

What to expect from your water softener

All water softeners work on the same basic principal. Hard water flows through a bed of resin and the calcium and magnesium, the minerals that are responsible for hard water are removed. Unfortunately the resin cannot perform this process indefinitely and will require regenerating. Most machines perform this process automatically after a set period of time, or water, has passed through the resin.

Salt/Brine Tank

The water softener that you have purchased is supplied with a brine tank; most models have the brine tank integrated into the softener cabinet (the cabinet space under the lid where the internal tank or tanks are) however on some units this is a separate cabinet. When filling the tank with salt make sure not to over fill, the tank is fitted with an external overflow, never fill above this level. Salt levels should be checked on a regular basis and topped up when required. There is no right or wrong amount of salt to store in the tank. Most customers will eventually develop a routine and automatically top up after a set period of time either weekly or monthly etc .If you notice the tank is completely empty it may be advisable to perform a manual regeneration a few hours after refilling.

Regeneration Process

The regeneration process is basically a resin clean, if you think of it like a washing machine cycle, it will perform a number of different processes to clean. Most units will have a fast rinse, slow rinse and pause cycle. During the process water is drawn from the brine tank and flushed through the system, at the end of the cycle water is normally put back into the brine tank in order for the salt to dissolve ready for the next time the machine needs to regenerate. On some units this is delayed until a few hours before regeneration. The level of water that is in the tank will depend on the type, size and water pressure feeding the softener. Dependent upon the amount of salt in the softener you may not even see the water level. Once the regeneration is complete the resin will be able to supply soft water to your property.

How quickly will it start to work ?

The water softener will produce soft water as soon as water passes through it. The size of your property, water usage and water system will determine how quickly you will notice the results. If for example one persons lives in a very large property with water feed from storage tanks (gravity feed system) they may not see a benefit for several months until all the water that was present in the property has been replaced with softened. A large family in a small property with a direct feed system will find the results appear very quickly.

The water softener does not show any visible signs or make any noise during the water softening process. Water will only enter or leave the salt/brine tank during regeneration. Salt is not used in the water softening process it is only used during regeneration. The only time you will see or hear the softener working is during the regeneration process.

Water Softener Installation Guide

Effective for all Softeners from the Range

Planning Your Installation

Always observe the water bylaws. Ensure there is only one rising main, that you have allowed space for access to the unit for salt filling and possible maintenance in the future. Check the water pressure; locate the rising main (stop cock), a drain facility and a power supply.

Siting the Softener

Where possible, this should be close to the rising main. Take care to allow hard water take off points for a drinking water facility and /or an outside tap. For easy DIY installation we recommend the fitting of a hard or filtered water kit.

If the stopcock is located in an inconvenient position to create a hard water supply we recommend the fitting of a reverse osmosis system.

The distance between the drain and the softener should be as short as possible. Ensure that both the drain and overflow are not subject to freezing or over 120°F. If siting the softener within a cupboard ensure that the base is adequately supported. If the softener is being installed within your loft etc, it is recommended to house the softener within a 25-gallon tank and insulate well. The overflow on the tank should be below the softener overflow and be a minimum of ¾" in size.

Non Return Valve

In single dwellings a single check valve should be fitted. This is supplied with our 15mm installation kits that can be ordered separately.

