mrmagic automation

Hurricane TOUCHFREE CARWASH

Operators Manual

Contents

1/46 Township drive
Burleigh Heads
Queensland Australia 4220
Ph 07 55353911
Fx 07 55353211

Maintenance

Mr Magic Hurricane Wash Maintenance Check List

Follow the recommended service schedule. Keep a log of all repairs and service

	Every Day Inspection	Date Completed
WASH BAY	☐ Visually check jets on presoak bar	
WASH BAY	☐ Check pre-soak application onto car	
WASH BAY	☐ Visually check flippers for good condition & osolating and No blocked jets	

	Every Week Inspection	Date Completed
WASH BAY	☐ Apply motorbike chain lube to Arm Bushes / Rose Joints / Flipper Bushes	
PLANT ROOM	☐ Check main air supply pressure SET TO 80 PSI	
PLANT ROOM	☐ Check air regulator on inlet manifold, drain excess water	
PLANT ROOM	☐ Check pressure setting on all high pressure pumps	
PLANT ROOM	☐ Check wax and pre-soak detergent levels and usage, avoid running out	

	Every Month Maintenance	Date Completed
WASH BAY	☐ Inspect & clean photo eye lenses on gantry	
WASH BAY	☐ Clean exterior panels of machine	
WASH BAY	☐	
PLANT ROOM	☐ Check pressure setting on all high pressure pumps	
PLANT ROOM	☐ Check main high pressure blast pressure 700psi Top Flippers / 800psi Wheel Flippers	

	Every 3 Month Maintenance	Date Completed
WASH BAY	☐ Grease all undercarriage bearings and flipper bushes (Marine grease only)	
WASH BAY	☐ Clean external stainless machine panels	
WASH BAY	☐ Clean photo eye lenses	
WASH BAY	☐ Tighten all dyna bolts holding track guide rails	
WASH BAY	☐	
PLANT ROOM	☐ Inspect foot valves and filters on product pickup tubes in product drums	
PLANT ROOM	☐	

	Every 6 Month Maintenance	Date Completed
WASH BAY	☐ Lubricate tractor feed contents with Lithium grease (See Pge 13)	
WASH BAY	☐	
PLANT ROOM	☐ Clean 3/4" Y hot water strainer on inlet manifold	
PLANT ROOM	☐ Clean 2" fresh water stainless steel Y strainer on inlet manifold	

	Every 12 Month Maintenance	Date Completed
WASH BAY	☐ Replace oil in high pressure pump	
WASH BAY	☐ If using ACID replace pre-soak jets	

Tips

- Use cold water for pre-soak in hot summers above 34 deg, if the pre-soak dries on the car it will mark it and may have to be polished off.
- Cars with ultraviolet sun damage (chalky paint, white streaks) should not enter the wash
- Cars with old pin stripes should not enter the wash
- Reset Machine
  - clear bay area
  - go into functions on computer software (Hit Esc)
  - select menu 4
  - select item 5 (reset machine)
- To Clear a logged wash (ie wash is selected on validator and no car to go through)
  - Hit minus on the keyboard will remove logged wash
  - Or the logged wash will reset after a period of 10min
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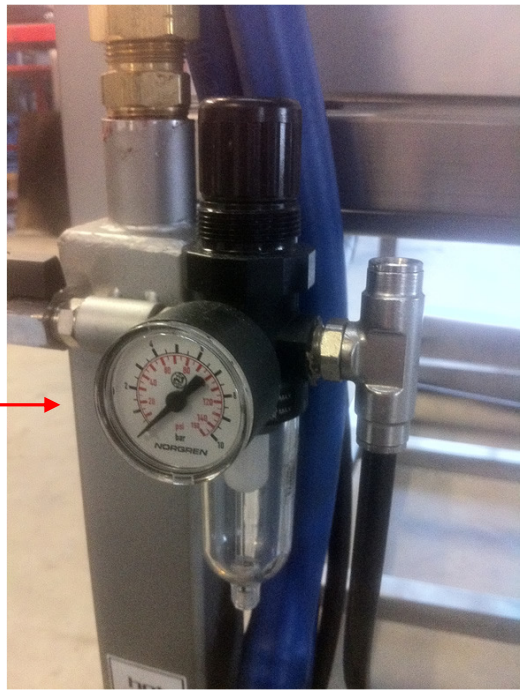
Pressure Settings



Main Air Supply Pressure

The main air supply pressure is adjusted using the regulator shown on right. This regulator is located on left hand end of the pump stand, on the inlet manifold.

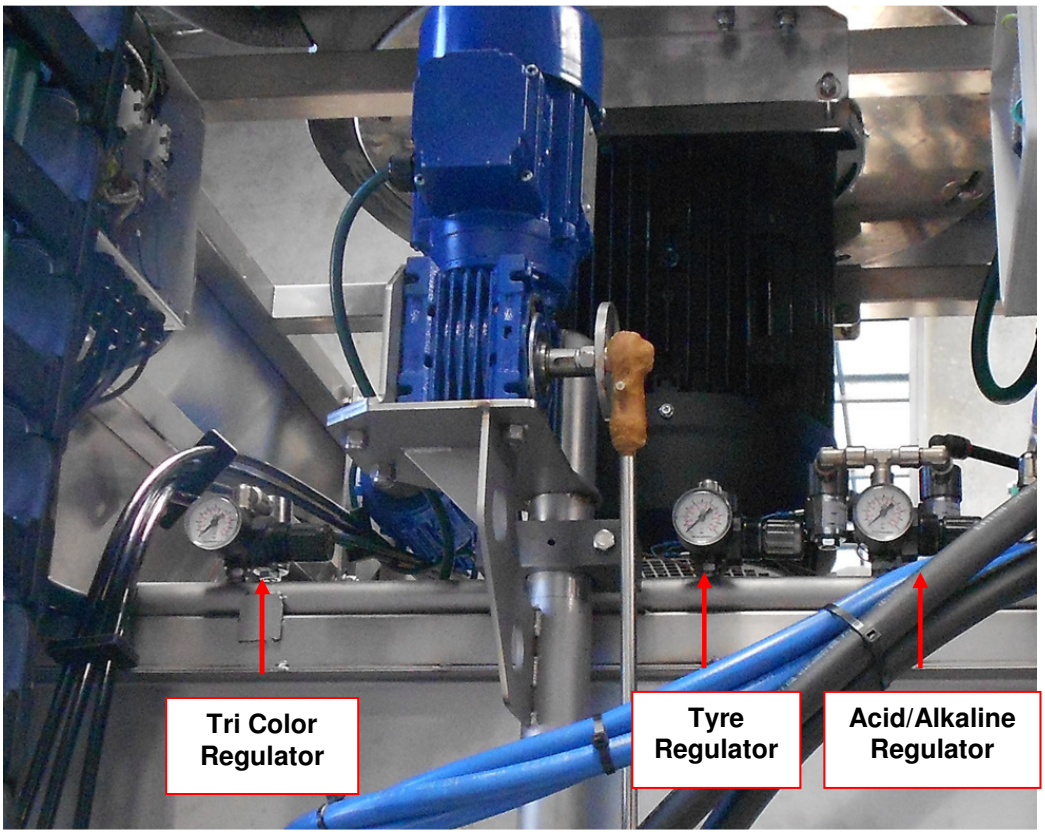
This pressure should be adjusted to **80 Psi**. The adjustment is completed by lifting the black control knob on top, and then turning until the correct reading is displayed on the gauge. Then push knob back into place.

Air Mix Pressures

Pre-Soak air mix needs to be adjusted to read **25Psi**

Rainbow air mix adjustment needs to be adjusted to read **35 Psi**

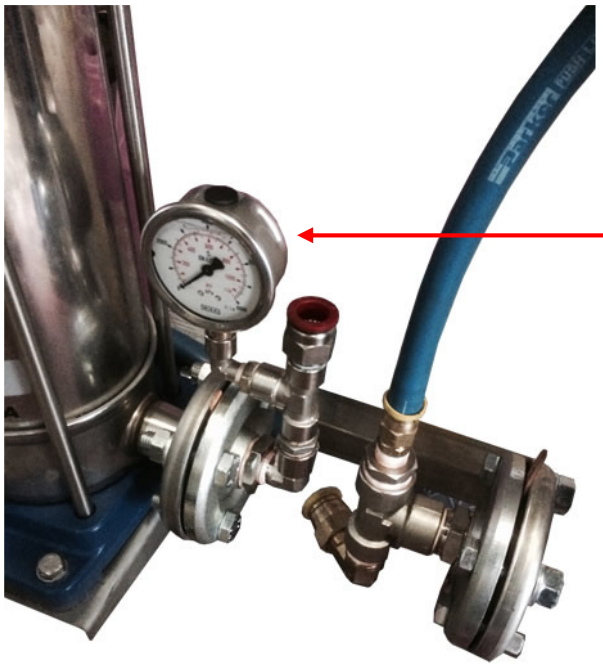
Tyre Pre-Soak air mix needs to be adjusted to read **25Psi**



The adjustment is completed by pulling the black control knob out, and then turning until the correct reading is displayed on the gauge. Then push knob back into place.

Pressure Settings

SPOT FREE WATER PRESSURE

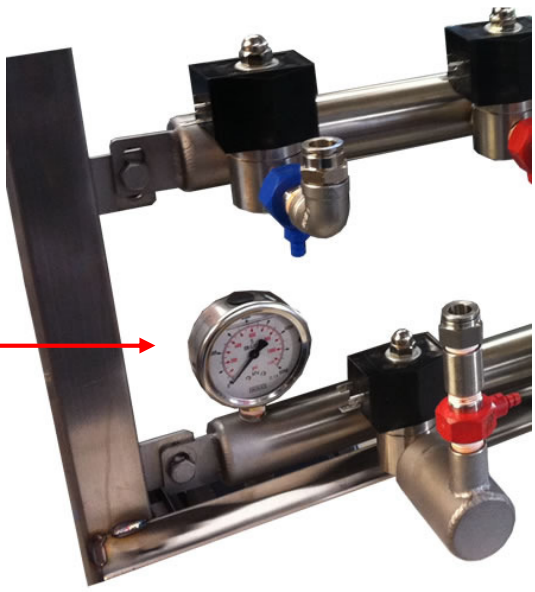


Spot Free water pressure will be Approx **200 PSI**

There is no adjustment for this pressure setting

PRODUCT WATER PRESSURE

Unjust the pressure by turning this handle in and out. Product water regulator pressure needs to be set to **200 PSI**



Pressure Settings

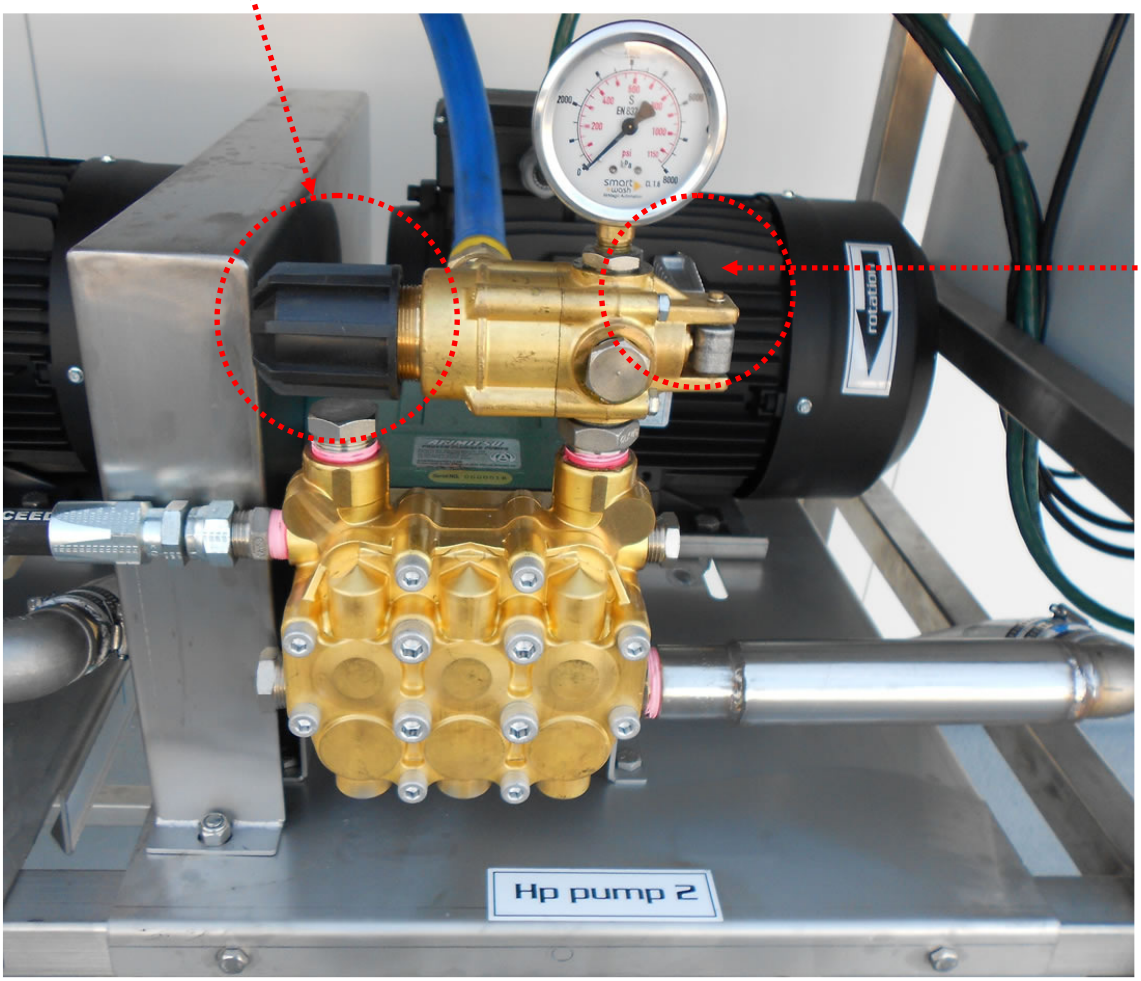
Main High Pressure Blast

Main water pressure is adjusted using the regulator shown below. This regulator is found on the pump stand mounted on top of the right hand main pump.

