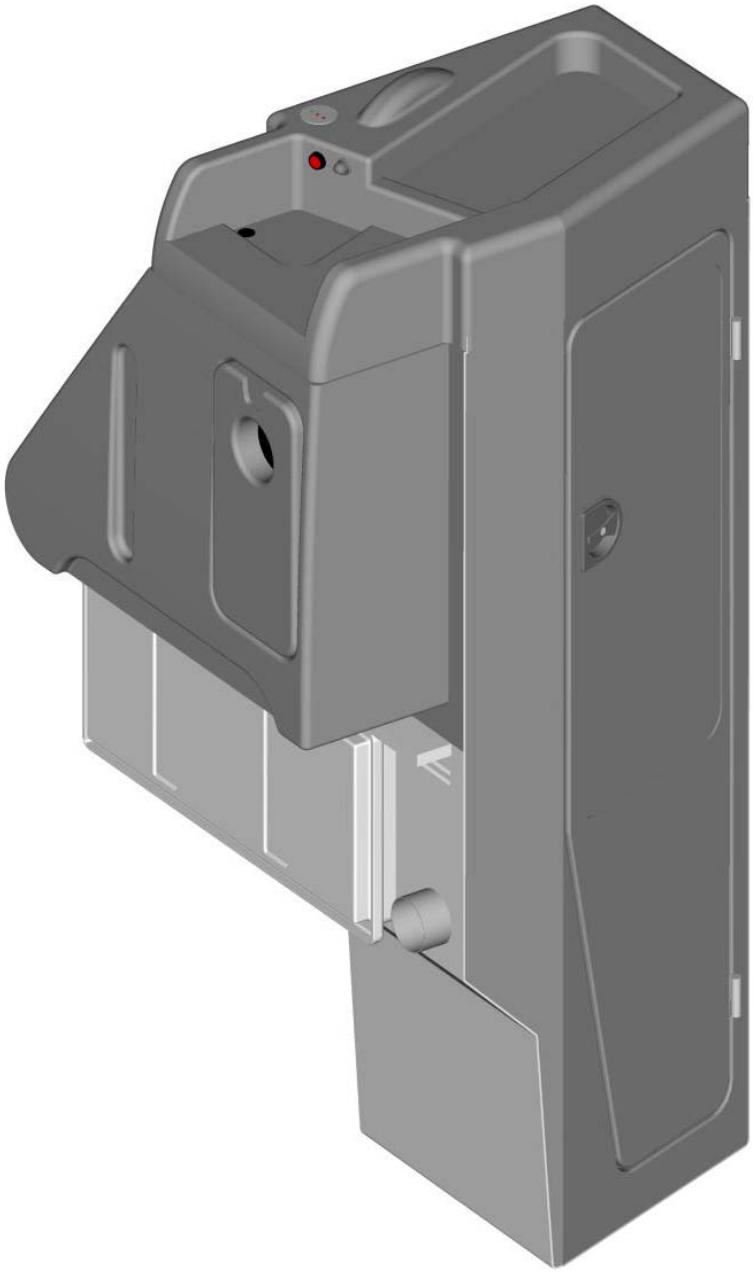
Shades Technics

Cat No. 746199

B1200-W Centre Sunken Toilet Cubicle



Parts & Service Manual

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General Service Instructions

Vehicle Dealer	**Toilet Cubicle Serial No**

To Switch The Cubicle On:
Engage the WC Master switch [WC] on the dashboard.

(It is recommended that the vehicle engine is running)

Cubicle Interior Light
Entering the cubicle automatically illuminates the light and toilet engaged light if fitted. The light will extinguish shortly after leaving the cubicle

To Flush The Toilet:

Depress the flush button  once. A timed action opens the valve and rinses the bowl with a set quantity of water. Should a further flush be required, wait for the flush cycle to complete then depress the button again.

*(When the **HYDROFLUSH** holding tank is full, the dashboard LED*  *will illuminate and power to the flush pump will be cut. Emptying the holding tank will restore power.)*

(When the WC *water supply tank is empty the dashboard LED*  *will illuminate and power to both the handwash and flush pumps will be cut. Re-filling the WC supply tank will restore power.)*

To Wash Your Hands:

Depress the handwash button  once to dispense a set amount of water.

(When the WC water supply tank is empty the dashboard LED  *will illuminate and power to both the handwash and flush pumps will be cut. Re-filling the WC supply tank will restore power.)*

In Case of Emergency:
Depressing the red alarm button will alert the driver.

Cubicle Extractor Fan:
The cubicle extractor fan is energised when the cubicle is on.

To Operate The Hand-Drier:
To start the cycle push the button on the front. The unit stops automatically

Water Tank Filling & Emptying
The WC supply tank is filled via the orange hose connector located behind the central near side locker flap.
This holding tank is emptied by firmly pulling the handle on the evacuation valve connected to the underside of the cubicle.

To Switch The Servery On:

Start the vehicle engine and engage the Servery Master switch  on the dashboard.

(The engine needs to be running to operate the servery. Press the vehicle accelerator pedal twice so the red battery symbol on the main dashboard lights is extinguished)

HYDROCALOR Water Heater

When the servery switch is on the Power LED  on the cubicle worktop display panel will illuminate and the Hydrocalor water heater will start to warm up.

After approximately 30 minutes the Hot Drinks LED  on the cubicle worktop display panel will illuminate to indicate the hot water has reached its optimum serving temperature.

To Dispense The Hot Water:

Depress the red button mounted on the cubicle worktop to dispense the amount of water required

(When the drinking water supply tank is empty the dashboard LED  *will illuminate and power to the drinks pump will be cut. Re-filling the Drinking water supply tank will restore power.)*

Water Tank Filling

The drinking water tank is filled via the orange hose connector located behind the central near side locker flap.

HYDROFLUSH Toilet System

The push button operated flushing system is pre-set to give a powerful full covering rinse.

The water is flushed straight into a sealed holding tank which is directly coupled to the toilet bowl.

Handwash Water System

One push of the button delivers a pre-set amount of water.

All water from the cubicle sink will drain away outside the vehicle.

Water Levels

The WC supply tank provides water for both the handwash and the flushing system.

WC High Water Level

A full holding tank will illuminate the 

LED on the dashboard and electrically disconnect both pumps. Emptying the holding tank will re-energise the pumps and extinguish the dashboard LED

WC Low Water Level

An empty WC supply tank will illuminate the 

LED on the dashboard and electrically disconnect both pumps. Re-filling the WC supply tank will re-energise the pumps and extinguish the dashboard LED.

HYDROCALOR Drinks System

The drinking water system is dispensed at the worktop, by depressing the button.

The Hydrocalor hot water unit is part of an un-pressurised auto-replenishment system. The operation of pressing the button introduces cold water into the unit dispensing the equivelant amount of hot water out of the faucet ensuring that the boiler is never empty.

The open faucet system allows the natural expansion of heated water to be relieved by dripping from the faucet during the warm-up period. This is a normal function and the dripping will cease when working temperature is reached.

This unit has a capacity of 5 Litres and takes approximately 25-30 minutes to reach its optimum working temperature. Should a fault occur, causing the unit to overheat, a sensor will trip and cut the power off.

When the unit has 'tripped' the  LED on the worktop display panel will illuminate and the  LED will be extinguished.

To reset, insert a thin screwdriver tip, or similar, through the label marked 'RESET BUTTON' on the casing of the Hydrocalor and push the small **red** trip button once. (Note: The button does not have much movement)

CAUTION

All water from the servery worktop sink will drain away outside the vehicle. Therefore care should then be taken if the vehicle is over a service pit and hot water is washed down the sink.

Water Levels

Drinks Low Water Level

An empty drinking water supply tank will illuminate the  LED on the dashboard and electrically disconnect the pump. Re-filling the drinking water tank will re-energise the pump and extinguish the dashboard LED.

Toilet Cubicle

Cubicle Cleaning
The toilet cubicle is manufactured from Glass Reinforced Plastic (GRP) with high gloss interior surfaces and lightly textured exterior surfaces, both of which can be washed down using a mild detergent. The use of a caustic or abrasive material is not recommended to clean internal or external surfaces.

Toilet Bowl Cleaning
The toilet bowl is also manufactured from GRP and can be cleaned using a stiff brush with a non-abrasive, anti-bacterial detergent.

Internal Litter Bin
The cubicle features a re-usable waste sack, located inside the vanity under the sink. The sack is attached to the vanity with velcro.

External Litter Bin
The cubicle aisle side cover features a re-usable waste sack fitted to the inside of the bin door. The sack is attached to the door with velcro.

Soap Dispenser
To re-fill, press the lower release button and flip the front cover up. Draw out the internal soap bottle, refill, re-fit and close the cover

Toilet Roll
It is recommended that a high biodegradable paper such as *Bay West* or *Mini Tork* is used at all times

The toilet roll holder is incorporated into the vanity service door located below the sink. The spindle is sprung loaded into the recess and is simply remove by pushing to one side

Do not use domestic type toilet paper (i.e Andrex) as this will clog the Hydroflush valve and tank due to its stronger construction.

Worktop Servery

Cleaning
The drinks worktop is manufactured from Glass Reinforced Plastic (GRP) with an easy clean surface which can be washed down using a mild detergent.
The use of a caustic or abrasive material is not recommended.

Cubicle Maintenance

Daily Routine

- Prior to the vehicle entering service the holding tank should be charged with an additive to sanitise the effluent.

- The recommended product is **Shades Super Sani ECO**, a formaldehyde-free sachet with a water soluble membrane which can be purchased in 8 gram and 16 gram sachets. A single 16 gram (or two 8 gram) sachet contains enough formula for the capacity of the holding tank and will function for a maximum of three days.
  To apply:
  1. Ensure the holding tank is empty.
  2. Check the tank evacuation valve is closed
  3. Check the WC supply tank is full.
  4. Switch on power to the cubicle (see page 3)
  5. Press the flush button to open the toilet valve and drop the complete sachet into the holding tank.

Caution
Do not open the sachet or drop into the WC Supply Tank as this also supplies water to the handbasin

- It is recommended that the WC supply tank is drained and the holding tank is emptied at the end of every day (see page 3)

- The WC master switch **WC** should be turned off when the vehicle is static (parked), to reduce the risk of battery drain if any components are left on.

Weekly Routine

- Check extractor fan function by holding a single sheet of toilet paper in front of the chrome grille. The air flow should draw the paper towards the grille.

- Inspect the security of the faucet, door hinges and toilet seat lid. Check the operation of the cubicle door and lock function. Test alarm button function.

- Remove vanity access door, check electrical and plumbing connections for security and leaks.

- Check water flows through the handwash faucet is smooth and constant.

- Clean dust and fluff from **AIRCALOR** inlet vents using a vacuum cleaner with crevice attachment.

Quartely Routine

- Carry out weekly routine

- Flush out holding tank with clean water. (the holding tank must be empty and the vehicle positioned so the holding tank evacuation valve is over a sewage drainage point)
  To flush out:
  1. Switch on the cubicle.
  2. Connect a hosepipe to a mains water supply.
  3. Depress the flush button once to open the pneumatic slide valve at the bottom of the bowl.
  4. When the valve opens, insert the end of the hosepipe down through the bowl, into the holding tank. When the valve closes the hose will be held into position by the paddle. The air pressure will not crush the pipe.
  5. Turn on the water to the hose pipe and fill the holding tank, being careful not to overfill. .
  6. Switch off the water to the hose, press the flush button to open the valve and remove the hose pipe.
  7. Open the evacuation valve to empty the water from the holding tank.

- Lubricate holding tank evacuation valve. (to be carried out immediately after flushing through the holding tank).
  Undo the four fixing bolts holding the soil valve assembly together and remove the main body section. Lubricate the slide paddle using lithium grease or similar so the open/close operation is smooth. Replace the valve body and bolt together. Do not over tighten as this will restrict the operation of the valve.

- Clean out the extractor fan grille using a vacuum cleaner with a small crevice attachment.

Worktop Servery Maintenance

Daily Routine

- It is recommended that the drinking water supply tank is drained daily.

- The Servery Master switch  should be turned off when the vehicle is static (parked), to reduce the risk of electrical damage, 'spiking', created by the alternator when the engine is initially started.

Six Monthly Routine

- Inspect security of the faucet, button and indicator LED display panel.

- Unscrew the four fixing knobs holding the cubicle aisle cover and remove. Check electrical and plumbing connections for security and leaks.

- Check that the water flow through the faucet is smooth and constant.

- Sterilise drinking water tank and system.
  Unscrew the four fixing knobs holding the cubicle aisle cover and remove ***HYDROFILTER*** from system. To remove just simply disconnect from the Push-Fit fittings either side *(see instruction at rear of manual for connection and disconnection techniques)*
  Sterilise tank using a proprietary product, being sure to follow the manufacturers instructions. An access hatch is provided in the top of the drinking water tank. Please note that you will need to purge the 5 litres of water contained in the Hydrocalor (keep hot button depressed for 1 to 1.5 minutes)

- Replace ***HYDROFILTER.***
  As protection against scaling and to improve the quality of the water a filter (***HYDROFILTER)*** is installed. This filter has a limited life and to avoid blockage it is essential to replace at **6 monthly** intervals.

  Prior to fitting, connect new Hydrofilter to a potable water supply and flush through in direction of arrow until water runs clear.

Winterisation

If the vehicle is to be parked in zero or sub-zero temperatures, it is imperative that all water containers are completely drain beforehand. This also applies to the ***HYDROCALOR*** if it has not been in daily use

Ensure the centre grey cable to the ***HYDROCALOR*** centre signal terminal is removed when the unit is empty and **replaced only when the unit is re-filled.**

Note
No warranty claims will be accepted on any winter damaged parts.

Jump Starting

When jump starting the vehicle, please ensure that both the dashboard master

Switches **WC** and  are off.

Fault Reporting Procedure

1. In the unlikely event of a fault occuring an emergency parts kit has been supplied along with the enclosed comprehensive fault analysis flow chart
2. Using these charts, determine the cause of the fault and replace the faulty item from the kit if possible.
3. To order a replacement kit or non-kit part contact the dealer as specified on the contents page (Page 2) of this manual, quoting the cubicle serial number.
4. In order for replacement goods to dispatched a simple warranty procedure must be followed. (See flow chart on page 12)

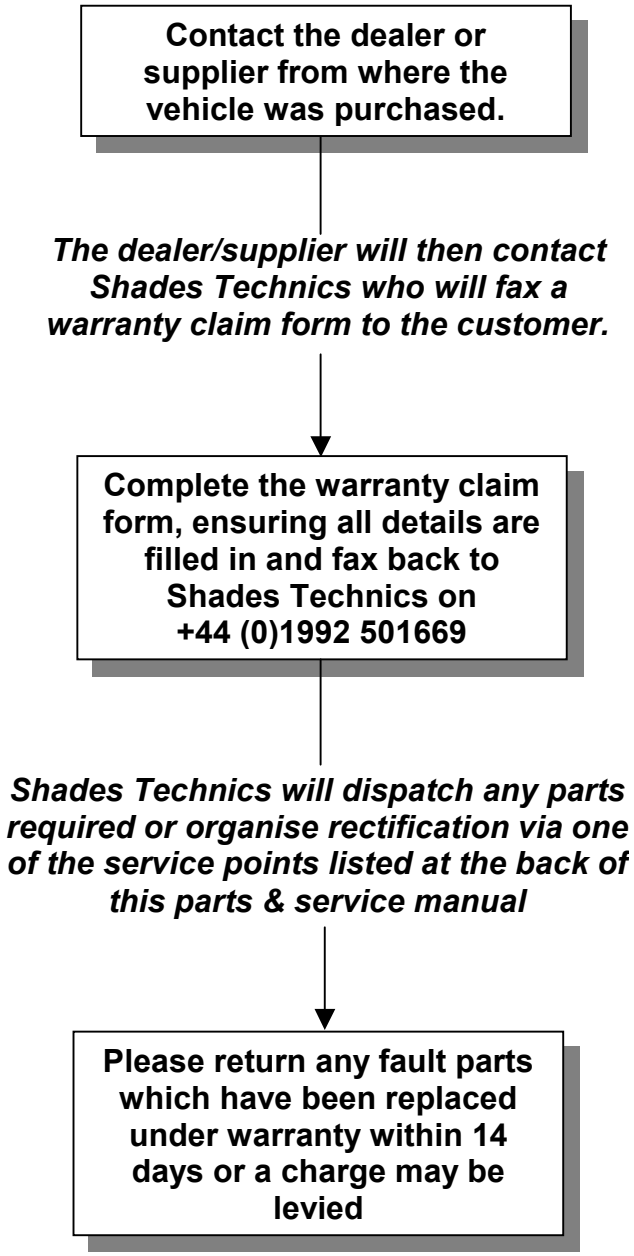
Notes:

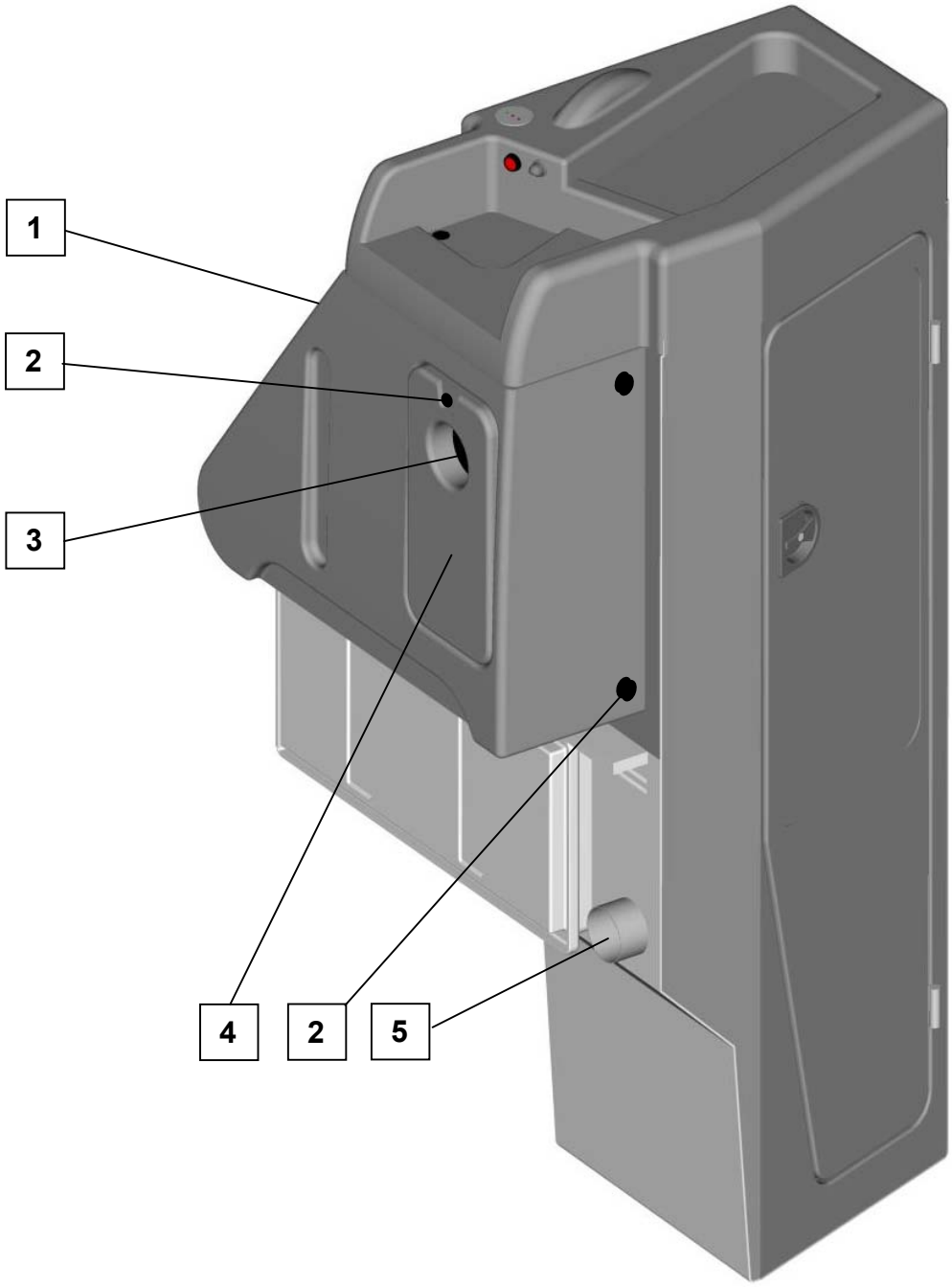
- **Call-out and travelling costs are not covered by the warranty**
- **Tampering, unauthorised involvement or preventable damage will result in a charge being levied**

Warranty Claim Procedure

Shades Technics offer a comprehensive warranty cover for all products, valid for 12 months from the vehicle's date in service.

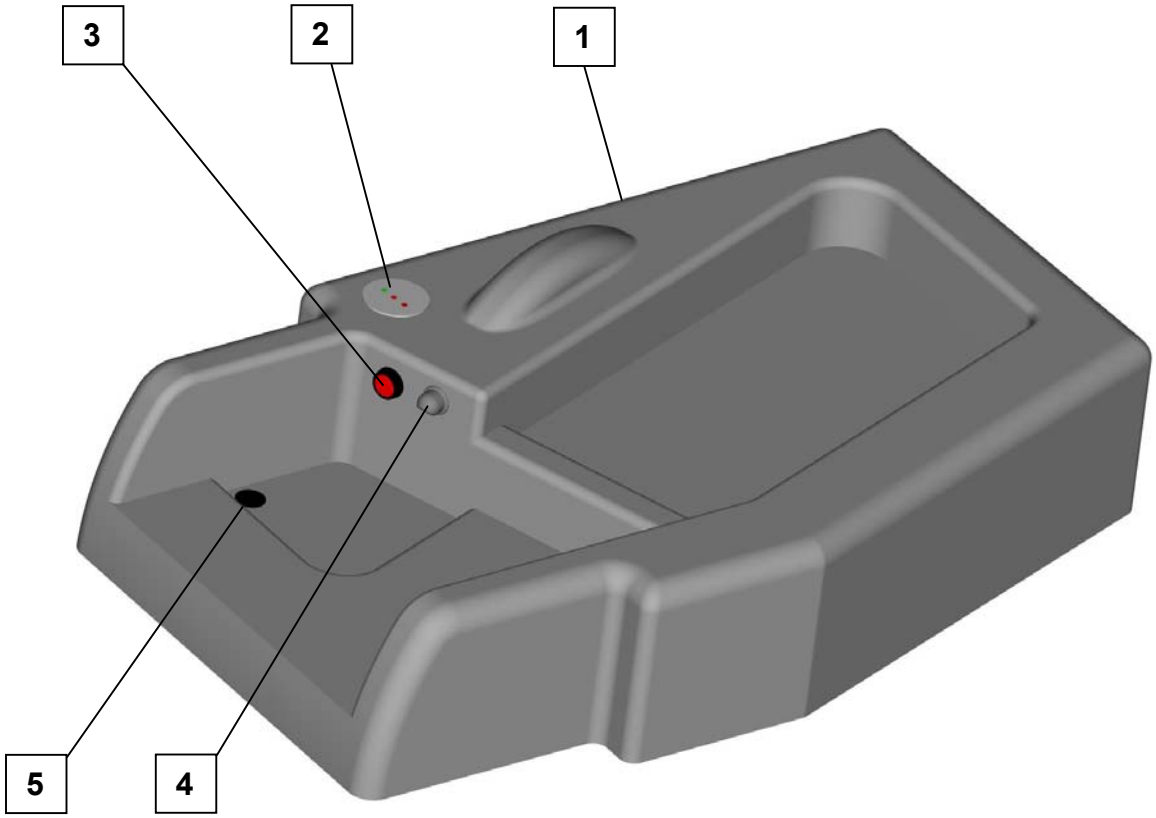
To make a claim under warranty, please follow the procedure below:





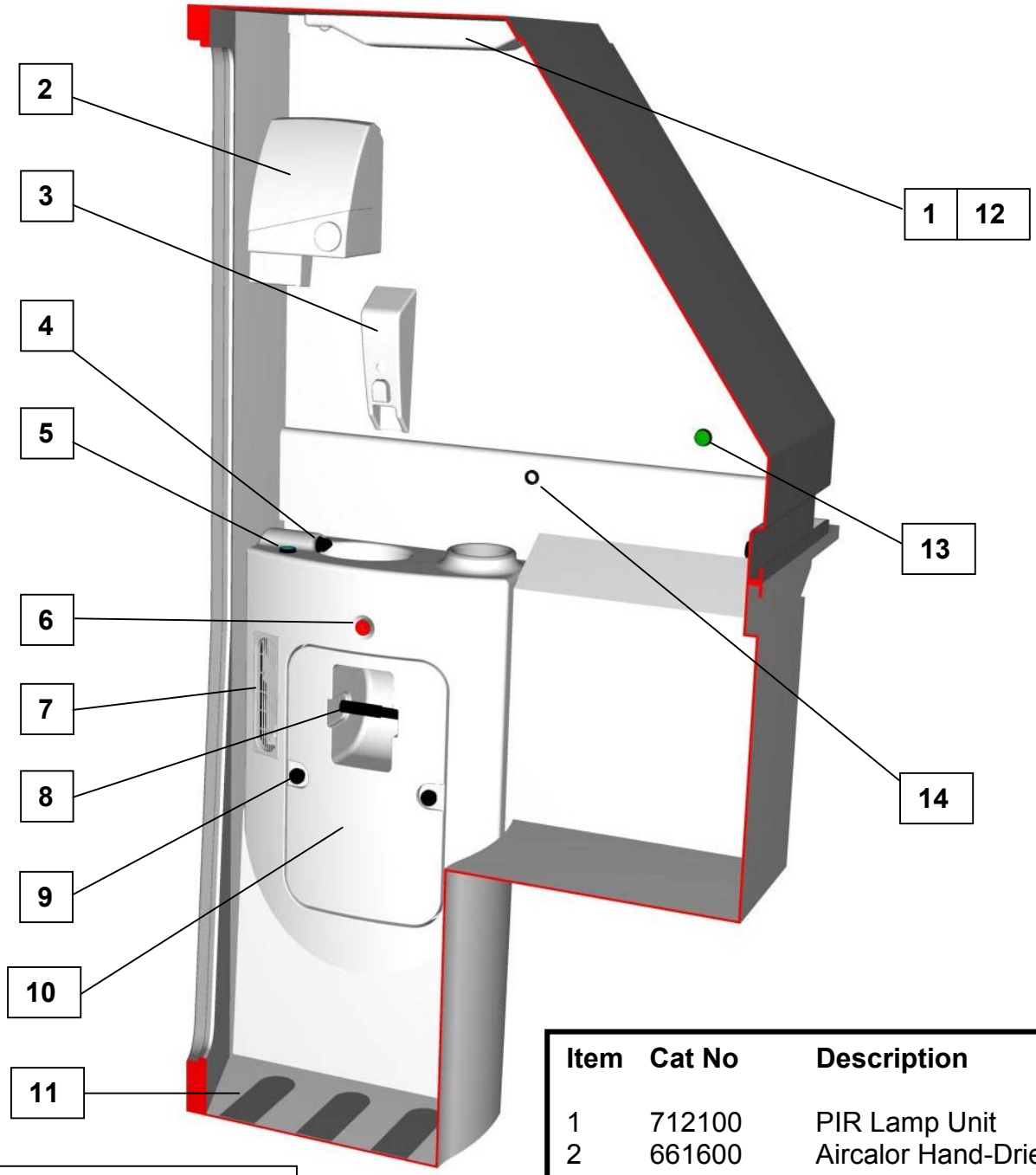
Item	Cat No	Description
1	688700	Aisle-side Cover
2	663408	Door/Panel Knob
3	661025	Litter Bag
4	688701	Litter Bin Door
5	713820	Backdraft Vent

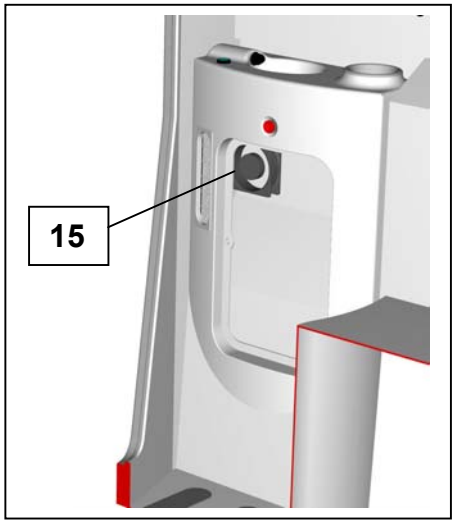
Cubicle Worktop



Item	Cat No	Description
1	688702	GRP Worktop (Prepared)
2	712511	LED Display Panel
3	714012	Button (Red)
4	663603	Drinks Faucet
5	701502	15mm Sink Waste

Cubicle Interior

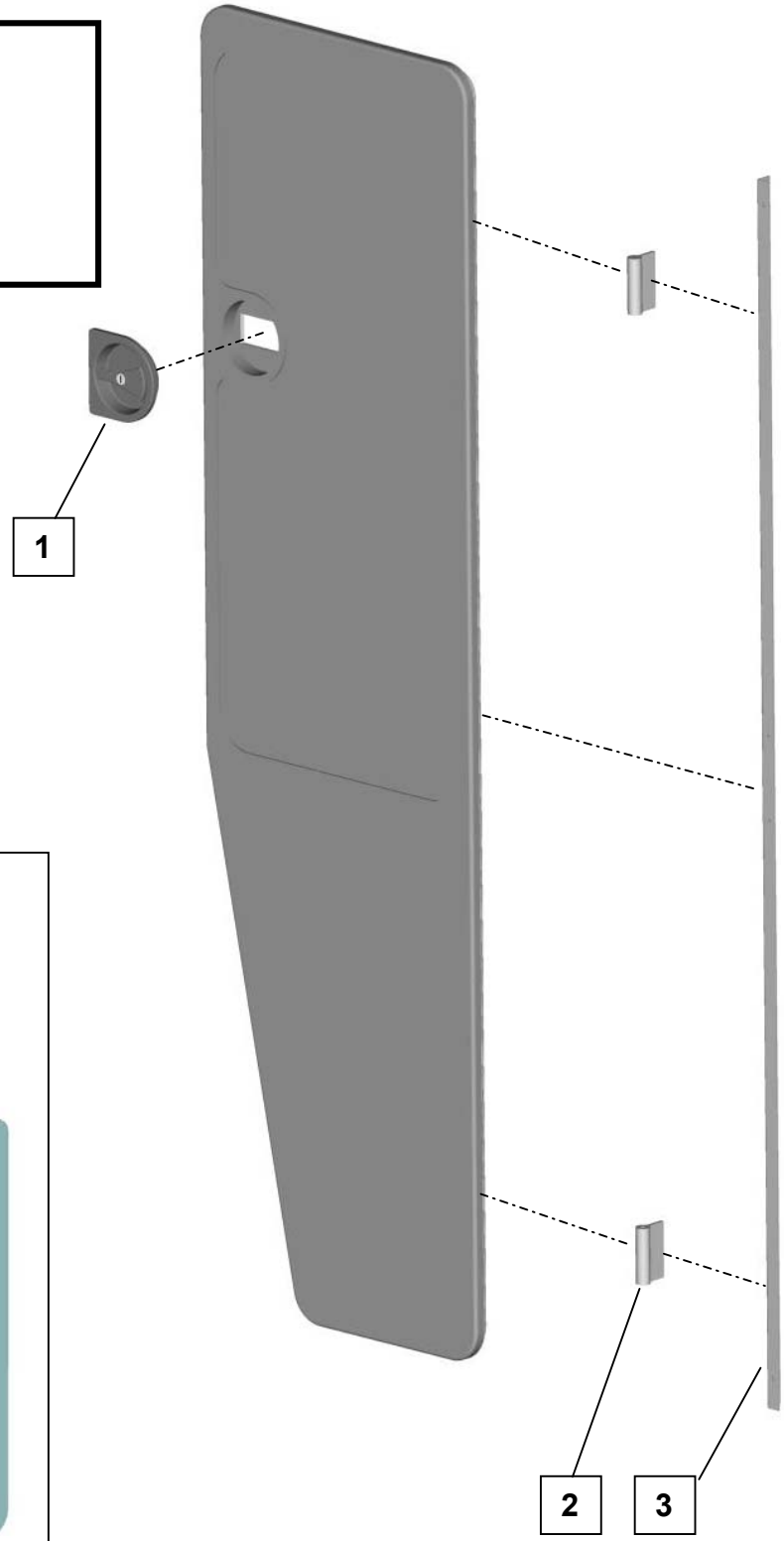


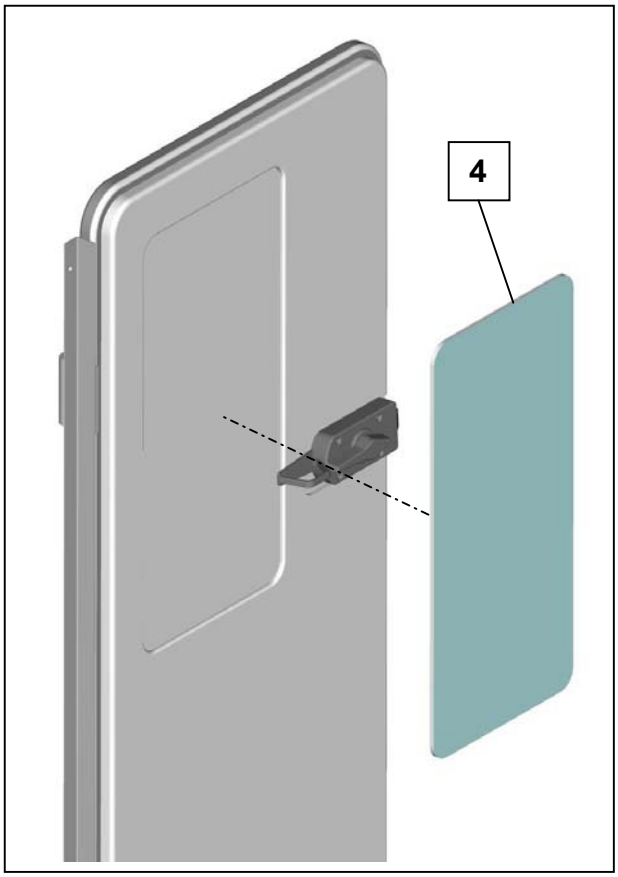


Item	Cat No	Description
1	712100	PIR Lamp Unit
2	661600	Aircalor Hand-Drier
3	661646	Soap Dispenser
4	663603	Handwash Faucet
5	714013	Button (Blue)
6	714030	Alarm Button
7	727200	Chrome Grille
8	661618	Toilet Roll Spindle
9	663408	Vanity Door Knob
10	688703	Vanity Door (Prepared)
11	661480	Non-Slip Floor Strips
12	712008	24v Fluorescent Tube
13	714009	Button (Green)
14	713520	Black Bushing
15	661510	Extractor Fan

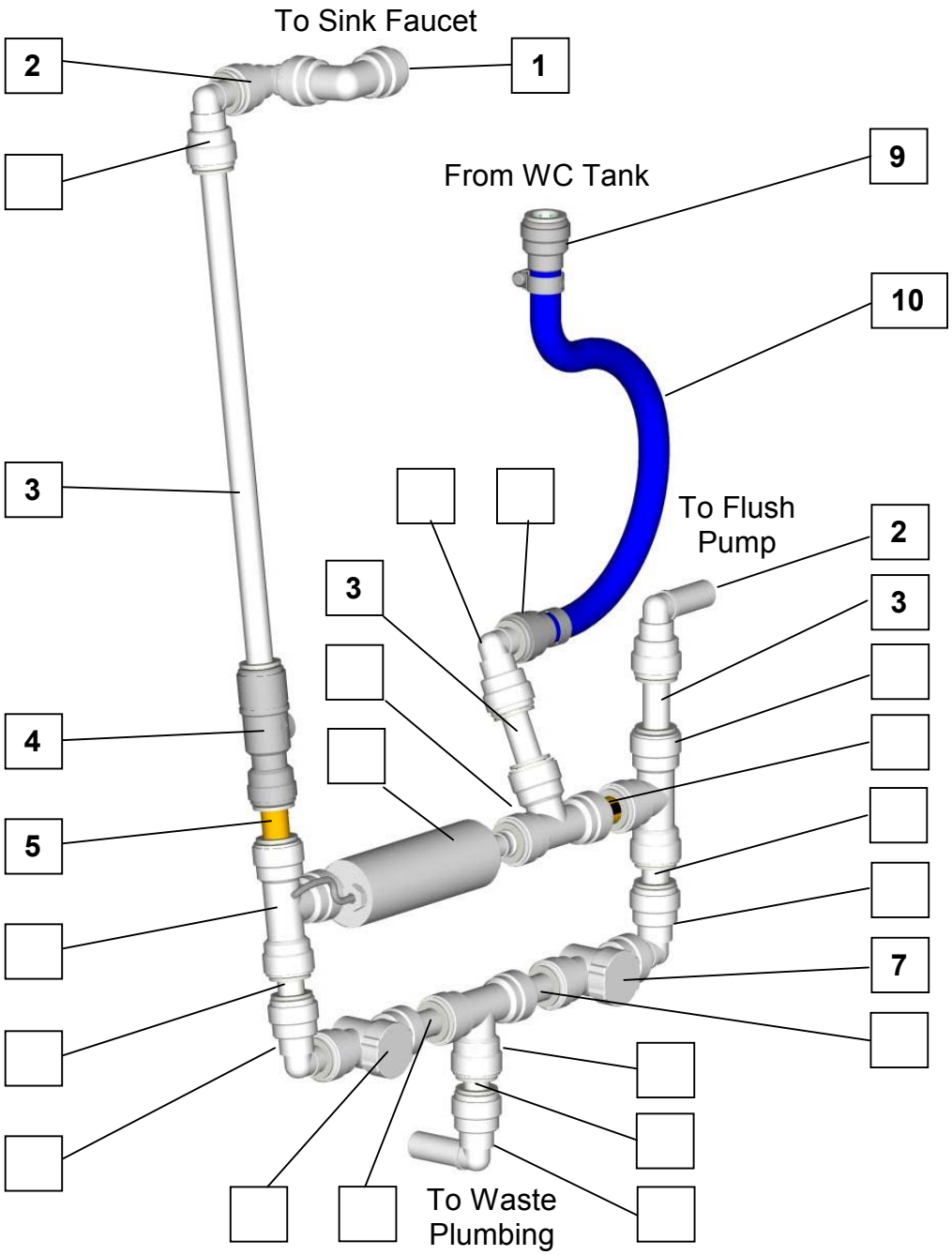
Cubicle Door Assembly

Item	Cat No	Description
1	661206	Door Lock
2	661400	Hinge (Pair)
3	661959	Mounting Angle
4	661805	Mirror



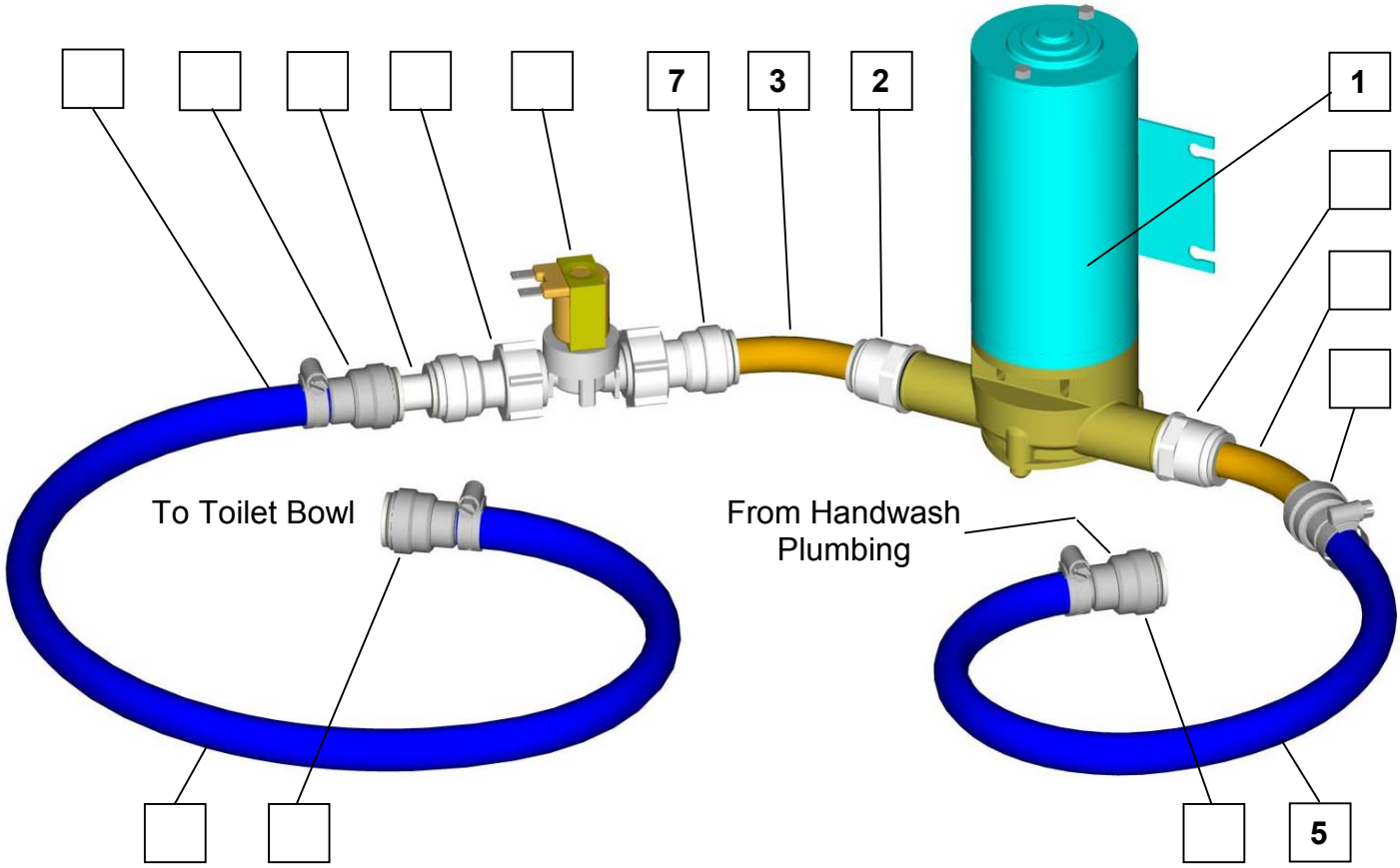


Handwash Plumbing Assembly



5	747036	Non Return Valve
6	747020	'T' Connector
7	747035	Stop Valve
8	702119	In-Line Pump
9	747027	Hose Connector
10	744030	½" Flexible Hose

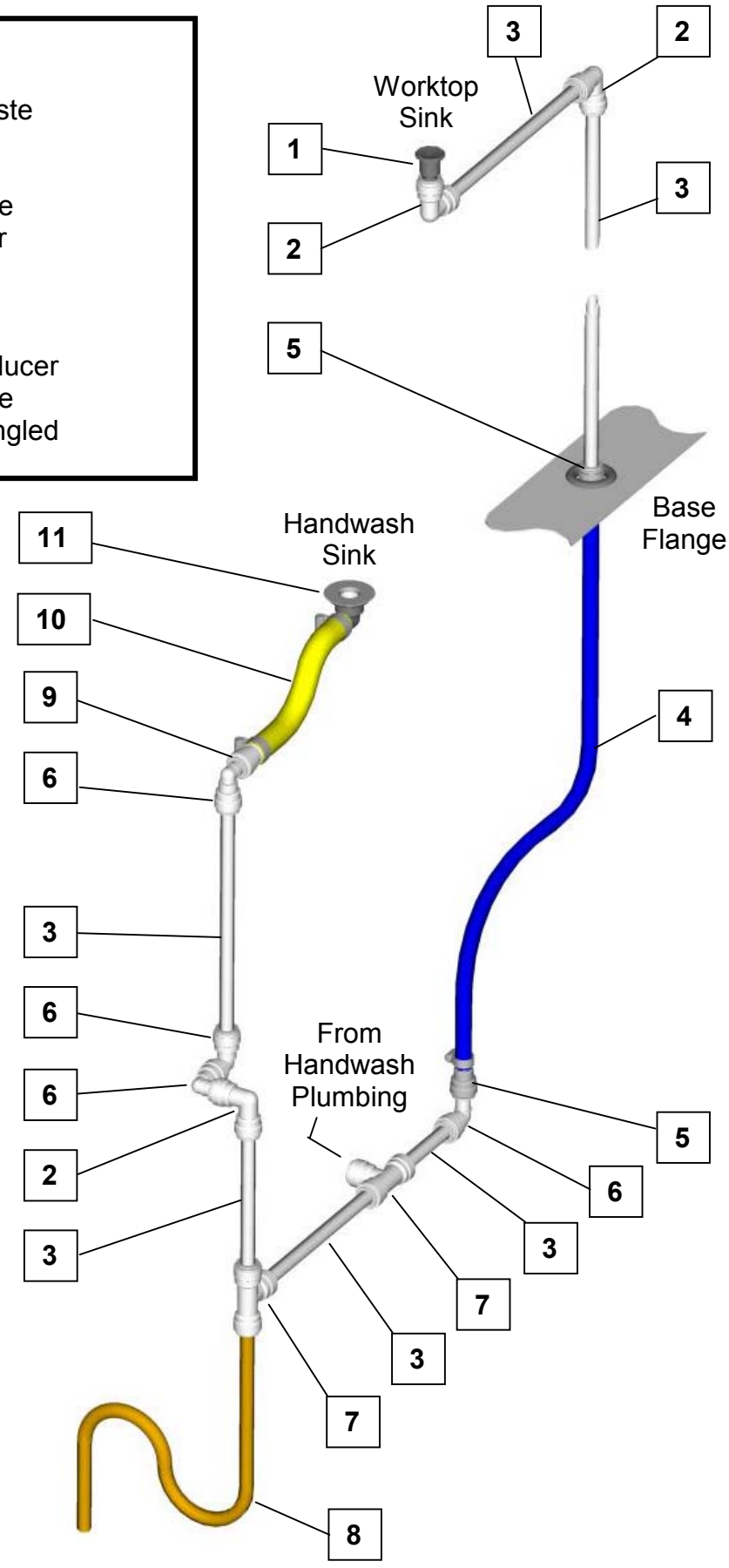
Flush Plumbing Assembly



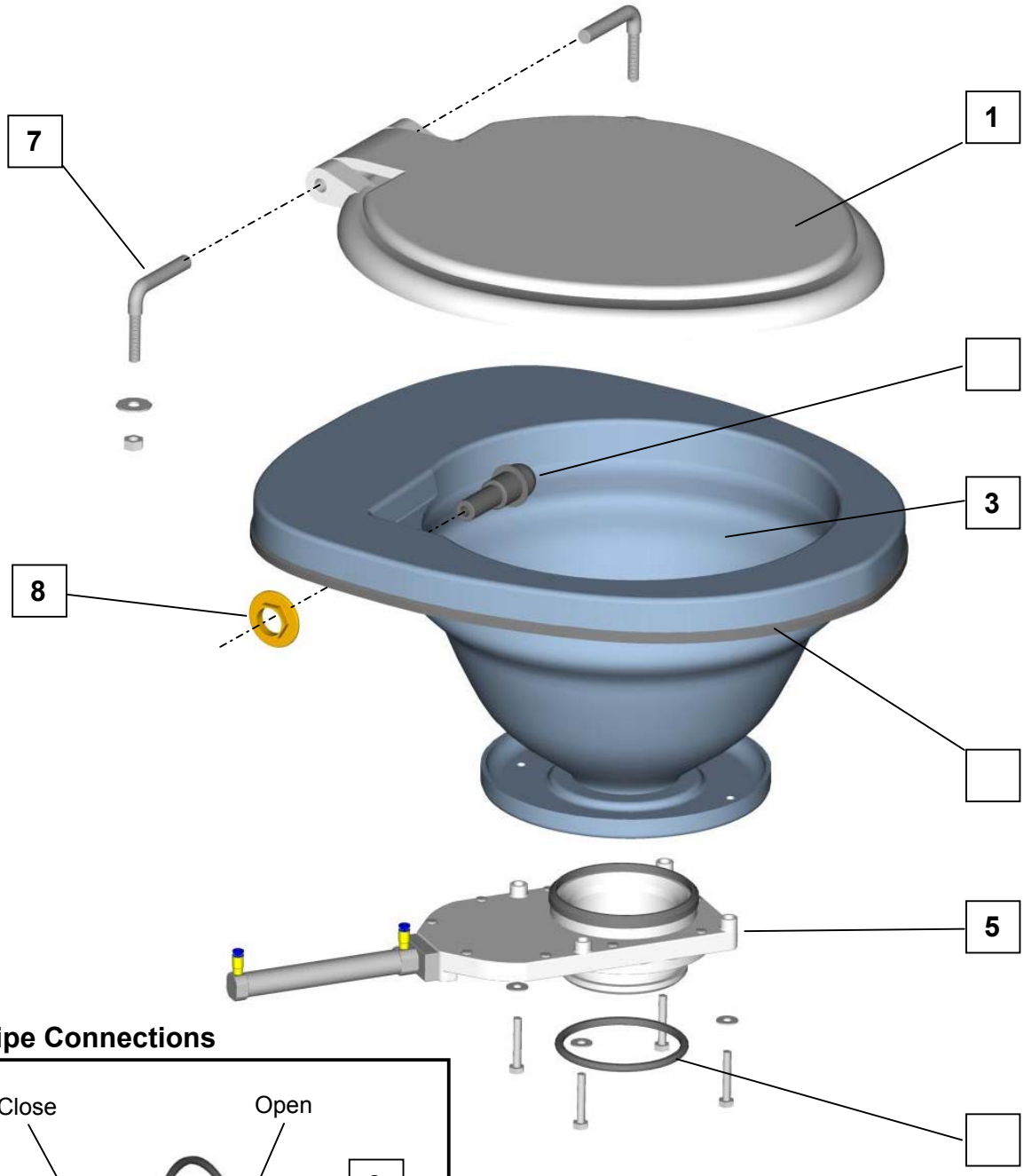
Item	Cat No	Description
1	702140	Flush pump
2	747028	Male Coupler
3	726062	Copper Elbow Pipe
4	747027	Hose Connector
5	744030	½” Flexible Hose
6	747052	15mm Pipe
7	747024	¾” Female Coupler
8	714603	Solenoid Valve