Check list

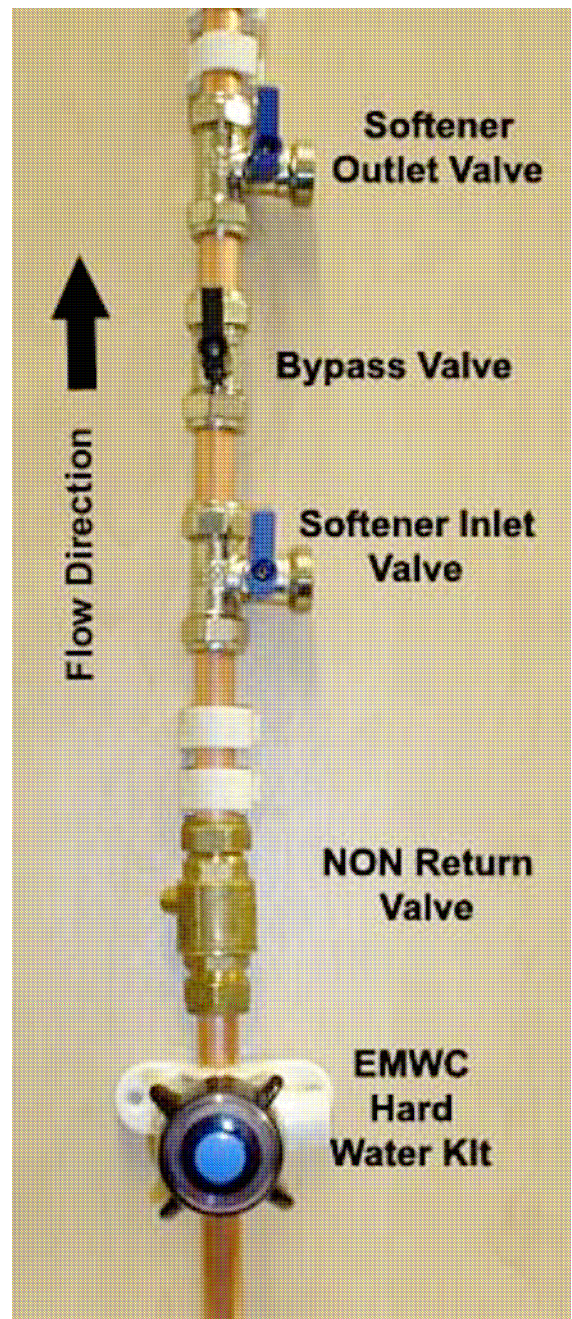
Dependant upon your installation you may need to purchase 2 T valves, If you purchased a fitting kit all other valves required would be included.

Check that you have ordered the correct fitting kit for your installation. Combi boilers require a Combi Kit, Pressurised system require a 22mm Fitting Kit.

Water Pressure Test

It is important that a pressure check is carried out. Low and high water pressure can result in either damage to, or failure of the softener. Although the softener is tested to a pressure of 8 bar we recommend the fitting of a pressure limiter should your pressure exceed 5 bar (70 psi). We also recommend that any water appliance should be fitted with a leak controller.

Typical Softener installation Valve configuration



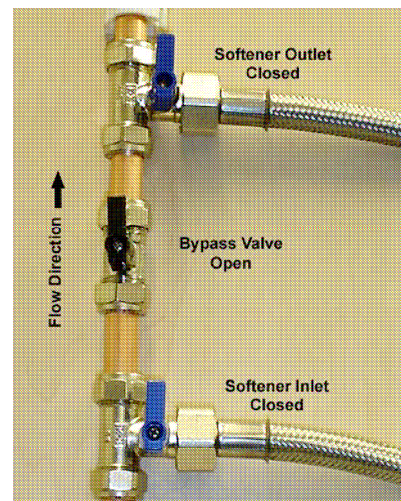
Before starting installation of the valves ensure that the stopcock is in the closed position.

DO NOT ADJUST THE RED BAR THIS ONLY TO BE USED BY OUR ENGINEERS

Connecting to the softener

Once you have completed the installation of the valves put the valves into the positions as shown, softener inlet and outlet closed bypass valve open (if you have also installed a hard water supply kit and have only so far installed the valve make sure that this is closed) You can now safely return the stop cock to the open position.

Using the hoses provided (if you purchased a fitting kit) connect the straight end of the hoses, having first inserted the washer provided, to the softener inlet and outlet valves. Connect the angled end to the softener. The softener inlets and outlets should be indicated either with the words "inlet" or "outlet" or with an embossed directional arrow on the softener tails. Normally the softener tails are in a configuration of three with the centre normally being the waste outlet.