Adjust regulator by turning this knob. This regulator must be set to

700 Psi when top flippers are working

800 Psi when wheel flippers are working



UNLOADER LEVER

This is the unloader lever, this lever can be thrown/operated to enable more water to bypass the main pump. This is used when you want to check for blocked jets, by operating this lever and at the same time having the pump running, only a small amount of water is sent to the flipper jets. By doing this you are able to see which jets are blocked and need cleaning. Once jets have been cleaned OR replaced, put the unloader leaver back into operating position as shown in photo above.

ReBoot

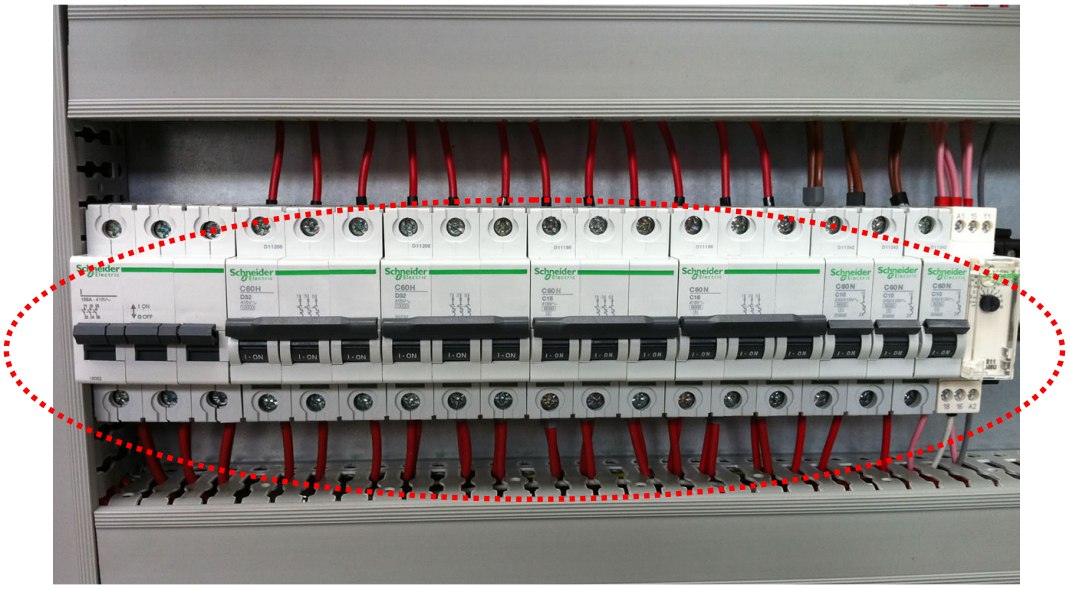
Computer Reboot

1. Turn off reboot circuit breaker, marked with the red dot.
2. Wait 5 seconds
3. Turn circuit breaker back to ON position

COMPUTER RE-BOOT BREAKER

Total System Reboot

1. Turn off all circuit breakers shown
2. Wait for 20 seconds
3. Turn all circuit breakers back to ON position



DROP ALL BREAKERS

Reposition Machine

If machine has malfunctioned or stopped for any reason the computer will have recorded and logged the last known movements. This information will remain on the computer screen **only** until you reboot.

Please write down the number and information of the last 4 different codes. This must be done before you reboot. After you reboot all memory will be erased.

There could be numerous reasons for the machine to stop, some of the simple reasons are.

- Power interruptions
- Debri on tracks
- Tractor Feed Jam
- Motor Failure
- Inverter Tripped (check in electrical cabinet, do a cold –reboot)
- Machine malfunction
- Sensor malfunction

Firstly reboot the machine as outlined on previous page. After program has re-booted and ready to wash cars,

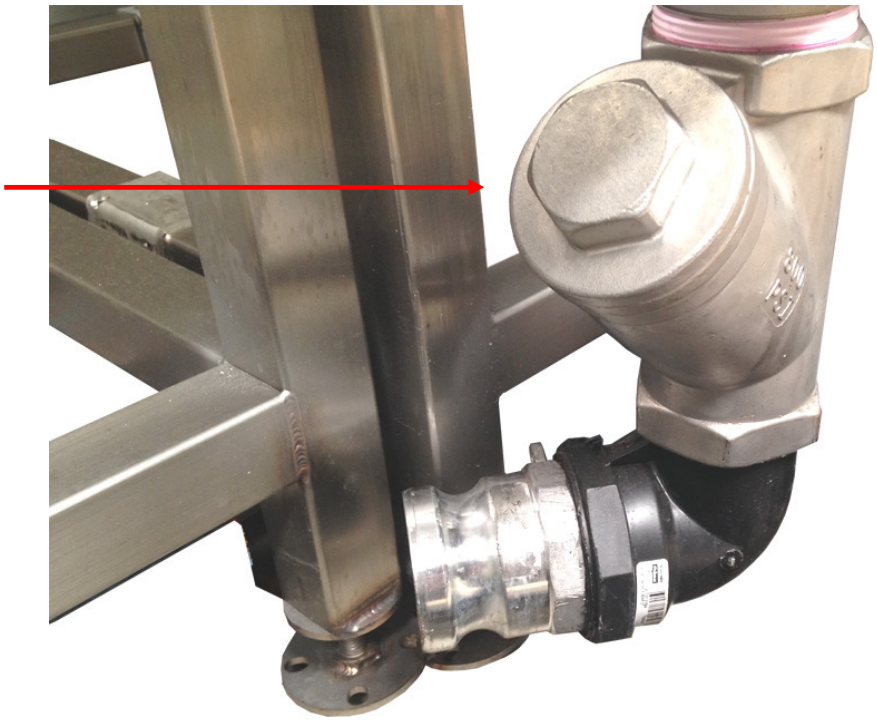
1. Hit the “ESCAPE” key on the keyboard to get to the computer menu,
2. Then select menu number (4)
3. Then from this menu select “Reposition gantry”.
4. Then select number (5)
5. Then select number (9)

A warning on the screen will ask you to ensure that the bay is clear, going through this procedure will run the gantry back to its home position automatically.

FILTERS

Low pressure inlet filter

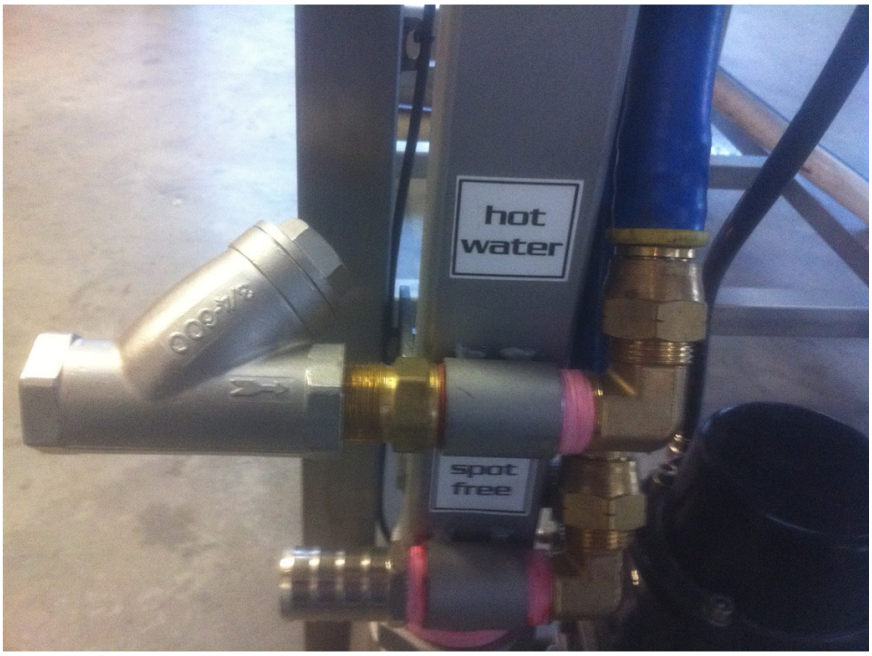
On the inlet side of the main high pressure pump is a 2” stainless steel Y strainer.The Y strainer shown on right has a removable element that will need regular cleaning. How often this needs to be cleaned will depend on the quality of your fresh water.



Hot water inlet strainer

On the hot water inlet side of the product water mixing pump there is 3/4” stainless steel Y strainer.

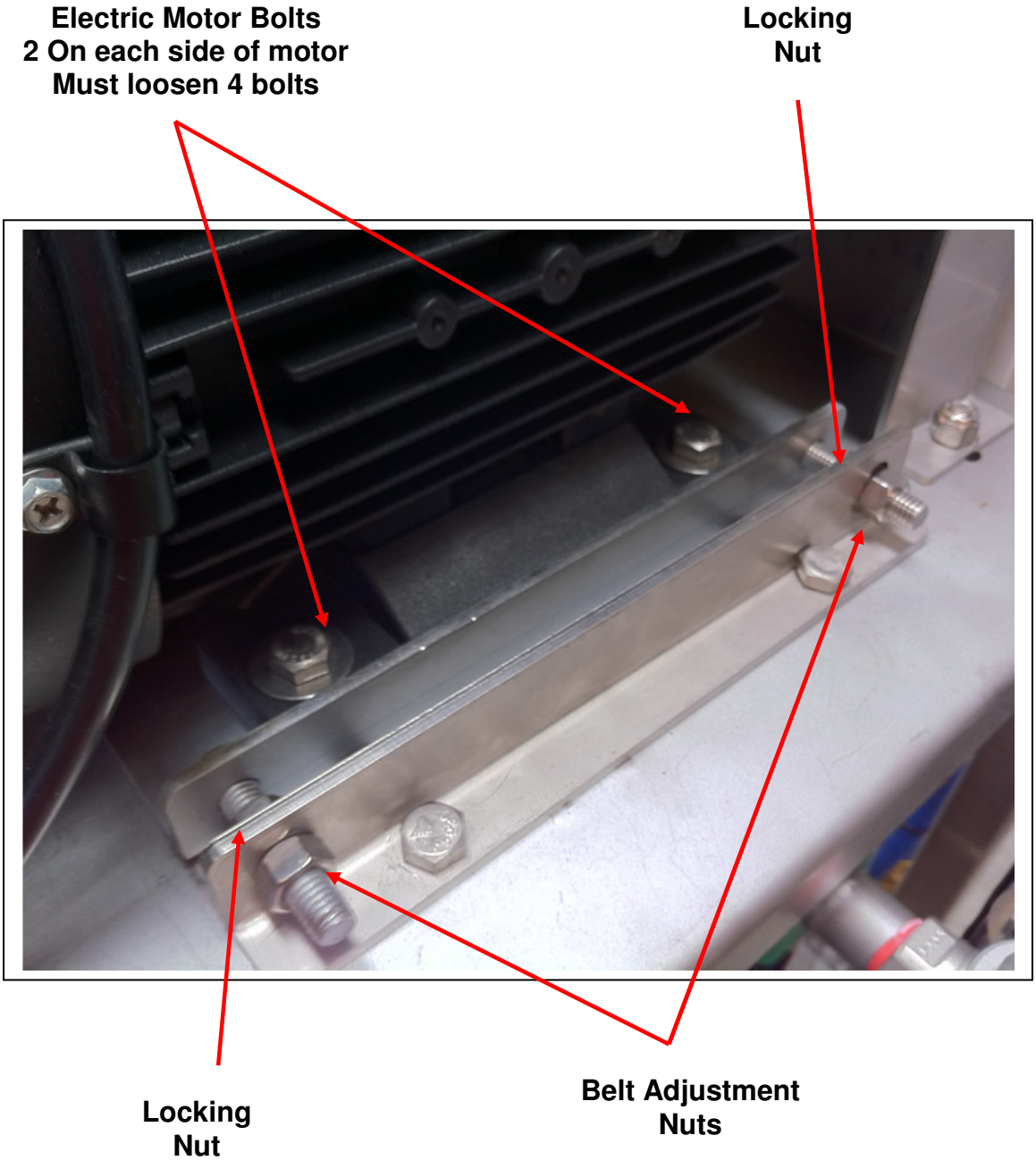
The Y strainer shown on right has a removable element that will need regular cleaning. How often this needs to be cleaned will depend on the quality of your water.



Belt Adjustment

The drive belts are to be kept firm. Belts should appear straight with no sag.