Cubicle Waste Water Plumbing

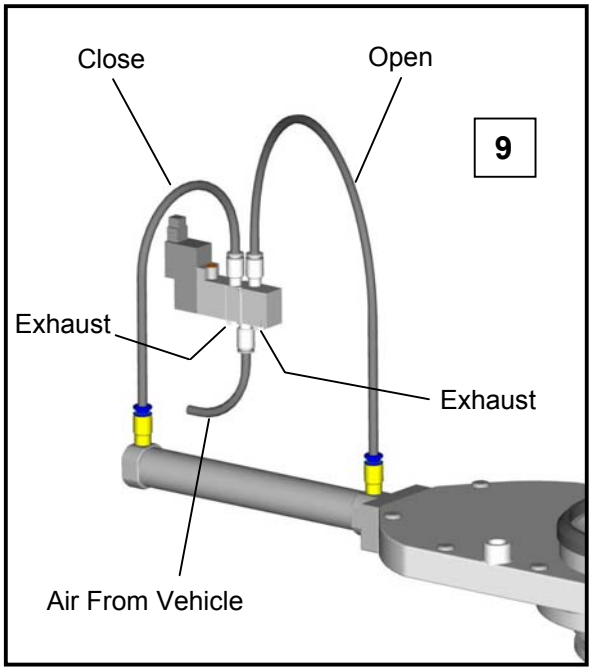
Item	Cat No	Description
1	701502	15mm Sink Waste
2	747015	Equal Elbow
3	747052	15mm Pipe
4	744030	½" Flexible Hose
5	747027	Hose Connector
6	747016	Stem Elbow
7	747020	'T' Connector
8	726062	Copper 'S' Pipe
9	747103	22 – 15mm Reducer
10	744060	¾" Flexible Hose
11	701500	Sink Waste - Angled



Toilet Bowl Assembly

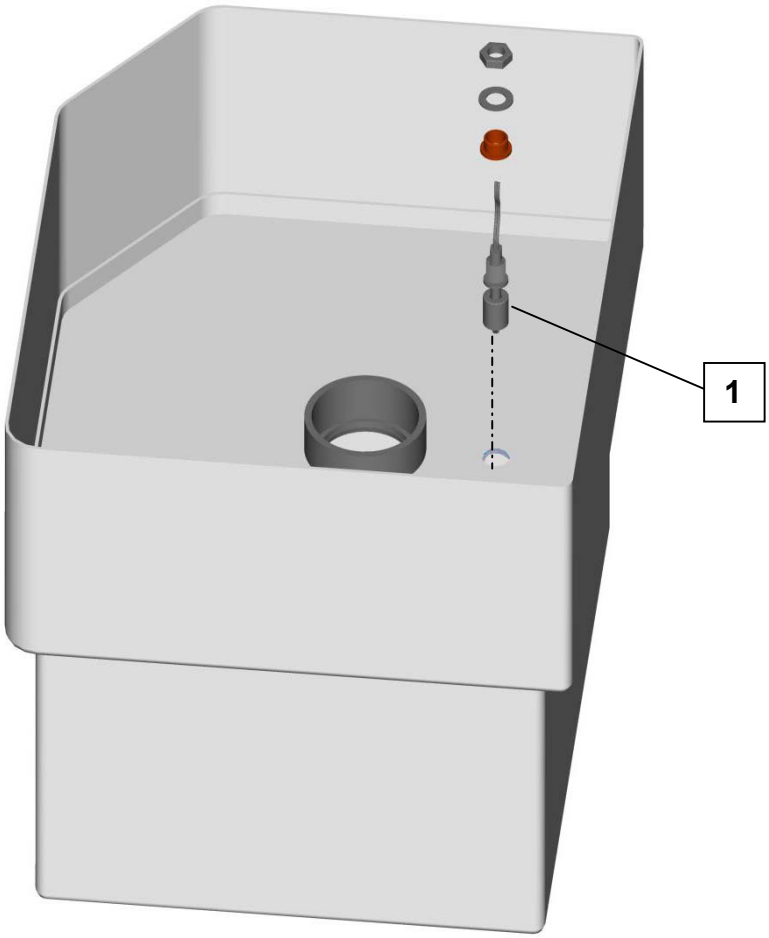


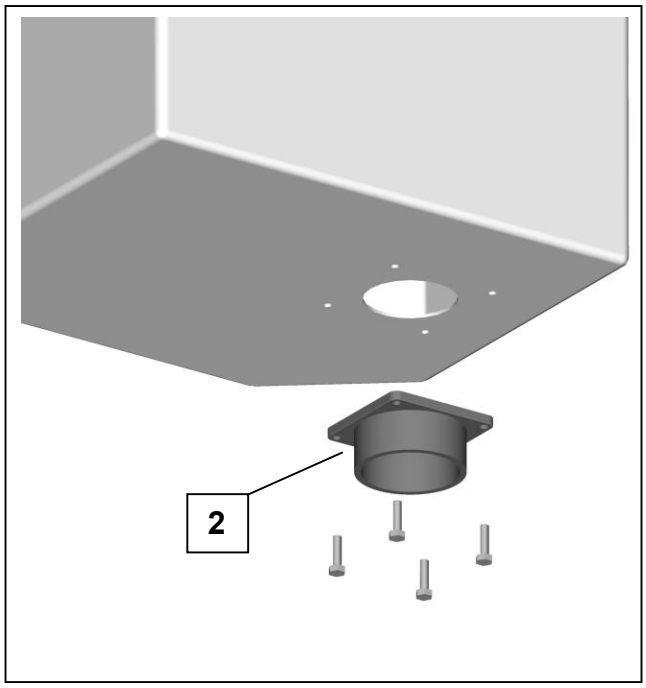
Air Pipe Connections



Item	Cat No	Description
1	735100	Toilet Seat & Rim
2	663604	Flush Nozzle
3	688221	GRP Toilet Bowl
4	735738	Edge Seal
5	735712	Pneumatic Slide Valve
6	735033	Seal Ring
7	735536	Hinges (Set of 2)
8	695504	Flanged Nut
9	735736	Control Valve

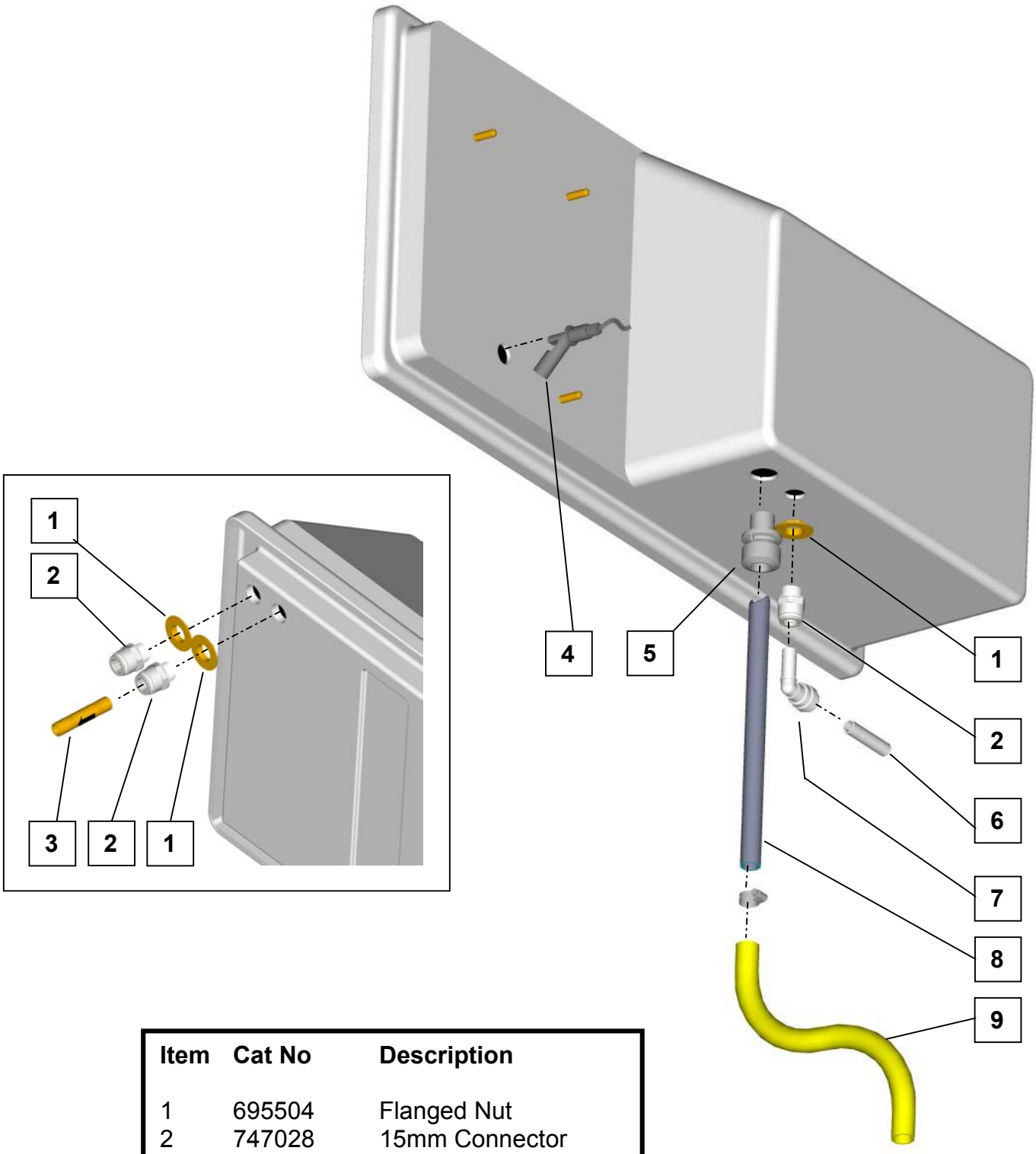
Soil Tank Assembly





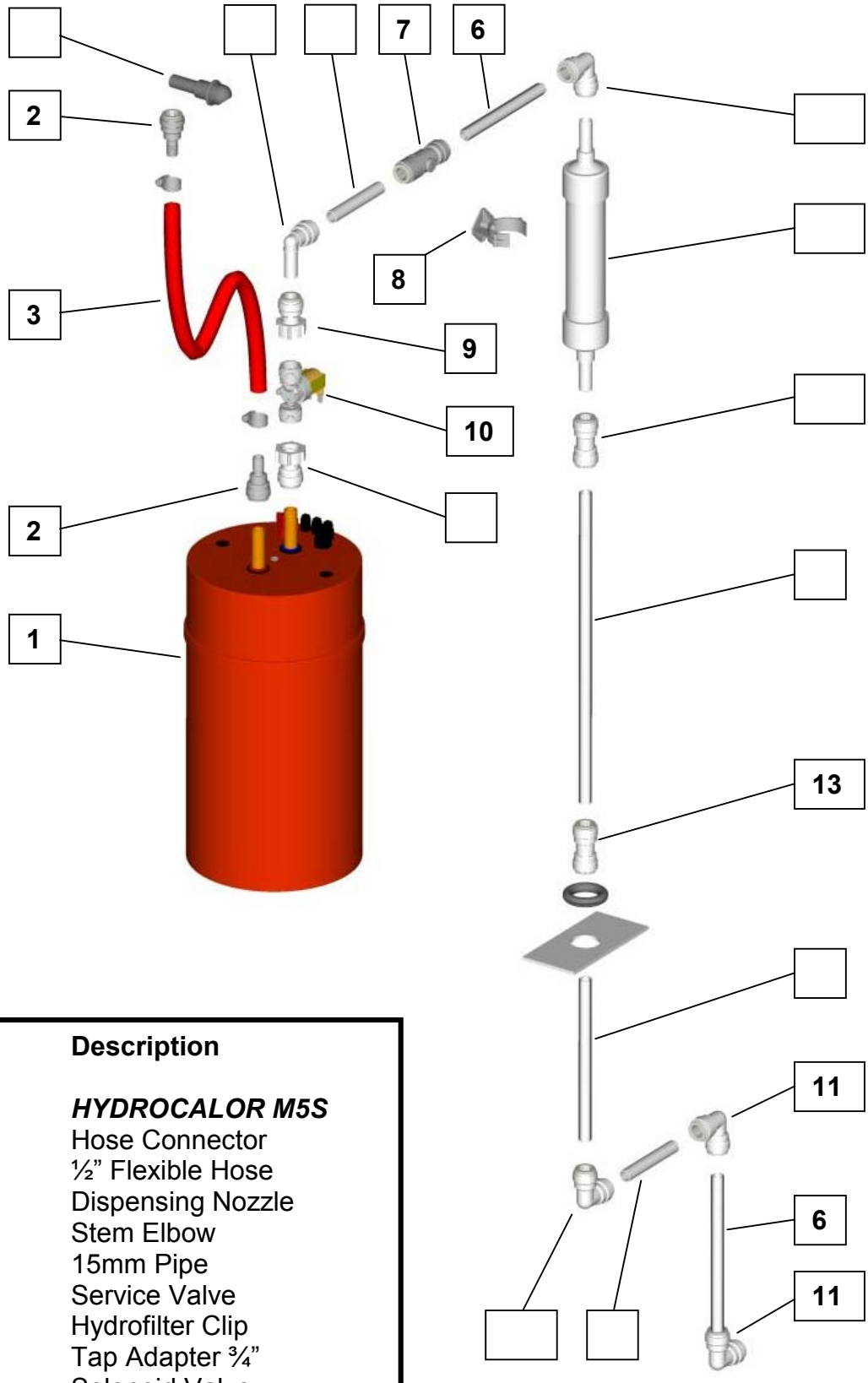
Item	Cat No	Description
1	714500	Vertical Float Switch
2	735701	Large Spigot

WC Water Tank Assembly



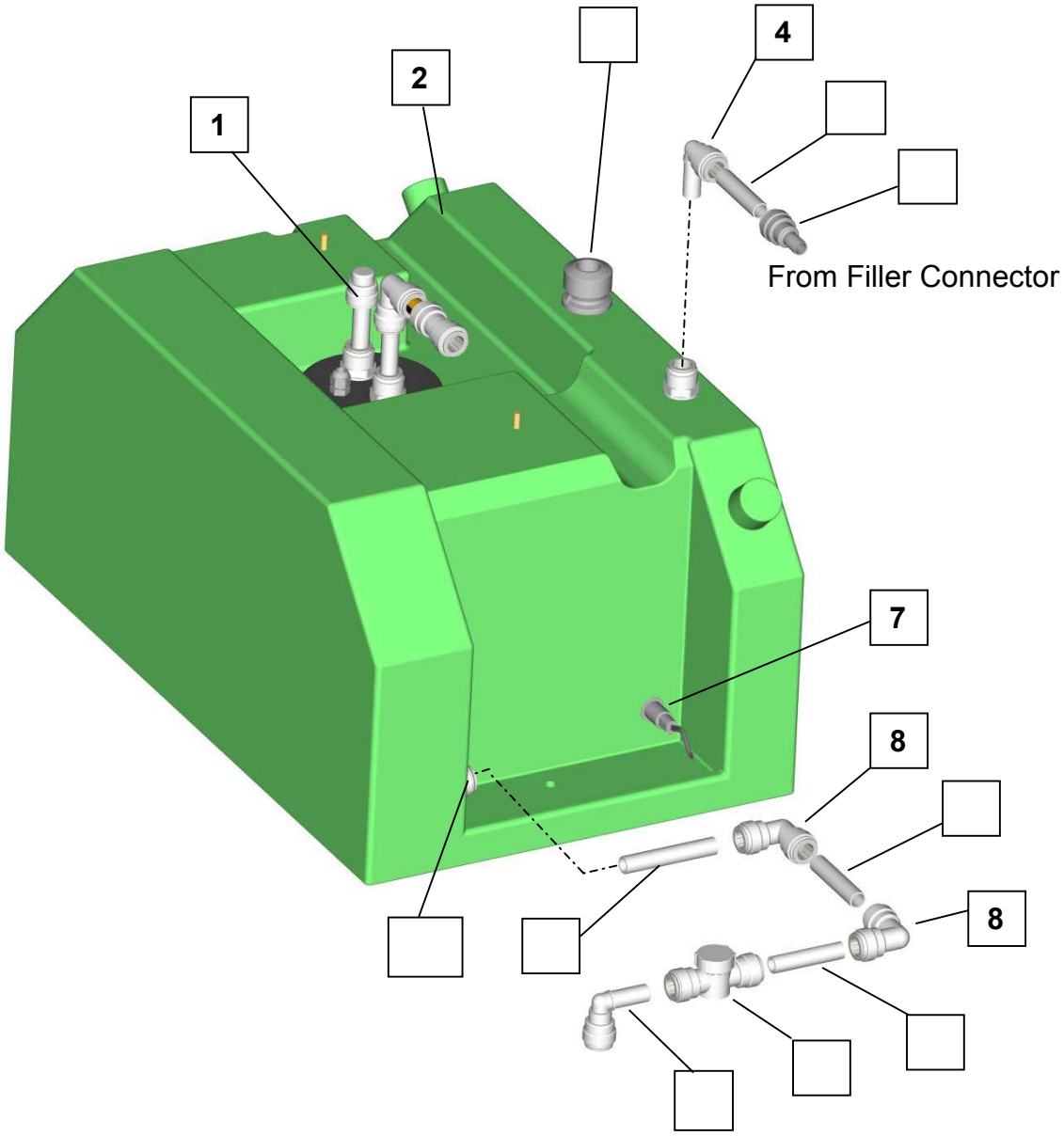
Item	Cat No	Description
1	695504	Flanged Nut
2	747028	15mm Connector
3	747036	Non Return Valve
4	714510	Lever Float Switch
5	745010	22mm Connector
6	747052	15mm Pipe
7	747016	Stem Elbow
8	747053	22mm Pipe
9	744060	19mm Flexible Hose

Drinking Water Plumbing



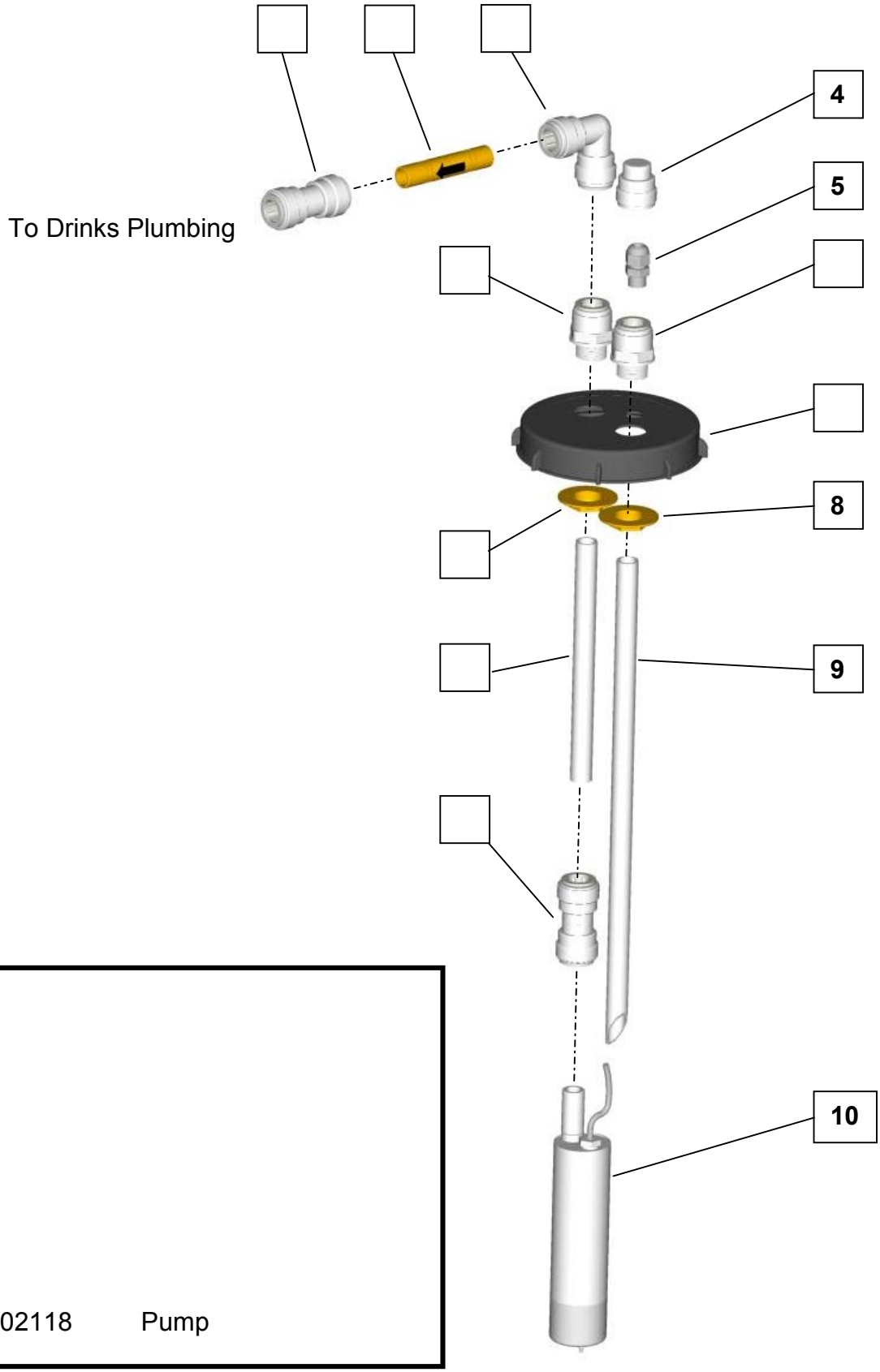
Item	Cat No	Description
1	697015	***HYDROCALOR M5S***
2	747027	Hose Connector
3	744040	½" Flexible Hose
4	663603	Dispensing Nozzle
5	747016	Stem Elbow
6	747052	15mm Pipe
7	747035	Service Valve
8	722007	Hydrofilter Clip
9	747024	Tap Adapter ¾"
10	714603	Solenoid Valve
11	747015	Equal Elbow
12	722017	***HYDROFILTER***

Drinks Tank Assembly



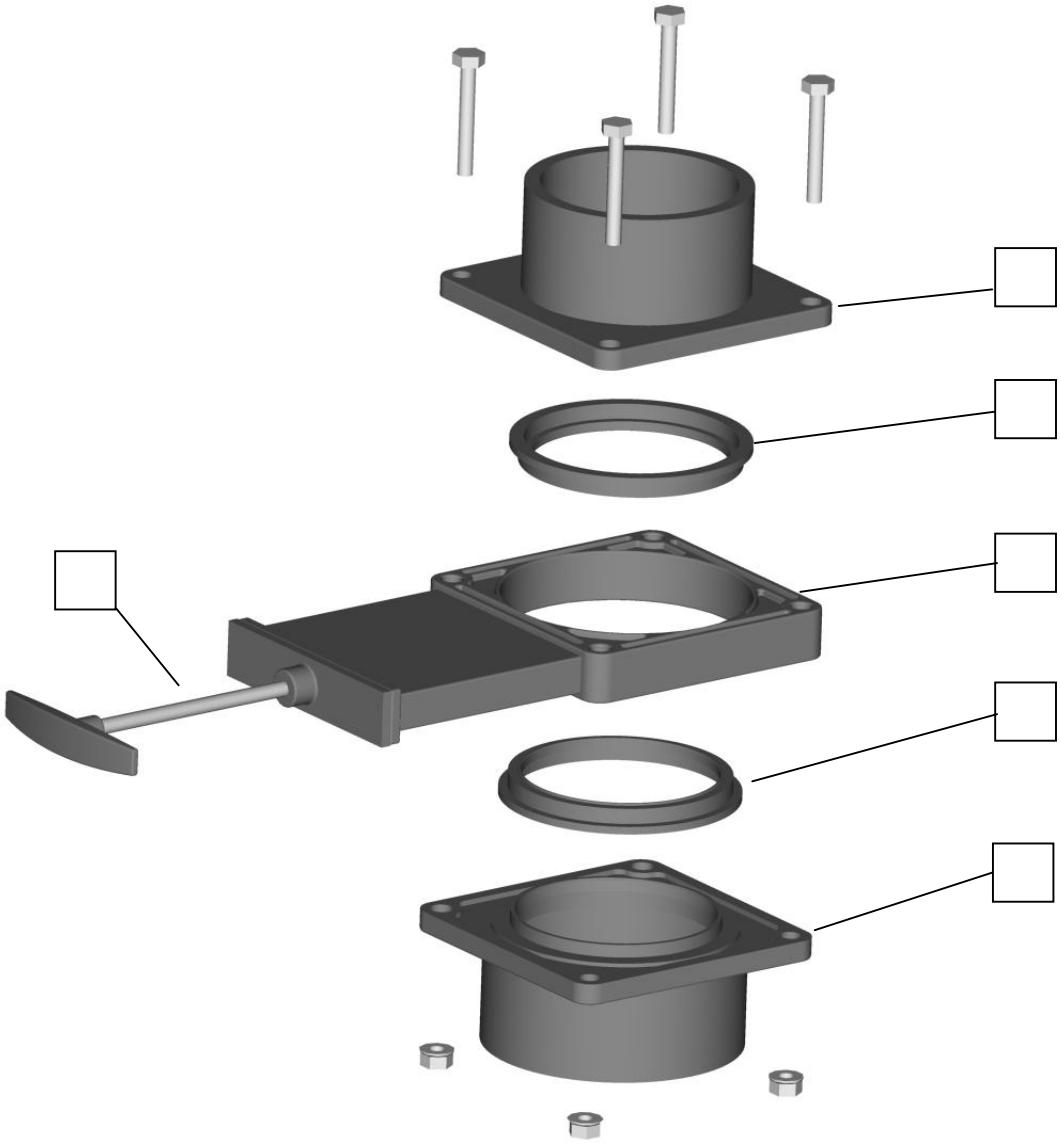
Item	Cat No	Description
1	702130	Cap Pump Assembly
2	733650	Tank (Drilled)
3	745010	22mm Connector
4	747016	Stem Elbow
5	747052	15mm Pipe
6	747027	Hose Connector
7	714510	Float Switch
8	747015	Equal Elbow
9	747037	Stop Valve
10	747028	15mm Connector

