



Operating Manual

Manufactured by



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Maintenance

Mr Magic Smart Wash Maintenance Check List

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

| | Every Day Inspection | Date Completed |
|------------|---|-----------------------|
| WASH BAY | <ul style="list-style-type: none"> <input type="checkbox"/> Visually check jets on presoak bar <input type="checkbox"/> Check pre-soak application onto car <input type="checkbox"/> Visually check Turbo jets for good condition & isolating | _____ |
| PLANT ROOM | <ul style="list-style-type: none"> <input type="checkbox"/> Inspect laser positioning system, clean build up of soils <input type="checkbox"/> Check main air supply pressure (Page 5) <input type="checkbox"/> Check air mix pressures (Page 5) <input type="checkbox"/> Check for air in injector lines, there should be no air in lines <input type="checkbox"/> Check wax and pre-soak detergent levels and usage, avoid running out | _____ |
| WASH BAY | <ul style="list-style-type: none"> <input type="checkbox"/> Clean laser positioning lenses <input type="checkbox"/> Clean exterior panels of machine | _____ |
| PLANT ROOM | <ul style="list-style-type: none"> <input type="checkbox"/> Check pressure setting on all water regulators (Page 6) <input type="checkbox"/> Check main high pressure blast pressure (Page 7) | _____ |
| WASH BAY | <ul style="list-style-type: none"> <input type="checkbox"/> Grease all undercarriage bearings <input type="checkbox"/> Oil external stainless machine panels <input type="checkbox"/> Clean photo eye lenses (Page 19) <input type="checkbox"/> Tighten all dyna bolts holding track guide rails and laser plate <input type="checkbox"/> Grease high pressure swivel (Warning 1/2 Pump Only) | _____ |
| PLANT ROOM | <ul style="list-style-type: none"> <input type="checkbox"/> Remove and clean foot valves and filters on product pickup tubes <input type="checkbox"/> Check foot valves and filters on product pickup tubes are in detergent | _____ |
| PLANT ROOM | <ul style="list-style-type: none"> <input type="checkbox"/> Replace oil in high pressure pump (Page 15) <input type="checkbox"/> Clean 3/8" Y strainer on top of Lowara product water pump (Page 12) <input type="checkbox"/> Clean 2" Brass Y strainer on high pressure pump (Warning See Page 12) <input type="checkbox"/> Check belts on high pressure pump (Page 14) | _____ |
| WASH BAY | <ul style="list-style-type: none"> <input type="checkbox"/> Replace top 90deg high pressure swivel | _____ |

Tips

- Quick Stop Function, hit escape key on the keyboard will stop machine immediately.
- 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
 - If a wash needs to be cleared, put your foot on the virtual plate, wait till the machine moves rearward, then move back straight away not allowing the machine to detect you with its lights beam sensors. If the machine travels all the way back and cannot detect a car it will reset back home and clear the wash.

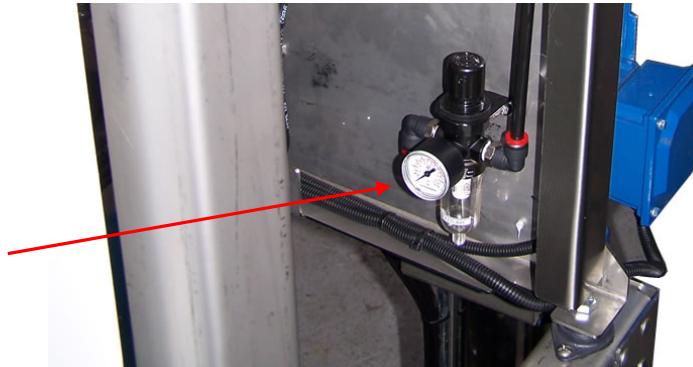
- Cars with paint that comes off plastic trimming, this was a particular problem with EL falcons as it is a well known problem with this model (Due to preparation of the plastic trims before painting)
- Cars with paint that comes off plastic bumpers is usually caused by stone chips or poor paint preparation.

Pressure Settings

Main Air Supply Pressure

The main air supply pressure is adjusted using the regulator shown on right. This regulator is located on the reverse side lower left hand corner of the pump stand.

This pressure should be adjusted to **90 – 110 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 shown on right needs to be adjusted to read **30 Psi**

Rainbow air mix adjustment shown on right needs to be adjusted to read **25 Psi**.

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



Pressure Settings

Water Regulators

To adjust these regulators, first loosen the locking nut on the thread T Bar handle. Then turn the handle until the required pressure is displayed on the gauge, retighten the locking nut.



Pre-Soak water regulator pressure needs to be set to **55PSI Max**

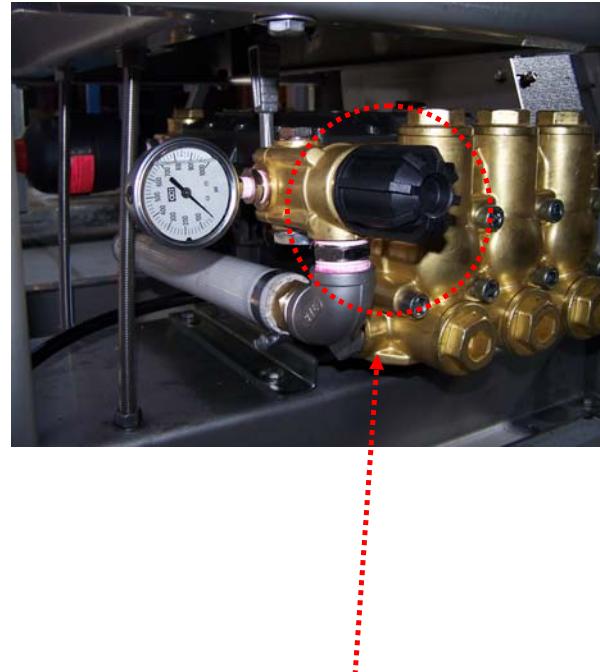
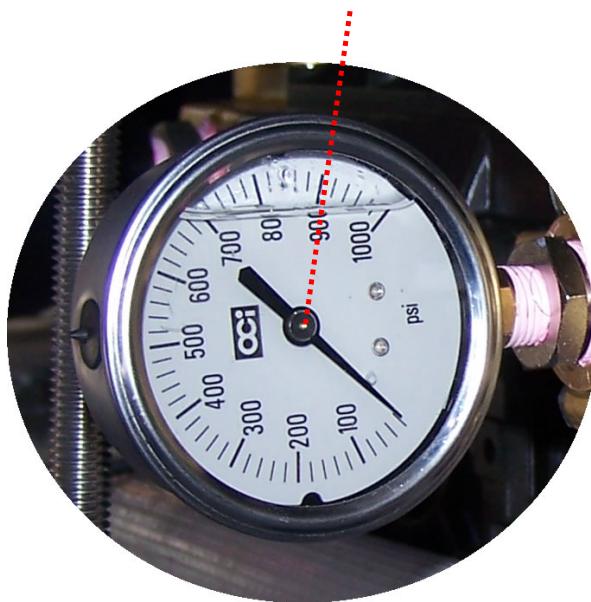
Wax water regulator pressure needs to be set to **60PSI**

Rainbow water regulator pressure needs to be set to **60PSI**

Pressure Settings

Main High Pressure Blast (900 Psi)

Main water pressure is adjusted using the regulator shown on right. This regulator is found on the inside lower section of the pump stand mounted on the side of the main pump.



Adjust regulator by turning this knob. This regulator must be set to read **900 PSI** on the gauge shown.

Product Metering Settings

The delivery ratio of the products is controlled by the use of 4 IWAKI metering pumps and 1 x Chem Feed pump. These are easily adjusted using small thumb control knobs with a scale of 4 – 100%. The table below shows the mixing ratio's recommended as a starting point. Ratio's may need to be adjusted depending on the brand of product being used.

| PRODUCT METERING PUMPS | | | | |
|------------------------|-------------|-------------|-----|----------|
| Rainbow –1 | Rainbow – 2 | Rainbow – 3 | Wax | Pre-Soak |
| 15 – 30 % | 15 – 30 % | 15 – 30 % | 15% | MAX |

Shown on right is an Iwaki metering pump. These are used for injecting Wax and Rainbow products. All four pumps look the same but are clearly labeled to distinguish one from the other. Mixing ratio adjustment is achieved by adjusting the grey knob on the front of the pump.



Shown on the left is the Chem Feed metering pump. This pump controls the amount of Pre-Soak detergent being injected. The amount injected is achieved by adjusting this knob.