- Release electric motor bolts 3/4 of a turn.
- Keep motor square to the pulleys at all times.
- Loosen adjustment bolts locking nuts
- Turn belt adjustment NUTS in small increments.
- Check belts, they need to feel firm.
- Retighten electric motor bolts
- Retighten adjustment bolt locking nuts
-

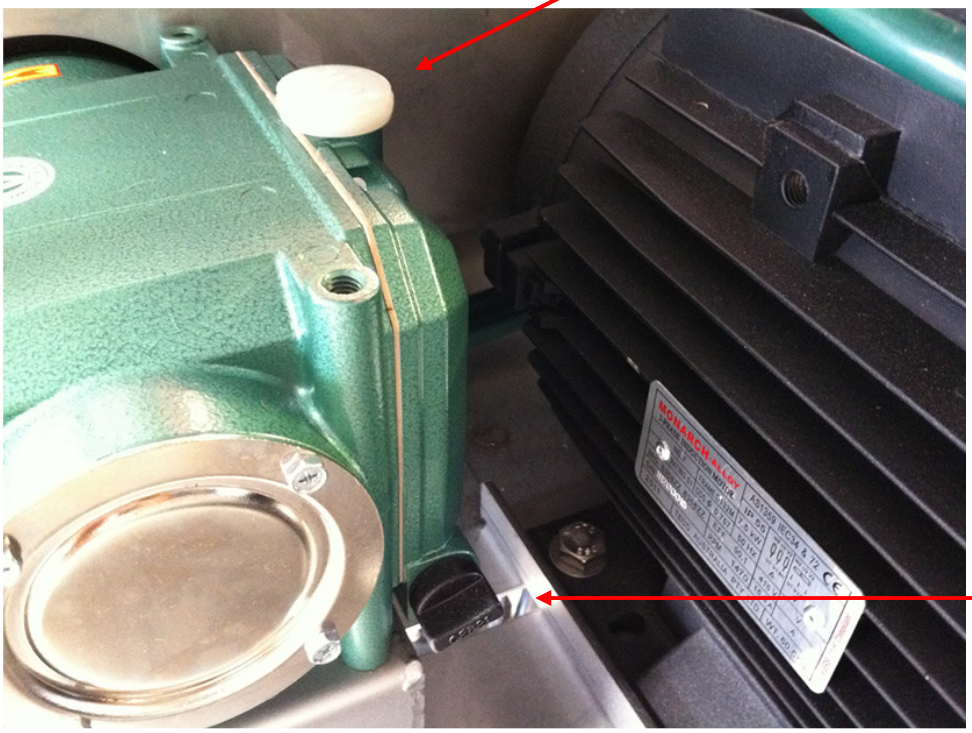


High Pressure Pump Oil Change

The high pressure pumps x 2 require an oil change every 12 months

Oil Volume : 1100mls
Oil Type: Penrite 4 Stroke small engine mono grade SAE30

Periodically check the oil level to ensure that pumps have sufficient oil to operate. Oil level can be checked using the dip stick.



Ensure oil is between the H and the L marks on the dip stick

Tractor Feed Lubrication

On a regular basis (6 Monthly) spray the tractor feed and it's contents with a general purpose Silicon Spray.

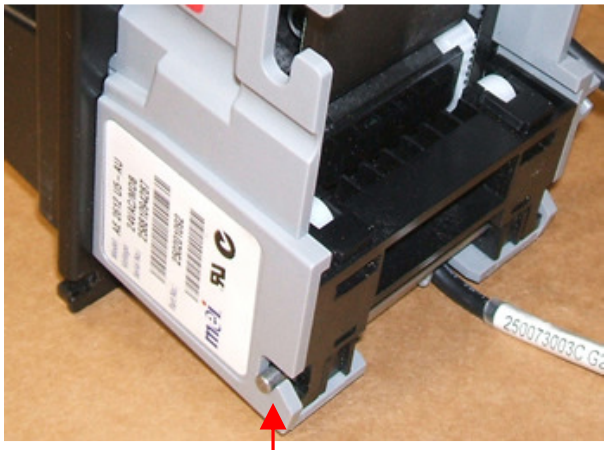
Spray the entire length of the tractor feed using a very liberal amount.

Regular lubrication of the tractor feed and contents will prolong it's lifespan saving on replacement cost.

Mars Note Validator

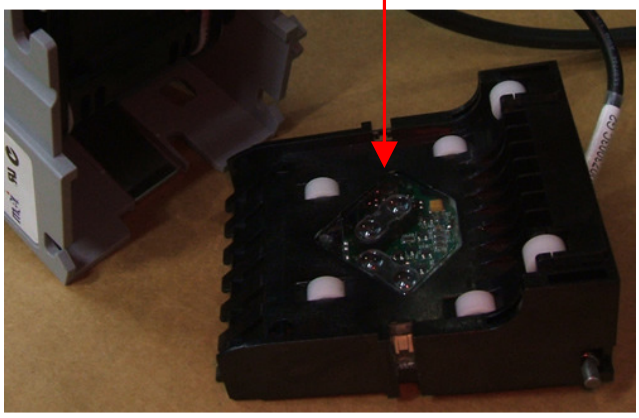
If the note acceptor shows signs of decreased performance, it may be in need of cleaning.

To remove the stacker from the note acceptor, press the blue catch forward and slide the rear compartment up.



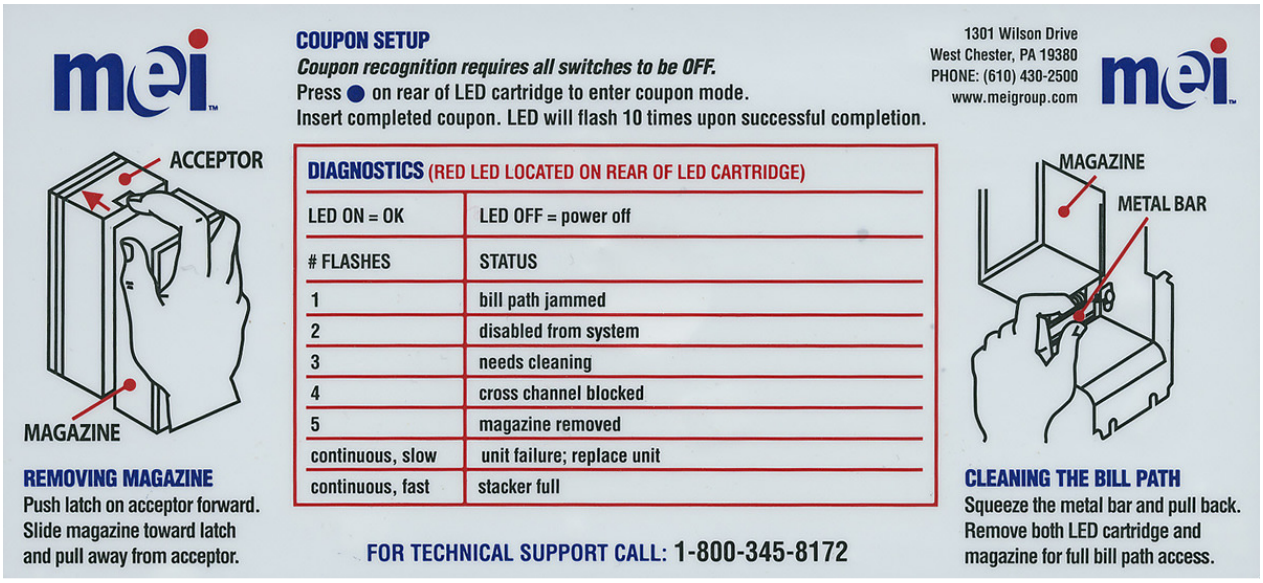
To remove the lower sensor block, raise the locator pin shown above and slide the sensor block out

Remove unit and clean with a slightly moist cloth. Pay special attention to the optical lights. Do not use harsh solvents.



Mars Note Validator Fault Codes

The MEI note acceptor has built in diagnostics; this comes in the form of a flashing indicator light. The type of fault can be determined by the number of times this indicator light flashes. Below is the table to reference when trying to determine what fault the MEI note acceptor has. The label below is also stuck to the back of the note acceptor magazine.



mei

COUPON SETUP
Coupon recognition requires all switches to be OFF.
Press ● on rear of LED cartridge to enter coupon mode.
Insert completed coupon. LED will flash 10 times upon successful completion.

1301 Wilson Drive
West Chester, PA 19380
PHONE: (610) 430-2500
www.meigroup.com

mei

ACCEPTOR

MAGAZINE

REMOVING MAGAZINE
Push latch on acceptor forward. Slide magazine toward latch and pull away from acceptor.

DIAGNOSTICS (RED LED LOCATED ON REAR OF LED CARTRIDGE)

LED ON = OK	LED OFF = power off
# FLASHES	STATUS
1	bill path jammed
2	disabled from system
3	needs cleaning
4	cross channel blocked
5	magazine removed
continuous, slow	unit failure; replace unit
continuous, fast	stacker full

FOR TECHNICAL SUPPORT CALL: 1-800-345-8172

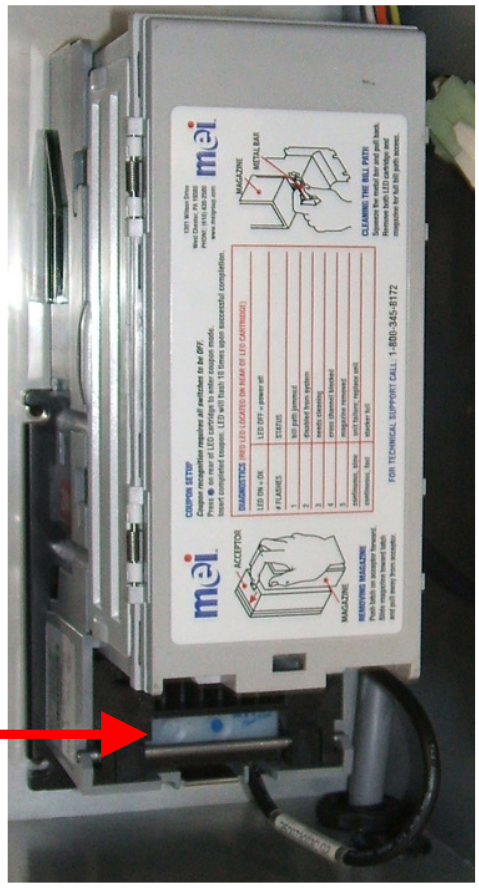
MAGAZINE

METAL BAR

CLEANING THE BILL PATH
Squeeze the metal bar and pull back. Remove both LED cartridge and magazine for full bill path access.

The magazine that holds the notes must be clipped into its normal position to ensure you get an accurate fault code.

If the magazine is removed or dislodged in any way, the only fault code that you will receive will be No 5, magazine removed.

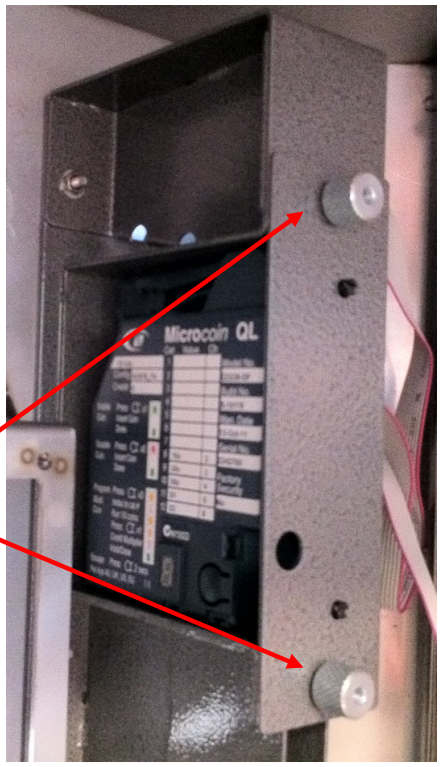


Fault code indicating light

Coin Validator Removal

WARNING
DISCONECT POWER FROM UNIT
BEFORE PROCEEDING

Open the rear door of the validator. The coin validator is mounted in the top right hand corner. Shown on right. Unscrew the two thumb screws to remove the plate shown.



Thumbscrews

Once the backing plate has been removed, the note validator will slide out into your hand.

If you want to clean the coin validator, unplug the ribbon cable at the interface board so that the unit can be removed completely.

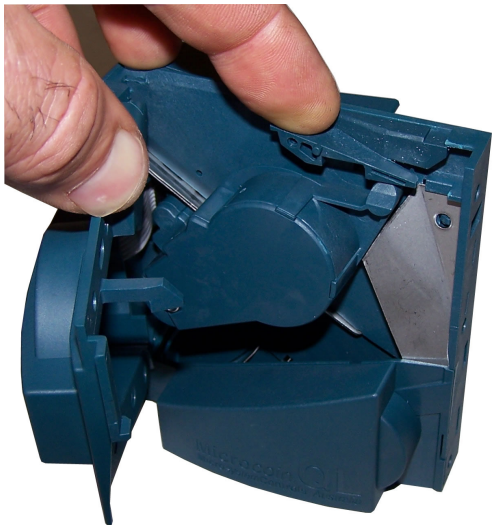
If your are programming the coin validator, it needs to remain plugged in and powered ON while you complete your programming.

To replace the coin validator, plug the ribbon cable back into the interface board, (ensure it's plugged in the correct way round) slide the coin validator into its mounting bracket, wriggle slightly to get the front lugs into there resting place. Slide on the rear backing plate previously removed, (only goes on way round, look at photo above) validator lugs should protrude out through the holes in backing plate as shown above. Screw on the two thumb screws finger tight only.