Cap Mounted Pump Assembly



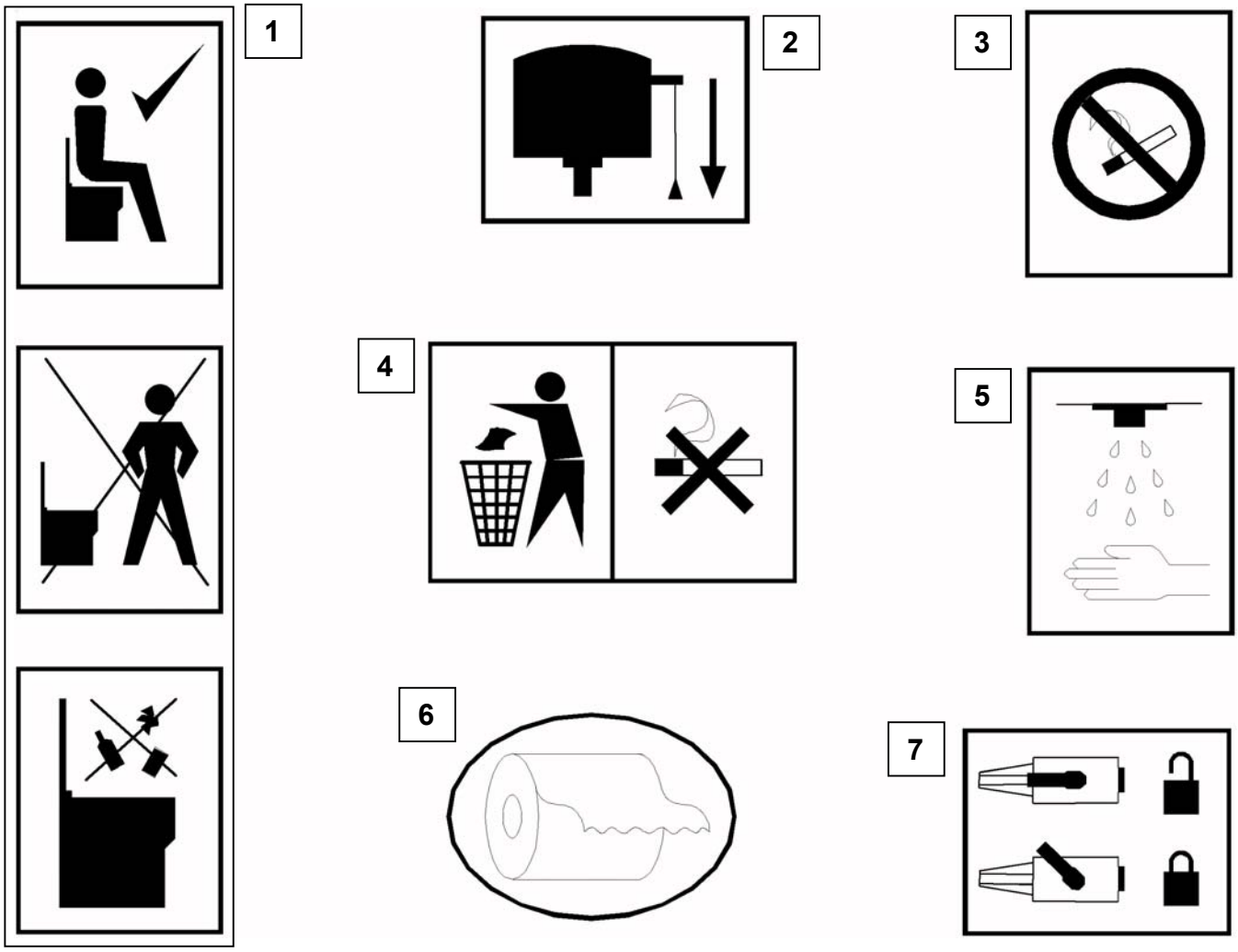
10	702118	Pump

Soil Tank Evacuation Valve Assembly



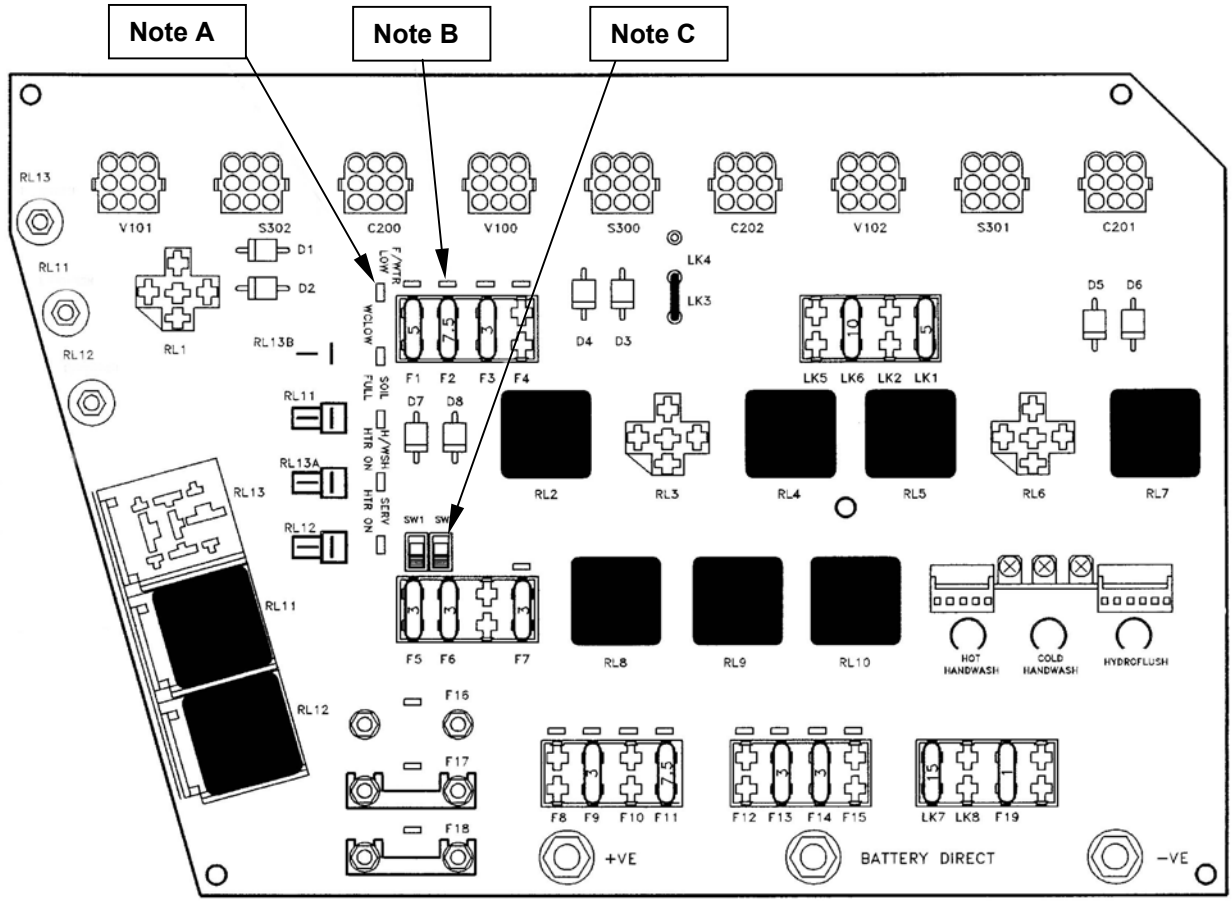
Item	Cat No	Description
1	735700	Small Spigot
2	735717	Seal
3	735711	Valve Body
4	735701	Large Spigot
5	735715	Replacement Handle

Cubicle Symbol Labels



Item	Cat No	Description
1	735560	'Do Not Stand' Label
2	735562	'Flush' Label
3	735563	'No Smoking' Label
4	735567	'Litter Bin' Label
5	735561	'Handwash' Label
6	735564	'Lift To Lock' Label
7	735569	'Toilet Paper' Label
8	735566	'Emergency Alarm' Label
-	735570	Full Set Of Symbol Labels

PCB Layout & References



NO	CAT NO	DESCRIPTION
1	730608	PRINTED CIRCUIT BOARD
2	730609	TIMER PRINTED CIRCUIT BOARD
3	715016	70A POWER RELAY
4	715018	10A/20A CHANGE OVER RELAY

Notes

A Green LED's duplicate dashboard warning lights plus when the drinks water heater and handwash heater (where fitted) are on.
B Red LED's indicate fuse has blown or is missing from circuit
C SW1 and SW2 can be used to override the dashboard WC and Servery Master switches when they are off. (The PCB switches will not work when the dashboard switches are on)

FUSES

F1	**5A**	PIR Lamp
F2	**7.5A**	WC Water Control
F3	**3A**	Alarm Lamp & Buzzer
F4	**7.5A**	Coolbox 1 - Isolator & Switched Controlled
F5	**3A**	WC Master Override Switch
F6	**3A**	Servery Override Switch
F7	**5A**	Servery Services
F8	**7.5A**	Coolbox 2 - Isolator & Switched Controlled
F9	**3A**	***HYDROCALOR*** (Drinks) - Signal
F10	**7.5A**	Coolbox 2 - Battery/Isolator Direct Control
F11	**7.5A**	Coolbox 1 - Battery/Isolator Direct Control
F12	**10A**	Thetford Electramagic Toilet Power
F13	**3A**	Extractor Fan
F14	**3A**	Servery Pump Buttons & Solenoid Valves
F15	**3A**	CoolboxLight & Servery Worktop Lamp
F16	**30A**	Handwash Water Heater Power
F17	**40A**	***AIRCALOR*** Hand-Drier Power
F18	**40A**	***HYDROCALOR*** (Drinks) Power
F19	**1A**	Timer Board

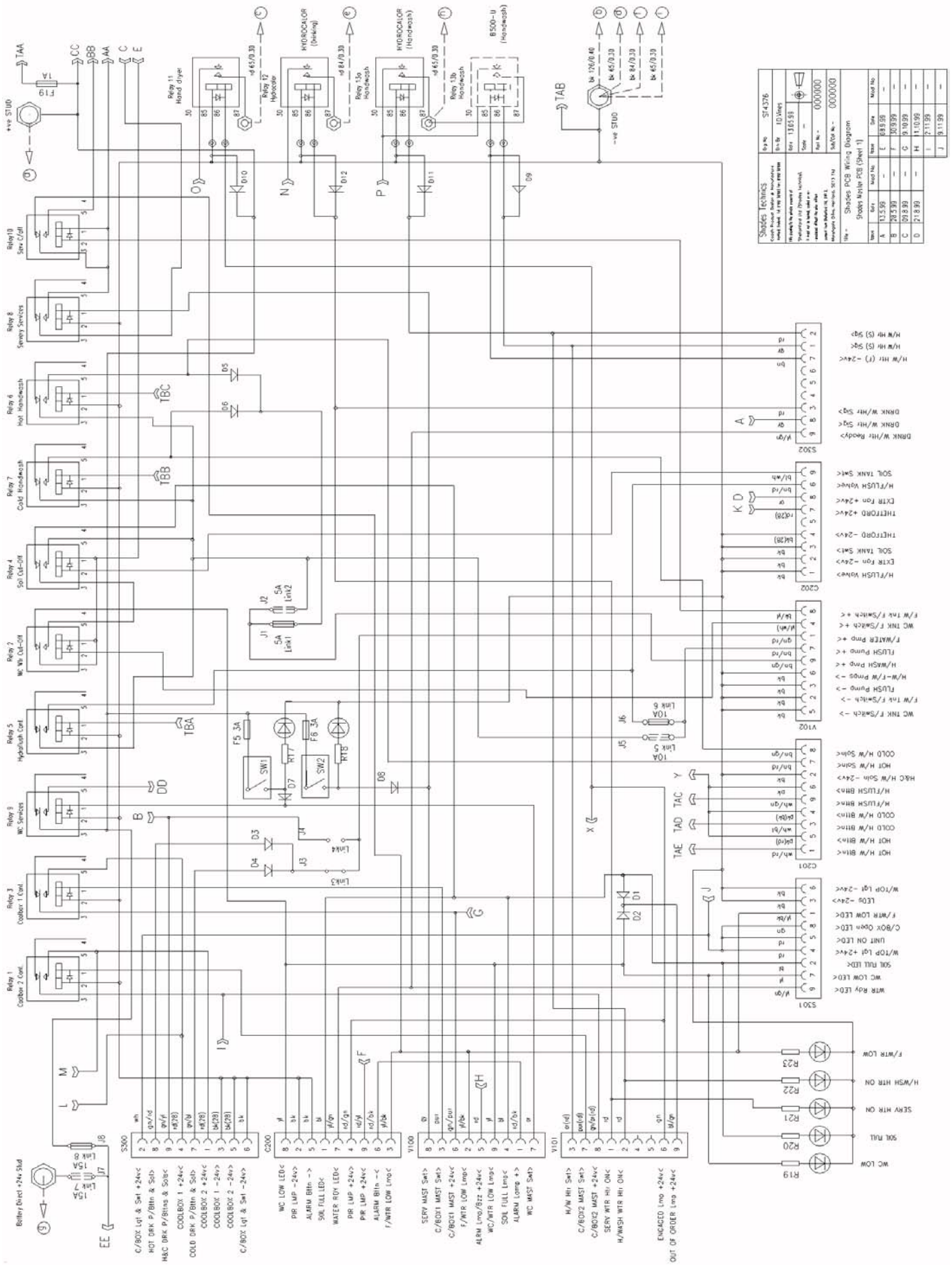
LINKS

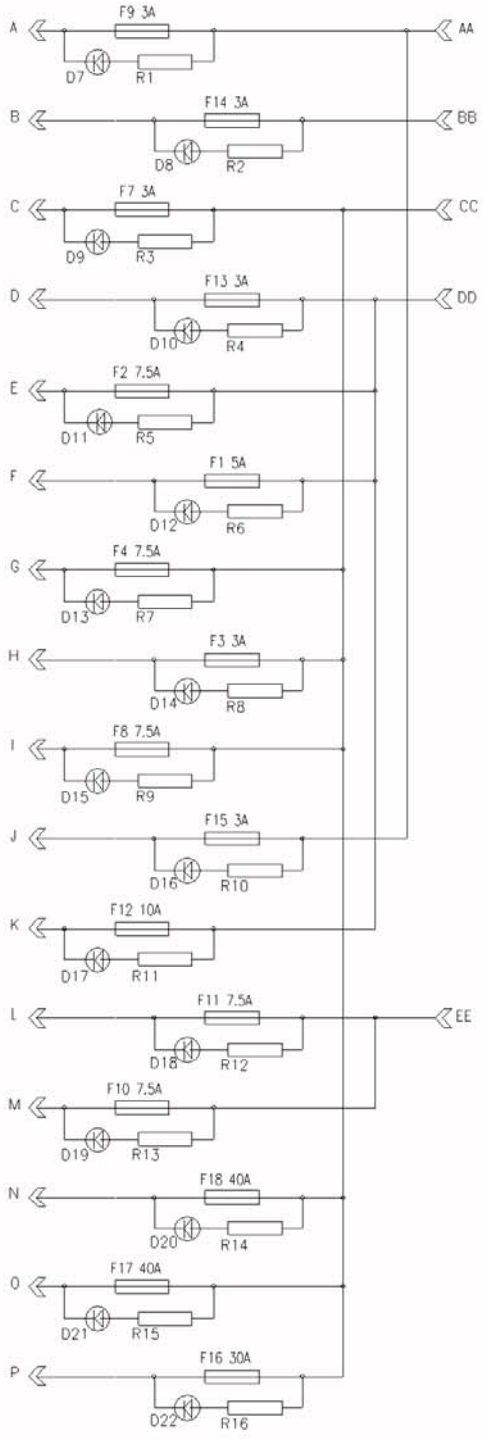
Link 1	**5A**	Handwash Pump - Pump on Demand
Link 2	**5A**	Handwash Pump - Autopressure
Link 3	**-**	Drinks Pump - Pump on Demand
Link 4	**-**	Drinks Pump - Autopressure
Link 5	**10A**	Toilet Flush Pump - Autopressure
Link 6	**10A**	Toilet Flush Pump - Pump on Demand
Link 7	**15A**	Coolbox 1 & 2 - Battery Direct Supply
Link 8	**15A**	Coolbox 1 & 2 - Isolator Direct Supply

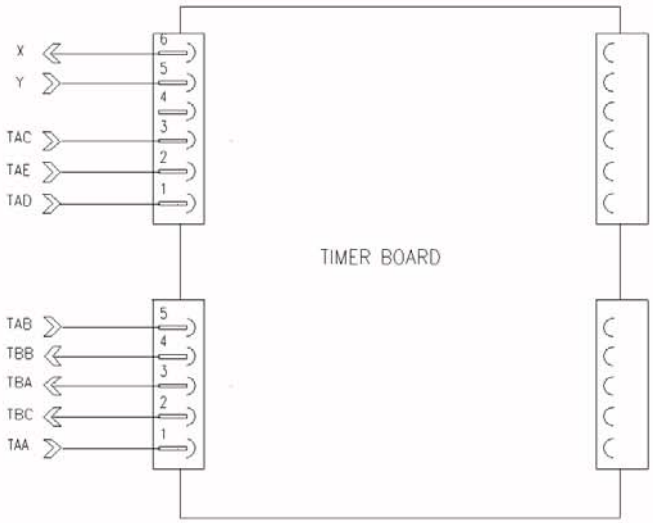
RELAYS

RL 1	**10/20A**	Coolbox 2 Control
RL 2	**10/20A**	WC Water System Control
RL 3	**10/20A**	Coolbox 1 Control
RL 4	**10/20A**	Soil Tank System Control
RL 5	**10/20A**	HYDROFLUSH System Control
RL 6	**10/20A**	Hot Handwash Control
RL 7	**10/20A**	Cold Handwash Control
RL 8	**10/20A**	Servery Services
RL 9	**10/20A**	WC Services
RL 10	**10/20A**	Servery Water System Control
RL 11	**70A**	AIRCALOR Hand-Drier Power
RL 12	**70A**	HYDROCALOR (Drinks) Power
RL 13	**70A**	HYDROCALOR (Handwash) Power
RL 13a	**70A**	B500 Water Heater (H/wash) Power

PCB Circuit Diagram 1



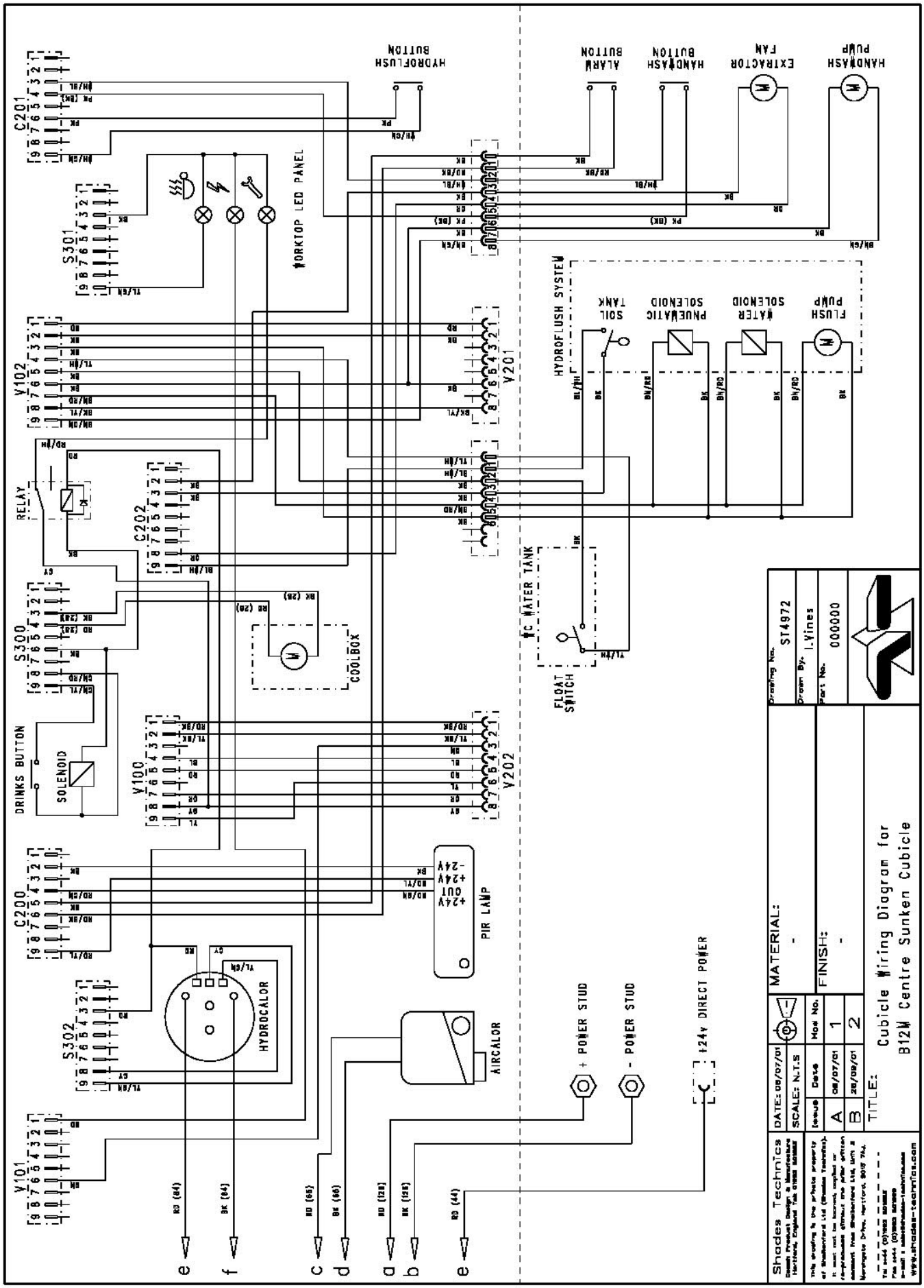




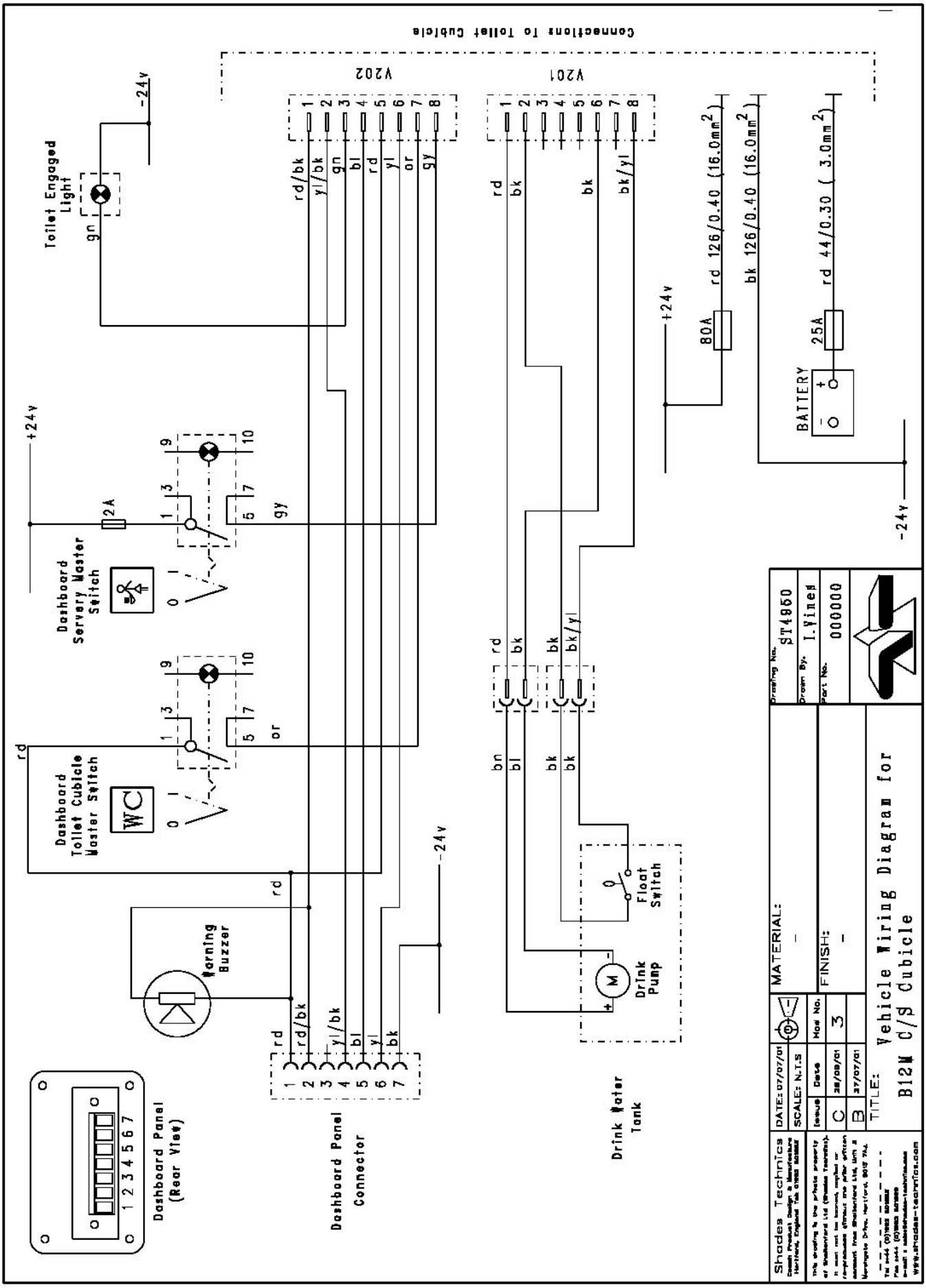
FOR MAIN DIAGRAM SEE ST4376

Shades Technics Coach Product Design & Manufacture Hertford, England. Tel: 01992 501683 Fax: 01992 501669	Drg No ST4378 Drn By J.Brock		Title – Shades PCB Board Wiring Diagram Shades Master PCB (Sheet 2)						
This drawing is the private property of Sheltonford Ltd (Shades Technics). It must not be loaned, copied or re-produced without the prior written consent from Sheltonford Ltd, Unit 3, Marshgate Drive, Hertford, SG13 7AJ	Date 13.05.99 Scale — Part No – 000000 Sub/Cat No – 000000		Issue	Date	Mod No	Issue	Date	Mod No	
			A	13.5.99	–	E	30.9.99	–	
			B	28.5.99	–	F	2.11.99	–	
			C	21.8.99	–	–	–	–	
			D	08.9.99	–	–	–	–	