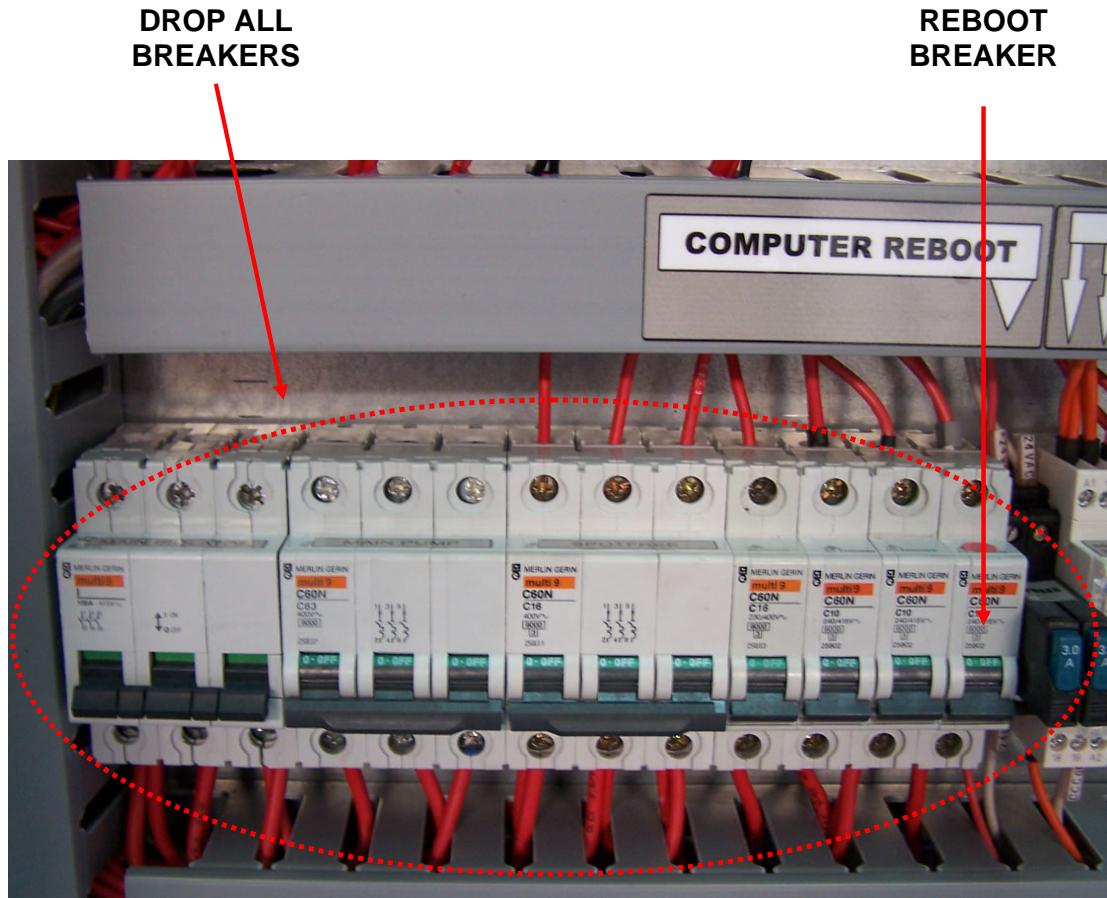
ReBoot

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

Total System Reboot

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



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
- Bike racks protruding on back of cars
- Pipes and tools hanging out of utes
- Ladders and racks over extension
- Driver moving vehicle when machine is moving
- Debris on tracks
- 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.

If needed push the trolley box by hand to the driver's side of the gantry, this is where it needs to be to start the machine.

Rotate the arm by hand to its home position.

6. Now hit the “ESCAPE” key to return to the menu
7. Then hit key number (1)
8. Then enter to select “Wash Cars”

Residual Valve

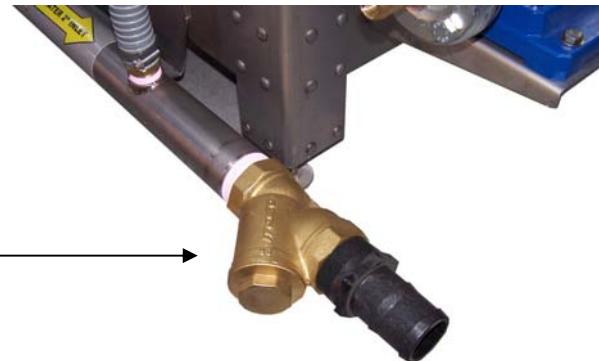
Wax and Spot Free jets have residual valves. If the jet continues to drip these residual valves need to be removed and cleaned. Be aware of rubber diaphragm under screw top do not loose this rubber. Most times simply unscrewing and letting valve self flush is enough to clean valve seat.



FILTERS

Low pressure inlet filter

On the inlet side of the main high pressure pump is a 2" brass 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.



WARNING RECYCLE WATER

If using Recycle water, this filter will need to be checked DAILY, if clean then every other day and so on.

Recycle water will block this filter much faster than fresh town supply. If this filter blocks water from getting to the high pressure pump, damage to pump will occur.

Product water inlet filter

On the output side of the small product water mixing pump there is 3/8" brass 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.



WAX

Important To much wax will leave marks on the car.

For Iwaki metering pumps 15% for good quality waxes is a good starting point, (see chart page 4) we do not advise dumping large amounts of wax onto a car. We only apply wax using the side jets; it then mist over the roof and bonnet. This is less likely to leave excess amounts of wax on the car, which will create white spots. Enough wax is being applied if the spot free water beads and sheets off the car.

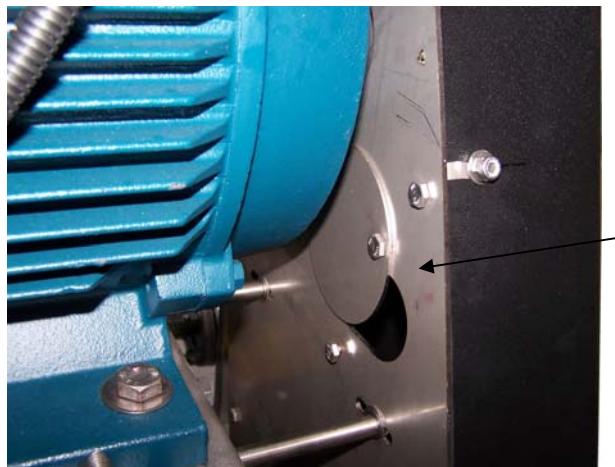
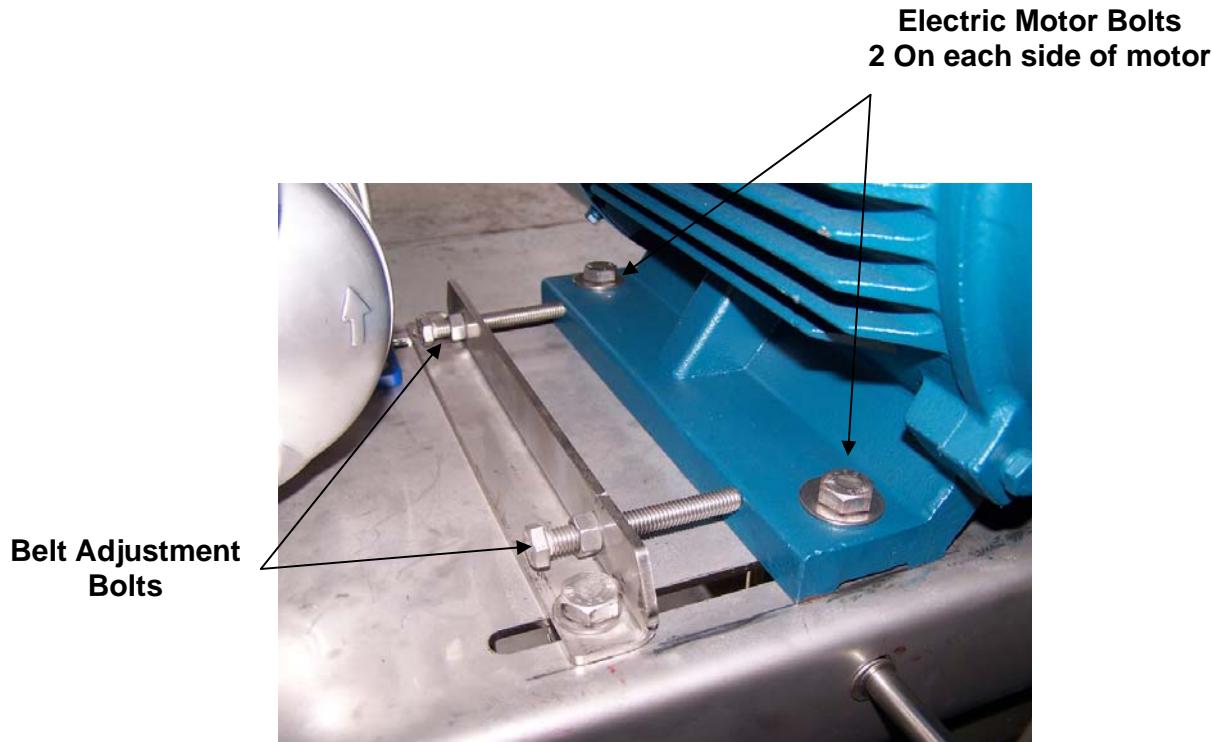
IWAKI Metering Pump



Belt Adjustment

The drive belts are to be kept tight. Deflection of the belt will be 10mm – 15mm. To adjust,

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



Shown on the left is the inspection hatch to check belt tension. Loosen the bottom hole only slightly to allow plate to pivot exposing hole.