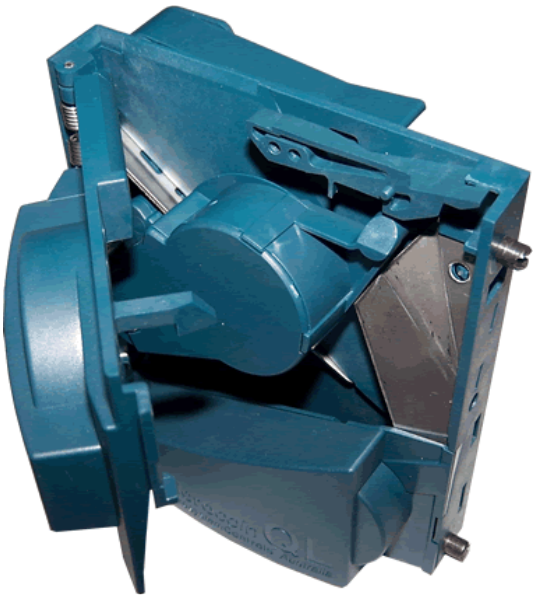
Coin Validator Cleaning

Once the coin acceptor has been removed, it can be opened for cleaning.

The coin acceptor is opened as shown on the right, the side that opens is spring loaded, and will close it self when released.



Open the side completely as shown on left. This will allow ease of cleaning.



Using a soft damp cloth, wipe the inside area that you can see in photo on left. Do not use detergents.

Once the unit has been cleaned, it is a simple case of re-inserting the unit in the reverse order that it was removed in.

Coin Validator

Coin Activation

If the coin acceptor does not accept a coin then it may be because the line for that particular coin is switched OFF. Ie coin is disabled. To turn a line ON and to enable a coin, press the button once, (light will flash green) then drop the coin in. To disable a coin, press the button twice, (light will flash red) then drop the coin in.

Service agent refer to -

Micro Systems Controls
Melbourne
Ph (03) 9646 6446

Sydney
Ph (02) 4731 6655

Coin Validator

Coin Activation

- ✓ The Microcoin QL-Timer can be programmed using its On-Board Programming, OBP, facility.
- ✓ Each OBP feature can be accessed by a series of button presses, using the OBP programming button, which is located below the LED indicators.
- ✓ Please use a **firm** and **rapid** button press to access each Mode. You will be shown a unique "M" Led flash sequence to indicate the selected Mode.

Feature	Description	Visual Indicators
Enable Coin	Press button once. LED flashes GREEN	 M 1 2 3
	Pass the coin to be enabled through the QL. If successful, Led will go steady GREEN	 M 1 2 3
Disable Coin	Press button twice. LED flashes RED	 M 1 2 3
	Pass the coin to be disabled through the QL. If successful, Led will go steady GREEN	 M 1 2 3
Program Multi Coin	Press button 3 times LED flashes ORANGE	 M 1 2 3
	Press Button to get to required Cat number Displayed on side of unit	(1 – 12)
	Pass 10 Coins through the QL LED flashes ORANGE	 M
	After the 10th coin or token has passed through LED will go steady ORANGE	 M
	Display should now show number "1" This is the credit multiplier, Number 1. (1 pulse = $1)	1
	Press & Hold Button, LED will go steady GREEN	

Sensors

Photo Light Beams

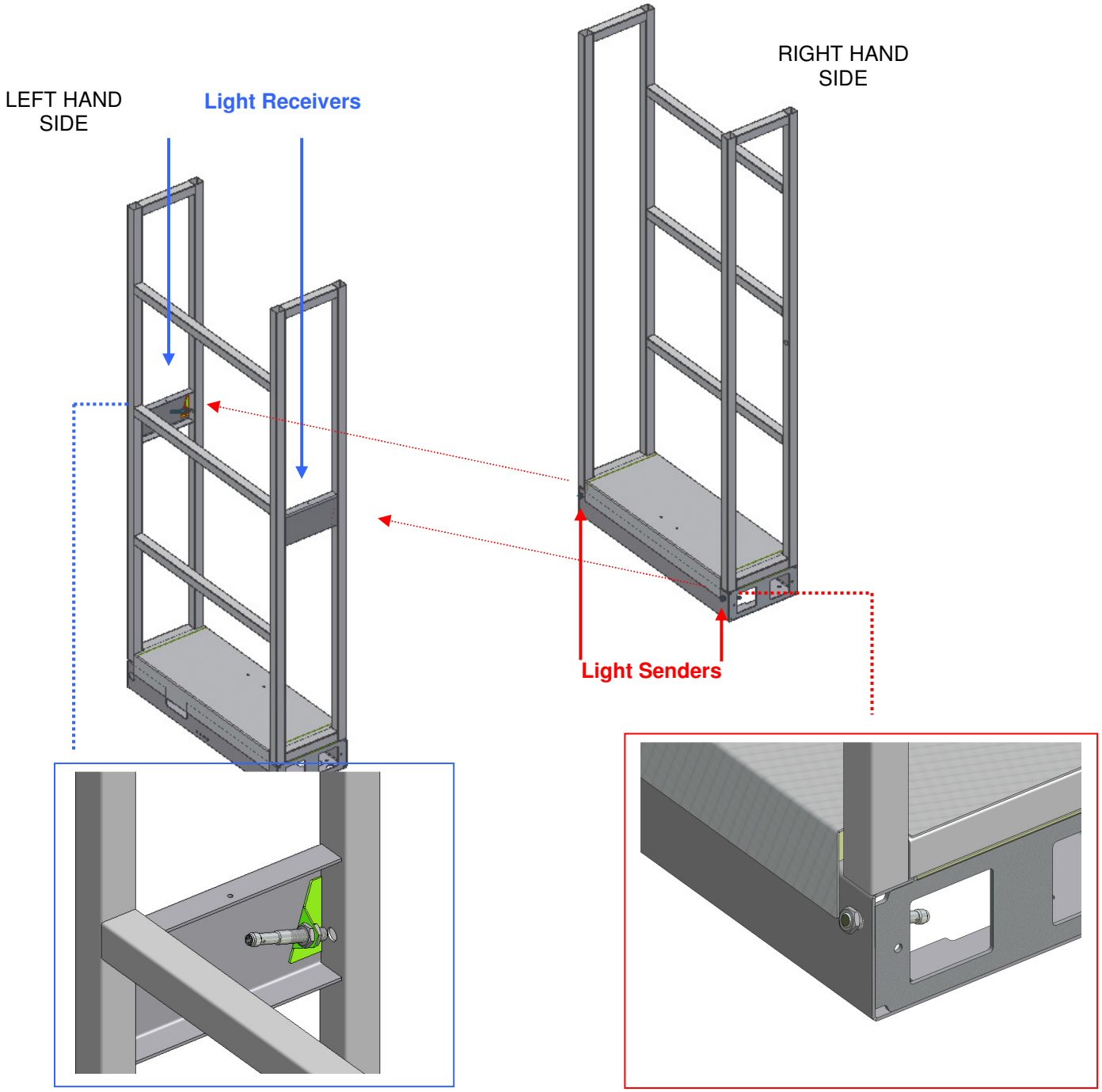
(Light Sender)

These are located on the RIGHT hand side, down low in gantry leg

(Light Receiver)

These are located on the LEFT hand side, high in the gantry leg

The function of these light sensors, is for the **light senders** to send a beam of light to the **light receivers.** When the **light receivers** see this light beam, they then in turn send a signal to the computer. Only when a car enters the wash, is this light beam from one side to the other broken, the **light receivers** cannot see the light beam coming from the **light senders**. When this happens, the **light receivers** send a signal to the computer that a car is in the wash.



Sensors

Inductive Proximity Sensors YEND & YHOME

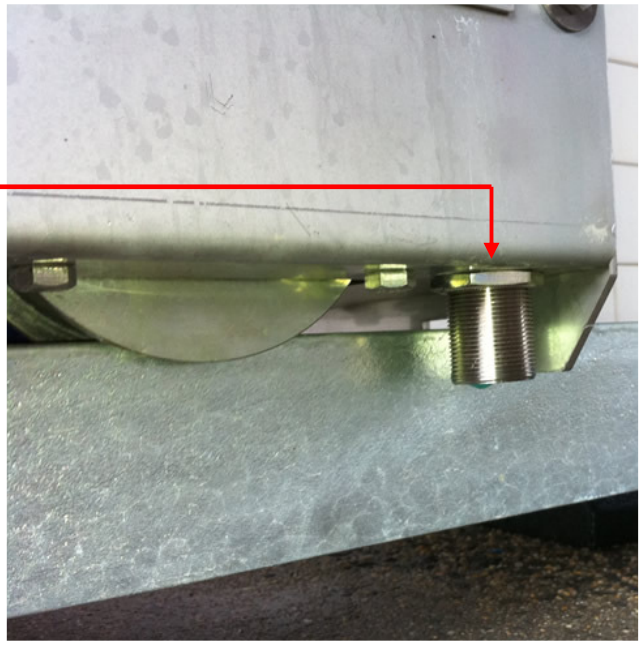
These sensors work by detecting metal when it is close. When metal is present a small light on the sensor will glow, this sends a signal to the computer. These sensors can be tested using a function on the computer inside the electrical cabinet.

On the keyboard hit the Escape key, this will take you from wash cars to the main menu. On the main menu select option 2 which is sensor test. Here you will see all the sensors listed, if the sensor has a number 1 beside it, it means that it is **ON**. If the sensor has a number 0 beside it, it means that the sensor is turned **OFF**. Another way to test the sensor is to see if it glows when metal is brought within its field. (See sensor test later in manual)

Lower Left Side Of Gantry

Y Reverse or YEND

This sensor is called Y reverse because it is the sensor that is used to detect the rail end when the gantry is moving towards the REAR of the car.



Y Forward or YHOME

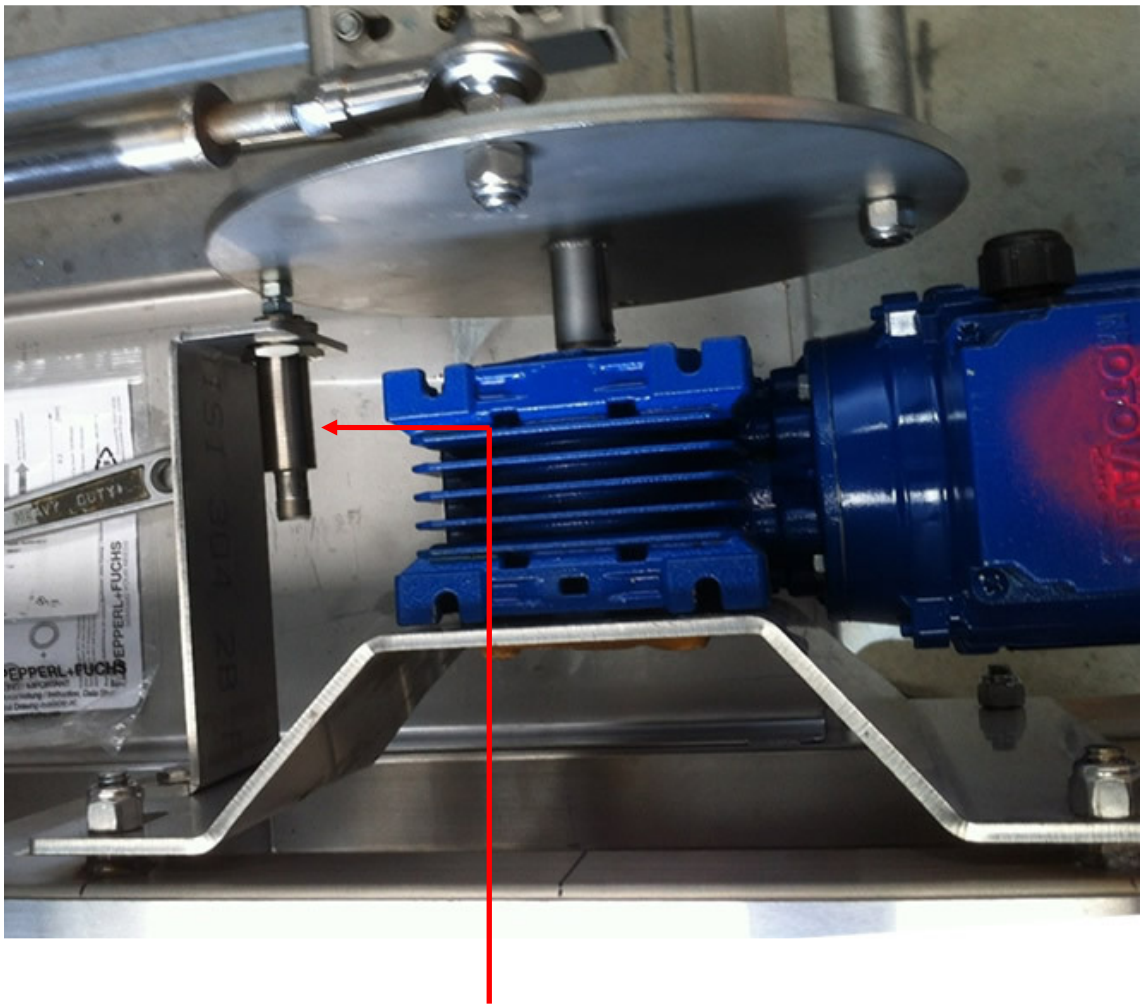
This sensor is called Y forward because it is the sensor that is used to detect the rail end when the gantry is moving towards the FRONT of the car.

Sensors

Inductive Proximity Sensors ZHOME

This sensor also works by detecting metal when it is close. When metal is present a small light on the sensor will glow, this sends a signal to the computer. This sensor can be tested using a function on the computer inside the electrical cabinet.

