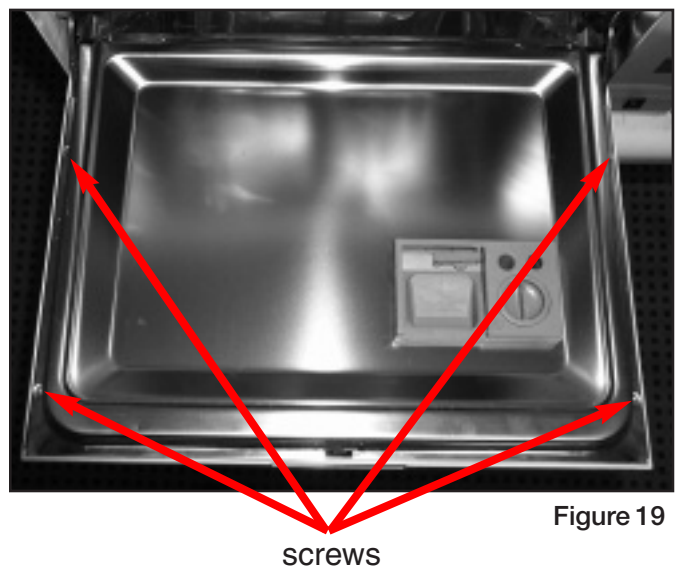
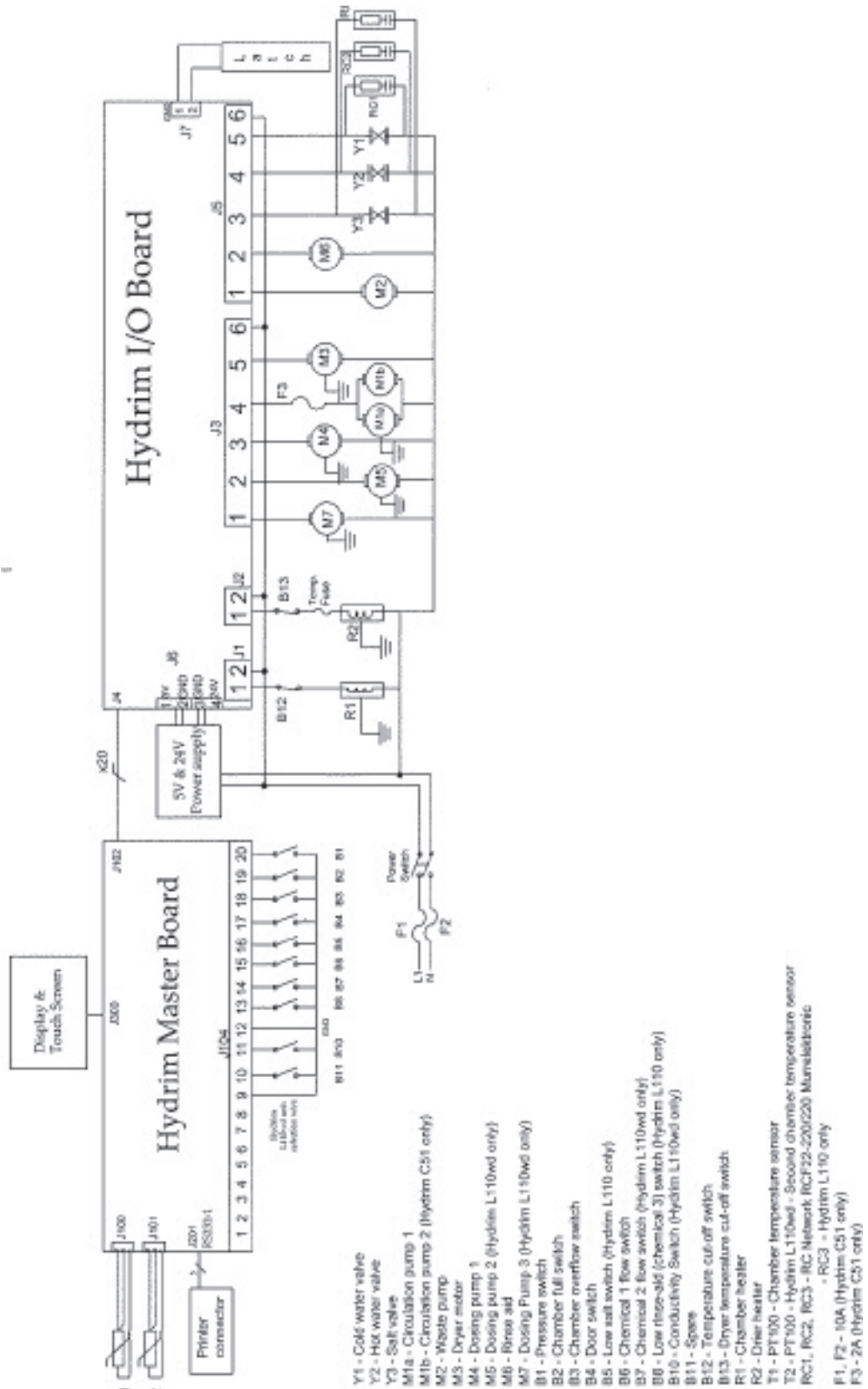