Waste Pipe Installation

All softeners are provided with a waste hose, on some of our units this is preinstalled to the softener. If it is not preinstalled use the connection fitting at the end of the supplied flexible pipe to connect to the softener drain connection. Run the drain hose to either an up stand or an outside drain. A minimum air gap of 20mm must exist at the end of the drain line. Softened water will have no adverse effect on a septic tank. If you need to extend the drain hose this can be done by connecting to a 15mm copper tube for a maximum run of 8 meters with a minimum daytime pressure of 40psi. Ensure that the drain hose is not kinked in any way as this will lead to an overflow of the machine.

The drain hose can run up hill to a maximum of 3 feet with a minimum pressure of 40psi.

Overflow Connection

The hose from the overflow should be cut from the drain hose provided. The overflow connection is the white 1/2" hose spigot on the rear or side of the cabinet. No clip is required for this connection. The overflow must be run downhill through an outside wall without kinks or restriction. It is recommended the overflow hose be visible when it exits the outside wall.

Electrical connection

Connect the transformer provided to a continuous electrical connection supply with the power off. Plug the flying lead from the transformer into the electrical connection on the controller (see programming instructions for location of individual units). Ensure the flying lead cannot get caught on the camshaft or any moving parts on the machine.

Preparing the softener to go into service

Now that all of the connections have been completed it is advisable to put approximately 5 litres of water into the brine tank. You may also at this point put a quantity of salt into the tank. Do not allow the salt level in the brine tank to exceed the height of the overflow. Should you require a salt supply please visit our website. The amount of salt used will depend upon the type of machine. You should never let the brine tank become completely empty of salt and it is advisable to check the salt levels on a weekly basis until a usage pattern has been established.

Setting the machine to service

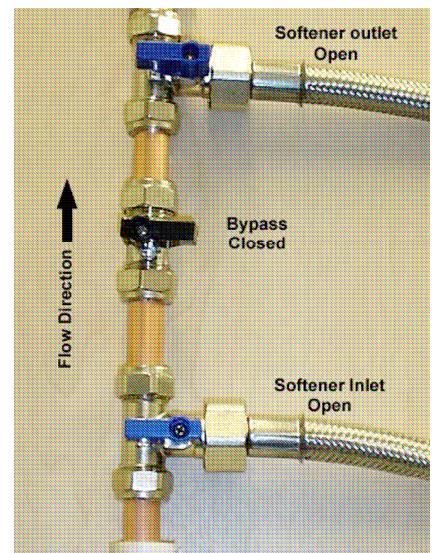
Complete the programme sections before setting into service mode. To set the machine to service simply alter the position of the inlet and outlet valve and turn the bypass valve to the off position. It is recommended that this procedure is completed in the following order.

- 1, turn the softener inlet valve to the on position
- 2, turn the bypass valve to the off position. Allow approximately five minutes to allow the incoming water to build a level of pressure before completing step 3.
- 3, turn the softener outlet valve to the on position.

You should now complete any programming instructions that apply to your particular machine and perform a manual regeneration.

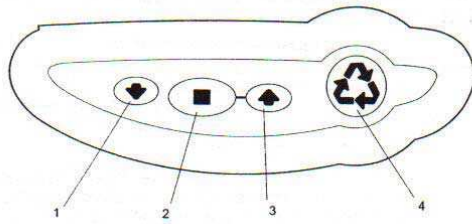
A manual regeneration is performed at this stage to allow you to confirm that the unit has no leaks from the installed valves and the waste runs free. This regeneration will also assist in clearing any potential air locks that may be present within the system. The regeneration will also reset any internal meter or timer devices that dictate the frequency of the regeneration cycle.

Your machine should now be supplying your property with soft water. If you find that the water feels too soft for you it is possible to dilute the softness by slightly opening the bypass valve and allow some hard water to blend with the soft.



Quick Set Up Guide guide for initial programming

Control Panel



- 1 Down arrow. Used to scroll down or increment through a group of choices
- 2 Set. Used to accept a setting to store in the memory
- 3 Up arrow. Used to scroll up or increment through a group of choices
- 4 Regenerate. Used to command the controller to regenerate

Before starting this process ensure that the softener is connected correctly to the water and power supplies. Please also fill the brine tank with **Tablet or Crystal salt** (maximum level $\frac{3}{4}$ full, The machine will operate at levels below this) if purchased follow the instructions provided with the hardness test kit to obtain the hardness level of your water. Make a note of this figure as you will need it later in the set up (meter control units only).