On the keyboard hit the Escape key, this will take you from wash cars to the main menu. On the main menu select option 2 which is sensor test. Here you will see all the sensors listed, if the sensor has a number 1 beside it, it means that it is **ON**. If the sensor has a number 0 beside it, it means that the sensor is turned **OFF**. Another way to test the sensor is to see if it glows when metal is brought within its field.



ZHOME SENSOR

Electronics

Cabinet Layout

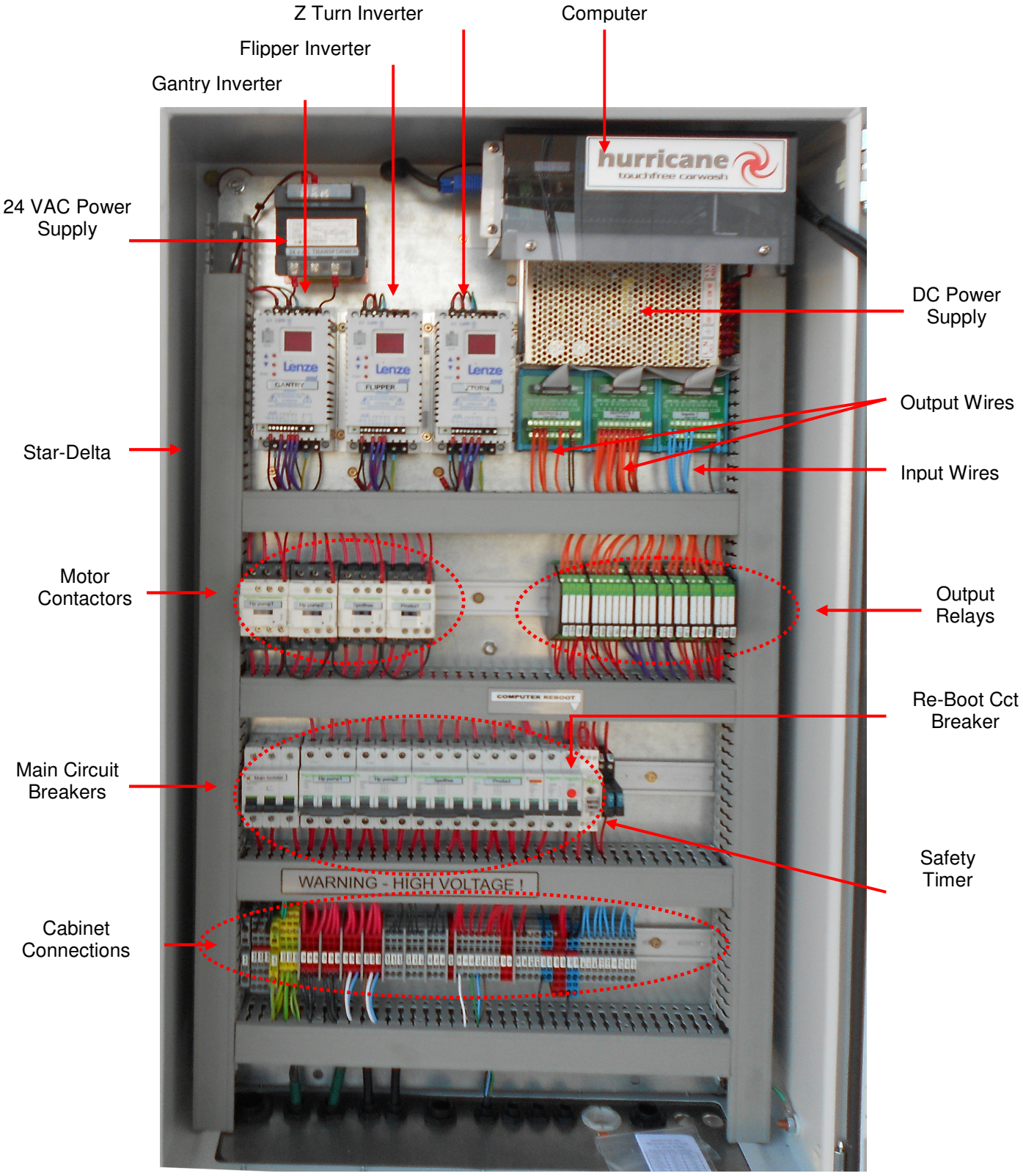
Computer Screen

Computer KeyBoard

Connection layout

Eectronics

Cabinet Layout



Safety Timer

The Mr Magic Hurricane car wash has built into it a timer function. This timer function is referred to as the safety timer. The device that controls this function is a Schneider RE11 RCMU or Omron H3DS-ML unit wired into the electrical control cabinet. See picture on previous page. The wiring of this device can be seen in the wiring section later in this manual.

This timing device is adjustable, by rotating the two dials on its face, you can set the amount of time that this timer will count. (See next page) It can be set to count anywhere from 0.1 seconds to 100 hrs. In this application, Mr Magic Hurricane, the timer is pre-set to 10Min. This is the time setting REQUIRED for the Hurricane car wash. It is not necessary to adjust this timer and should not be altered from factory settings as set by Mr Magic.

The reason for this timing function is to have a back up for the computer. Ie if for some unforseen circumstances, the computer does not end the wash cycle, (power spike, momentary power blip etc) the timer will cut in and end the wash. It is this reason that it is referred to as a safety timer.

The way this timer works is as follows,

1. When the Hurricane car wash electrical cabinet is powered up, the safety timer is automatically powered on.
   a. This is achieved by –ve dc common connected to terminal A2. (See wiring details attached)
   b. This is achieved by + 24vdc connected to terminal A1. (See wiring details attached))

2. The safety timer remains powered on in this state, to confirm that the timer has power connected; a small LED light will be on. This small LED is located to the bottom right hand side of the safety timer label on the front of the unit. This LED light must be on when pump stand electrical cabinet is powered up. If this LED light is not on, then power is not getting to the timer A1 and A2 and the car wash will not start.

3. The next part starts when a customer logs a wash, Ie puts money in the validator and selects what wash function they require. When the wash sequence starts, initiated wash and beam broken, the computer program momentarily operates the green relay named timer, this timer relay closes its contacts thus connecting +24vdc to pin (Y1 on the schneider timer) or (B1 on the Omron timer) device momentarily. (See wiring details attached).

4. When the safety timer gets this +24vdc connected to its Y1 or B1 terminal, the safety timer begins its countdown, in this Mr Magic example the device counts down from 10min to Zero.

5. At the same time that the safety timer starts to count, it also outputs +24vdc from its terminal pin 18, this pin 18, now with +24vdc on it, is wired to the common rail on the input side to all the green 24v relays, less the end three on the right. (See wiring details attached) It is this connection that gives all (most) of the green relays one half of their power to switch on other wash functions.

6. It is also this +24vdc coming out of the safety timer's pin 18, that gives this timer its control over the wash ending at the 10min mark. Because if the wash cycle has not completed for any reason, the safety timer will remove the +24vdc from its pin 18 when it has counted down to zero.

7. By removing the +24vdc from its pin 18, it has removed this voltage from the input common bar of the green relays thus they will all drop out and the wash stops.

8. If this happens, some thing has happened to make the wash last longer than 10min. This could be a fault condition within the computer, either a momentary power fail or spike or surge.

9. If this happens, follow the " Fault Procedures " on page 38.

10. Remember, LED light must be on when wash is powered up.

11. Safety timer does not need to be adjusted; it is correctly set at 10min by factory and tested.

Safety Timer (Schneider)

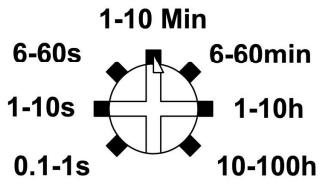
SAFETY TIMER

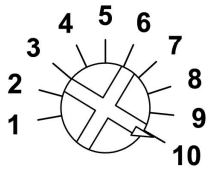
Can be purchased at most local electrical wholesalers.

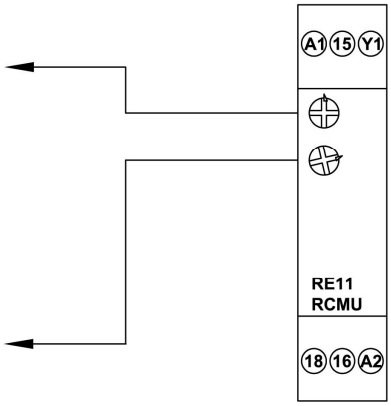
Brand: Schneider
Model: RE11 RCMU

SET TOP DIAL TO 1-10Min

TIMER MUST BE
RE11 RCMU







SET BOTTOM DIAL TO 10

For a more detailed explanation of this safety timer, refer to manual pages 28 & 29

RE11 TIMER SETTINGS			
DATE	EDITION	SHEET	
07/3/13	1F	12/40	
WIRE INFO			
COLOR	SIZE	LENGTH	BLOW L

Safety Timer (Omron)

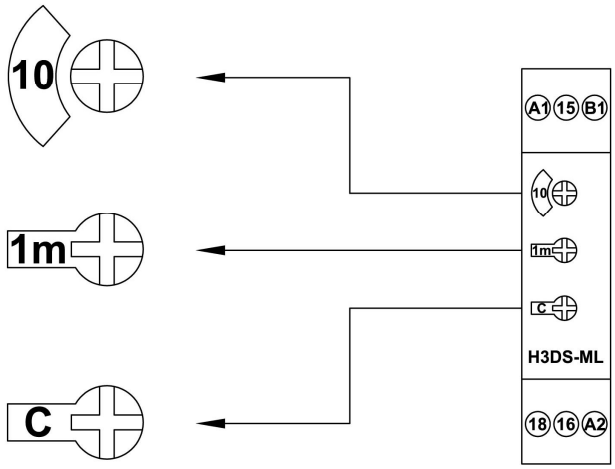
SAFETY TIMER

Can be purchased at most local electrical wholesalers.

Brand: Omron
Model: H3DS-ML

SET TOP DIAL TO 10

Omron
H3DS-ML



SET MIDDLE DIAL TO 1m

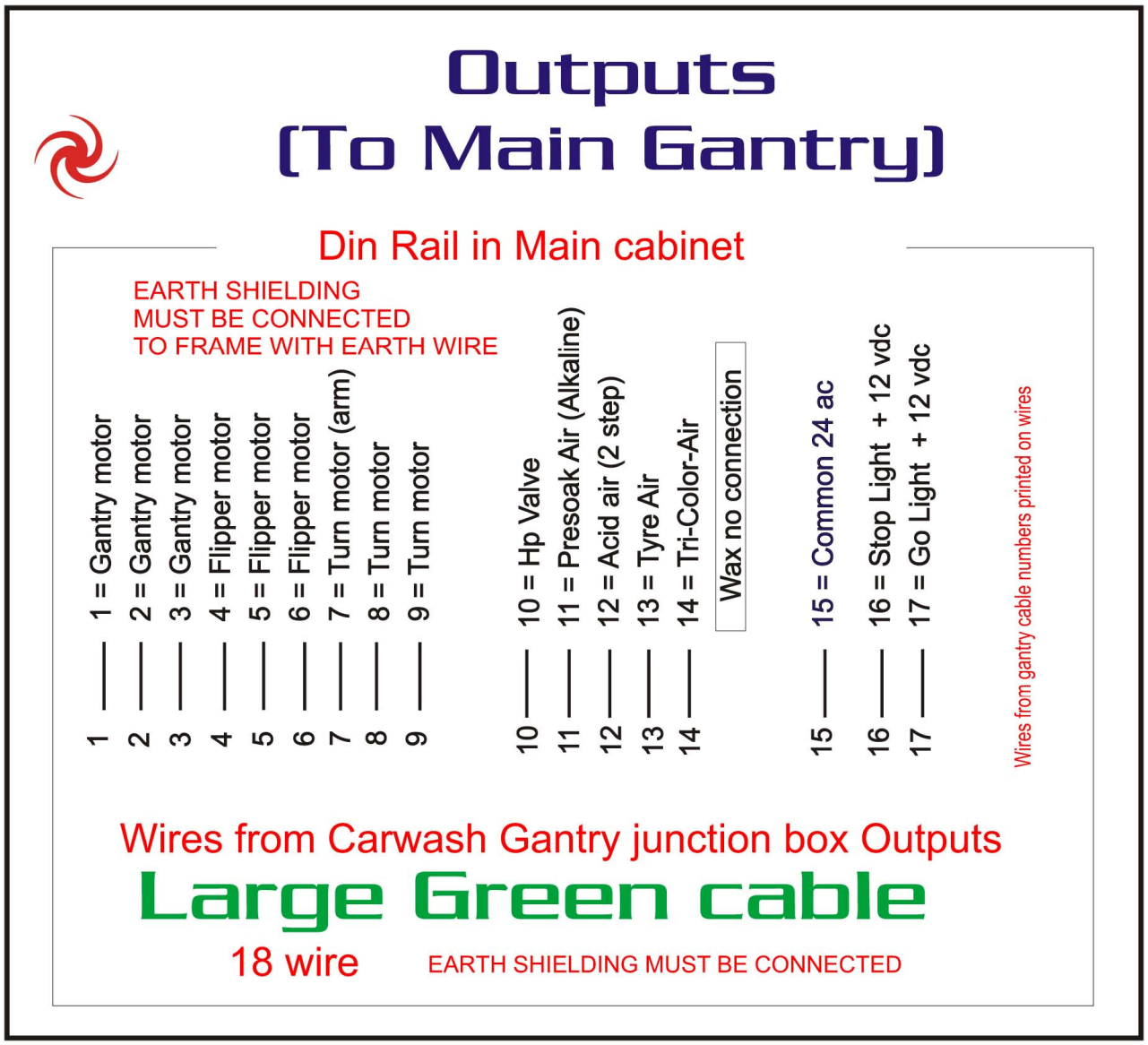
SET BOTTOM DIAL C

For a more detailed explanation of this safety timer, refer to manual pages 28 & 29