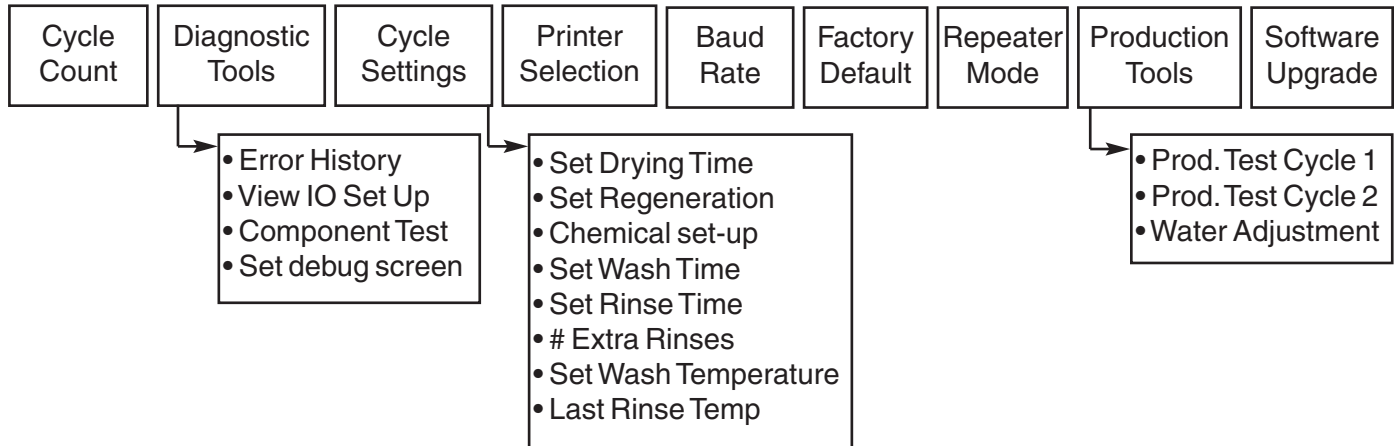
Figure 19

# 5. Electrical Schematic



# 6. Technical Service Menu

## Service Menu Overview



To access this menu, turn the unit on. There is an "i" in the lower right hand corner of the screen for about 10 seconds. Touch the "i" to get to the menu screen. Touch Technician.

Key in the password 7919 and press EN.

**Cycle Count:** Displays the number of cycles that have been run (complete and incomplete).

**Diagnostic Tools:** Offers a submenu of five tools.

- Error History: Allows access to the last three errors.
- Component Test: Allows individual testing of the following components.
  - Circ. Pump M1 (Upper & Lower) - ON/OFF
  - All Devices - OFF
  - Latch L1 - ON/OFF
  - Salt Valve Y2 - ON/OFF
  - Dosing Pump 1 M4 - ON/OFF
  - Dryer Motor + Heater - ON/OFF
  - Hot W. Valve Y7 - ON/OFF
  - Cold W. Valve Y1 - ON/OFF
  - Rinse Aid Valve ON/OFF (not used)
  - Waste Pump M2 - ON/OFF

## 6. Technical Service Menu

- View IO Status: Shows the status of the each component in the unit
  - Chamber Full SW - ON/OFF (chamber full switch)
  - Chemical Sensor - ON/OFF
  - Chamber Overflow ON/OFF
  - Door SW ON/OFF (Door switch)
  - Chamber T - XX C (chamber temperature)
  - CTS - ON/OFF (clear to send to printer/ datalogger)
- Set debug screen: Shows I/O status when cycle is running

### Cycle Settings

- Set Drying Time
  - P1 - Rinse
    - ↳ (N/A)
  - P2 - Wash
    - ↳ 10 min ▲▼ (choose from 1 to 15 min)
  - P3 - HD Wash
    - ↳ 10 min ▲▼ (choose from 1 to 15 min)
- Set Regeneration – Sets water softener setting
  - ↳ 0 ▲▼ (choose from 0 to 3)
- Chemical Set-up
  - Prewash
    - ↳ 4s ▲▼ (choose from 0 to 15s)
  - Wash
    - ↳ 13s ▲▼ (choose from 0 to 30s)
  - High Temp. Wash (second part of wash phase)
    - ↳ 13s ▲▼ (choose from 0 to 30s)
  - Rinse
    - ↳ 8s ▲▼ (choose from 0 to 15s)
- Set Wash Time
  - P1 Rinse
    - ↳ (N/A)
  - P2 Wash
    - ↳ 5 min ▲▼ (choose from 2 to 9 min)
  - P3 HD Wash
    - ↳ 9 min ▲▼ (choose from 2 to 9 min)