Cubicle Internal Wiring Diagram

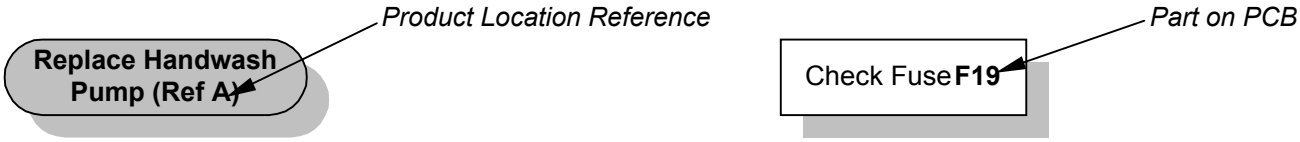


Vehicle Wiring Diagram



Parts Location Reference List

The following list helps identifies the location of parts described during the following Fault Analysis Flow Charts



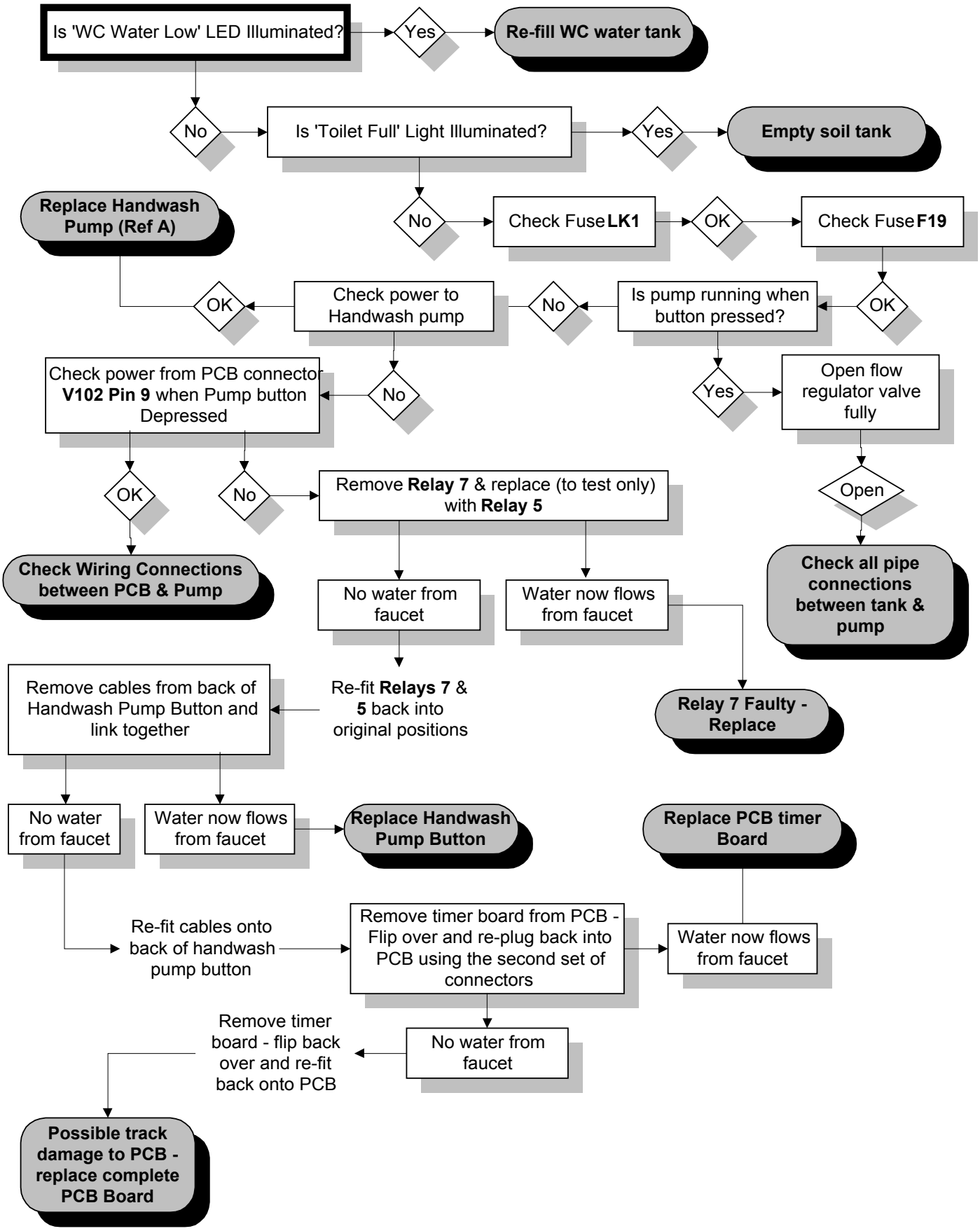
Ref	Part Description	Location in Cubicle or Vehicle	See Page/*Item*	Cat Number
A	Handwash Pump	Behind cubicle vanity door panel	page 17/*8*	
B	Flush Pump	Mounted to top of cubicle soil tank	page 18/1	
C	Drinks Pump	Inside Drinking Water Tank, attached to inspection cap	page 25/10	
D	*HYDROCALOR* Water Heater	Behind cubicle aisle side cover panel	page 23/1	
E	*HYDROFILTER*	Behind cubicle aisle side cover panel	page 23/12	
F	*HYDROFLUSH* Pneumatic Valve	Attached to bottom of toilet bowl	page 20/5	
G	Pneumatic Valve Control Box	Behind cubicle vanity door panel	page 20/9	
H	Extractor Fan	Behind cubicle vanity door panel	page 15/15	
I	HYDROFLUSH Solenoid Valve	Mounted to top of cubicle soil tank	page 18/8	
J	Drinks System Solenoid Valve	Behind cubicle aisle side cover panel (*above HYDROCALOR*)	page 23/10	
K	Handwash System Non-Return Valve	Behind cubicle vanity door panel	page 17/5	
L	HYDROFLUSH Non-Return Valve	Behind cubicle vanity door panel	page 17/5	
M	Drinks System Non-Return Valve	Connected to outside top of drinks tank inspection cap	page 25/2	
N	Handwash System Flow Regulator	Behind cubicle vanity door panel	page 17/4	