High Pressure Pump

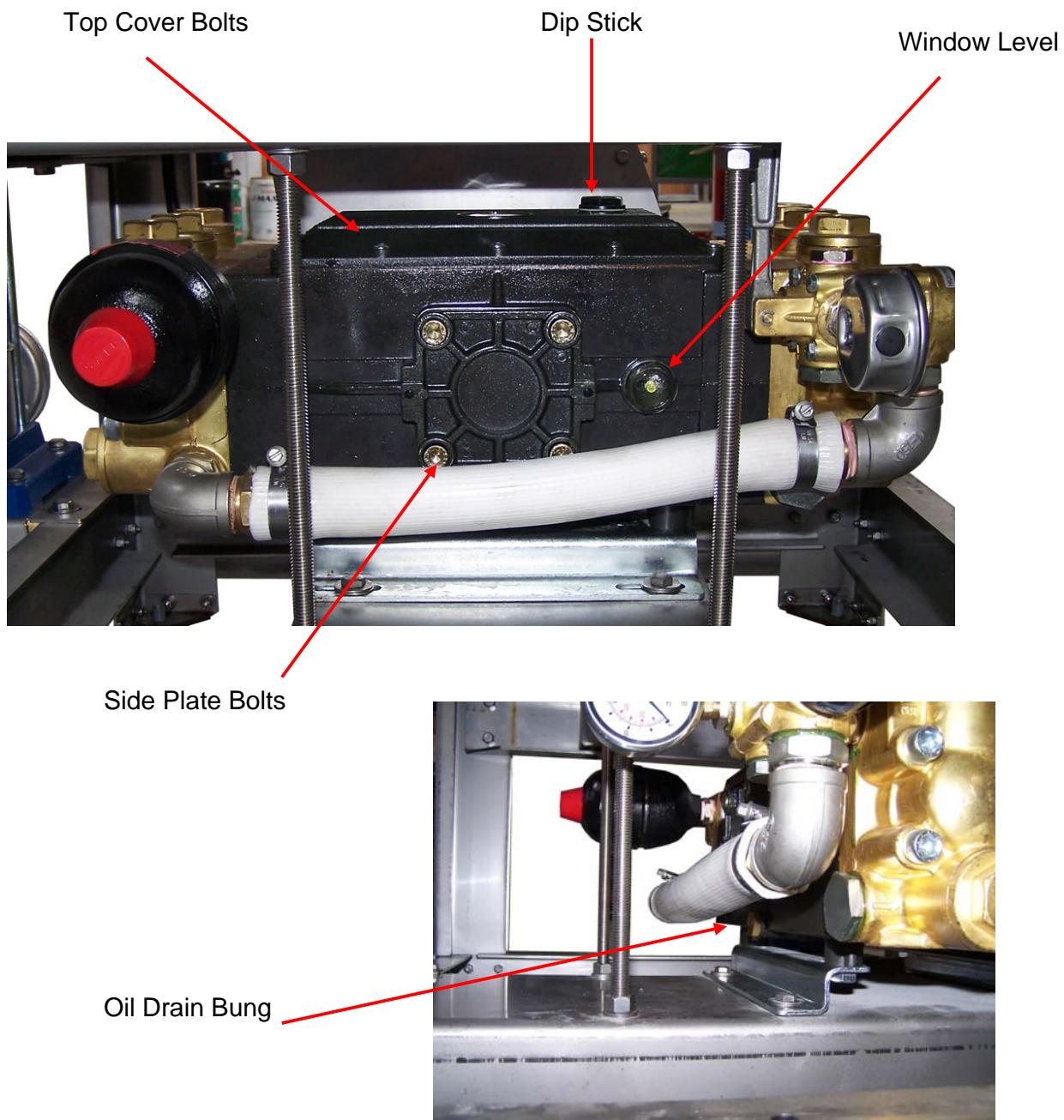
The oil and additive required for this pump every 6 months is

**MULTI GRADE ENGINE OIL SAE 20-30 OR SAE 20-50 plus
ANTI WEAR OIL ADDITIVE (MOREYS AS AN EXAMPLE)**

When new, this MUST be changed after 3 months of operation.

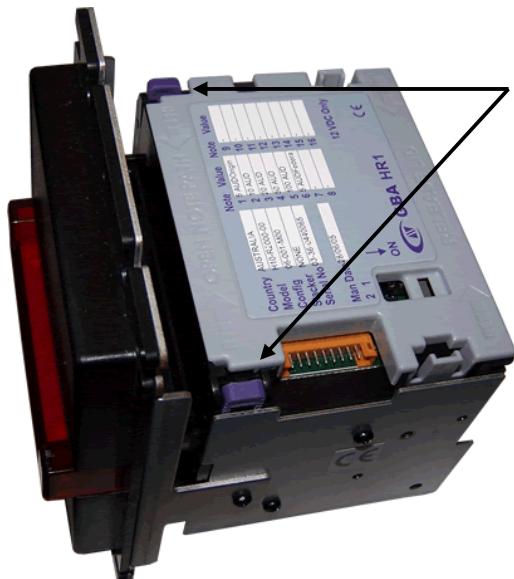
Periodically check the oil level in the glass window to ensure that pump has sufficient oil to operate. Oil level can also be checked using the dip stick.

Every 6 months of use, check that the top and side plate bolts remain tight.



Note Validator (GBA-HR1)

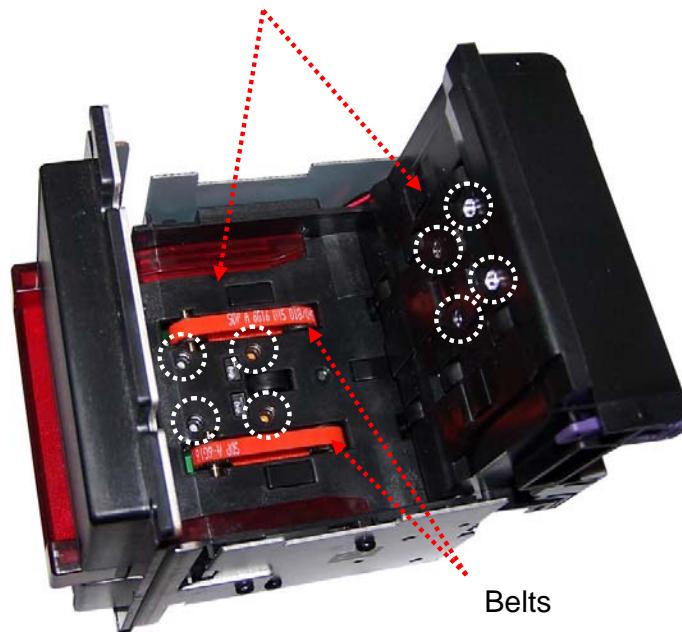
To have trouble free operation it is very important to have additional shade over the validator. If high temperatures exist, additional fans may be required in the base to create airflow to stop a build up of heat in the box. If the note validator shows signs of bad performance, first switch the unit off and then open it up by pressing the two purple clips.



Purple Clips

Remove unit and clean with a slightly moist cloth. Pay special attention to belts and optical lights. Be sure hair and materials are free from belts.

Optical Lights



Belts



RS 232 Board

Also check that the plug into the RS232 board is connected properly and check the wires to the main board.

Note Validator Calibration (GBA-HR1)

THE GBA2 VALIDATOR CAN GET OUT OF CALIBRATION THIS MAY CAUSE NOTES NOT BEING ACCEPTED AND A HIGH REJECTION RATE

This may be very easy to remedy before sending back for maintenance to microcoin. Follow these instructions carefully and if removing the note validator unit, please turn validator off or damage will result.