Initial power up

Plug the jack plug from the transformer into the rear of the control panel this is located to the left top corner of the panel if viewing from the front. Once the power to the machine has been switched on the display will show 3 lines as shown, on occasions the machine display may flash between time and regeneration. With the regen symbol flashing press set button. Due to time outs (approx 25 seconds) that may occur during your set up process the display may revert to service mode, by repeatedly pressing the set button you can scroll to the part of the set up programme you require. If you receive an ERR3 message allow the cam shaft to turn for a few moments and this code should disappear. If the cam does not move check that the cam shaft is fitted correctly and the optical sensor is in position.

Set time

Press set the "TIME" should now be blinking, use the up and down arrows to set the correct time of day . Once the correct time has been selected press the set button (time format is 24 hrs)

Set Day of week

Press the set button, the display will now flash, use the up or down buttons to advance the arrow to underneath the correct day. Once under the correct day press the set button.

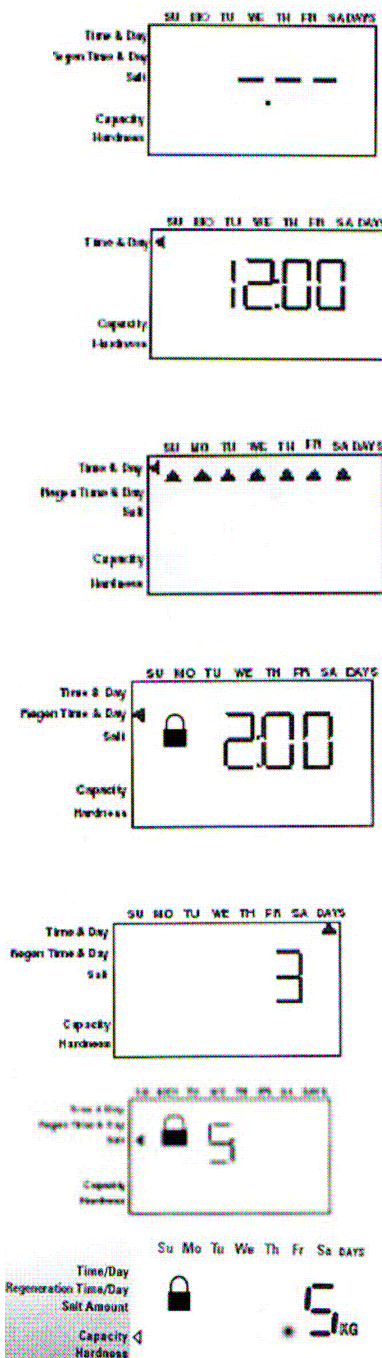
The following is now displayed.
Press the set button again to advance to the next setting

Set Days to regenerate or regeneration frequency for timer models

This setting is a default or holiday setting on meter softeners. If you have not used enough water and the machine has not regenerated on the meter setting, it will automatically regenerate after a set number of days have elapsed. If the default is set at 10 and you are away on holiday, for example, 10 days after the last regeneration the machine will clean itself automatically, ensuring you have full capacity when you return. To set, press the set button and with the number flashing use the up arrow until the desired number of days is displayed. This function is also used to set regeneration frequency on timer models.

The following is now displayed.
Press the set button again to advance to the next setting

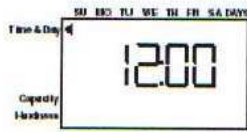
A number with kg will appear on the display.
Press the set button again to advance to the next setting.





Setting the hardness Meter Control units only

For timer units move to commissioning the unit. Press the set button the display will now start to flash, use the up or down button to advance to the incoming hardness, Once the display reads the required number press the set button .

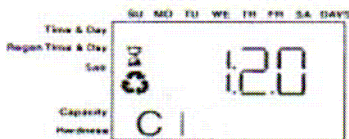


The display will revert to time set, and alternate between time and capacity left before next regeneration.