Fault Analysis Index

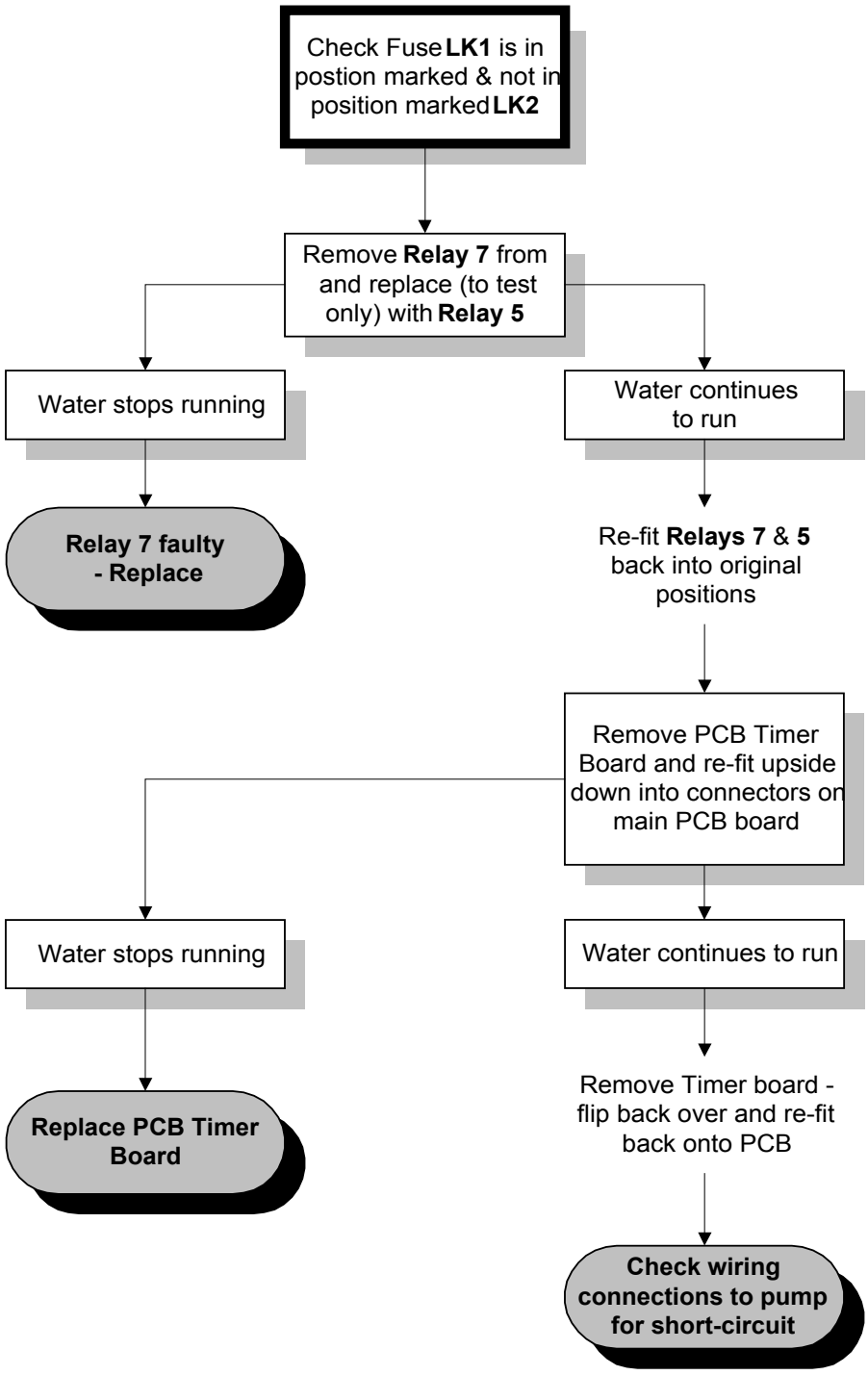
Toilet Cubicle Faults

Worktop Servery Faults

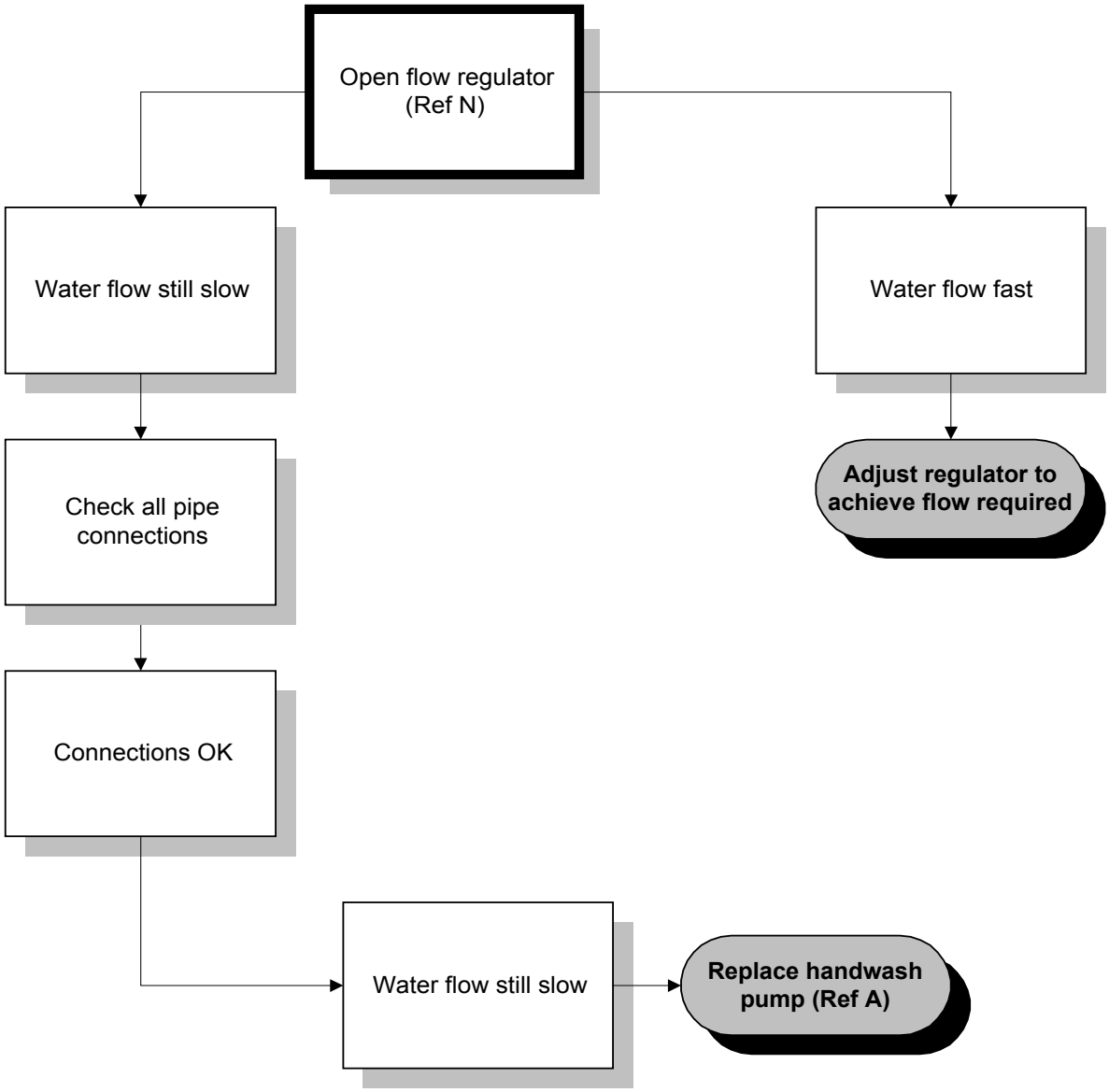
No Water From Handwash Faucet



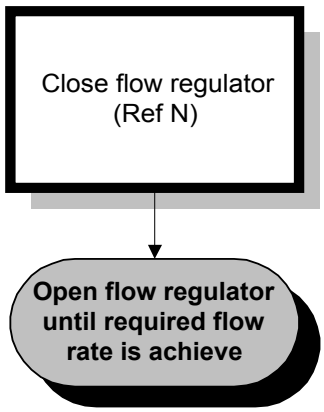
Handwash Water Runs Continuously



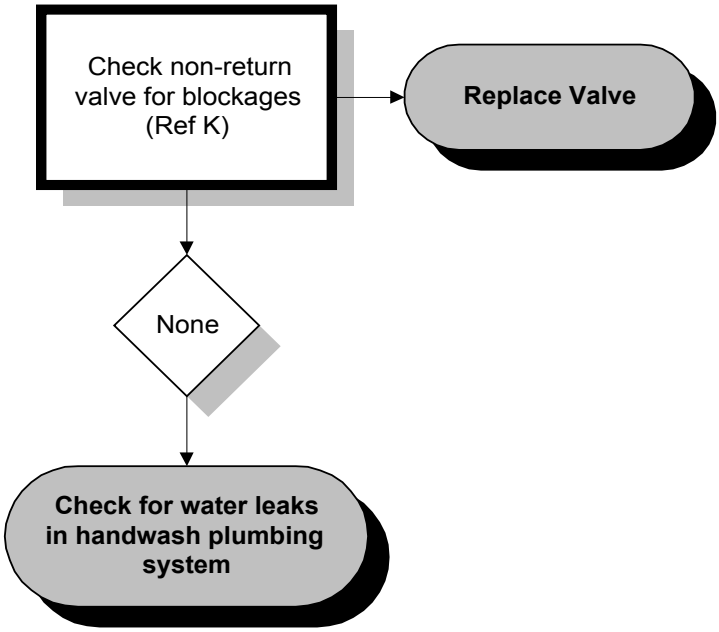
Water Flow From Handwash Too Slow



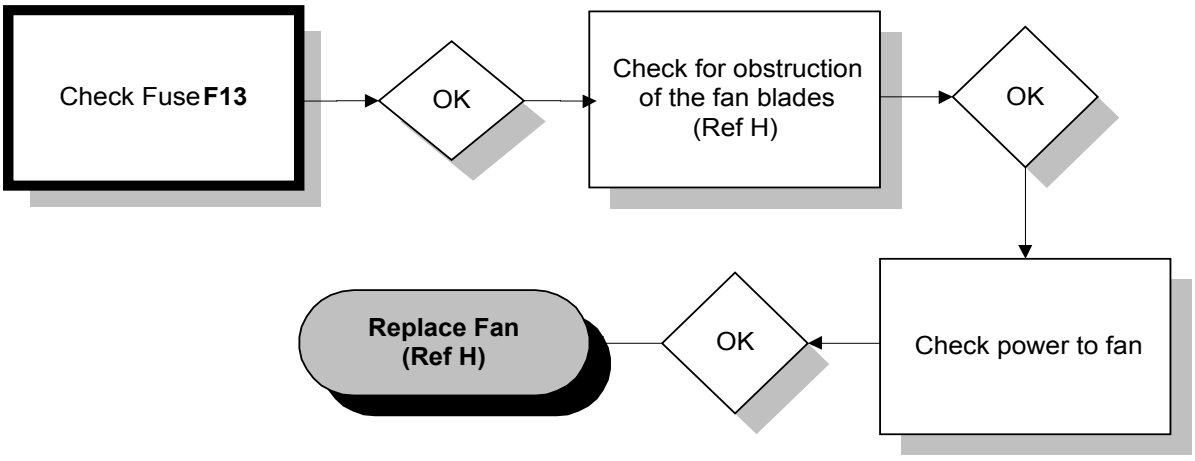
Water Flow From Handwash Too Fast



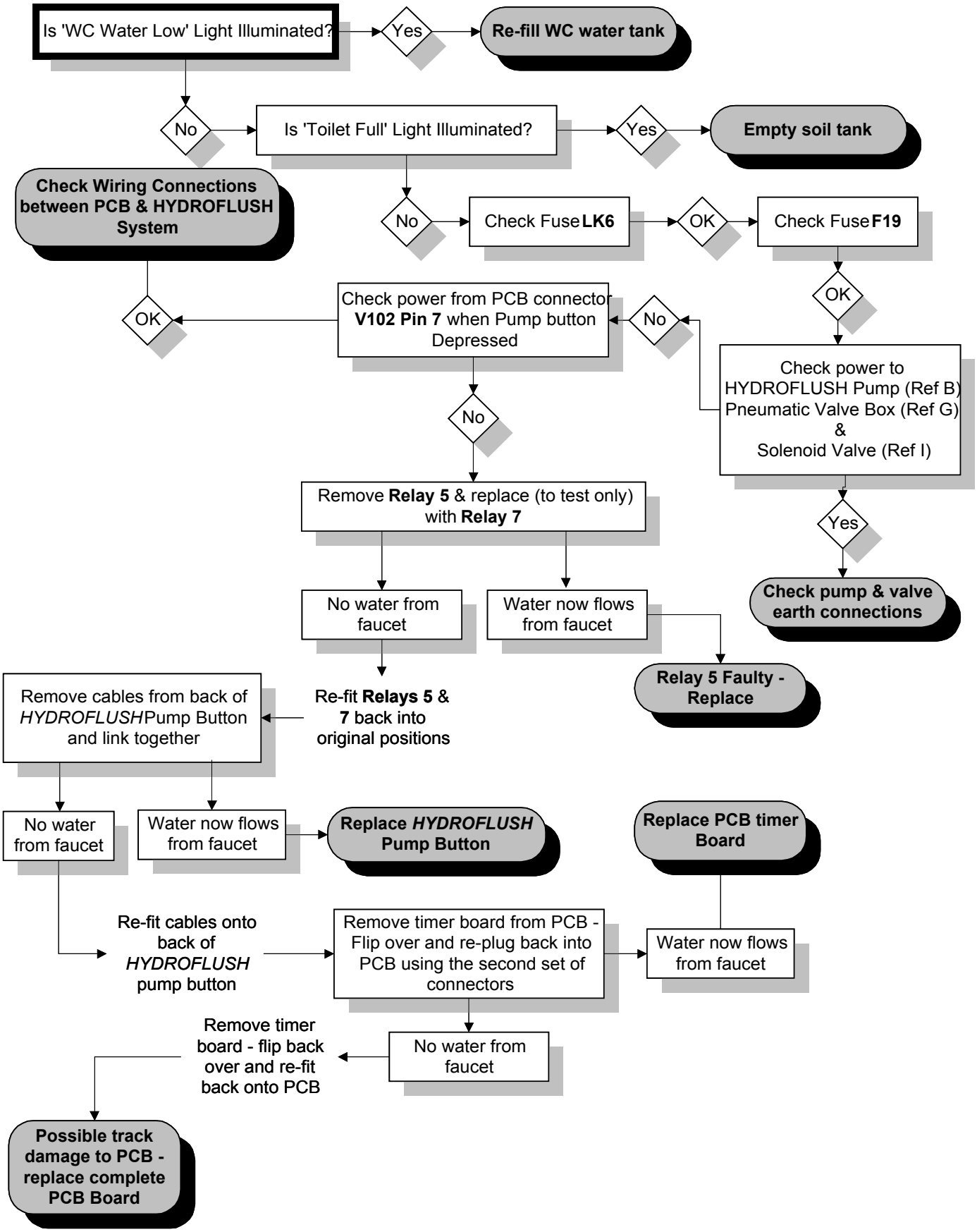
Delay in Handwash Water Dispensing



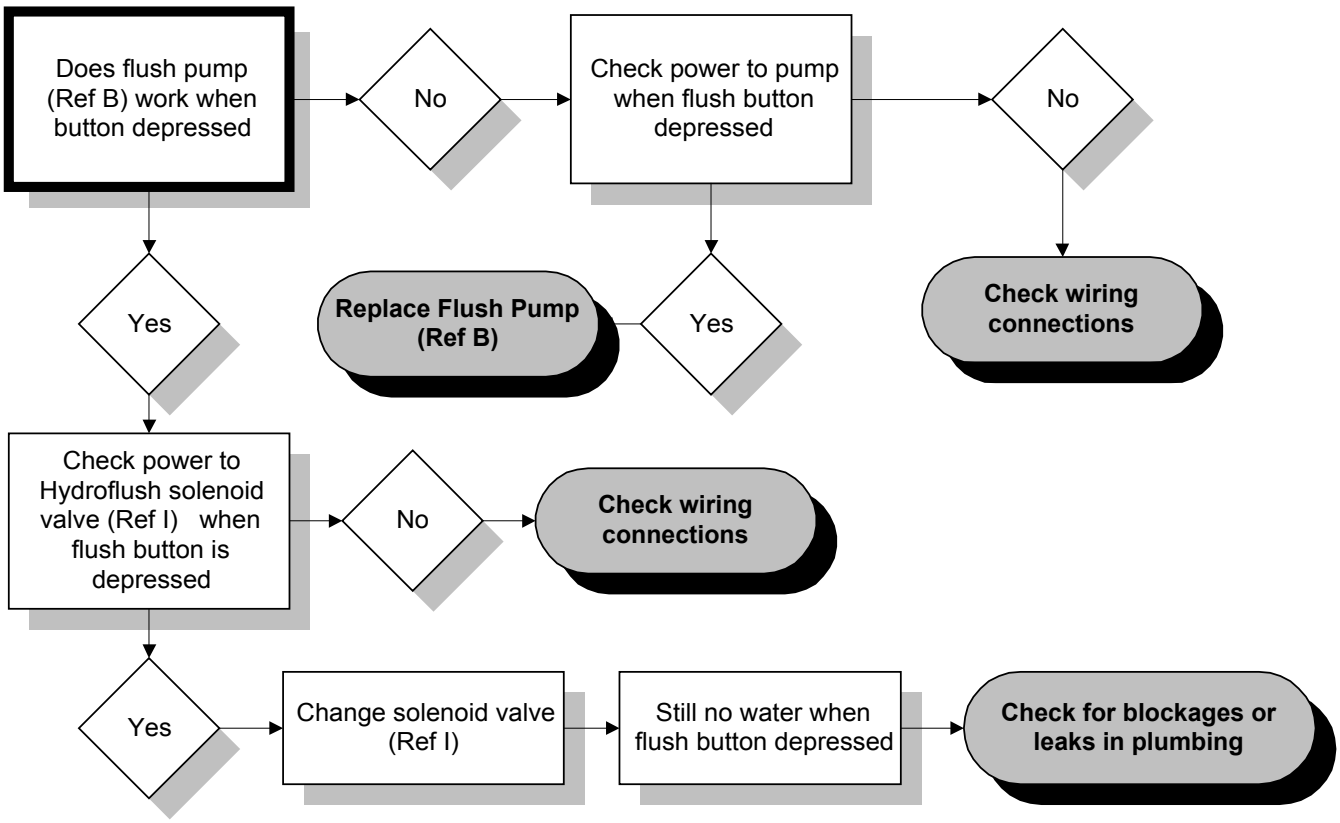
Extractor Fan Not Functioning



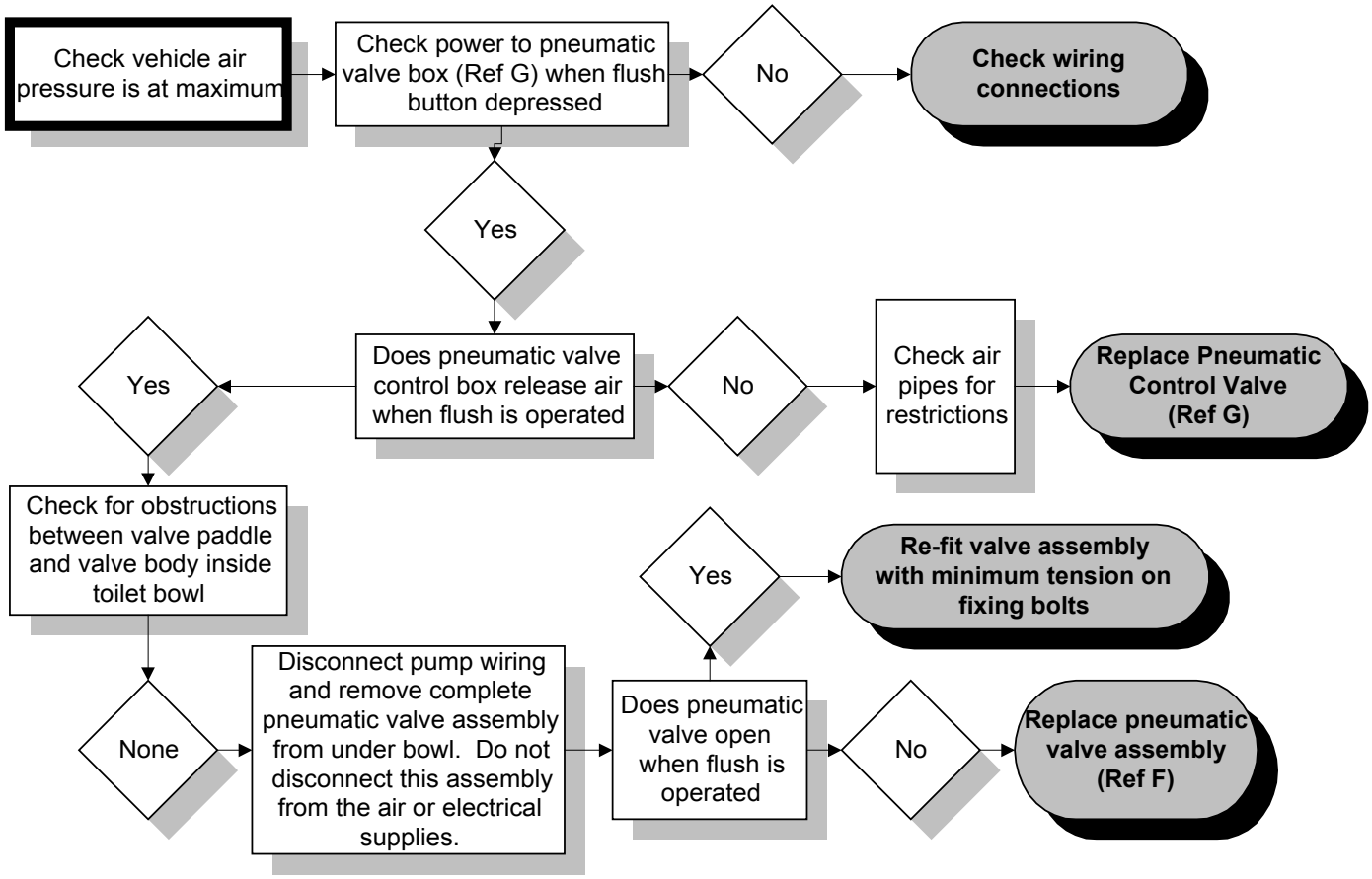
Hydroflush Not Working - No Flush or Pneumatic Valve



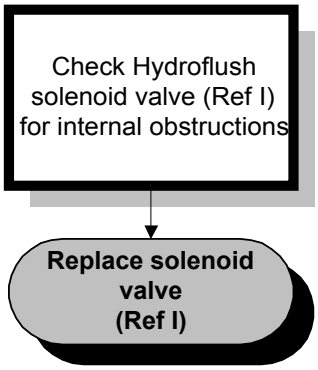
Hydroflush Pneumatic Valve Opens - No Water Flush



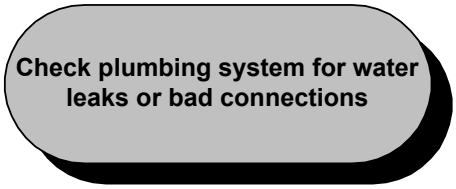
Hydroflush Water Flows - Pneumatic Valve Does Not Open



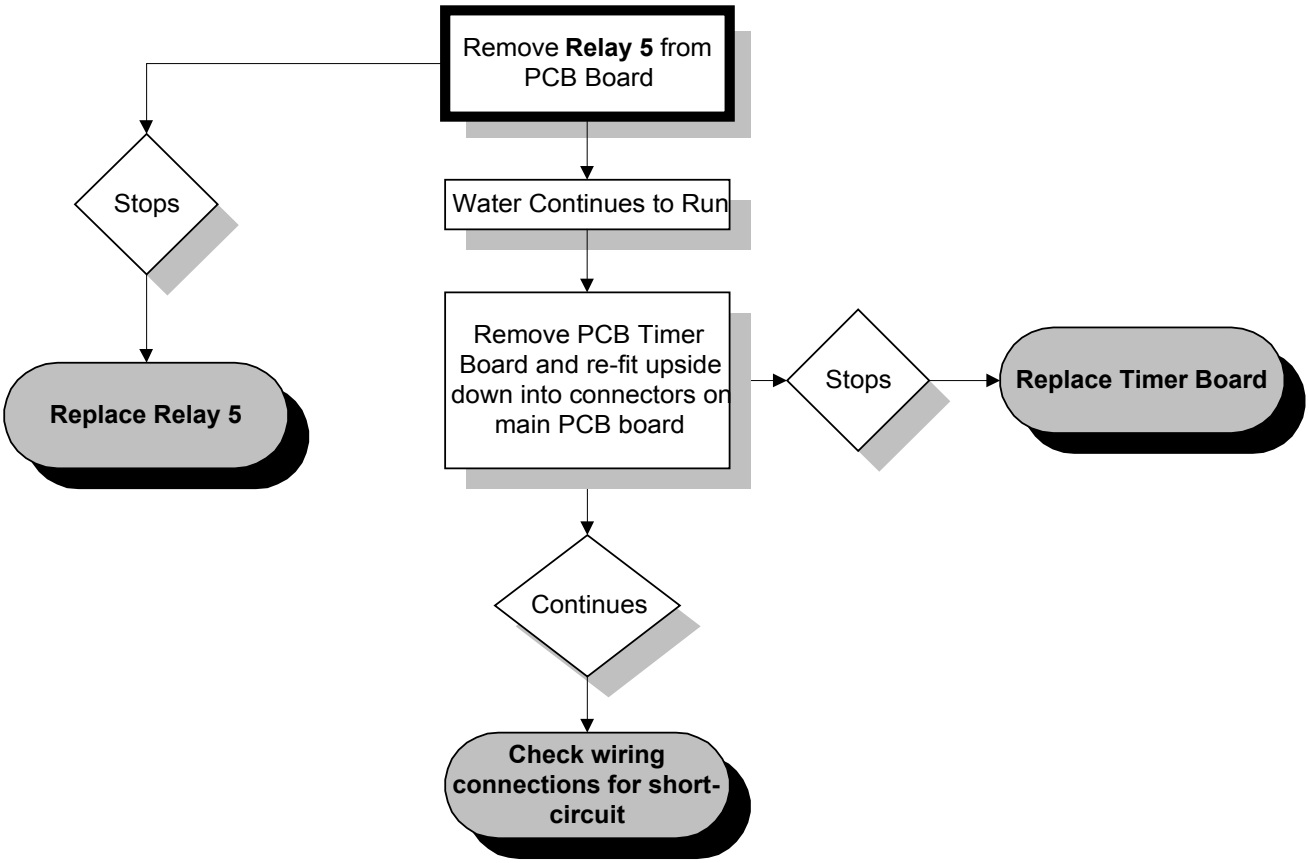
Hydroflush Bowl Fills With Water When Not In Use



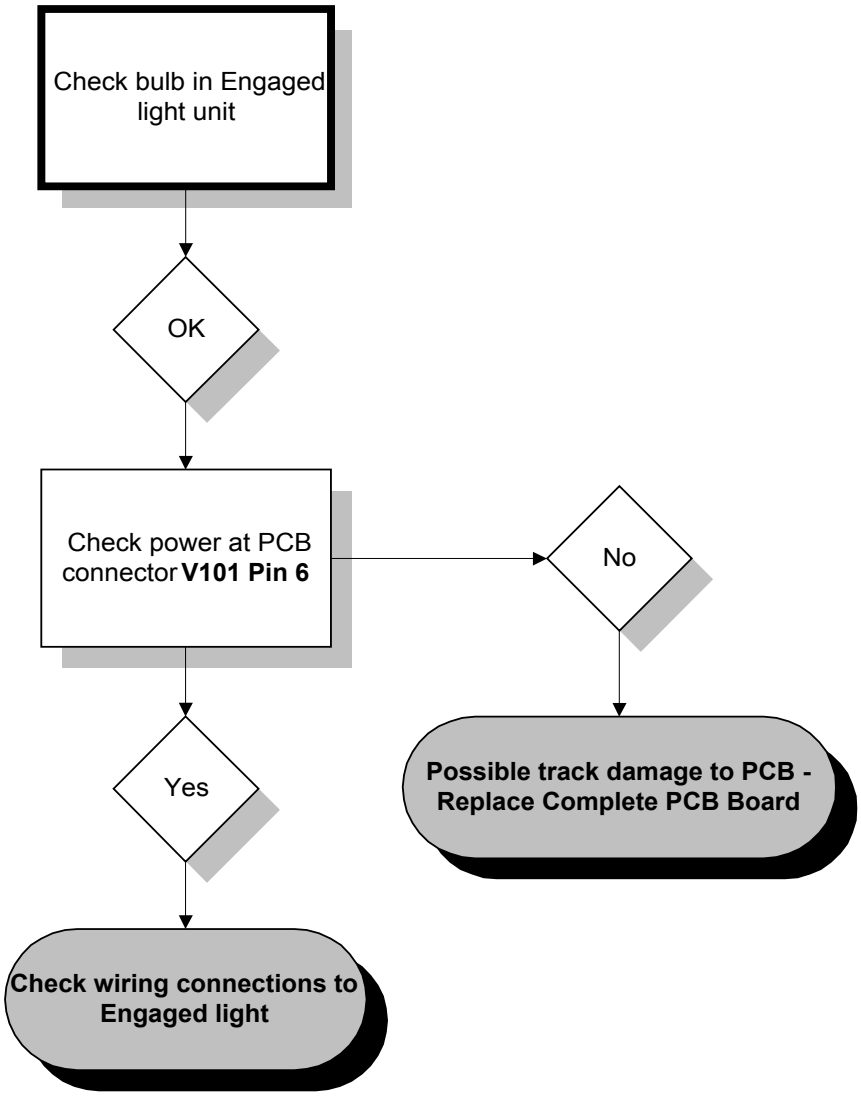
Water Flow Around Bowl - Not Full Coverage



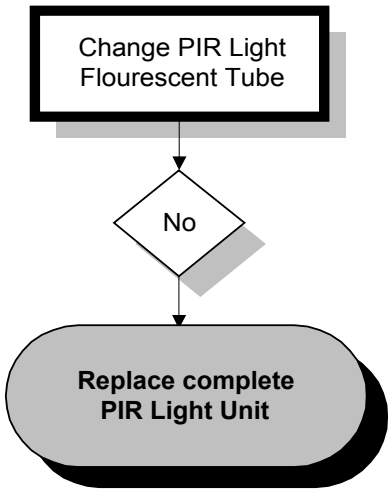
Hydroflush 'Flushing' Constantly



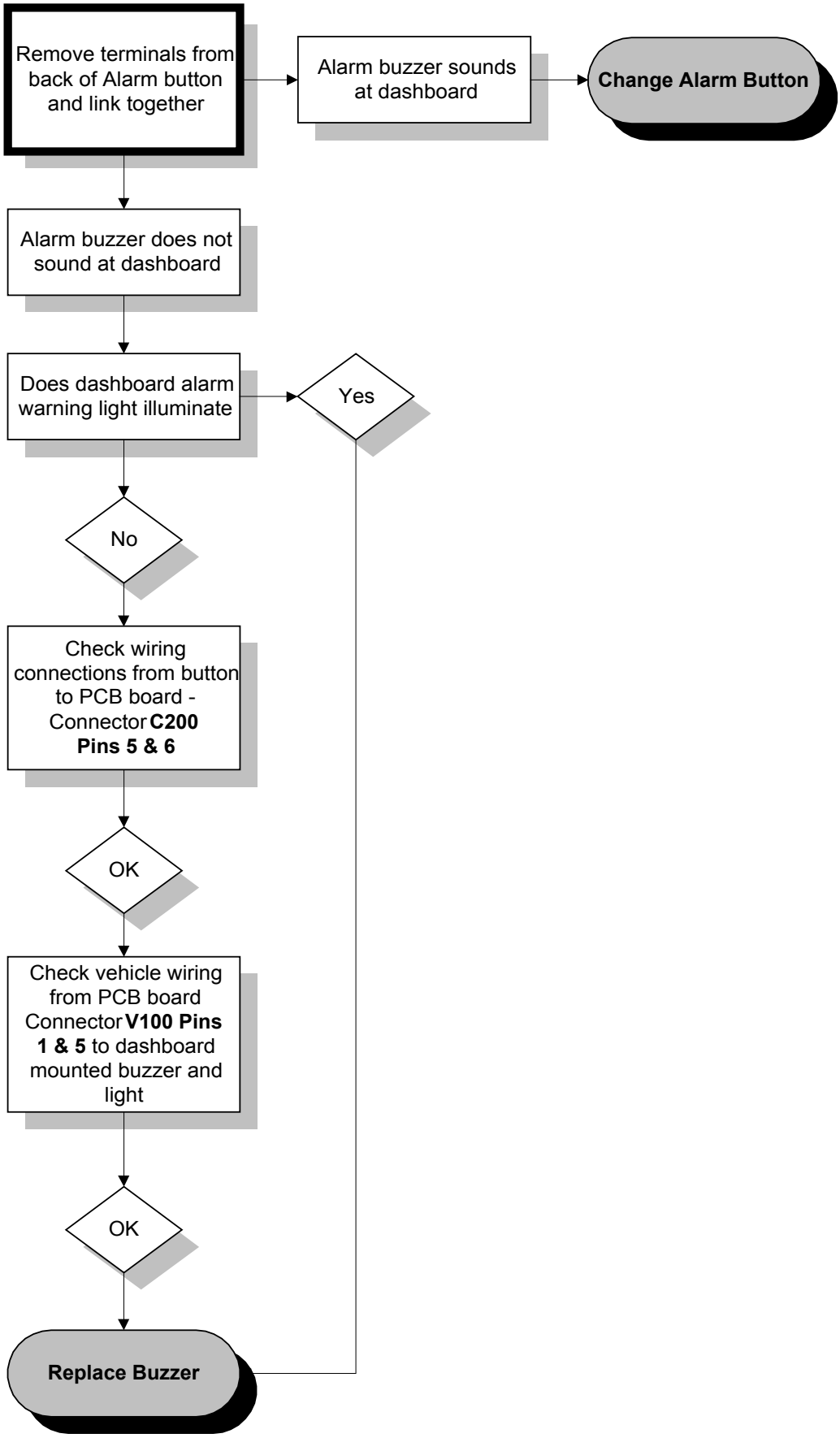
PIR Light Works - No Toilet Engage Light



PIR Light Not Working - Toilet Engage Light On

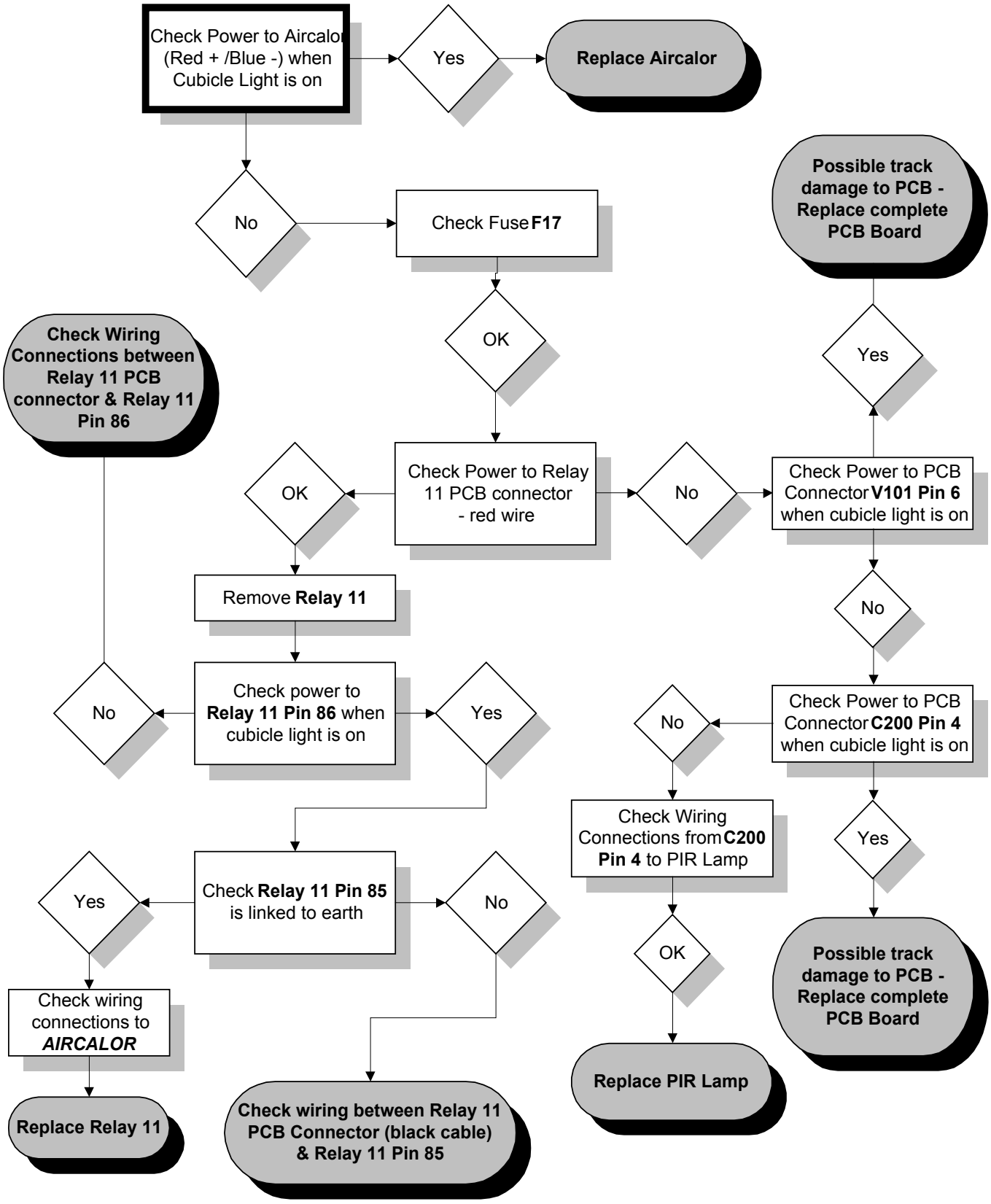


Alarm Button Not Functioning

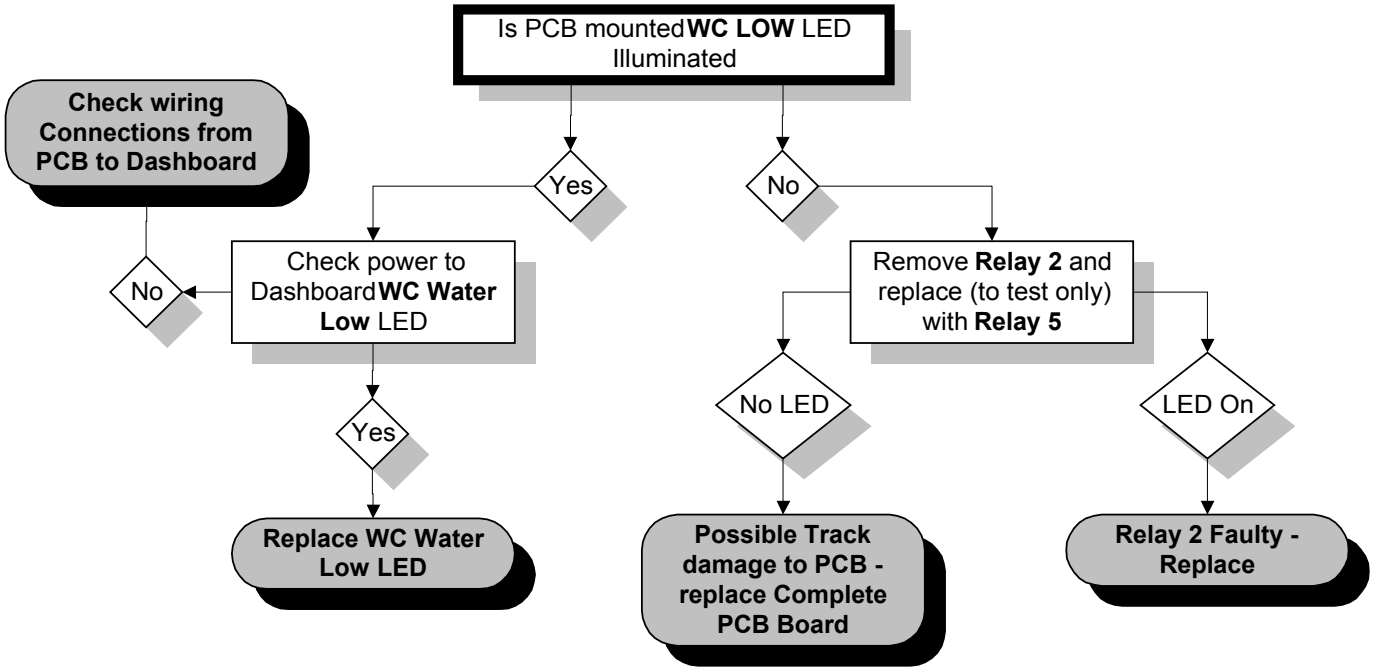


Aircalor Hand-Drier Not Functioning

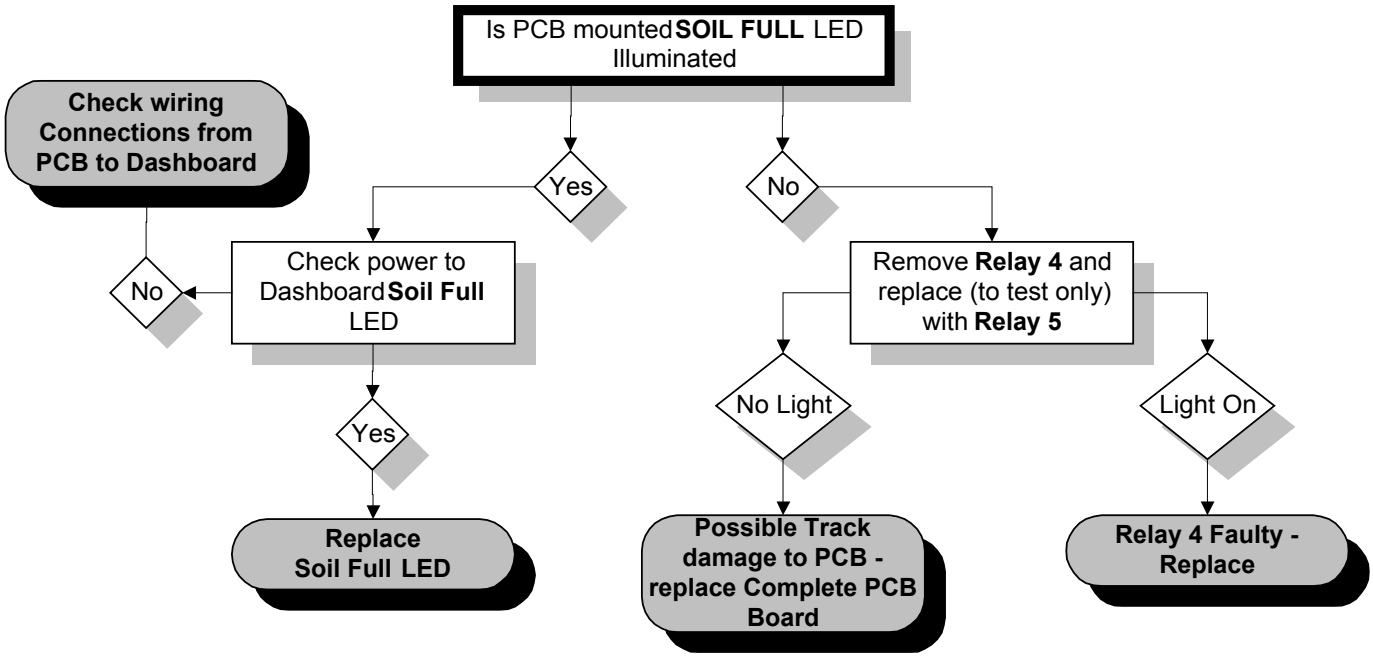
The Aircalor Hand-Drier will only function with the WC Master Switch on (with the battery light on the dash extinguished) and the cubicle interior light on