## 6. Technical Service Menu

- Set Rinse Time
  - P1 Rinse
    - ↳ 1 min ▲▼ (choose from 1 to 5 min)
  - P2 Wash
    - ↳ 1 min ▲▼ (choose from 1 to 5 min)
  - P3 HD Wash
    - ↳ 1 min ▲▼ (choose from 1 to 5 min)
- # Extra Rinses
  - P1 Rinse
    - ↳ N/A
  - P2 Wash
    - ↳ 0 ▲▼ (choose from 0 to 4)
  - P3 HD Wash
    - ↳ 0 ▲▼ (choose from 0 to 4)
- Set Wash Temperature
  - P1 Rinse
    - ↳ (N/A)
  - P2 Wash
    - ↳ 50°C ▲▼ (choose from 45 to 50°C)
  - P3 HD Wash
    - ↳ 50°C ▲▼ (choose from 45 to 50°C)
- Last Rinse Temp.
  - P1 Rinse
    - ↳ N/A
  - P2 Wash
    - ↳ 60°C ▲▼ (choose from 45 to 60°C)
  - P3 HD Wash
    - ↳ (choose from 45 to 60)
- Printer Selection
  - ↳ Serial Printer (default)
  - ↳ USB Flash/MSD
- Baud Rate
  - ↳ 1200      → 2400      → 4800      → 9600 (default)
- Factory Default (resets all values to factory default)
  - ↳ Reset
- Repeater Mode (in the ON position, the unit will continuously run the selected cycle)
  - ↳ ON/OFF
- Production Tools (used in production only)
- Software Upgrade: to upgrade software via the Datalogger

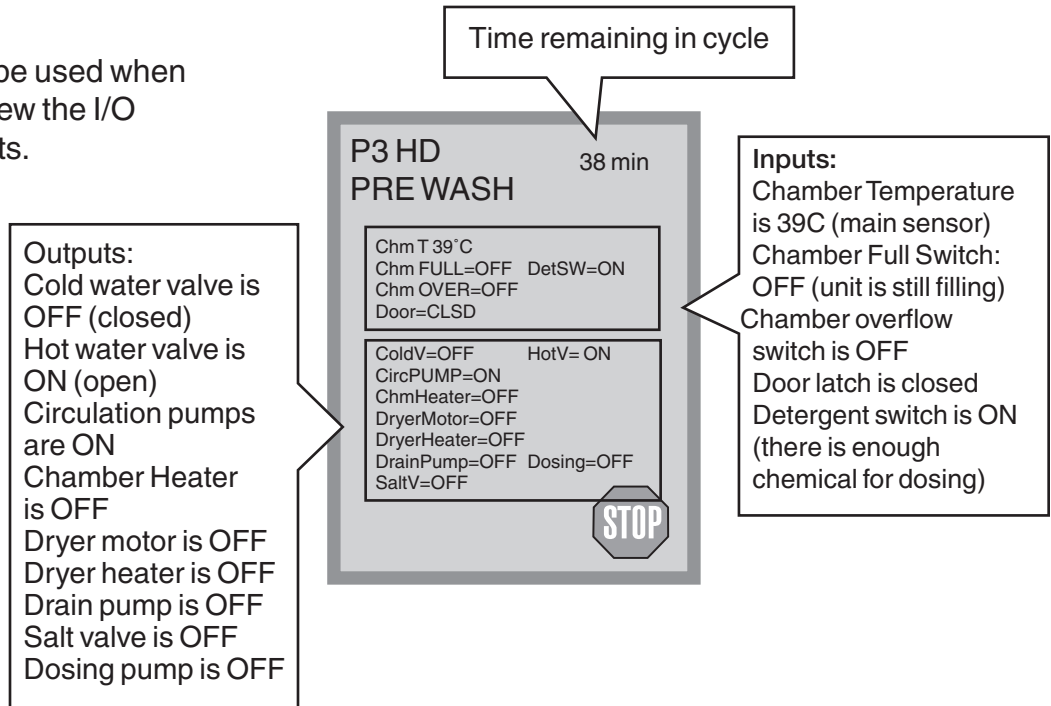
# 7. Troubleshooting

## 7.1 Troubleshooting Tools

Within the technical service menu, there are several useful tools for troubleshooting.

### Debug screen:

This screen should be used when running a cycle to view the I/O status of components.



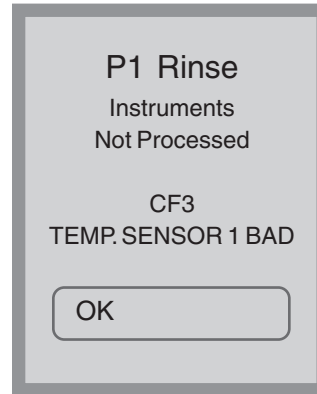
### View I/O status

This screen should be used when testing components and wires for functionality without the cycle running.

# 7. Troubleshooting

## 7.2 Cycle Faults

If the software detects an error, an error message will appear on the screen showing one of the codes listed below.