1. Ensure that the GBA unit has been turned **ON** for at least 15 minutes prior to calibration.
2. Locate DIP switch No 1 via the access hole in the lid.
3. Turn Dip switch No 1 to the **On** position.
4. Insert **THIN** calibration sheet. (Thin paper supplied)
5. Paper will be held for approx. 3 seconds and then rejected in 1 smooth action. If the paper is rejected in 3 movements, then re-insert paper. If still unsuccessful, then switch DIP-1 OFF, power down GBA2 unit and start again from point number 1.
6. After thin paper is returned, insert the **THICK** calibration sheet. The paper is held for approx $\frac{1}{2}$ second and then rejected in one smooth action. If unsuccessful, follow the procedure in point number 5.
7. Turn DIP-1 **OFF** and turn GBA unit **OFF**.
8. Power up GBA unit
9. Calibration is complete.



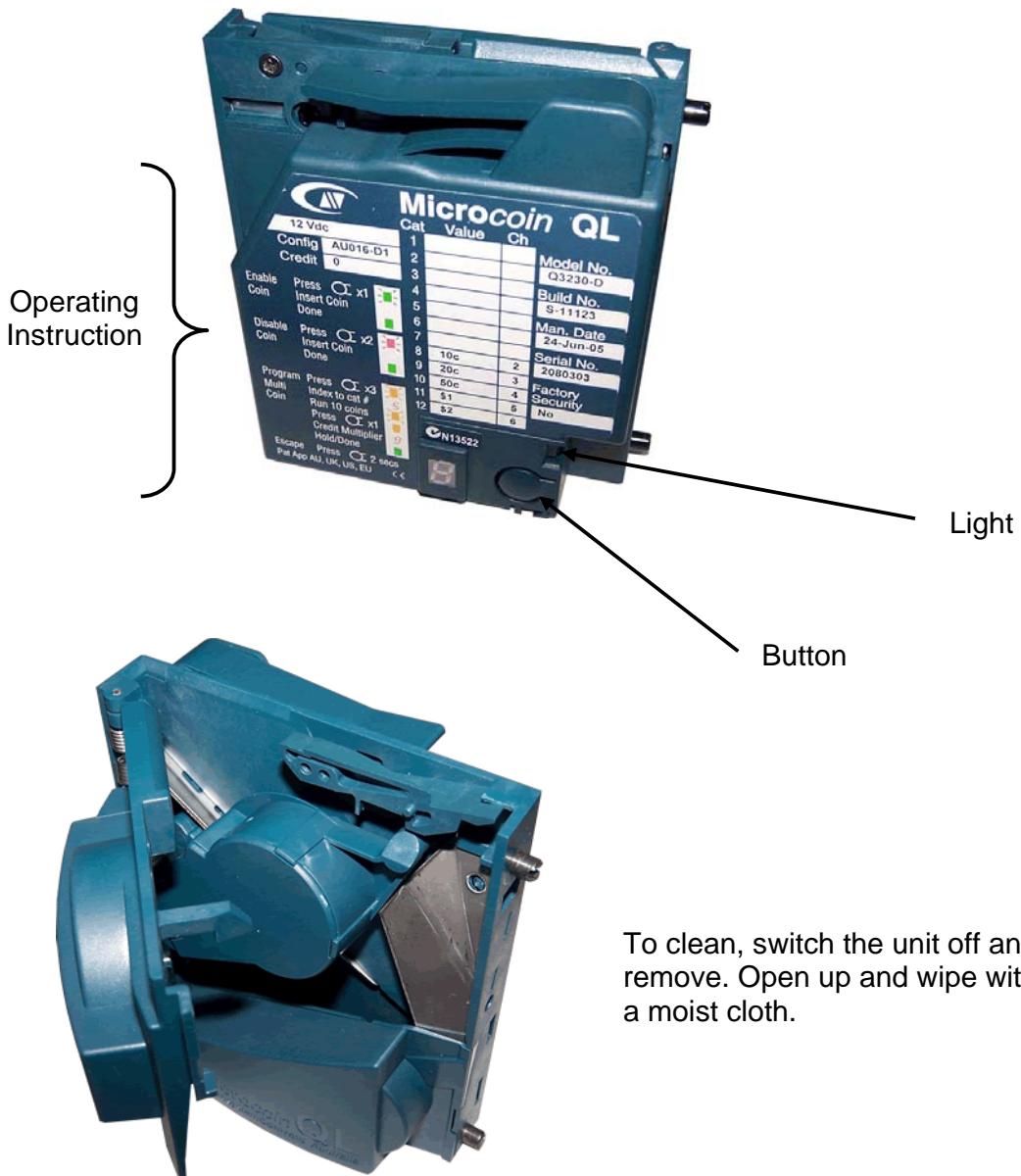
Service agent refer to -

Micro Systems Controls
Melbourne
Ph (03) 9646 6446

Sydney
Ph (02) 4731 6655

Coin Validator

If the coin validator does not accept a coin then it may be because the line for the coin is switched off. ie coin disabled. To turn a line on or 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.



To clean, switch the unit off and remove. Open up and wipe with a moist cloth.

Service agent refer to -

Micro Systems Controls
Melbourne
Ph (03) 9646 6446

Sydney
Ph (02) 4731 6655

Sensors

Photo Light Beams

Beam 64

Beam 128 This is the beam that is closest the validator.

The light beams are labelled 128 and 64 and there is a transmitter and a receiver with each light beam. To maintain them they need the lenses wiped with a damp cloth.

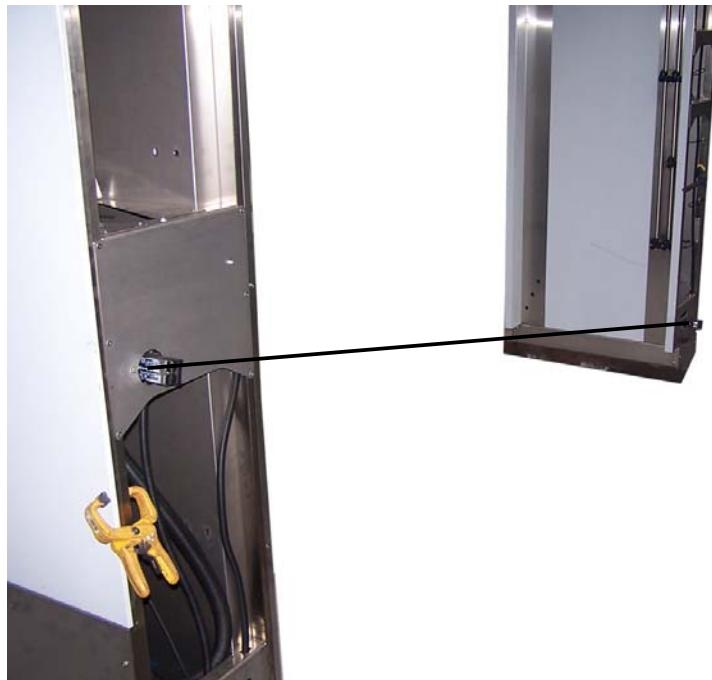
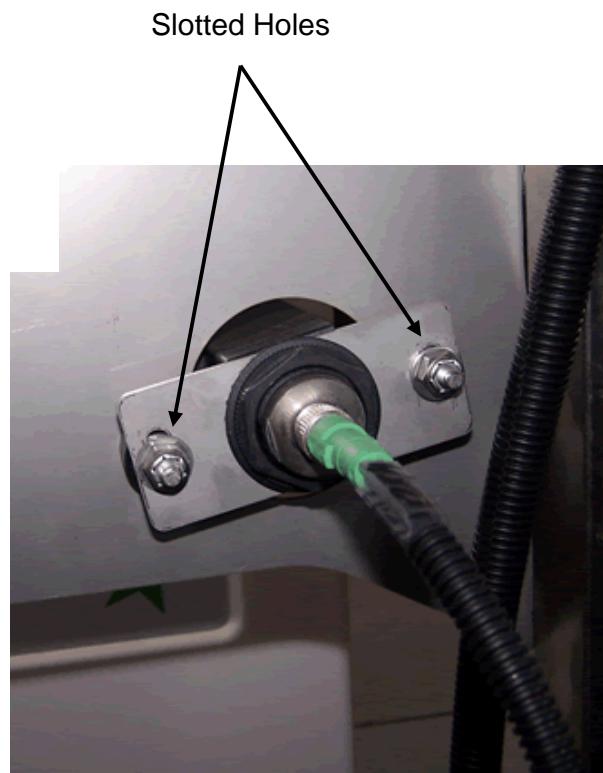


Photo Light
Beam Unit



To align the light beams you will need to run a string line from one to the other and then loosen the bolts that hold the beam unit in place. By loosening these bolts the unit will rotate in the slotted holes sufficiently to achieve good alignment.