Once your are satisfied that the machine is both plumbed in and set up correctly, the machine will need to be commissioned.

Commissioning the unit

Press and hold the regenerate button (4) you should hear the cam rotate and the following display will appear. The machine will now perform a regeneration this initial process will take up to 72 minutes to complete. Once this operation has completed the unit will supply your property with soft water.



Manual Regeneration

The unit can perform two different types of manual regeneration, either immediate or delayed.

Delayed Regeneration

Press the regeneration button once. The regen symbol will appear and flash on the display. A single regeneration will start at 2am (preset regen time) if you wish to cancel this delayed regen simply press the regeneration button again and the symbol will disappear from the display

Immediate Regeneration

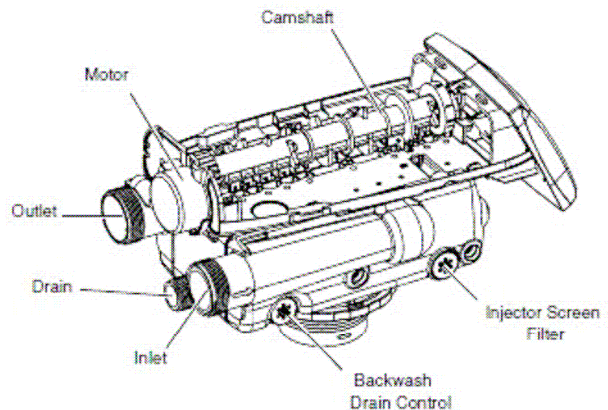
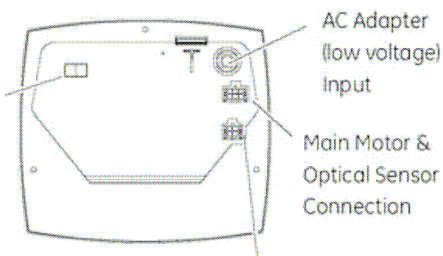
To perform an immediate regeneration follow the procedure for commissioning the unit.



Regeneration process

- | | |
|-------------------------|----------------------------|
| C1 = Backwash cycle | C2 = Regenerant Draw Cycle |
| C3 = Slow rinse cycle | C4 = System Pause |
| C5 = Fast Rinse | C6 = Backwash cycle 2 |
| C7 = Fast Rinse cycle 2 | C8 = Regenerant Refill |

Rear of control Panel

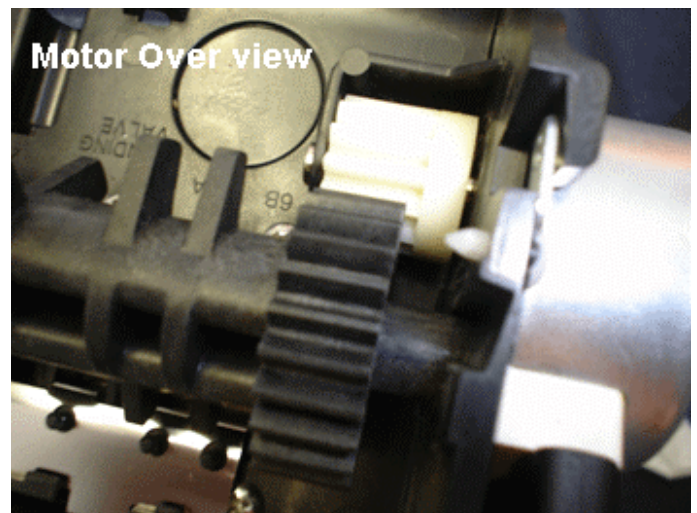
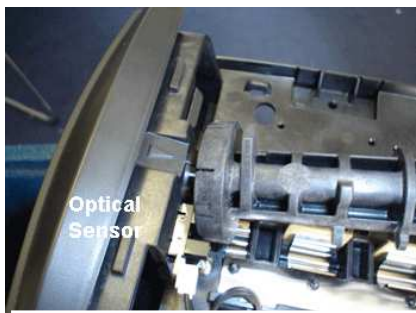