### 7.2.1 CF1 Heating Failure

**Detection:** The water is not reaching the required temperature in the specified time.

**Remedy:**

1. Possible Cause is overheating of the circulation pump. Indication of this cause is if the machine gives CF1 error code during a cycle, but runs normally if the machine is allowed to cool down. If OK, proceed to step 2.
2. Check the fuses. If OK, proceed to step 3.
3. With the troubleshooting window in place, start a cycle. After filling, the water level should be approximately 10-15mm below the lower wash arm. If the water level is not correct, replace the level sensor (Figure 21). If the water level is OK, proceed to step 4.

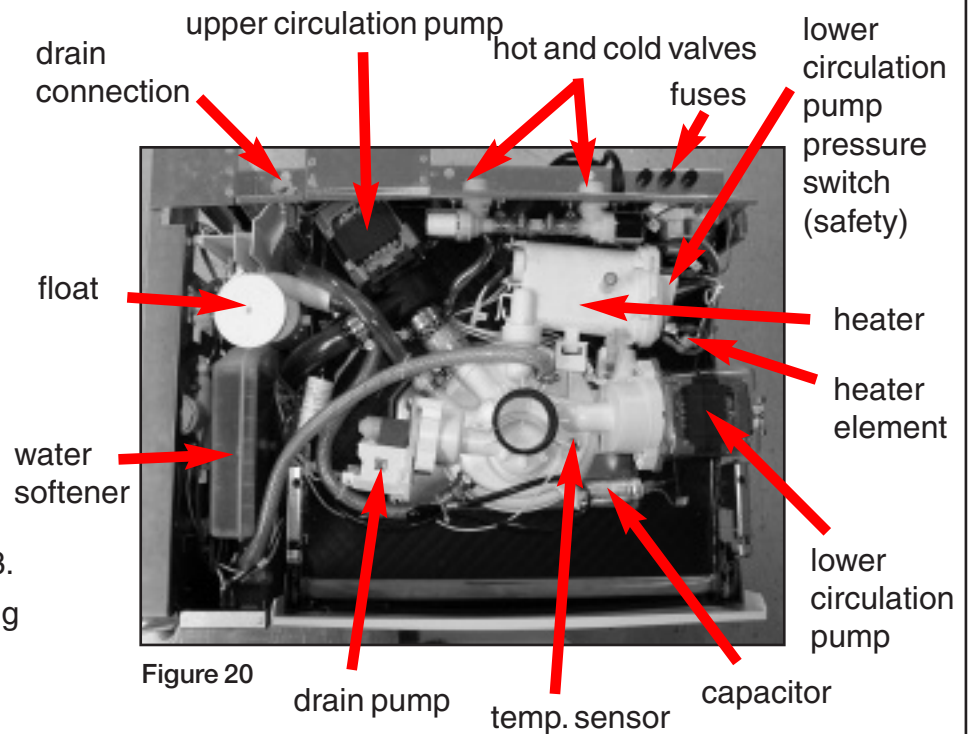


Figure 20

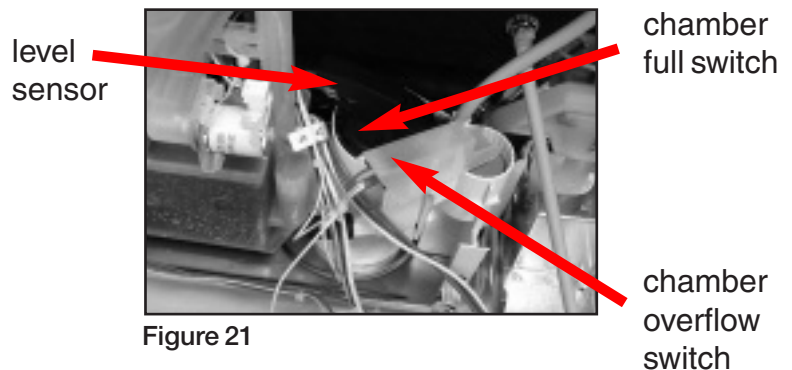


Figure 21



## 7. Troubleshooting

4. Using the debug screen and with the troubleshooting window in place, count the rpm's when the temperature is at 50°C. Upper and lower arm rpm's should be  $\geq 25$ . If rpm's are low, this indicates circulation pump failure. Replace the appropriate circulation pump (upper or lower). If rpm's are OK, proceed to step 5.

5. There is a failure in one of the following

- thermostat
- pressure switch (lower wash arm)
- heater element

Remove the top cover and the bottom cover. Check the heater element, lower arm pressure switch and thermostat (in series).

### 7.2.2 CF2 Chamber Filling Failure

#### Detection:

- Chamber full switch not activated in the first 4 min of filling (circulation pump not running yet). If hot water unavailable or at low pressure, the unit will switch to cold water after 2.5 min if the chamber full switch is not activated.
- Chamber full switch not activated in 4 min of filling with circulation pump running.