RE11 TIMER SETTINGS			
DATE	EDITION		SHEET
07/3/13	1F		12/40
WIRE INFO			
COLOR	SIZE	LENGTH	BLOW L

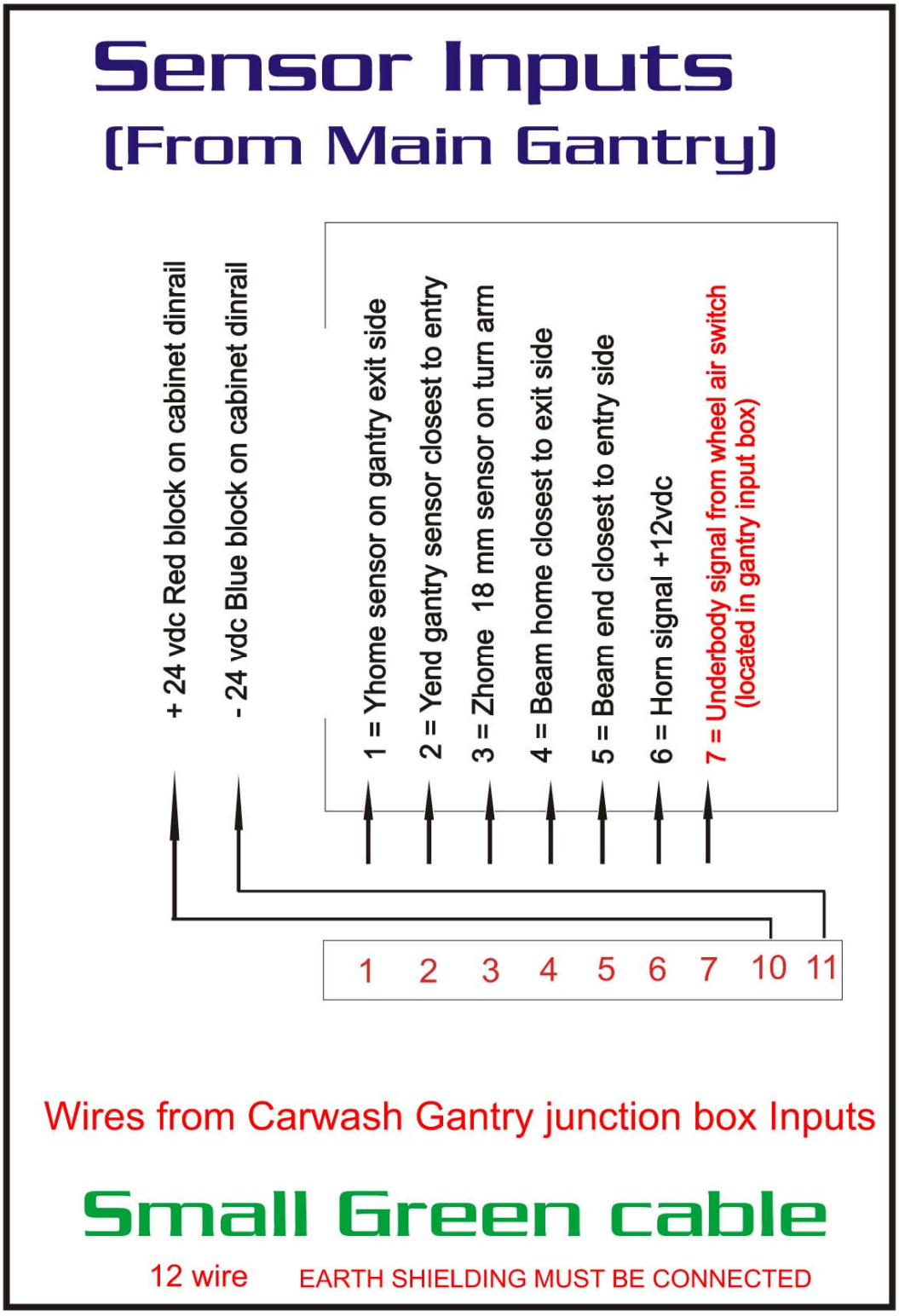
Cabinet Wiring Connections

Outputs to main gantry



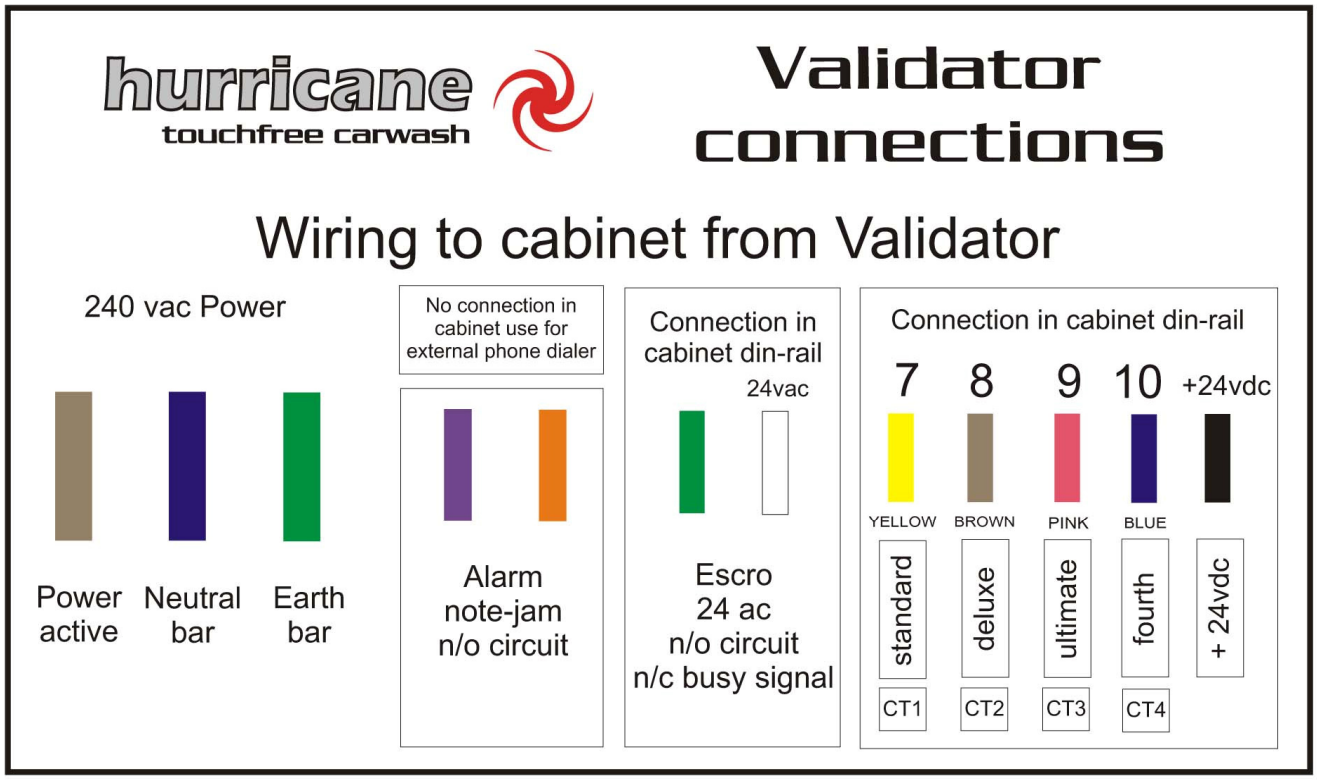
Cabinet Wiring Connections

Sensor inputs from main gantry



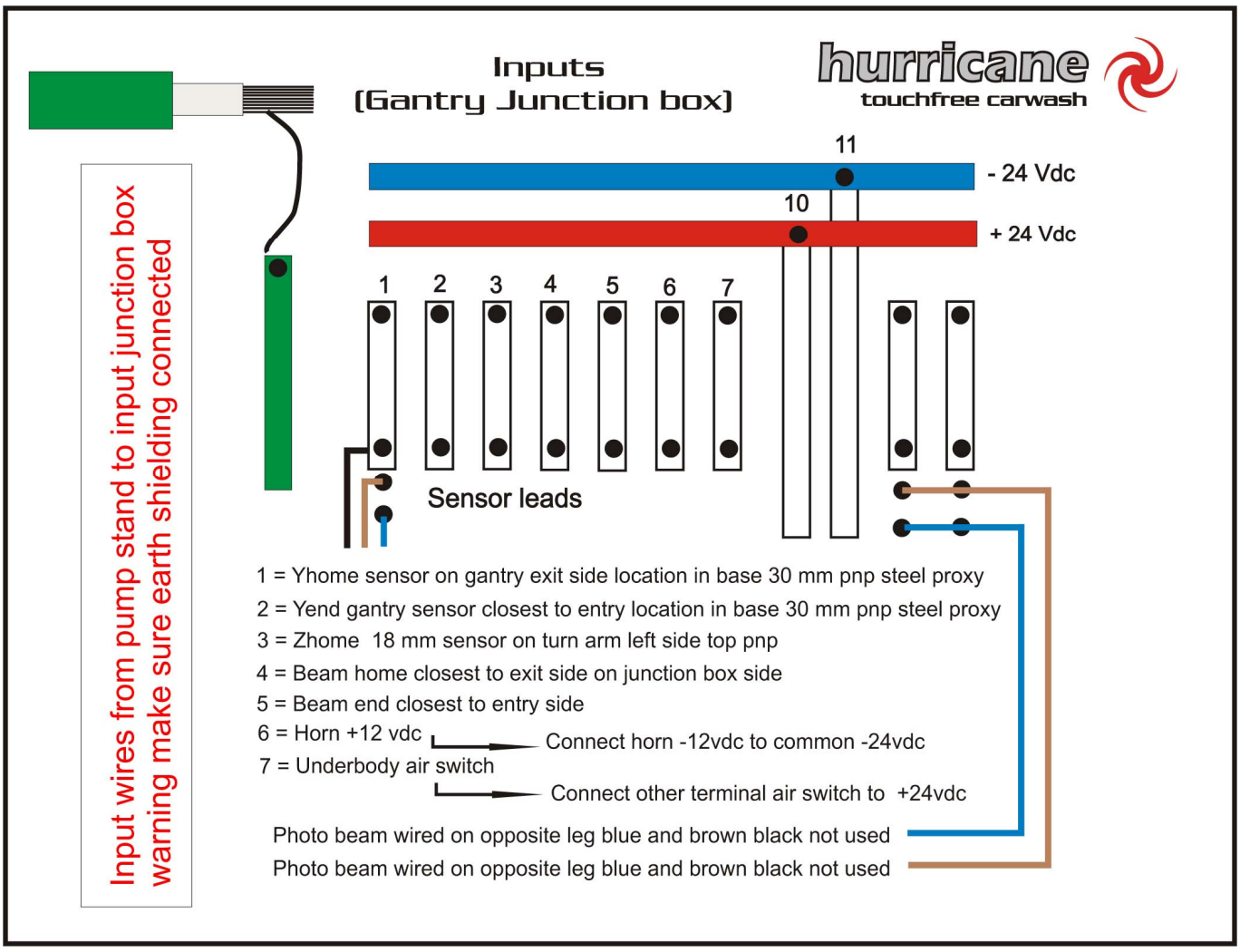
Cabinet Wiring Connections

Wiring to cabinet from validator



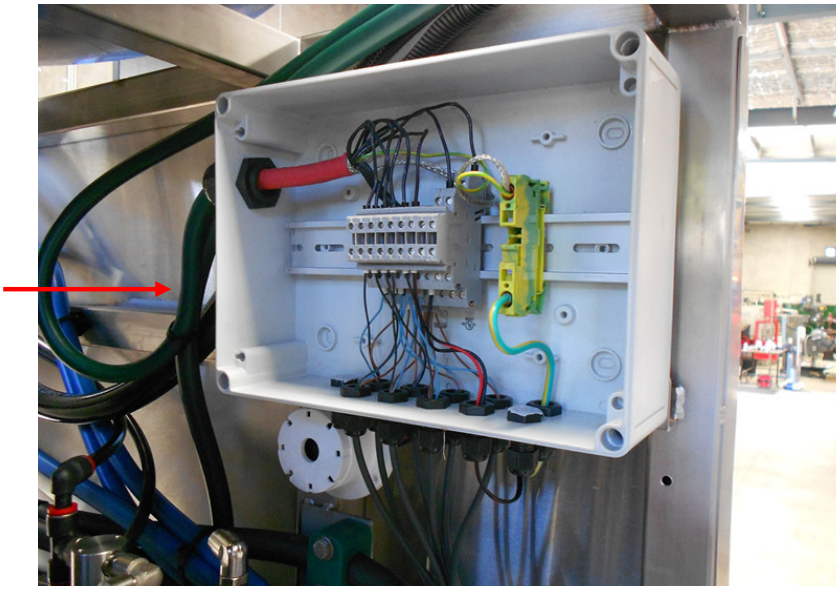
Gantry Wiring Connections

Inputs Junction Box Sensor Wires



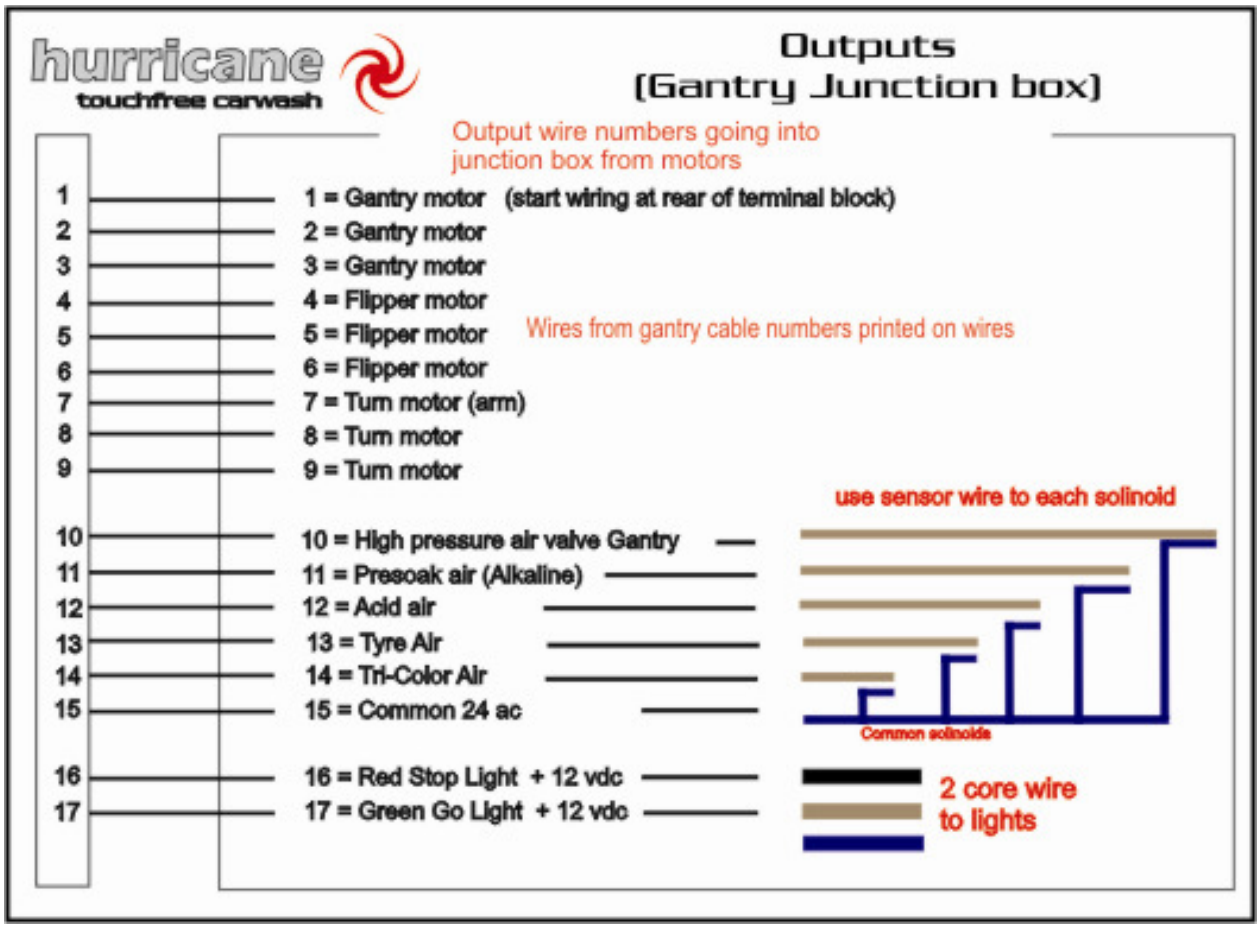
Inputs Gantry Junction Box

This junction box is located in the top left side of the gantry. Located on the inside of the front panel.



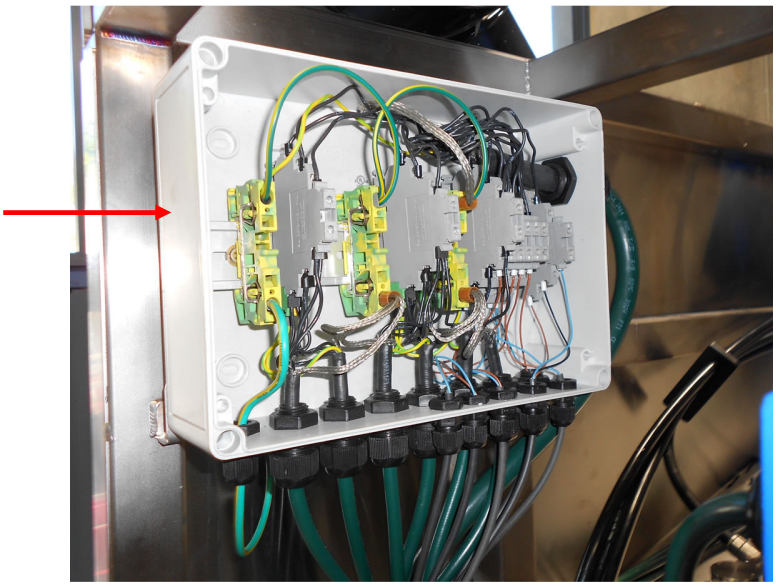
Gantry Wiring Connections

Outputs Junction Box Wires



Outputs Gantry Junction Box

This junction box is located in the top left side of the gantry. Located on the inside of the rear panel.



Fault Procedures

If the Hurricane Car Wash fails and stops while washing a car -

1. Clear the bay, ie remove car being washed
2. Record exactly where the Hurricane gantry is sitting (txt photo if possible)
3. Turn on the computer monitor (located inside the electrical cabinet on pump stand)
4. Record last four lines on the display (ie bottom 4 lines)
5. Re-position gantry to home location if not already home (procedure in manual)
6. Re-boot computer (procedure in manual)
7. Test operation of wash (ie put car through the wash process)
8. If same fault appears repeat steps 1-5 then Goto step 9.
9. Complete a “Total System Re-Boot” (procedure in manual)
10. Test operation of wash (ie put car through the wash process)
11. If fault re-appears, close wash temporarily.
12. Carry out “Sensor Test Procedure (procedure in manual)
13. If any sensor test fails, replace faulty sensor.
14. If all sensors test O/K as per procedure, contact Mr Magic for assistance

Jet Cleaning

It is important that jet cleaning be done correctly to ensure that you receive maximum life from these parts.

Incorrect jet cleaning will reduce the effectiveness and life span of your jets.

1. Jets cannot be cleaned correctly while still in position
2. Remove the jet, these will unscrew from their position, use correct sized spanner
3. Remove – Clean – Replace one jet at a time, this prevents jets being put back into incorrect position
4. Hold jet up to daylight and look through the hole, anything blocking hole will be visible
5. Tap jet onto bench to try to dislodge blockage
6. Use a cut plastic tie to run through the jet hole to dislodge the blockage
7. You can also used compressed air the blow through the hole in the jet
8. Hold jet up to daylight again, if cleaned correctly you should be able to see through the jet hole
9. Coat jet thread with suitable sealant
10. Replace the jet into it's correct position, DO NOT OVERTIGHTEN