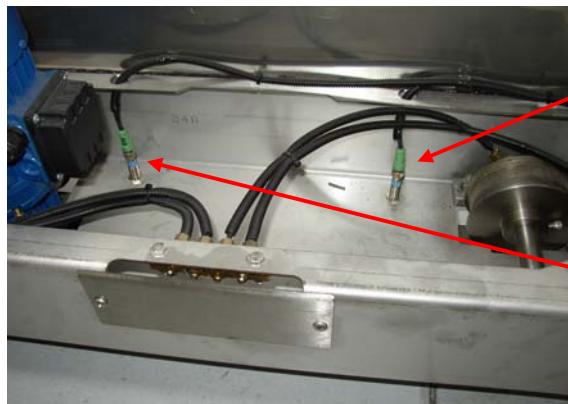
Sensors

Magnetic Proximity Sensors

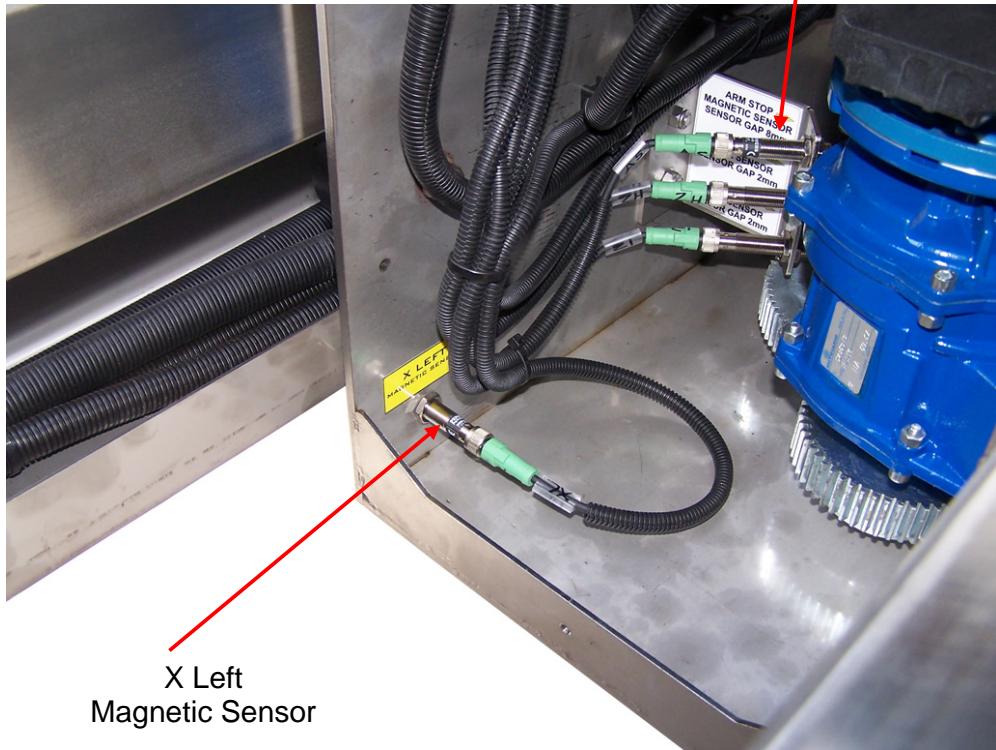
These sensors work by detecting a magnet when it is close. When a magnetic field is present a small light on the sensor will glow, this sends a signal to the computer. These sensors can be tested using a function in the computer software.

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 a magnet is brought within its field.