#### Remedy:

1. Check if the water supply valves are turned on and the water pressure is normal.
2. Check for blockages in the water inlet hose filters.
3. Check for kinks in the water inlet hoses.
4. Possible cause is a malfunction of the chamber level switch. Using the debug screen, monitor if the chamber full switch turns ON after filling. If not, remove the top cover and the chemical bracket. Check the level diaphragm / switch assembly and repair or replace. If OK, proceed to step 5.
5. Possible cause is a leak. Remove the kick plate and look for fluid in the pan. Isolate and repair the source of the leak.

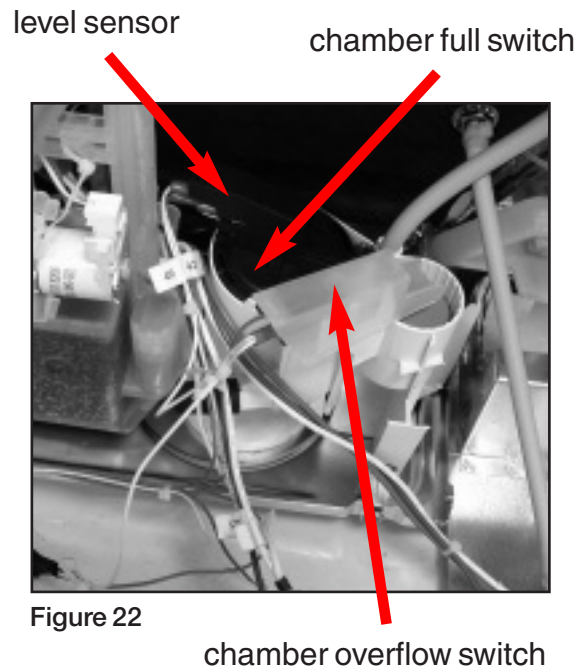


Figure 22

# 7. Troubleshooting

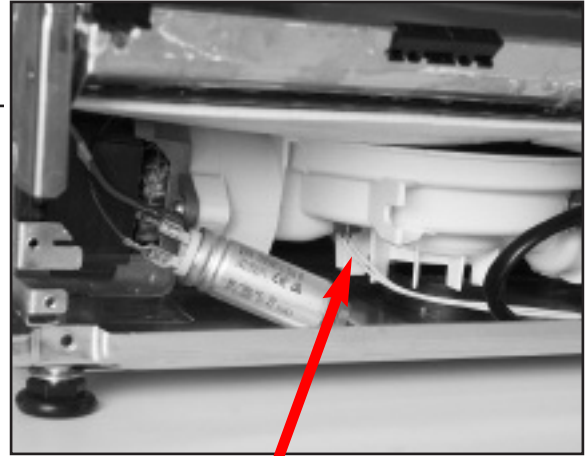
## 7.2.3 CF3 Chamber temperature sensor reading failure

**Detection:**

Main temperature sensor readings are outside limits (too high or too low)

**Remedy:**

1. Possible cause is disconnection of the temperature sensor. Check the connection of the sensor to the logic board (see section 4.5 Removing the Controller Assembly). If OK proceed to step 2.
2. Possible cause is malfunction of the temperature sensor. Remove the kick plate. Replace the temperature sensor as required.



temperature sensor

Figure 23

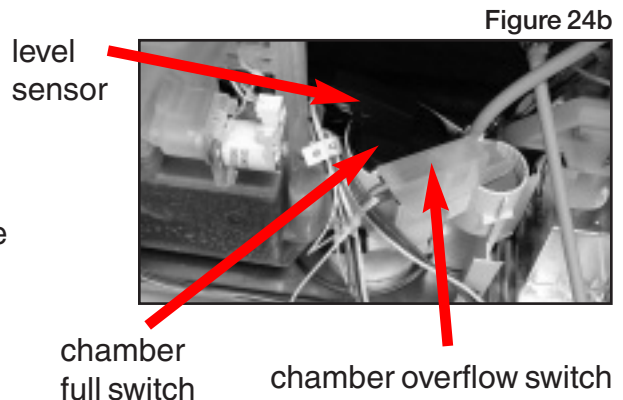
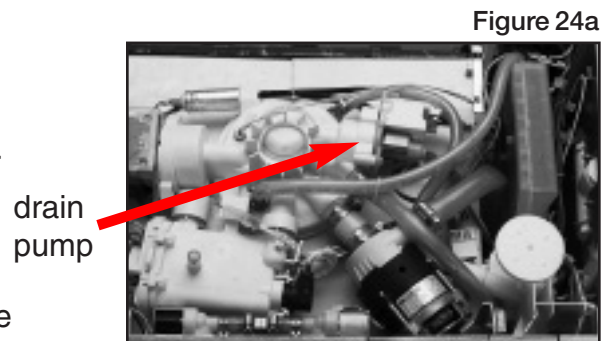
## 7.2.4 CF 4 Water evacuation failure

**Detection:**

Chamber full switch did not open in 1 minute after turning the drain pump on.