A plastic cable tie with a sharp point cut on it's end is very good for cleaning blockages from jets.

Product Venturi's

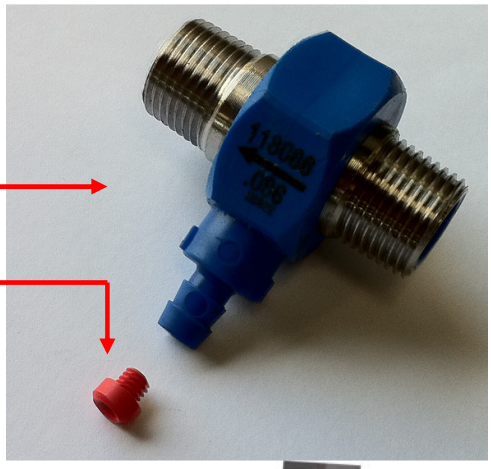
The product venturi's are what mixes the chemical product with the water as it is being pumped to the spray jets.

The amount of product being added to the water is determined by the "TIP" that is screwed into this venture.

Adjusting the amount of product is achieved by changing the TIP to a different size, all tips are color coded depending on its mixing ratio.

To change a TIP, pull clear product line off the venture hose barb, unscrew the now exposed TIP and screw in the replacement, push clear product line back onto the venture hose barb.

Tip color and sizes are on the following page.



Product
Solenoid Bars

Product Metering Settings

hurricane touchfree carwash

Tip Selection

(Selection based on)
0.086 venturi

Color	Tip Color	Ratio	My Settings
	tan	307: 1	
	orange	215: 1	
	turquoise	134: 1	
	pink	98: 1	
	light blue	66: 1	
	brown	59: 1	
	red	46: 1	
	white	43: 1	
	green	38 : 1	
	blue	31 : 1	
	yellow	22 : 1	
	black	17 : 1	
	purple	10 : 1	
	grey	7.6 : 1	
none	none	6 : 1	

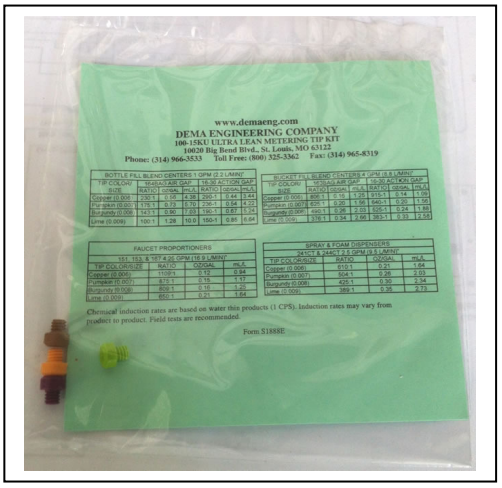
Product Tip Settings Standard

Below are the STANDARD venturi sizes and tip settings for the Mr Magic Hurricane, suitable as a base starting point. All sites can vary slightly either side of these recommendations but listed below is a starting point.

Wax Venturi Single	.098	Green	
Rainbow Venturi Single	.057	Red	
Rainbow Venturi Single	.057	Red	
Rainbow Venturi Single	.057	Red	
Tyre Venturi Single	.057	Red	Supa Sat Dual Venturi
Acid Venturi Single	.086	Blue	
Pre-Soak Venturi Single	.086	Blue	Supa Sat Dual Venturi

Product Tip Settings

Micro Tips



Wax

Burgundy

Use Micro Tips For Wax →

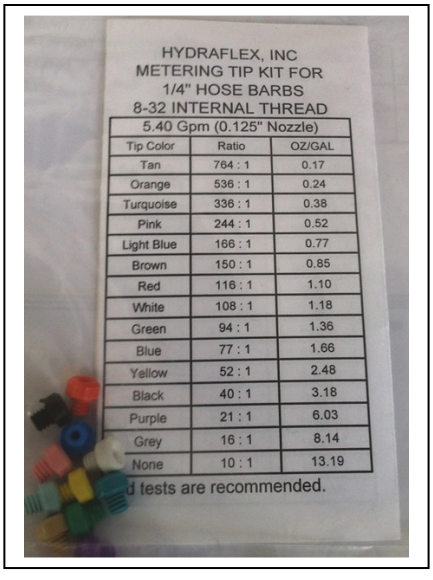
Tri Color

Tan tip

Acid Pre-Soak

Aqua tip
22 Drops

Normal Tips



SupaSat

Pre Soak

Alkaline	No Tip or Grey 50 Drops	
Surfactant	Pink Tip	Must use HA

Tyre Cleaner

Alkaline	Grey Tip
Surfactant	Brown Tip
Acid	Orange Tip 30 Drops

Lustra

Performix

Pre Soak	Yellow Tip

Blue Coral

Solid power	Purple tip

Auto Kleen

Sling shot

Pre-Soak	Red tip
Tyre	Green tip

Castle Chemicals

Splish Spalsh	Light blue tip

Wash Jet Sizes

TOP ARM

High Pressure Flipper Bar	0003	¼" BSP Stainless Steel	9
Pre Soak Bar	4005	1/8" NPT Stainless Steel	3
Spot Free Bar	4004	1/8" NPT Stainless Steel	5

SIDE ARMS x 2

High Pressure Flipper Bar	0003	¼" BSP Stainless Steel	16
Pre Soak Bar	4004	1/8" NPT Stainless Steel	4
Spot Free Bar	4004	1/8" NPT Stainless Steel	3
Tyre Cleaning Bar	5006	¼" BSP **Plastic Jet**	1

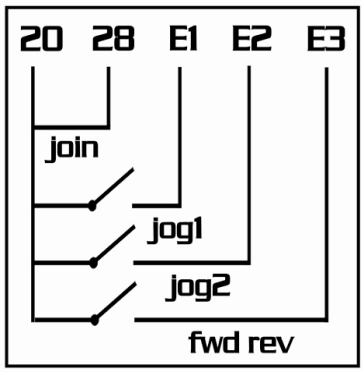
UNDERBODY

Underbody Bar	5006	¼" BSP Stainless Steel	6

Inverter Settings

Three lenze inverters control the Hurricane's gantry motor's. They have unique programming setups, they are listed below.