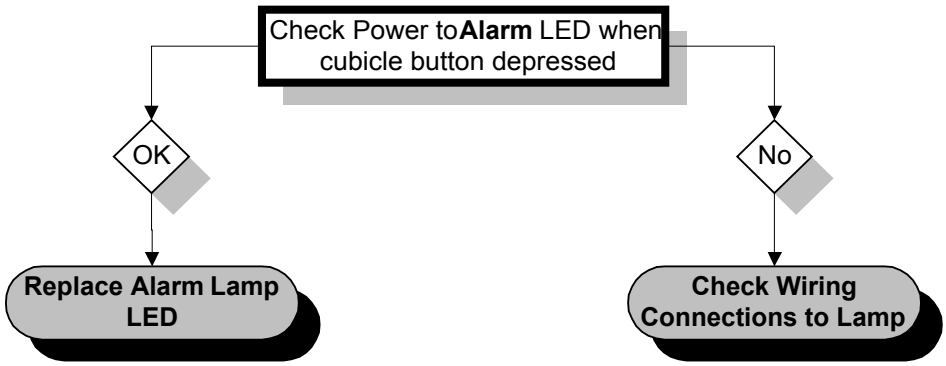
Dashboard "WC Water Low" LED Not Working



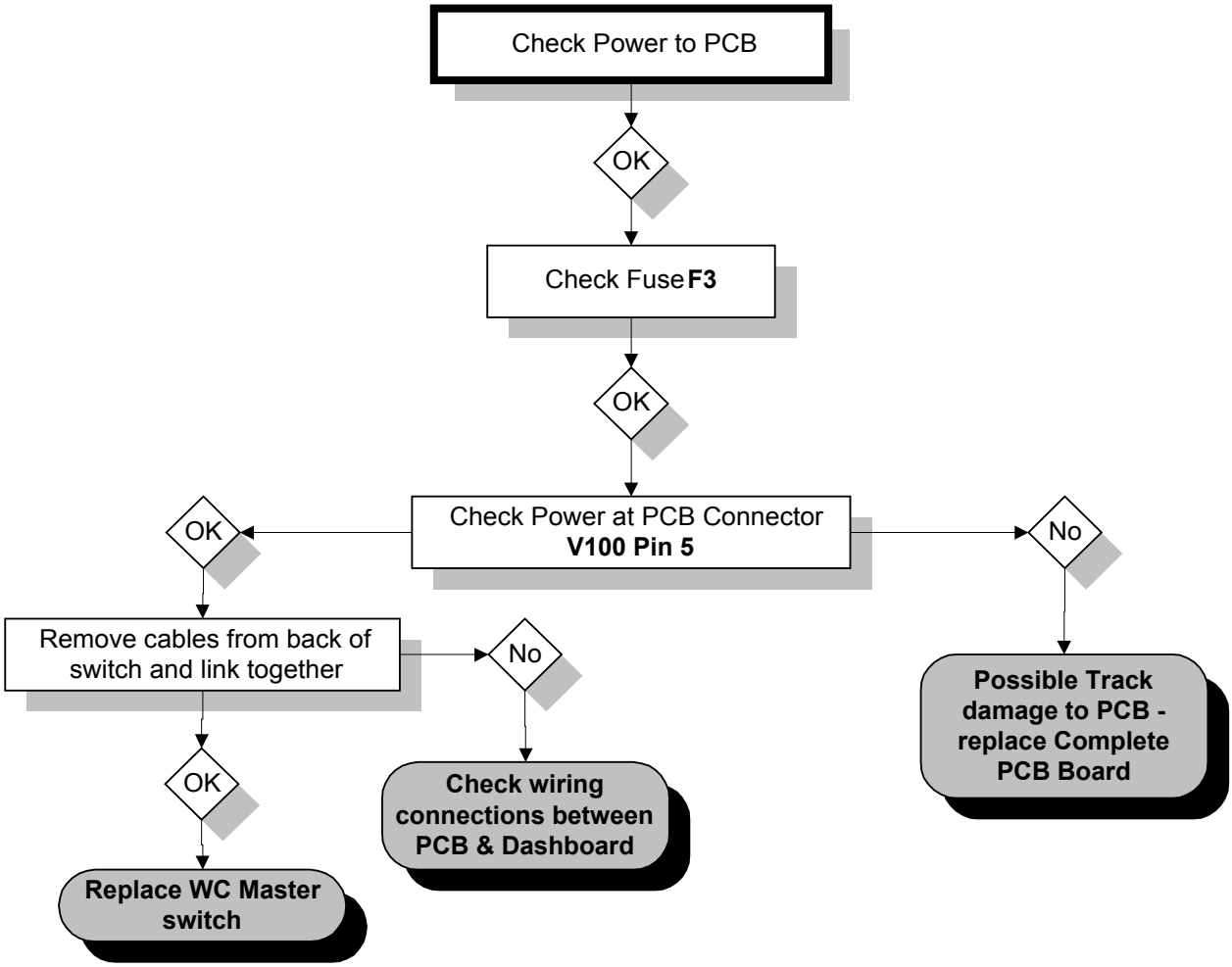
Dashboard "Soil Tank Full" LED Not Working



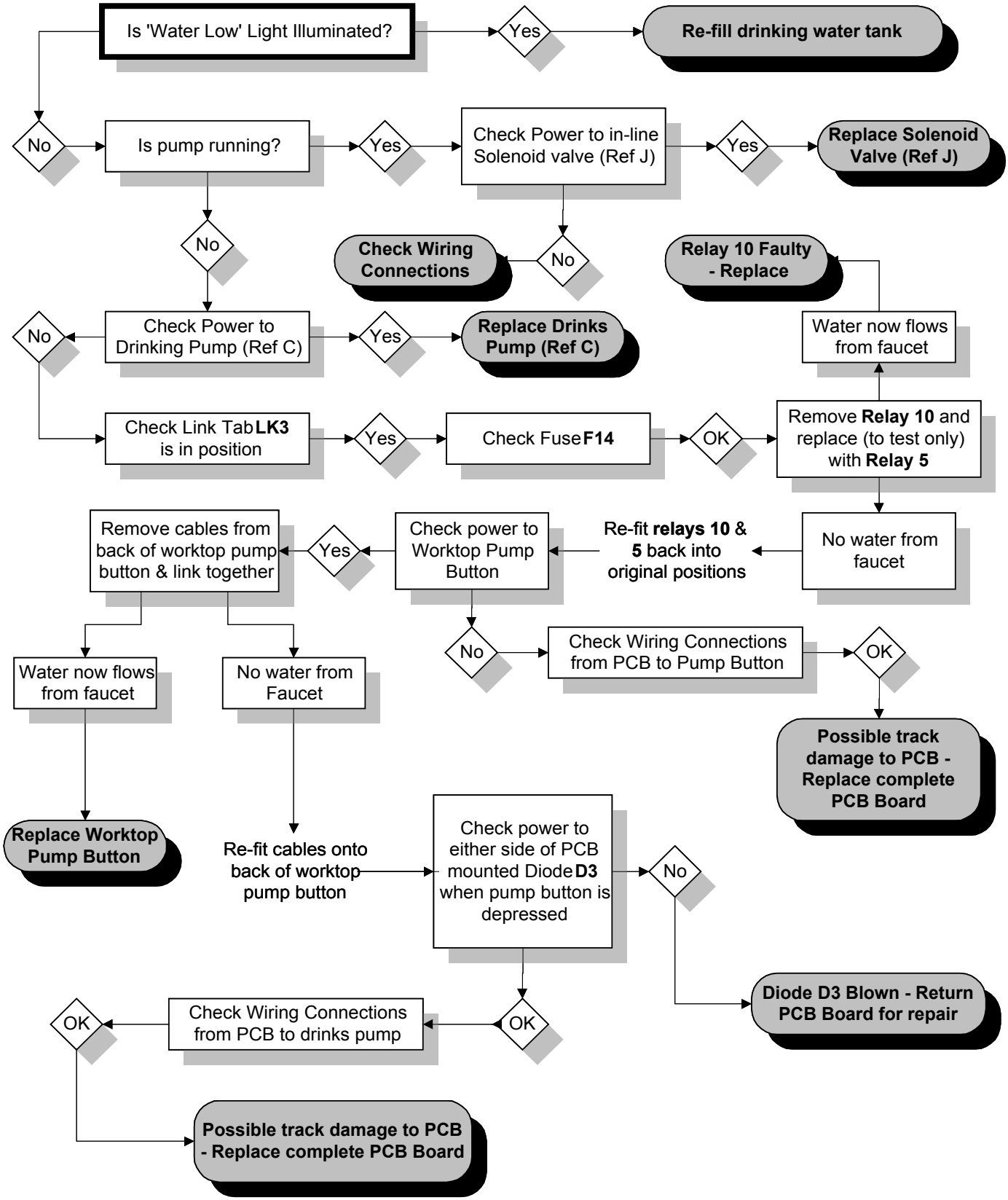
Dashboard "Alarm" LED Not Working



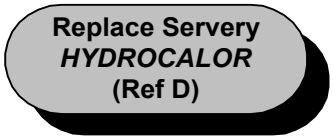
Dashboard "WC Master" Switch Not Working



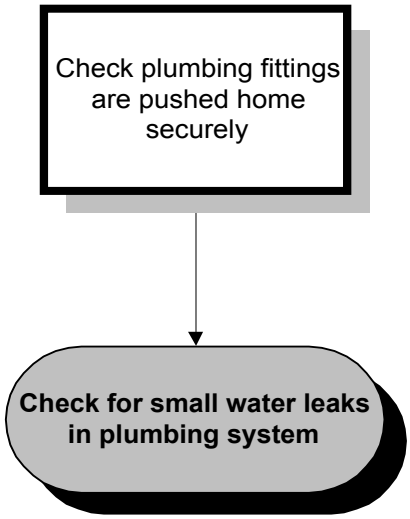
No Hot Water From Servery Faucet



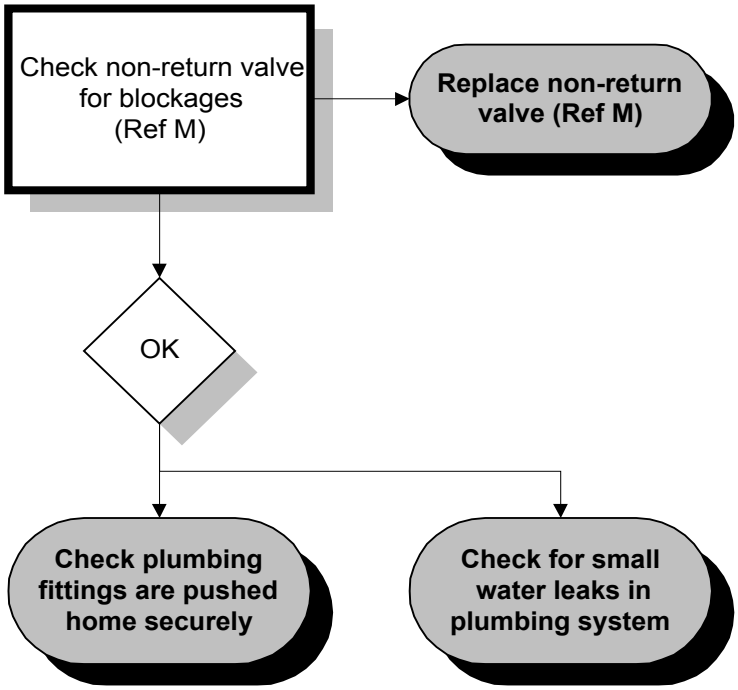
Hot Water Faucet Steaming - Water Heater Boiling



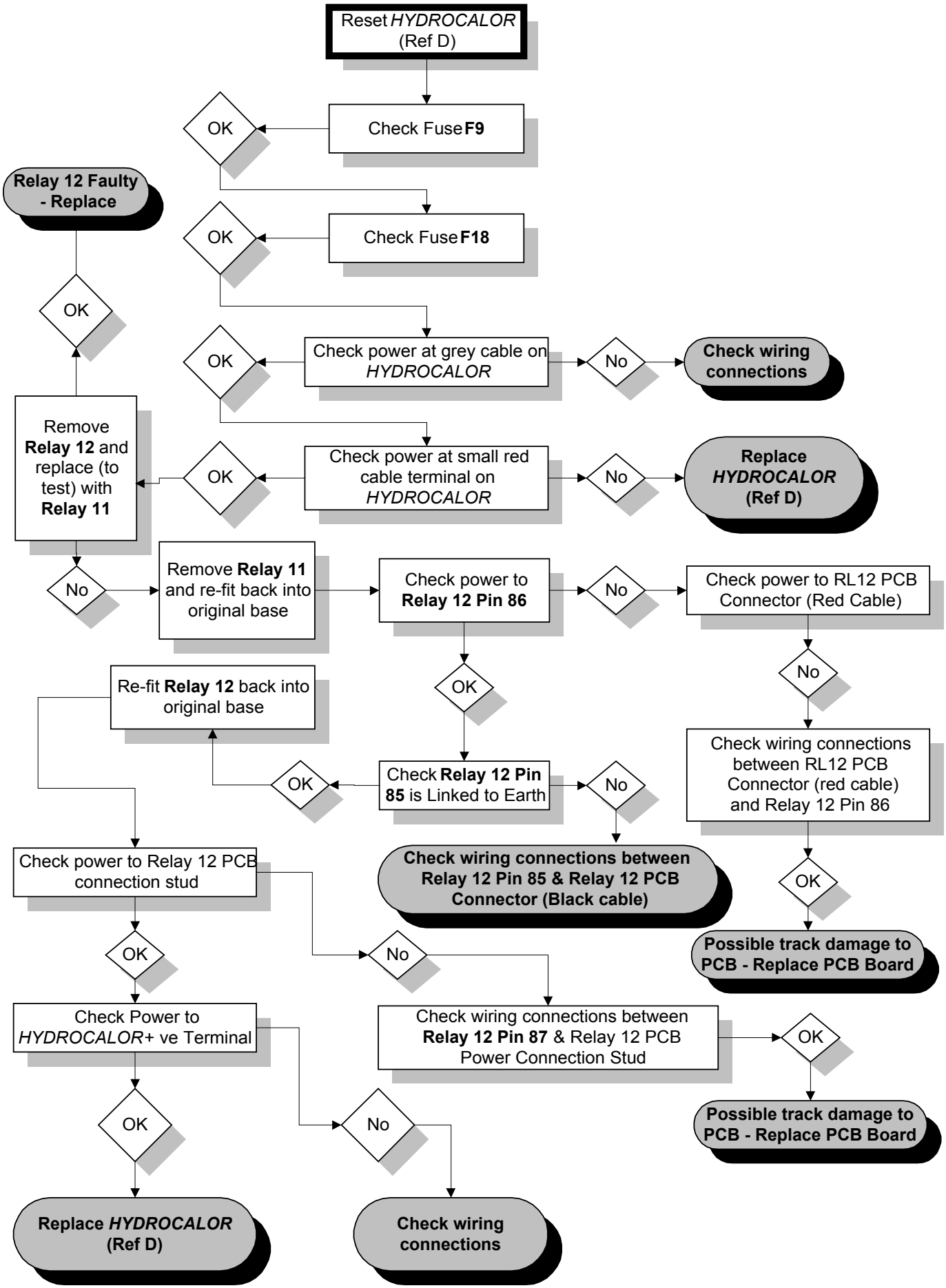
Hot Water Faucet Splutters When Dispensing Water



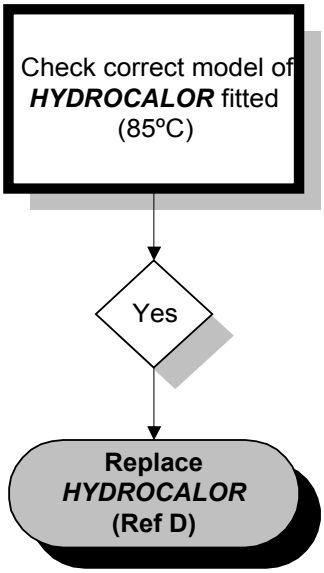
Delay in Drinking Water Dispensing



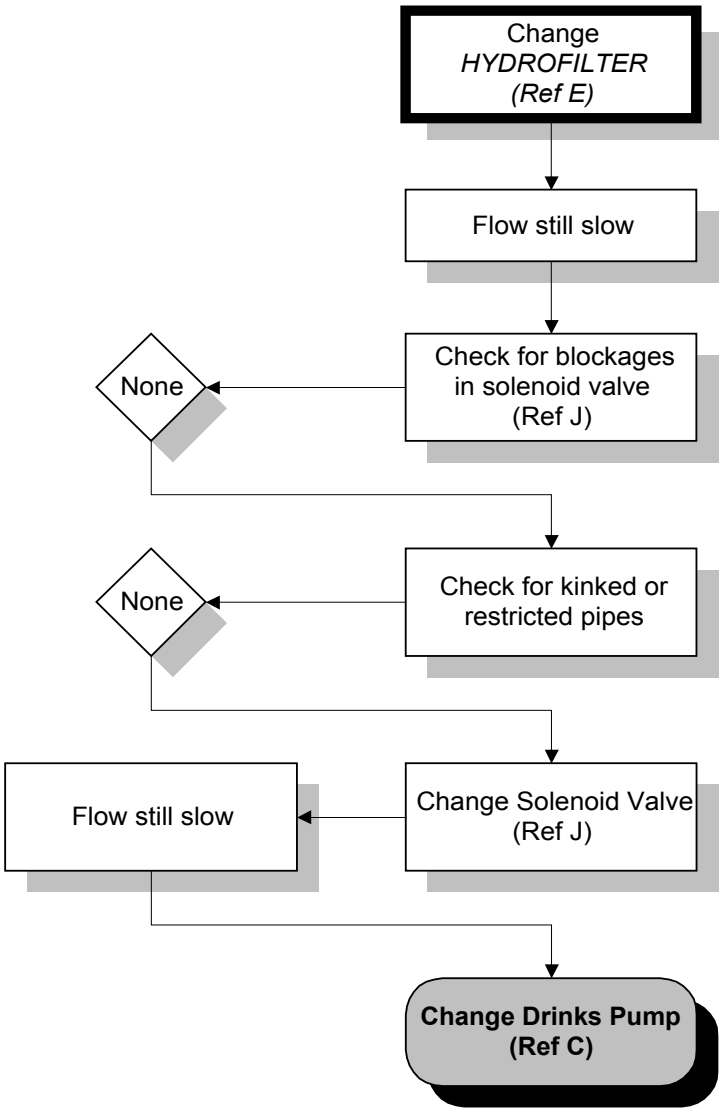
Cold Water From Hot Water Faucet



Warm Water Only from Hot Faucet

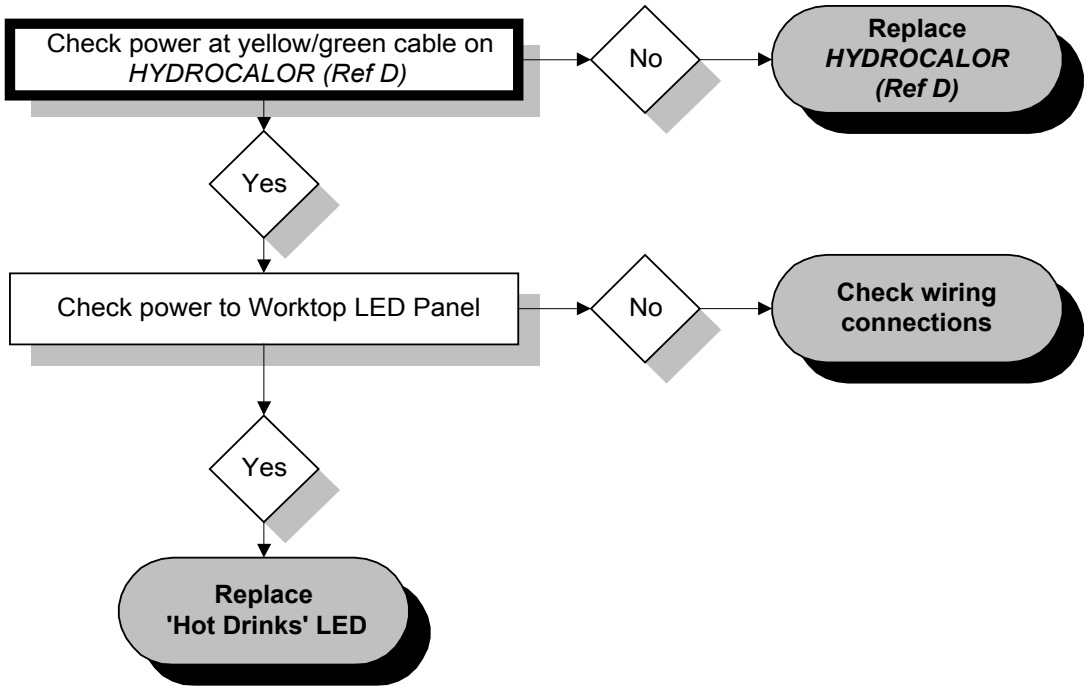


Water Flow From Servery Faucet Too Slow



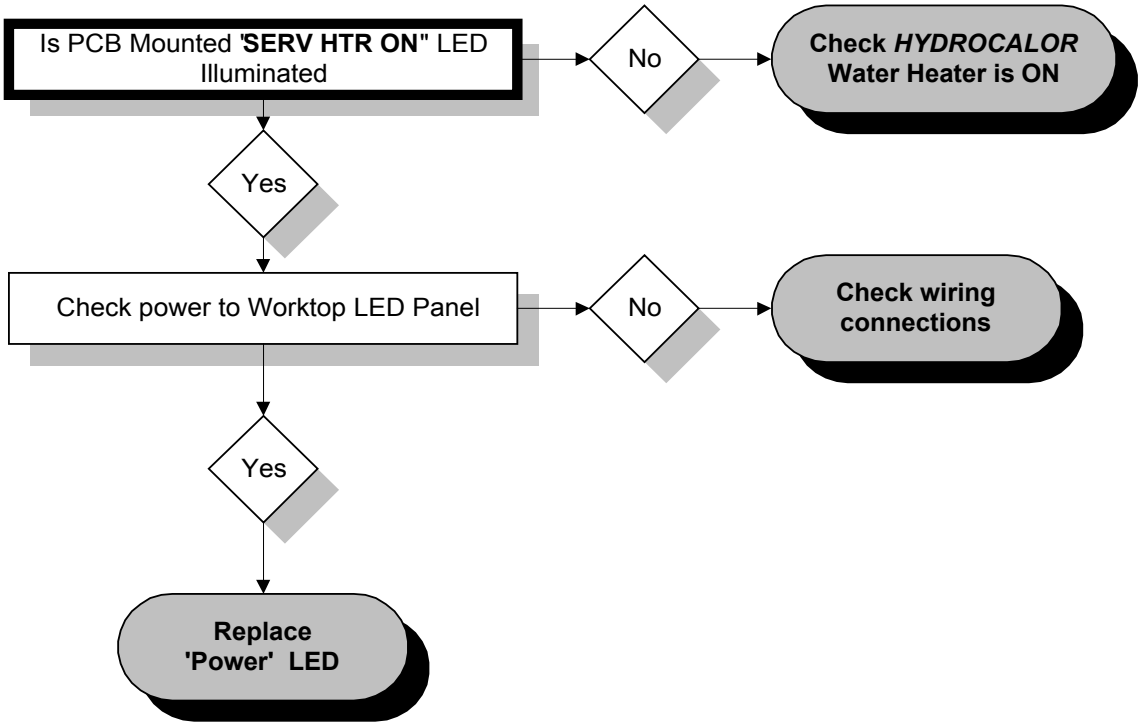
Worktop 'Hot Drinks' LED - Not Working

NOTE:
The *HYDROCALOR*takes approximately 25-35 minutes to reach maximum temperature(85ºC).
Please wait for 1 hour after switching on power to the unit before starting the following procedure.