Lower Left Side Of Gantry



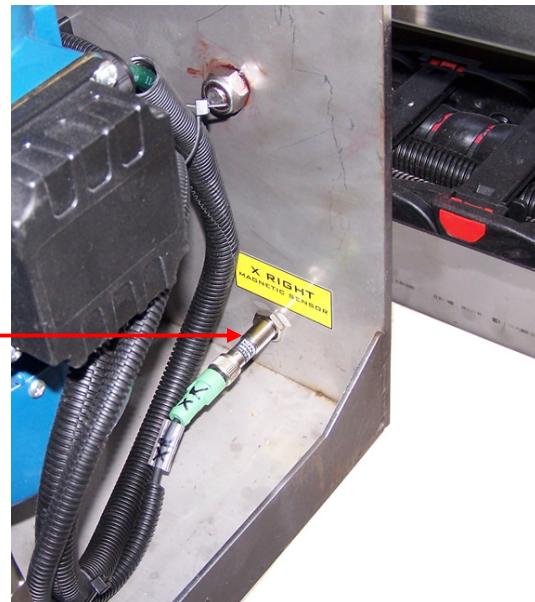
Trolley Box



Sensors

Magnetic Proximity Sensors

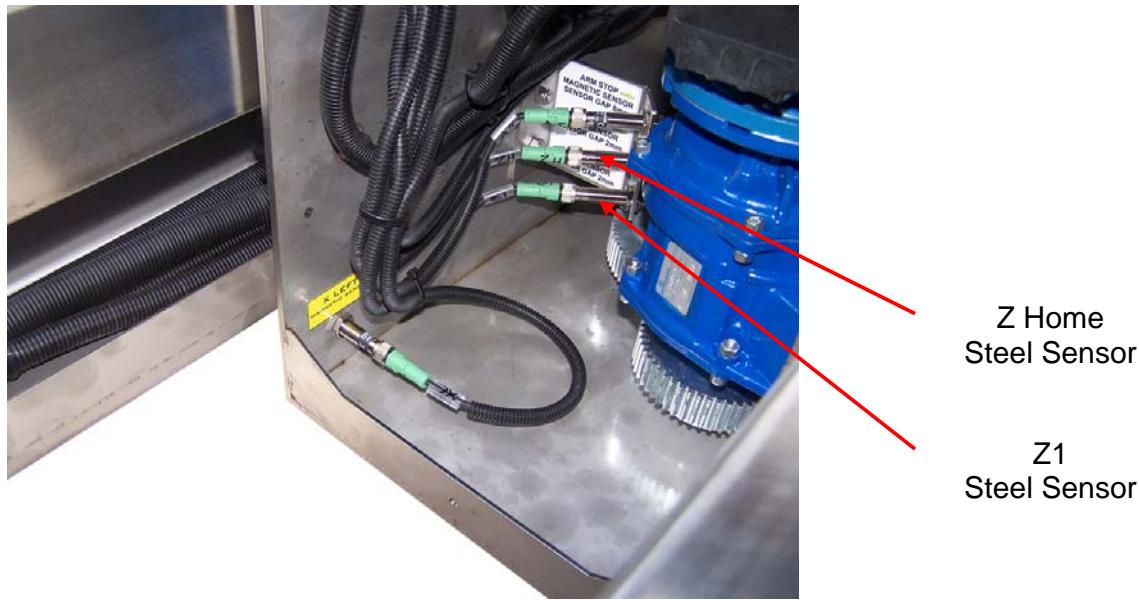
X Right
Magnetic Sensor



Sensors

Steel Proximity Sensors

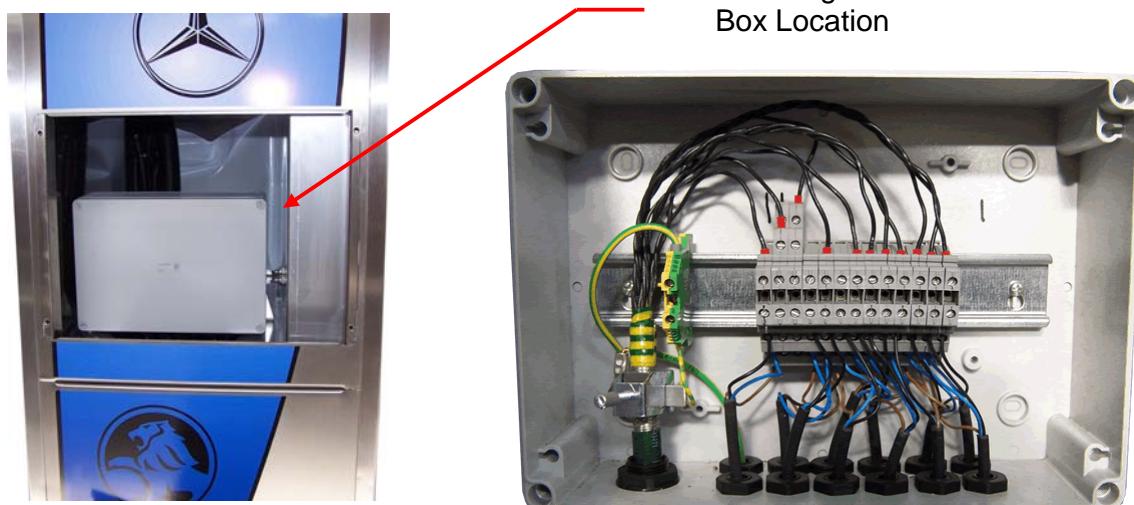
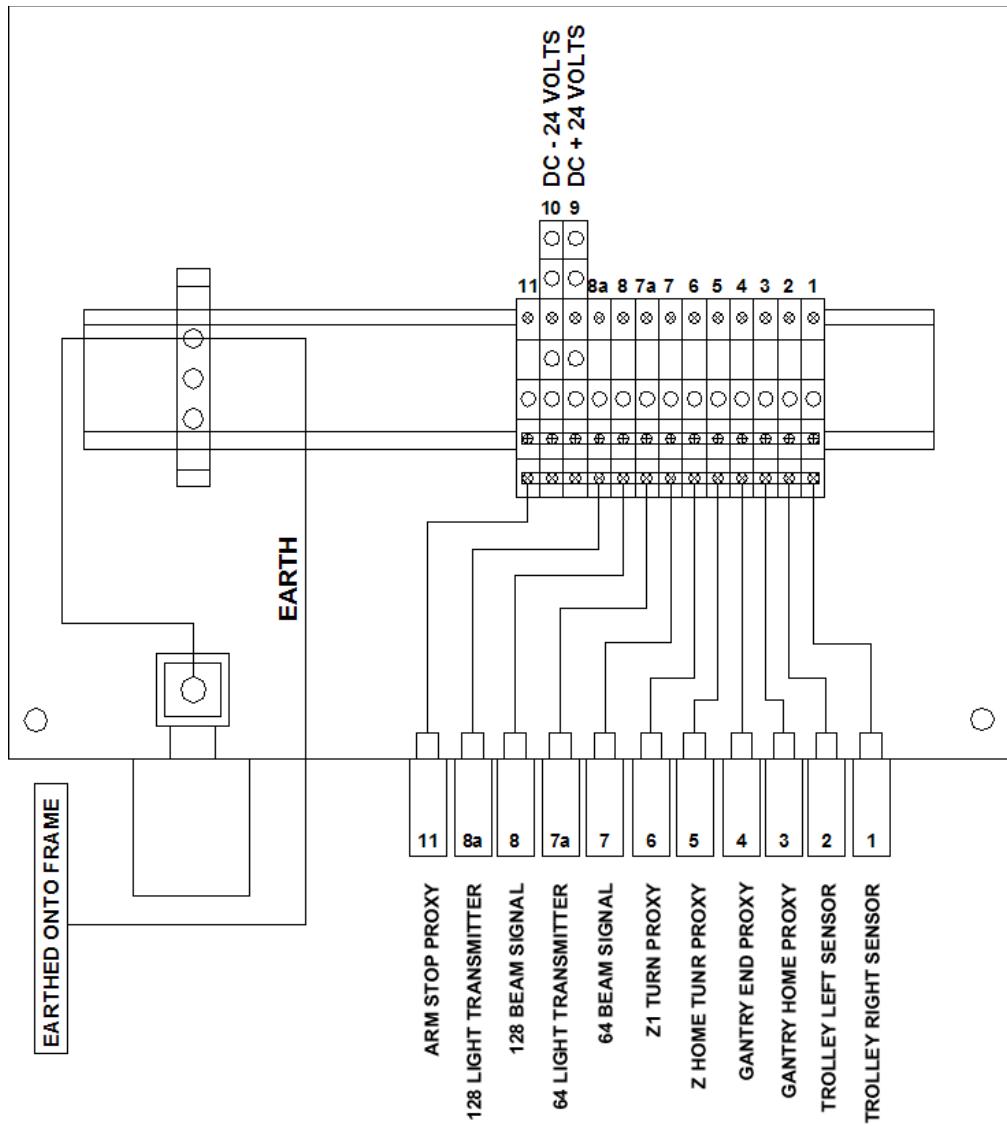
Z1 and Z Home are steel proximity sensors. I.e. they will operate (turn on) when brought in close contact with steel. When steel is in front of the sensor it will turn on and the sensor will glow. Again these can be tested like the magnetic sensors described on previous page.



NOTE:

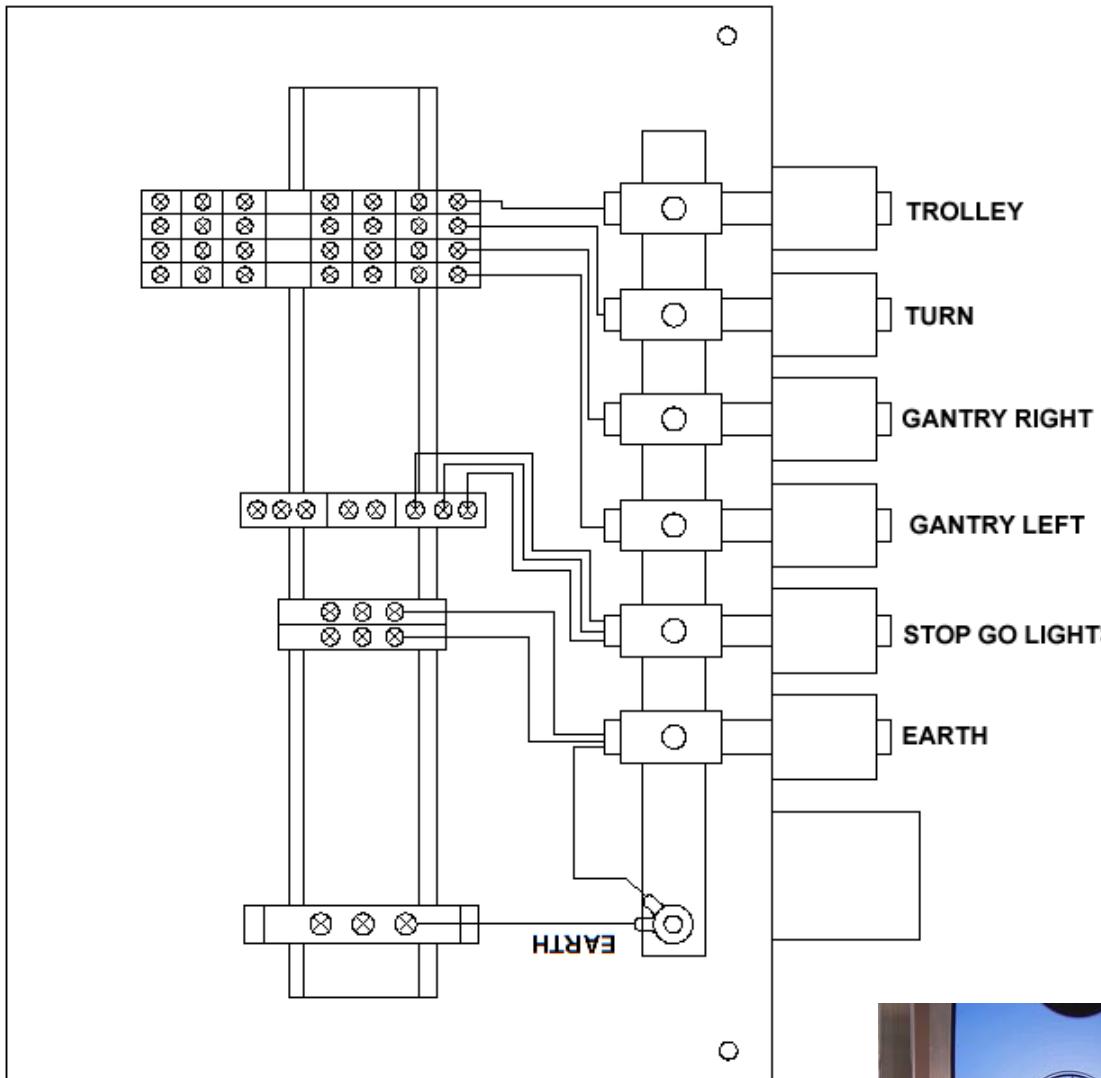
With Steel type sensors, you must keep the clearance from the tip of the sensor to the metal at a minimum of 2mm.