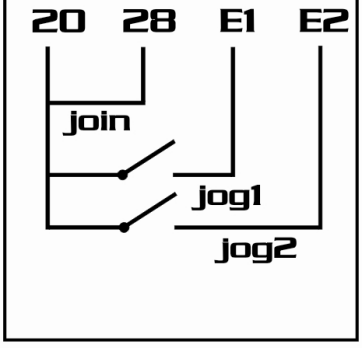
GANTRY (inverter settings)



CE1=1 sets E1 to be jog1
CE2=2 sets E2 to be jog2
CE3=4 sets E3 to be fwd rev

C12=,8 acceleration time
C13=,8 deceleration time
C16= 10 torque settings
C37=15 jog 1 speed
C38=30 jog 2 speed
C39=45 jog 3 speed

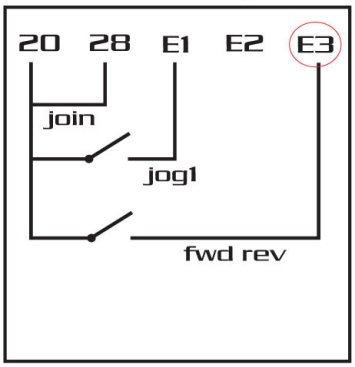
FLIPPER (inverter settings)



CE1=1 sets E1 to be jog1
CE2=2 sets E2 to be jog2
CE3=4 sets E3 to be fwd rev

C12=1 acceleration time
C13=1 deceleration time
C16= 10 torque settings
C37=20 jog 1 speed
C38=35 jog 2 speed
C39=50 jog 3 speed

TURN (inverter settings)



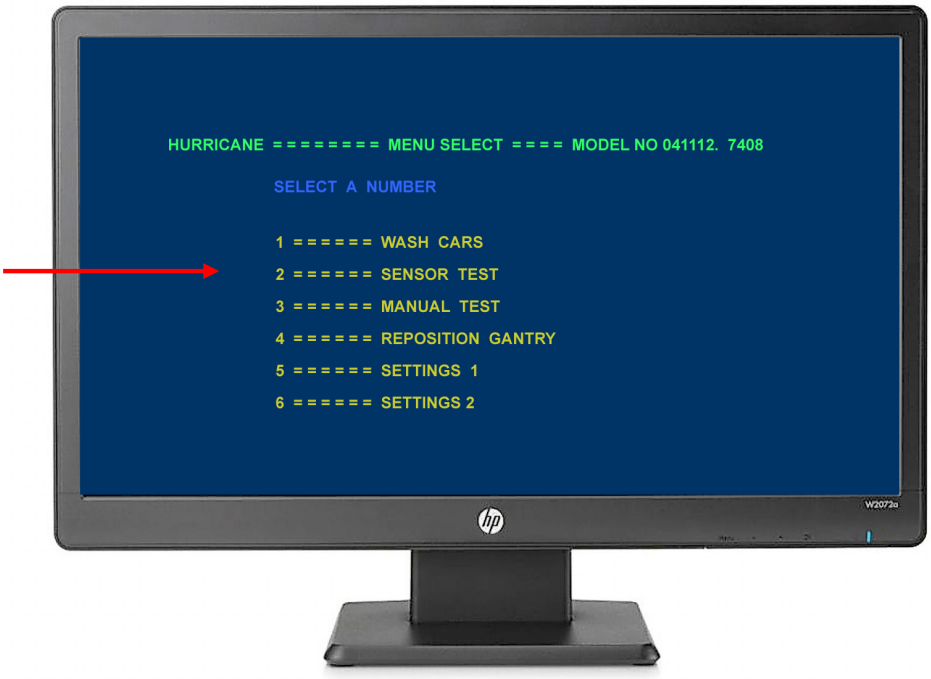
CE1=1 sets E1 to be jog1
CE2=2 sets E2 to be jog2
CE3=4 sets E3 to be fwd rev

C12=0 acceleration time
C13=0 deceleration time
C16= 20 torque settings
C37=15 jog OLD UNIT 100:1
C37=17 jog NEW UNIT 120:1

Sensor Test

From the start menu, press the escape key to enter the menu selections

From the menu shown, press the number 2 button on the keyboard to select the Sensor Test function.



Sensor Test

This screen is the sensor test screen. It is at this screen you can perform manual testing of several sensors on the Hurricane automatic car wash.

YHOME This sensor is located on the lower LEFT leg of the wash gantry, on the exit side of the machine. Ie it is this sensor that detects the end of the rail on the exit of the bay. See page 24.

YEND This sensor is located on the lower LEFT leg of the wash gantry, on the entry side of the machine. Ie it is the sensor that detects the end of the rail on the entry side of the bay. See page 24.

ZHOME This sensor is located in the top of the wash gantry. It is near the oscilating motor mounted on the inside of the rear (exit side) panel. See page 25

BEAMHOME This sensor is located on the left and right legs of the wash gantry. They are on the EXIT side of the gantry legs. See page 23

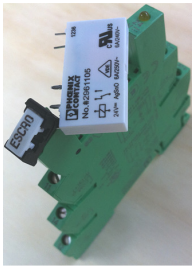
BEAMEND This sensor is also located on the left and right legs of the wash gantry. They are on the ENTRY side of the gantry legs. See page 23

UNDERBODYIN This belongs to the underbody. This sensor is the rubber vacuum hose located at the entrance of the wash bay.

FUNCTION TESTING

Shown on right are function test that can also be completed while on this screen.

WARNING
For these test to work, please remove the escrow relay before conducting these test.



STANDARD This is not a sensor but a test that you can do to ensure that the computer is receiving a wash signal from the validator when you select the bottom wash

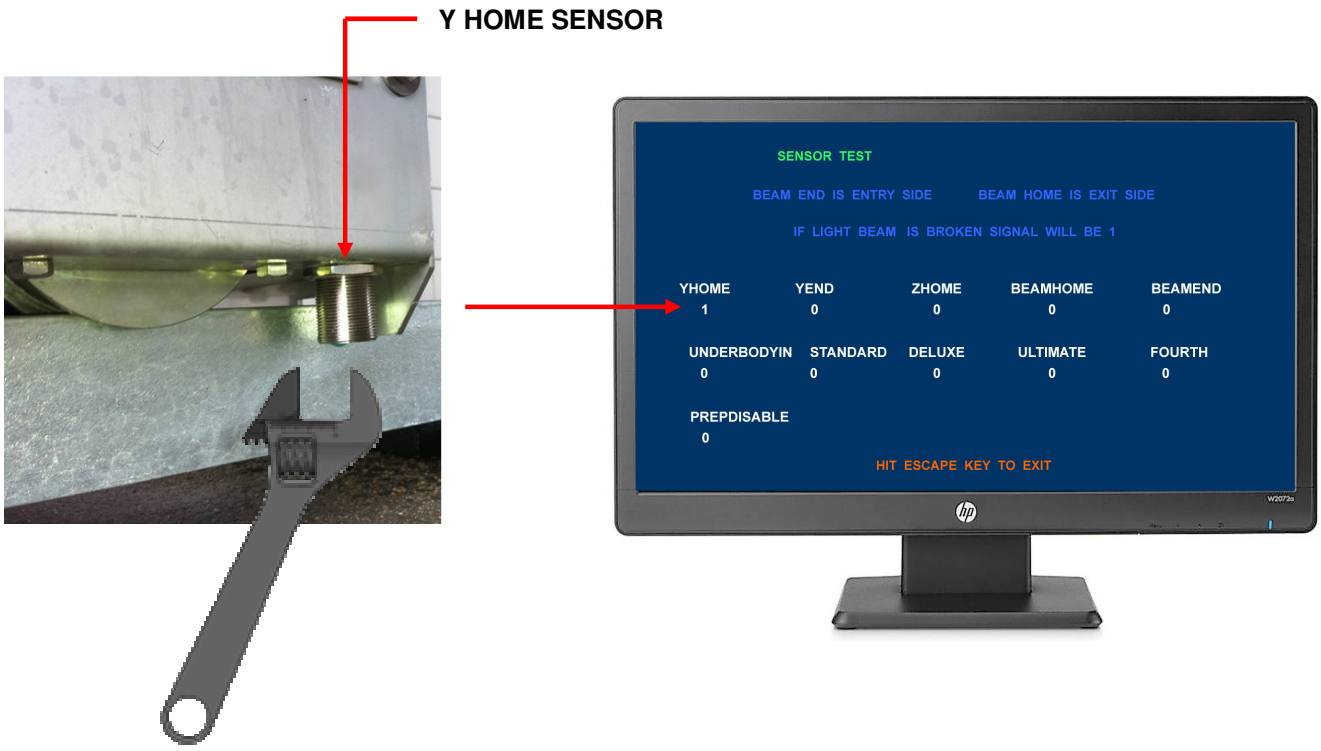
DELUXE This is not a sensor but a test that you can do to ensure that the computer is receiving a wash signal from the validator when you select the middle wash

ULTIMATE This is not a sensor but a test that you can do to ensure that the computer is receiving a wash signal from the validator when you select the top wash

FOURTH This is not a sensor but a test that you can do to ensure that the computer is receiving a wash signal from the validator when you select the fourth wash if added to system.

PREPDISABLE This is a function / option that is not included on all machines. This function / test to check that you prep disable key is working and that the signal is getting back to the computer. This option is only provided when the operators wish to have a pause time included in the wash after the pre-soak has been applied to the car.

Sensor Test (Example)



A. To test the YHOME sensor, start with gantry in the home position.
ie ready to wash a car.

B. Then use a metal object (shifter works) and place it close to the sensor

C. Check on the computer screen at label YHOME to see if the number has changed to a " **1** "

D. When the metal object is removed from near the sensor the screen will display a " **0** " below the YHOME label.

E. If the metal causes the signal at the computer screen to change from 0 to 1 then back to 0 when removed then the sensor is working correctly.

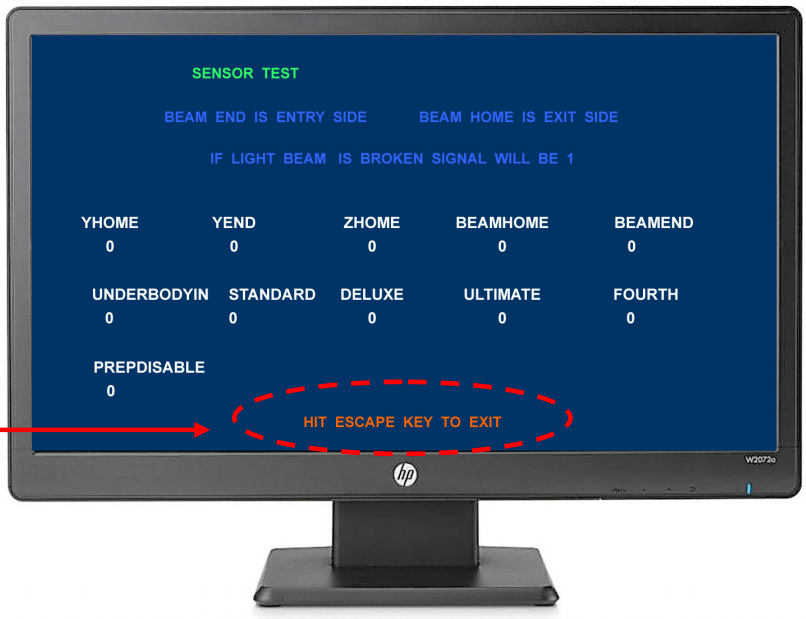
F. If the metal object does not cause the signal at the computer screen to change from " **0** " to " **1** " and back then the sensor may be faulty.

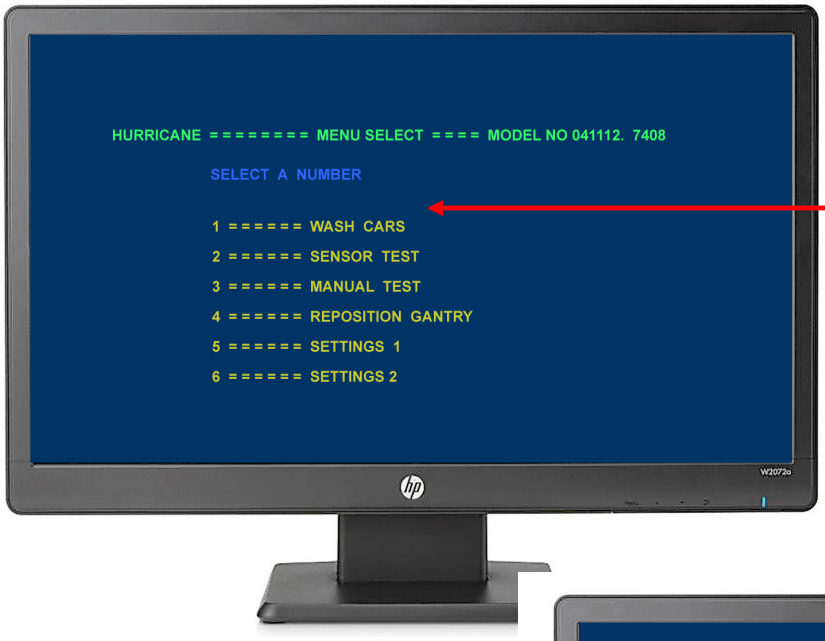
G. If the sensor appears faulty, change the sensor for a new one and repeat this test procedure.

H. Once you have satisfactorily completed the sensor test and all sensors are working then you can close this test and return to the main menu.

Return to Wash Cars from Sensor Test

When sensor test is complete, return to the previous menu by hitting the ESCAPE key on the keyboard.





From this menu hit the number 1 button on the keyboard to return to washing cars.

At this screen you are now ready to wash cars.