**Remedy:**

1. Check for a kink or blockage in the drain hose.
2. Possible cause is chamber full switch failure. Using the debug screen, check if the chamber full switch is OFF when water had drained from the chamber. If not, remove the top cover and the chemical bracket. Check the level diaphragm / switch assembly and replace as necessary (Figure 24b).
3. Possible cause is drain pump failure. Manually load 3 litres of water into the chamber. With the troubleshooting window in place, go into the service menu and activate the drain pump. The water should drain within 20 seconds. If it does not, remove the top and bottom covers and replace the drain pump (Figure 24a). If the water drains ok, proceed to step 3.



## 7. Troubleshooting

### 7.2.5 CF 9 Program Timeout

**Detection:**

The unit is running a cycle for more than 3hrs.

**Remedy:**

Possible cause is a defective PCB and/or software failure. Replace the logic board.

### 7.2.6 CF 15 Chamber Overflow

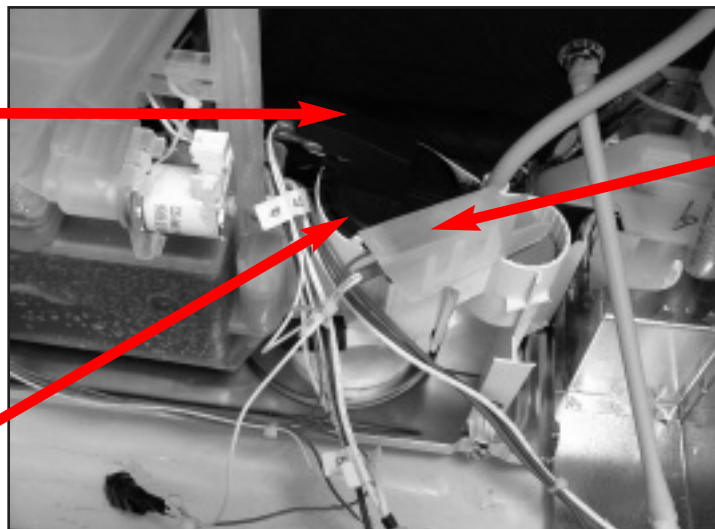
**Detection:**

The overflow switch did not turn off after 30sec of running the drain pump.

**Remedy:**

1. Check for a kink or blockage in the drain hose.
2. Possible cause is a defective overflow switch. Follow the procedure for CF2.
3. Possible cause is the water inlet valves not closing. This can be detected if water continues to fill the chamber even when the power to the machine is off. Replace the inlet valves.
4. Possible cause is a leak. Remove the top cover and kick plate and look for fluid in the pan. Isolate and repair the source of the leak.

level  
sensor



chamber  
overflow  
switch

chamber  
full  
switch

Figure 26

# 7. Troubleshooting

## 7.3 Additional Troubleshooting

**Problem:** “No detergent” message

### Remedy

1. Check if the cleaning solution bottle is empty. Replace if required.
2. Loosen the white cap on the cleaning solution bottle to prevent formation of a vacuum (Figure 27).
3. Possible cause is a dosing reservoir malfunction. Remove the top cover. Remove two small, red wires from the connector block and connect them together (Figure 28). If the “no detergent” message disappears and the machine runs, the dosing reservoir is defective and must be replaced (Figure 28). If the error message remains, proceed to step 4.
4. Check the connections to the controller. If the wires are OK, replace the controller logic board.



Figure 27

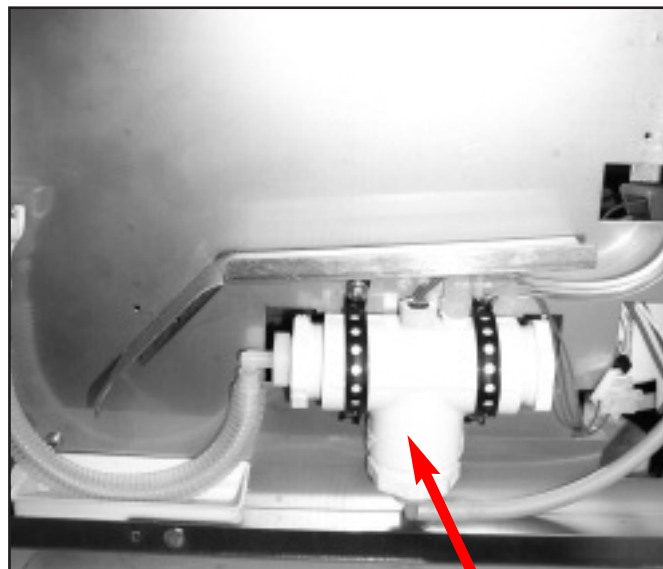


Figure 28

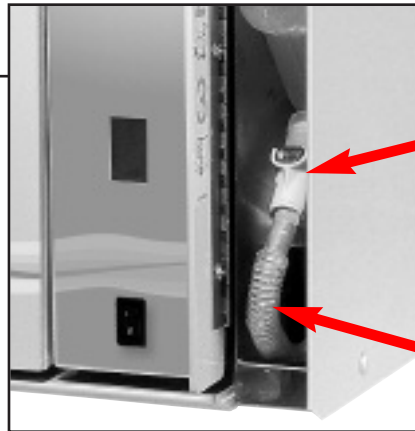
dosing reservoir

## 7. Troubleshooting

**Problem: Cleaning solution leakage**

**Remedy**

1. Ensure that the male outlet on the cleaning solution bottle is tightly closed.
2. Ensure that the male and female connectors have mated.
3. Check the cleaning solution tubing for cracks and leaks. Replace if necessary.