Wiring Junction Box Sensor Wiring



Wiring

Junction Box Motor Wiring

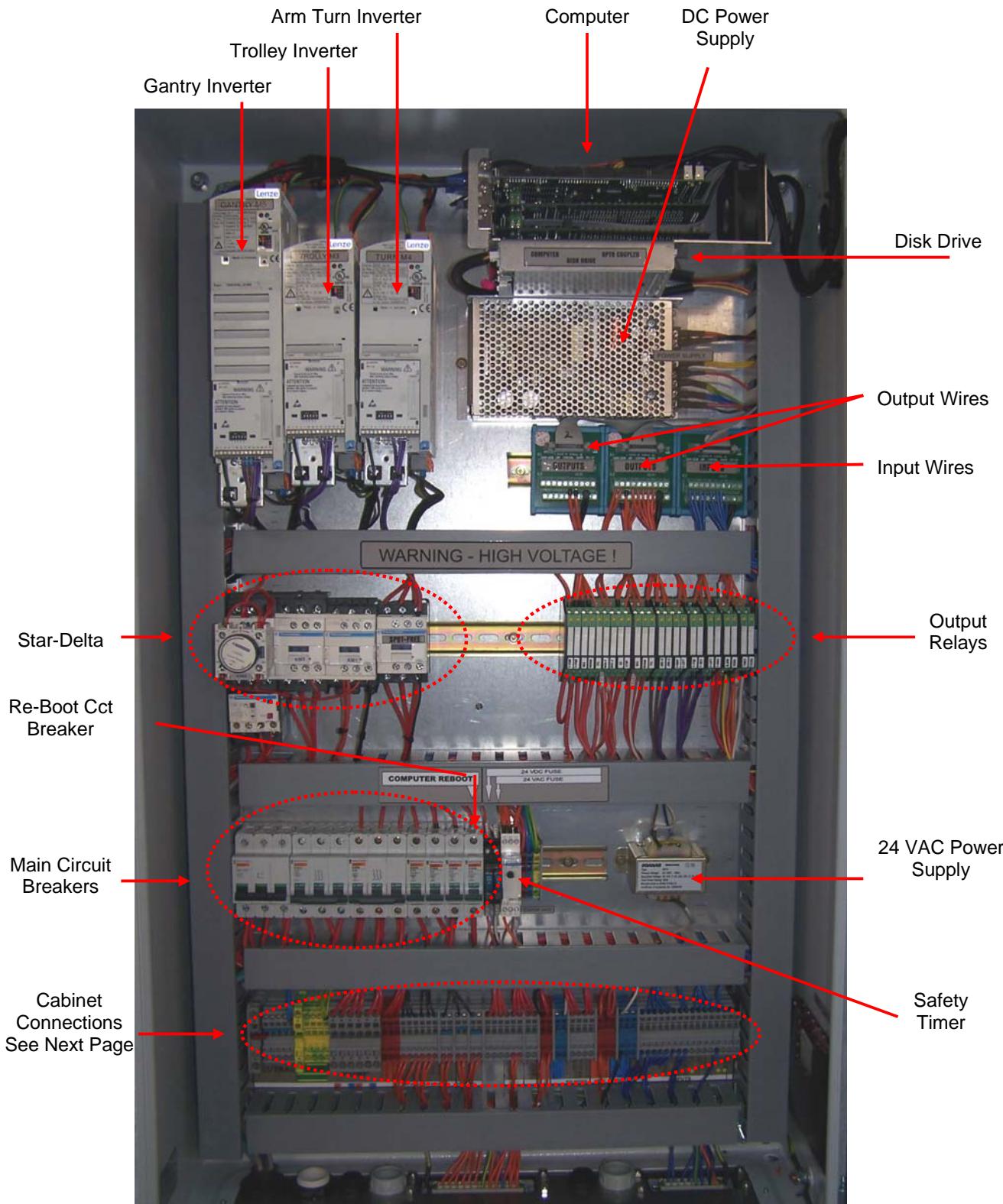


Motor wiring junction box location. This is located behind the rear inspection cover in the left hand side leg of the machine.