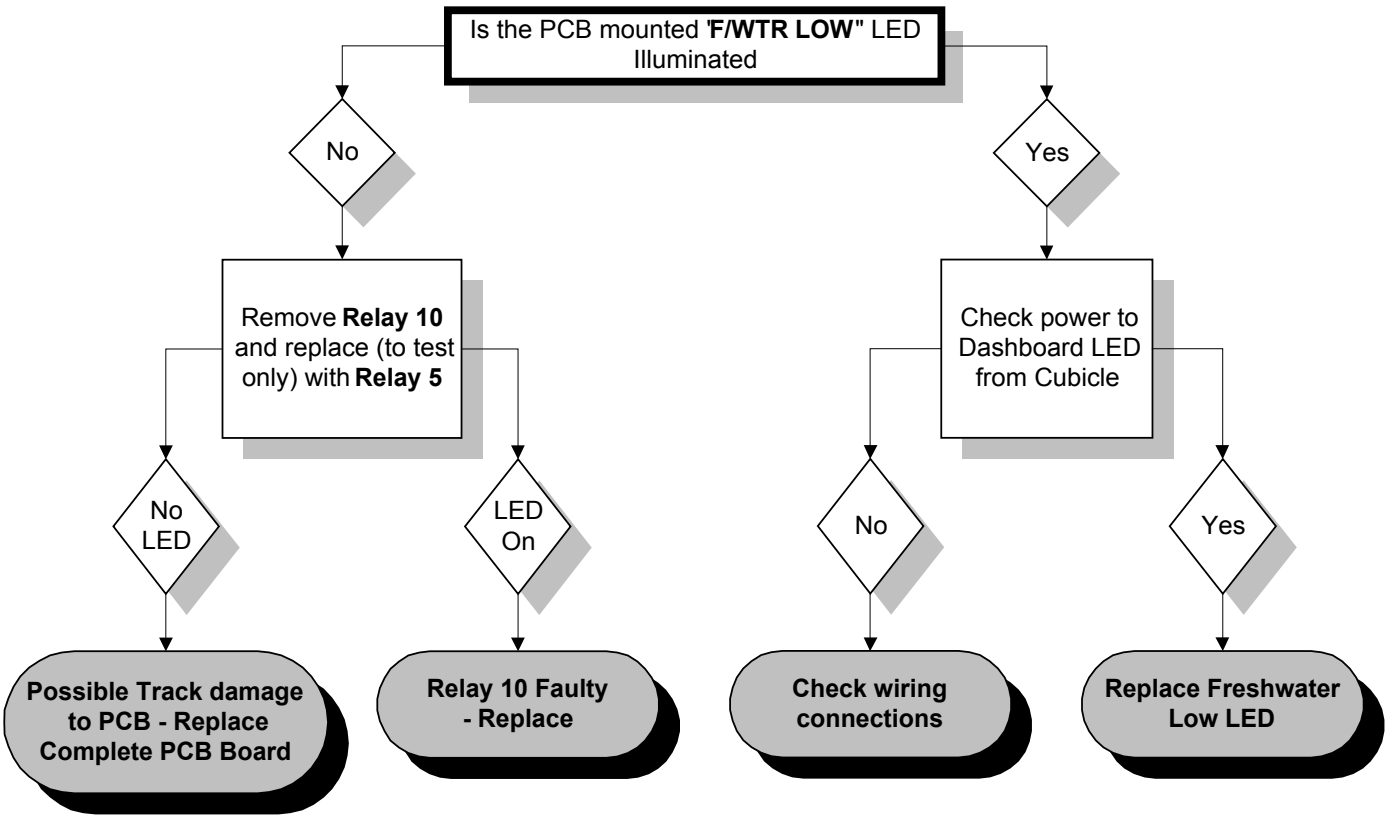


Worktop 'Power' LED - Not Working

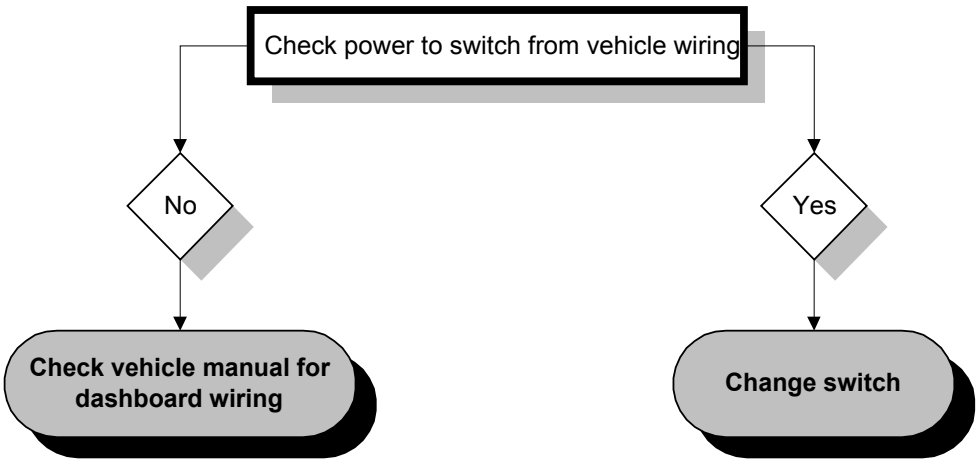
This assumes that the*HYDROCALOR*water heater is working correctly



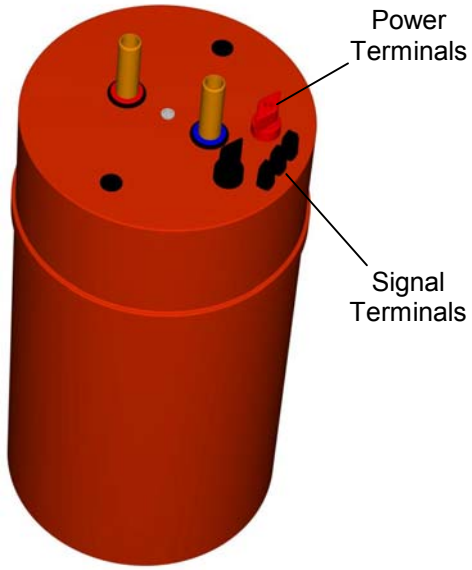
Dashboard "Freshwater Low" LED - Not Working



Dashboard "Servery Master" Switch - Not Working



Replacing The *HYDROCALOR* Water Heater



Removing the HYDROCALOR

i) Turn off the Servery Master Switch  at the dashboard and switch off vehicle engine

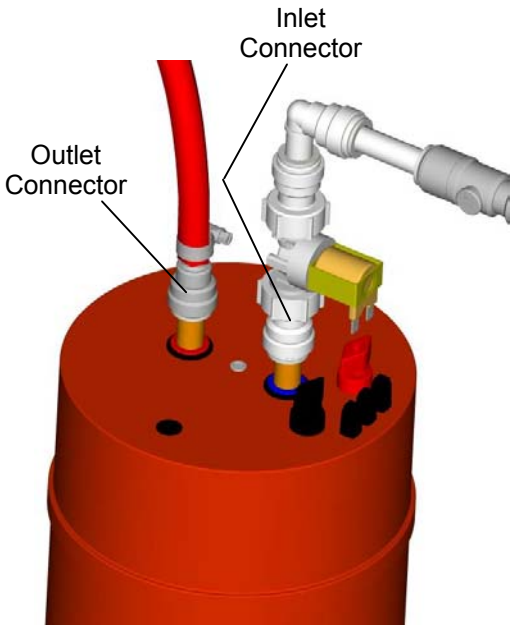
ii) Remove the aisle side cover panel to expose the ***HYDROCALOR*** water heater.

iii) Pull off plumbing connectors to the inlet and outlet pipes ***Caution: A small amount of water will run back out from the outlet plumbing; this may be hot if the heater has been used recently.***

iv) Disconnect the power cables by turning the terminal tops and pulling the cable away.

v) Disconnect the signal terminals by pressing down on the top of the terminal and pulling the cable out

vi) To remove the ***HYDROCALOR***, undo the nut on the bracket above the unit to release the top and unscrew the bolt in the centre of the unit underneath to free the heater



Replacing the HYDROCALOR

i) Locate the ***HYDROCALOR*** in position with the terminals to the right. Fix the unit to the bracket with the bottom bolt and the top retaining nut.

ii) Re-connect the power cables and ensure they are secure.

iii) Re-connect the two outer signal cables but **do not connect the centre cable.**

iv) Re-fit the inlet and outlet plumbing connections. Check they are secure by pulling on the pipe.

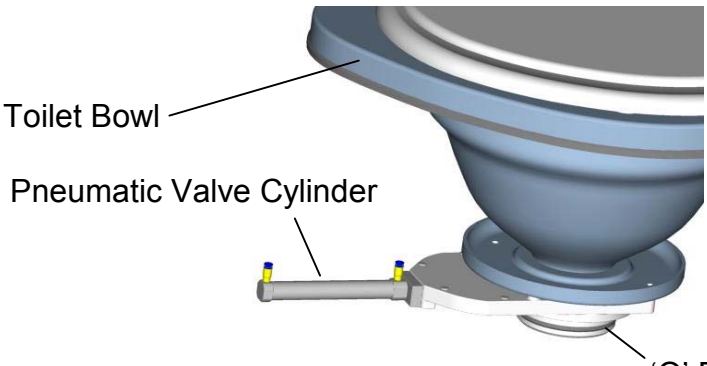
v) Start the vehicle engine and switch on the Servery Switch  on the dashboard. Press the worktop button until the water runs constantly (it may take up to 2 minutes to fill the heater before the water flows)

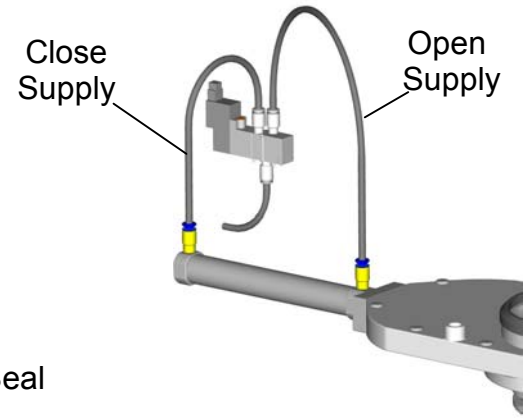
vi) Once the water is flowing from the worktop faucet, re-connect the cable to the centre terminal. The HYDROCALOR will now start to warm up.

vii) Check for water leaks when worktop button is pressed

viii) Re-fit the aisle side cover panel.

Replacing The *HYDROFLUSH* Pneumatic Control Valve





Removing The Pneumatic Valve

i) Ensure the vehicle engine is off and switch off the WC Master Switch **WC** on the dashboard

ii) Lift the toilet seat and rim and unscrew the four fixing bolts holding the bowl to the cowling

iii) Pull the bowl assembly upwards (twisting slightly from side to side) until the bowl is free from the soil tank and the plumbing connector to the flush nozzle is exposed.

iv) Remove the connector to the nozzle and lift the bowl clear of the cowling.

v) Disconnect the two air pipes to the pneumatic valve cylinder to the bottom of the bowl –

CAUTION: As this air supply is from the vehicle (via the control valve), when it is disconnected the air pressure in the pipes will be at approx 8 bar and will cause the pipe to 'snake around' violently if it is not held firmly.

vi) Undo and remove the four fixing bolts holding the pneumatic valve to the bottom of the bowl and remove the valve assembly

Replacing The Pneumatic Valve

i) Position the valve assembly on the bottom of the toilet bowl and secure in place with the bolts. **Tighten bolts to 6kgf.cm using a torque wrench. (A torque conversion chart is available on request)**

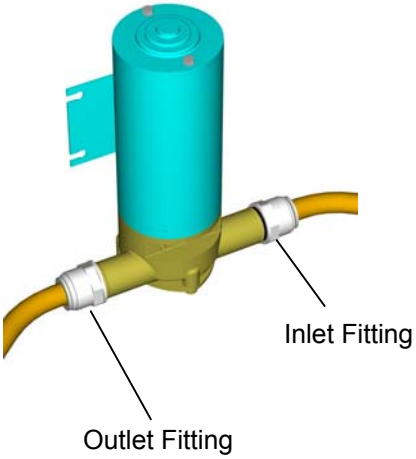
ii) Smear grease or similar around the black 'O' ring on the pneumatic valve and introduce the bowl and valve assembly back into the aperture on the cowling

iii) Reconnect the air pipes to the pneumatic valve cylinder and the plumbing pipe to the flush nozzle.

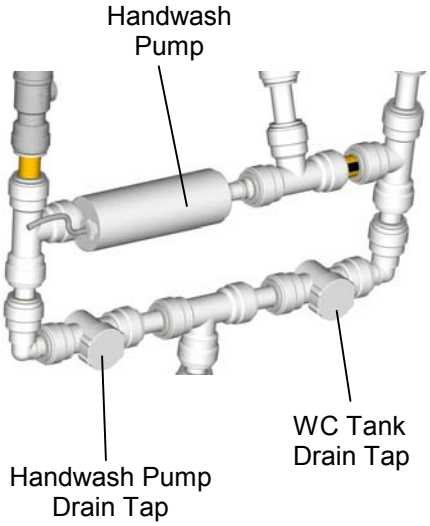
iv) Push the bowl assembly back into the fitting on the soil tank and push down carefully but firmly until the bowl edge rests on the cowling top surface. Secure with the four bolts

v) Start the vehicle engine and switch on the WC Master Switch. **Wait until the vehicle air pressure is at the maximum before attempting to flush the toilet**

Replacing The Flush Pump

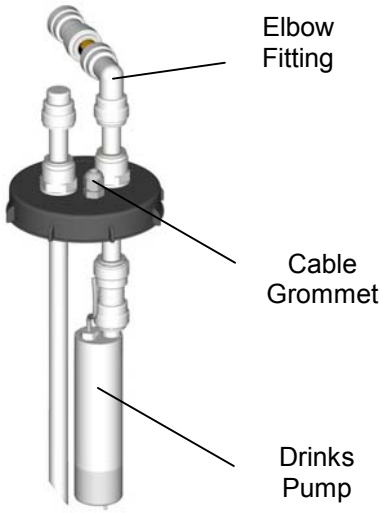


1. Remove the vanity access door, open both drain taps and empty the WC supply tank. When tank is empty, close taps.
2. Lift the toilet seat and rim and unscrew the four fixing bolts holding the bowl to the cowling
3. Pull the bowl assembly upwards (twisting slightly from side to side) until the bowl is free from the soil tank and the plumbing connector to the flush nozzle is exposed.
4. Remove the connector to the nozzle and lift the bowl clear of the cowling. The pump is located in the back right corner.
5. Pull the copper pipes from the inlet and outlet fitting to the pump (a small amount of water will run out) and disconnect the electrical plug.
6. Unscrew the pump and remove.
7. To re-fit the pump follow procedure 6 back to 2. When re-fitting the bowl back into the tank, oil or grease may need to be applied to the seal on the pneumatic valve to ease insertion.
8. Re-fill WC supply tank and test flush. Allow three flushes to clear any air in the water system



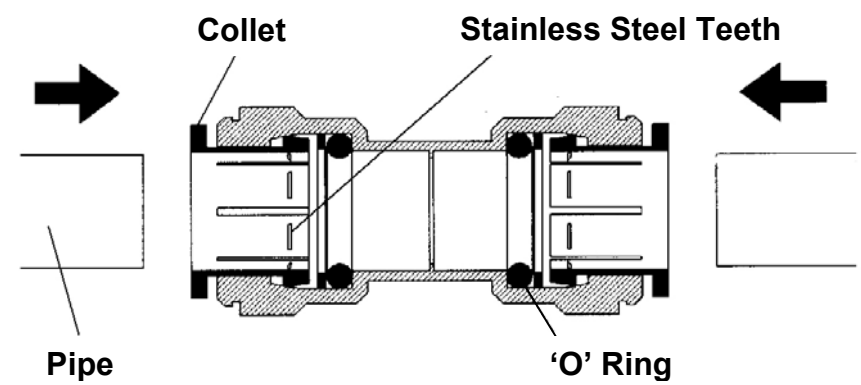
Replacing The Handwash Pump

1. Remove the vanity access door, open both drain taps and empty the WC supply tank. When tank is empty, close taps.
2. Disconnect the electrical connector to the handwash pump.
3. Pull the 'T' connectors from either end of the pump and remove.
4. To re-fit, push the 'T' connectors onto the ends of the pump and reconnect the electrical plug.
5. Re-fill the WC supply tank.
6. Once the tank is full, open the Handwash Pump Drain Tap for 2 seconds to allow water into the pump. Test function

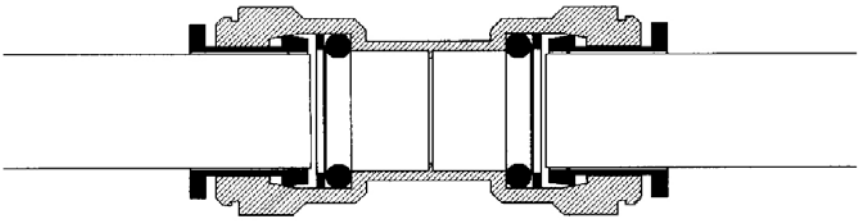


Replacing The Drinks Pump

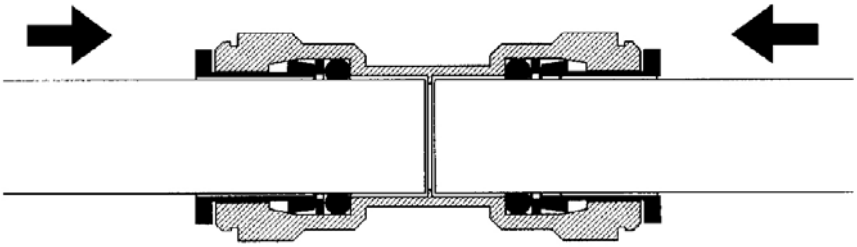
1. On the top of the drinks supply tank, disconnect the elbow fitting to the large black cap assembly.
2. Un-screw the cap assembly and remove from the tank.
3. Disconnect the pump from the electrical supply and cut off the pump 2-way connector.
4. Unscrew the top of the grey cable grommet mounted to the cap assembly until the pump cable is loose enough to pull through.
5. Disconnect the pump from the fitting and remove.
6. To re-fit, pass the cable on the new pump up through the grommet. Do not tighten yet.
7. Push the pump into the fitting and pull any cable slack up through the grommet. Screw down the top of the grommet until the cable is secure. Fit new 2-way connector (Brown = +ve Blue = -ve)
8. Screw the whole assembly into the tank until tight (do not over tighten as this may distort the cap and cause a leak)
9. Re-connect the elbow fitting to the cap and test pump.



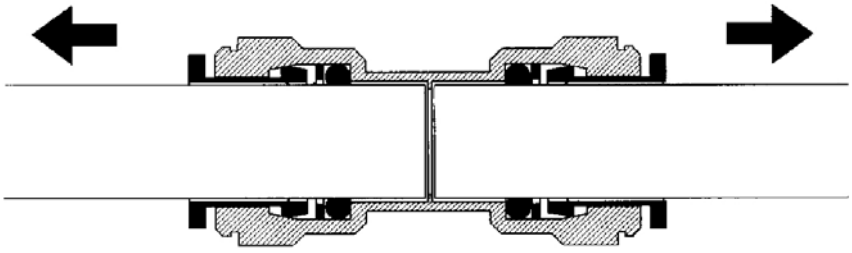
PREPARTION
Cut the pipe square, ensuring it is free of score marks, burrs and sharp edges



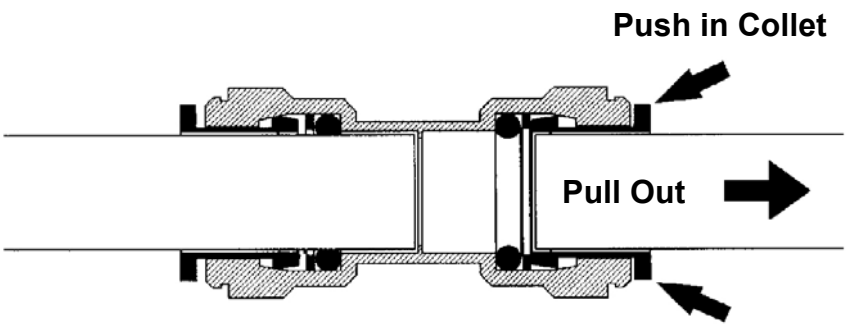
INCOMPLETE CONNECTION
The pipe is gripped by the fitting but not sealed. The pipe must push 30mm into the fitting to seal



COMPLETE CONNECTION
Push the pipe into fitting to the internal stop. The Collet has stainless steel teeth which grip the pipe whilst the 'O' ring provides a permanent leak-proof seal



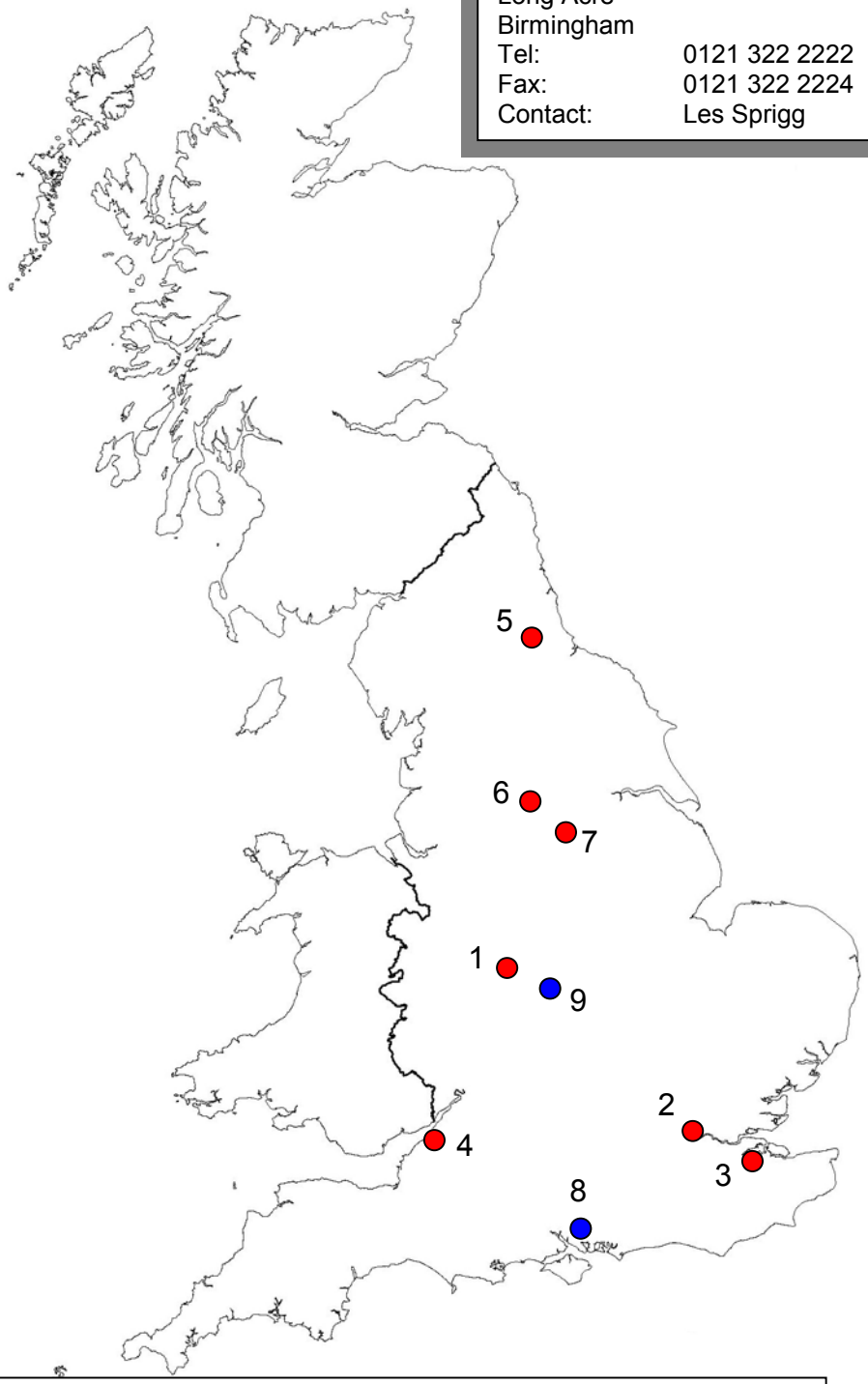
CHECK CONNECTION
Pull on the pipe to check it is secure. It is a good practice to test the system this way before use



DISCONNECTING A FITTING
Push in collet squarely against face of fitting. With the collet held in position, the pipe can be removed

DO NOT INSERT FINGERS INTO THE FITTING AS THE STAINLESS STEEL TEETH MAY CAUSE INJURY

Shades Technics UK Sales & Service Points



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