Male and Female Connectors

Cleaning Solution Tubing

Figure 29

**Problem: Water leaking from the door (front of the unit)**

**Remedy:**

1. Make sure unit is level.
2. Check adjustment on the door latch. Loosen two screws and then slide door latch in or out to adjust.

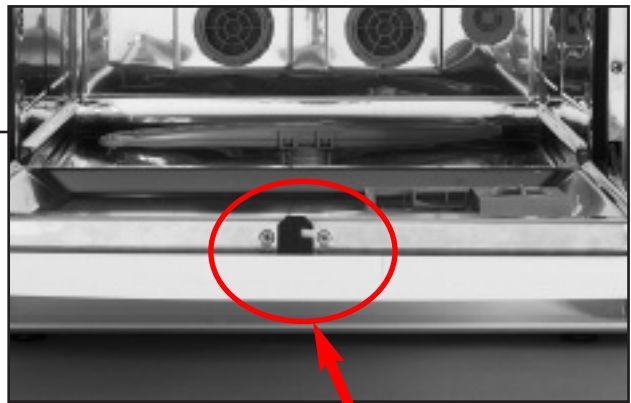


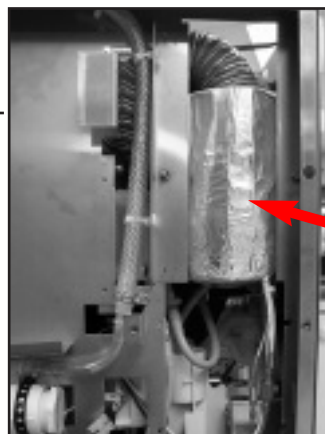
Figure 30

Door Latch

**Problem: Instruments not dry**

**Remedy:**

1. Increase drying time
2. Replace dryer.



Dryer

Figure 31

## 7. Troubleshooting

**Problem:** Screen doesn't turn on

**Remedy:**

1. Check that the machine is plugged in.
2. Check the power supply (5V and 24V) according to schematic
3. Replace LCD
4. Replace logic board

**Problem:** Door doesn't open

**Remedy:**

1. Check the connector from the I/O board to the latch
2. Check the solenoid and replace if necessary.
3. Check the 24V power supply
4. Check if mechanical link is broken
5. Replace the I/O board

mechanical link

solenoid

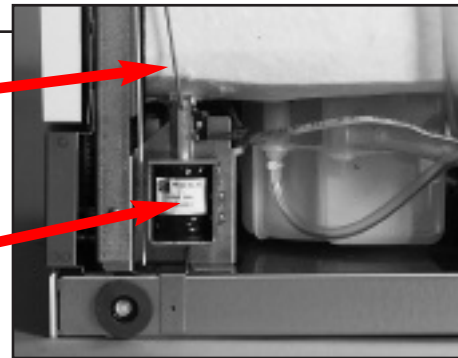


Figure 33

**Problem:** Printer will not print

**Remedy:**

1. Ensure that serial printer is selected (set-up menu)
2. Ensure that baud rate is correct

## 8. Spare Parts

For an updated parts list, please refer to [myscican.com](http://myscican.com)

Item	SCICAN #	KIT DESCRIPTION	NOTE
1	01-107786S	Seal Door, J	
2	01-107788S	Inlet Hose N.A, J	one hose / kit
3	01-107789S	Drain Hose, J	one hose / kit
4	01-107790S	Dosing Pump, J	
5	01-107791S	Valve Salt Regeneration, J	
6	01-107792S	Thermoactuator, J	
7	01-107794S	Pump Recirculation Lower Arm, J	
8	01-110259S	Pump Upper Arm w/o Fitting, J	
9	01-107797S	Drain Pump N.A. 230V, 60Hz, J	
10	01-107799S	2A Fuse, J	five fuses / kit
11	01-107800S	10A Fuse, J	ten fuses / kit
12	01-107801S	Inlet Valve Cold Water, J	
13	01-107802S	Switch Full Chamber, J	
14	01-107803S	Switch Overflow Chamber, J	
15	01-107804S	Lower Wash Arm, J	
16	01-107806S	Screen Drain, J	with mesh
17	01-107807S	Filter Drain, J	
18	01-107808S	Water Heater, J	
19	01-107810S	Switch Pressure Heater, J	
20	01-107811S	Door Spring Kit, J	
21	01-107812S	Clip Door, J	
22	01-107815S	Inlet Valve Hot Water, J	
23	01-107938S	Switch Pressure Assy, J	
24	01-107975S	Adjustable Feet, J	
25	01-108030S	Quick Connect Female, J	
26	01-108121S	Cap Quick Disconnect, J	ten caps / kit
27	01-108122S	Drip Tray, J	
28	01-108253S	Reservoir	
29	01-108305S	Hydrim Water Test Kit, J/K	
30	01-108309S	Kickplate, J	
31	01-108310S	Mesh Drain, J	only mesh
32	01-108351S	Float Dosing Reservoir, J	
33	01-108699S	Tube Chem.	
34	01-108700S	Fuse Holder, J	three parts / kit
35	01-108795S	Plastic Trim Edge, J	
36	01-108797S	Support Bracket 1-st Pump	
37	01-109143S	Dryer Tubing, J	
38	01-109144S	Dryer Fitting, J	