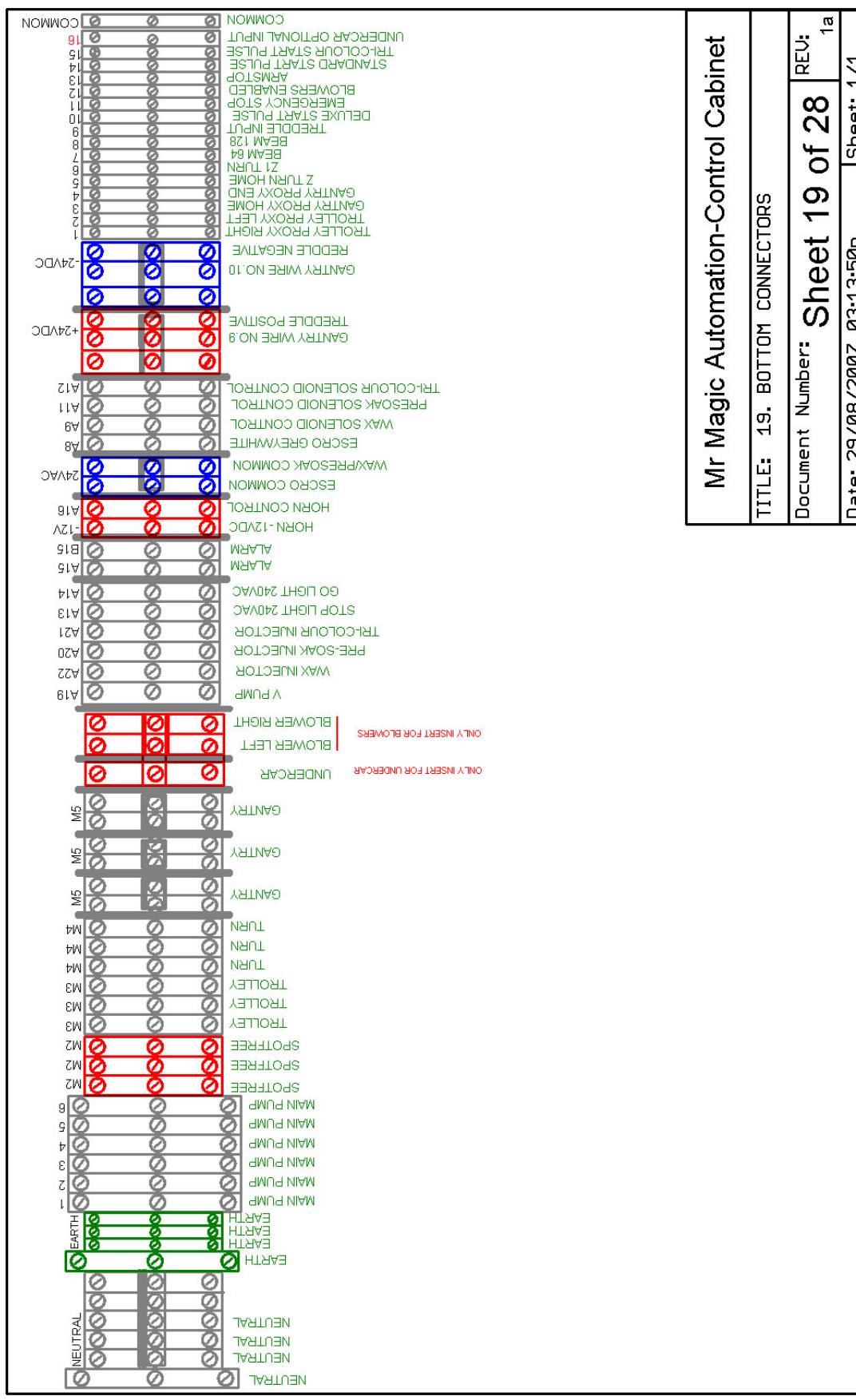


Electronics

Cabinet Layout



Cabinet Wiring Connections

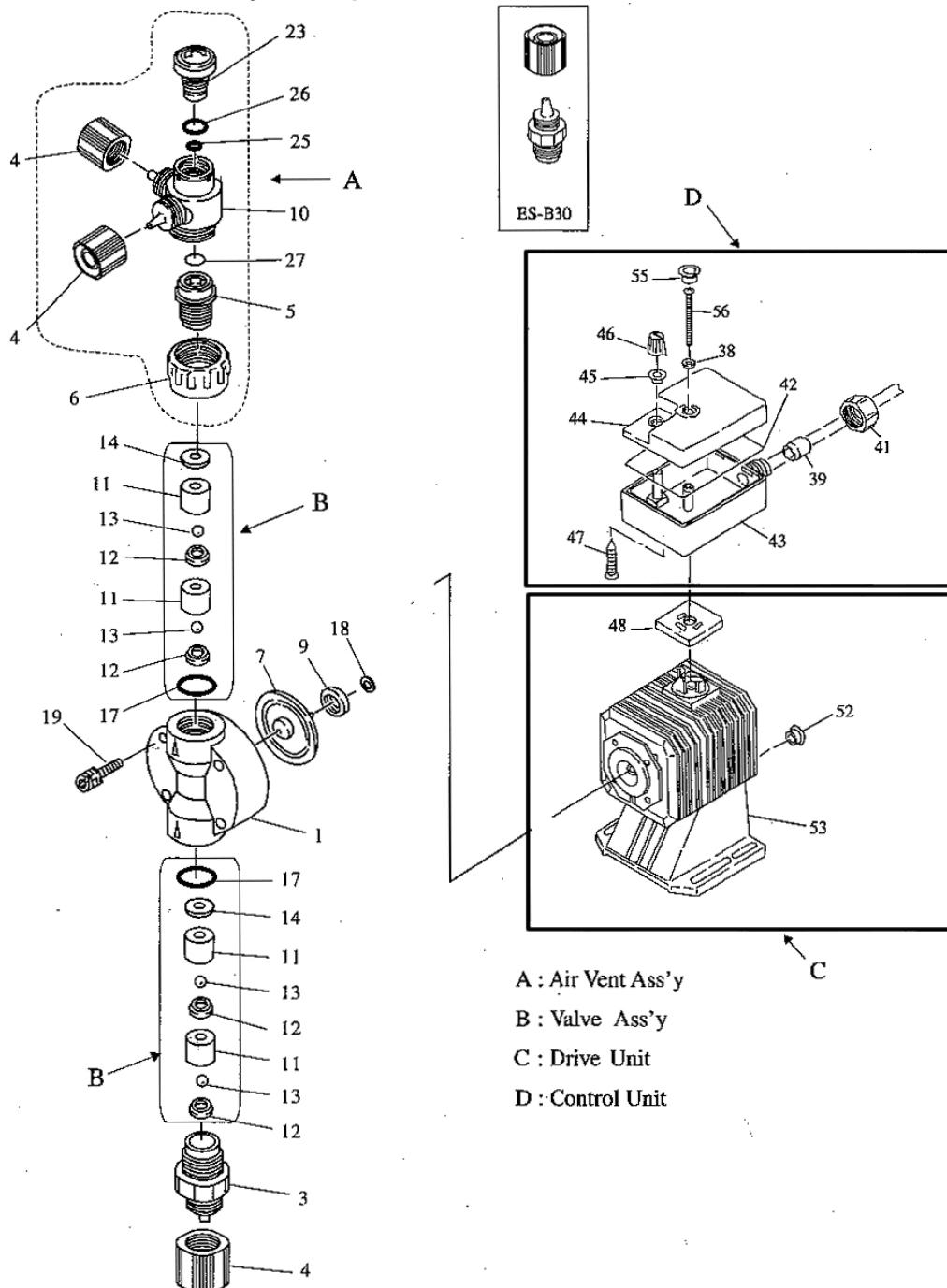


Iwaki Pump Schematic

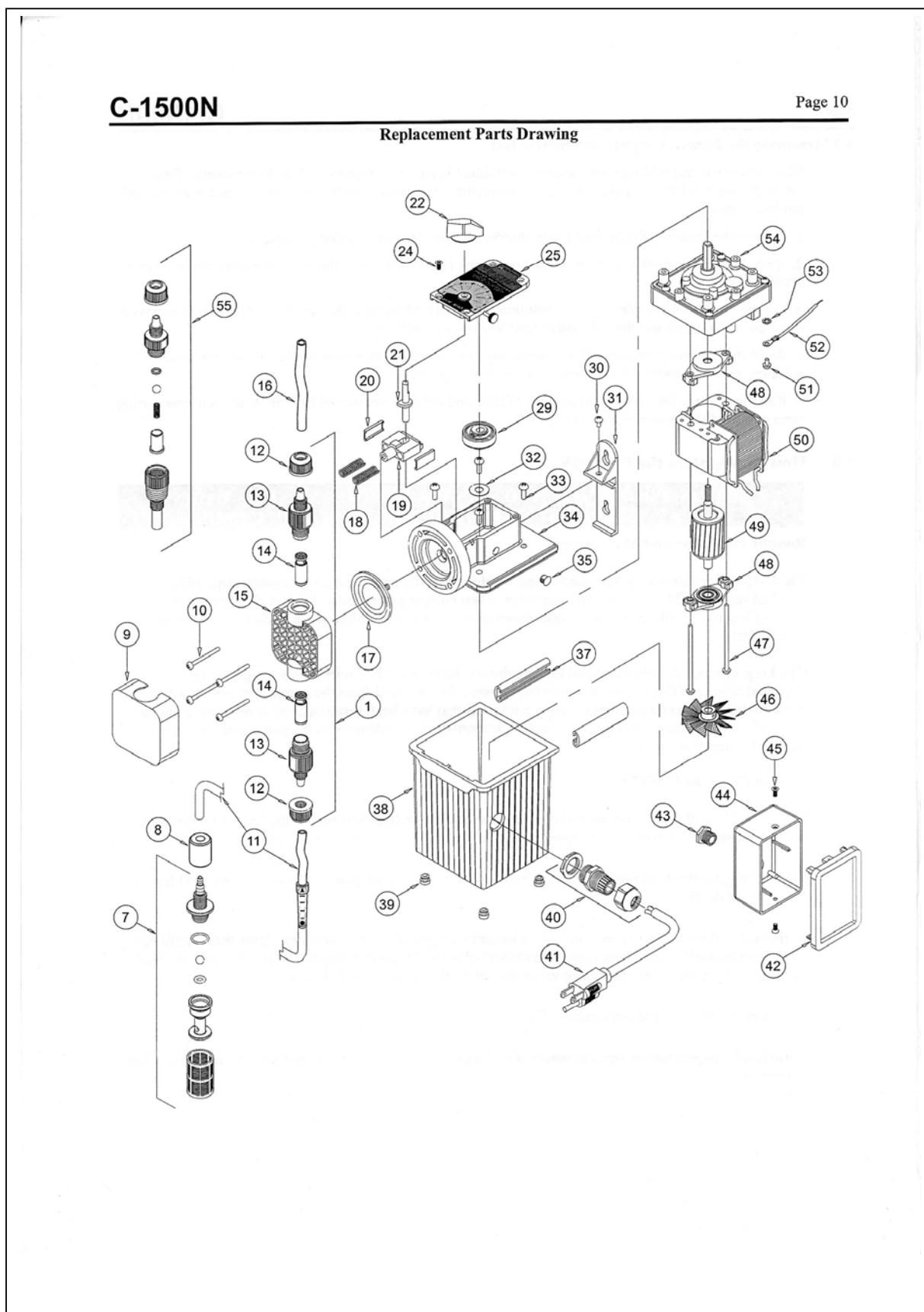
IWAKI Metering Pump

Exploded View

Models with thermoplastic liquid end materials and air vent valve



Chem Feed Pump Schematic



Spot Free Pump (LOWARA)

The Lowara spotfree pump shown on right has a bung in the side to allow for bleeding of air that may have entered the pump. This air will usually have entered the pump if the spotfree water has either run low or run out completely. The procedure is easy to complete and is outlined below.



- Step 1. Ensure there is sufficient spotfree water to supply pump.
- Step 2. Undo the bleed bung shown above, remove bung completely.
- Step 3. Take care not to loose rubber "O" ring that is attached to bung.
- Step 4. Wait for a continuos flow of water to run from the hole in pump.
- Step 5. Re-Insert bung into hole and tighten.

Iwaki Pump Priming

From time to time the Iwaki pumps will need to be primed to get the product to start flowing freely. The pumps can become unprimed when the drum of product runs empty. It is important to be able to prime these quickly and easily. The steps are laid out below.

1. If your product drum has run empty, replace with a new supply, at this time it is a good idea to check that the foot valve strainer is not clogged and blocked.

2. Wind back the pressure on the water regulator associated with the Iwaki that you are trying to prime.



3. On the Iwaki pump, open the vent screw on top.



4. Now operate the Iwaki pump by using the manual test from the computer keyboard.

5. Product should now start to flow up the clear tube from the product drum to the Iwaki pump.

6. Once product flows, close the vent screw on the top of the Iwaki pump head.

7. Then go back to the water regulator and adjust the pressure back up to the required setting.

Cabinet Wiring Sheets