## 8. Spare Parts

Item	SCICAN #	KIT DESCRIPTION	NOTE
39	01-109145S	Dryer Vent Assy, J	
40	95-110104	Operator's Manual, Hydrim C51W, J	
41	01-109835S	Dryer Assy Hydrim, S	
42	01-109834S	Seals, Door Bottom Hydrim, S	
43	01-107973S	Packaging Hydrim C51W, J	
44	01-110205S	Cover Top, C51W, J	
45	01-107809S	NC Sensor	
46	01-110200S	Detergent Door w. Label C51WC51W, J	
47	01-110201S	Fascia Door w. Label, C51WC51W, J	
48	01-109791S	Door Curtain Hydrim, S	
49	01-109790S	Upper Spray Arm Hydrim, S	
50	01-109789S	Rope, Door Latch, C51W	
51	01-110203S	Single Temperature Sensor C51W, J	
52	01-109785S	Touch Display Hydrim, S	
53	01-110206S	Logic Board Hydrim C51W, J	
54	01-109783S	I/O Board Hydrim, S	
55	01-109782S	Power Supply Board, S	
56	01-110202S	Fascia Controller w/ Label, C51W, J	
57	01-109780S	Door Solenoid C51WD, S	
58	01-110204S	Tubing, Upper Arm Fitting, C51W, J	
59	01-109776S	Top Arm Fitting Hydrim, S	
60	01-107787S	Inlet Hose Europe, J	
61	01-107796S	Drain Pump Europe 230V, 50Hz, J	



# 8. Spare Parts



01-107786S  
Seal Door, J



01-107788S  
Inlet Hose N.A., J



01-107789S  
Drain Hose, J



01-107790S  
Dosing Pump, J



01-107791S  
Valve Salt Regeneration, J



01-107794S  
Pump Recirculation Lower Arm, J



01-110259S  
Pump Upper Arm w/o  
Fitting, J



01-107797S  
Drain Pump N.A. 230V, 60Hz, J



01-107799S  
2A Fuse, J



01-107800S  
10A Fuse, J



01-107801S  
Inlet Valve Cold Water, J



01-107803S  
Switch Overflow Chamber, J



01-107804S  
Lower Wash Arm, J



01-107806S  
Screen Drain, J



01-107807S  
Filter Drain, J



01-107808S  
Water Heater, J



01-107810S  
Switch Pressure Heater, J



01-107812S  
Clip Door, J



01-107815S  
Inlet Valve Hot Water, J



01-107938S  
Switch, Pressure Assembly  
(Chamber Full Switch Assembly)

# 8. Spare Parts



01-107802S  
Switch Full Chamber, J



01-107975S  
Adjustable Feet, J



01-108030S  
Quick Connect Female, J



01-108699S  
Tube, chemical



01-108121S  
Cap Quick Disconnect, J



01-108122S  
Drip Tray, J



01-108253S  
Reservoir



01-108309S  
Kickplate, J



01-108310S  
Mesh Drain, J



01-108351S  
Float Dosing  
Reservoir, J



01-108700S  
Fuse Holder, J



01-108795S  
Plastic Trim Edge, J



01-108797S  
Support Bracket 1-st Pump, J



01-109143S  
Dryer Tubing, J



01-109144S  
Dryer Fitting, J



01-109145S  
Dryer Vent Assy, J



01-109776S  
Top Arm Fitting Hydrim, S



01-110204S  
Tubing, Upper Arm Fitting, C51W, J

# 8. Spare Parts



01-109780S  
Door Solenoid C51WD, S



01-110202S  
Fascia Controller w/  
Label, C51W, J



01-109782S  
Power Supply Board, S



01-110206S  
Logic Board Hydrim, C51W, J



01-109783S  
I/O Board Hydrim, S



01-109785S  
Touch Display Hydrim, S



01-110203S  
Single Temperature  
Sensor C51W, J



01-109789S  
Rope, Door Latch, C51WD, S



01-109790S  
Upper Spray Arm  
Hydrim, S



01-110201S  
Fascia Door w. Label, C51W, J



01-110200S  
Detergent Door w. Label  
C51W, J



01-107809S  
NC Sensor



01-110205S  
Cover Top, C51W, J



01-107973S  
Packaging Hydrim  
C51W, S



01-109834S  
Seals, Door Bottom Hydrim, S



01-109835S  
Dryer Assy Hydrim, S