Troubleshoot Guide for Err3 Message

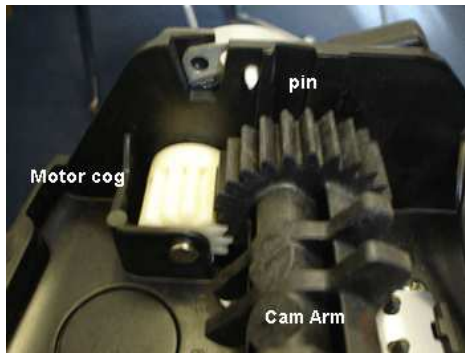
Occasionally during transit the Cam arm and optical sensor may become unseated. If your machine does not advance from ERR3 during initial set up please follow the guide below

Checking the connections on the back of the control panel

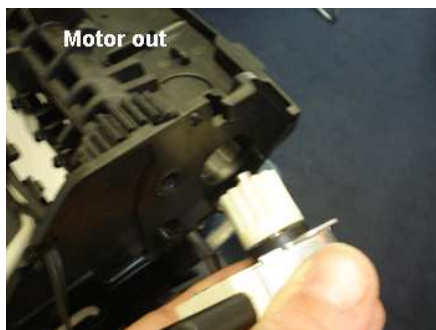
You will also need to follow the cable from the connection to the meter controller at the back right of the machine. Also the optical sensor at the front right of the machine and the motor to the rear left .



Checking the optical Sensor is located correctly and re inserting, if the sensor is out

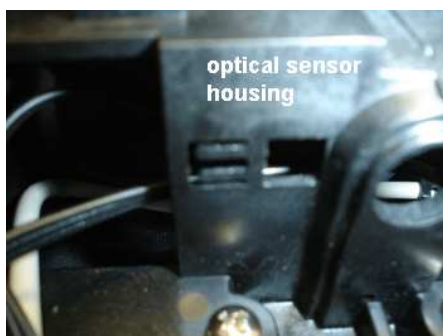
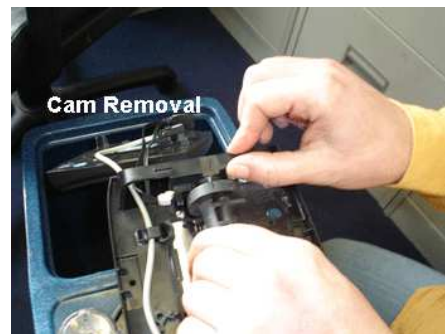


Remove the Pin by pushing back next twist the motor to the right Clockwise direction if you are at the front of the machine.

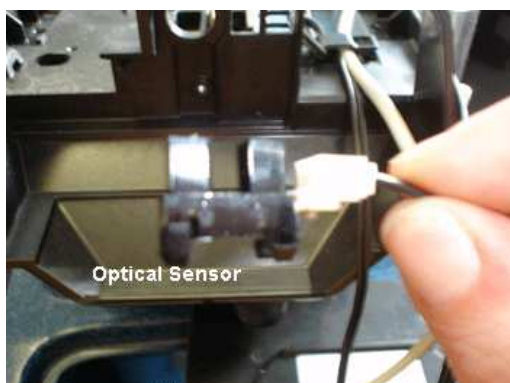


The motor unit should then slide straight out

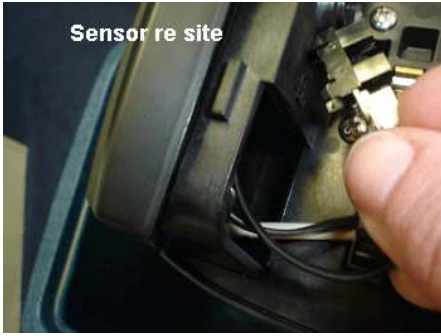
Removing the cam arm apply gentle pressure to the rear of the housing and pull the arm in an upward direction this will release the back of the cam arm which can then be pulled up from the rear and removed



This is a view from the rear to the front of where the optical sensor should be located. From the front of the machine this housing is just to the right of the cam arm locator.

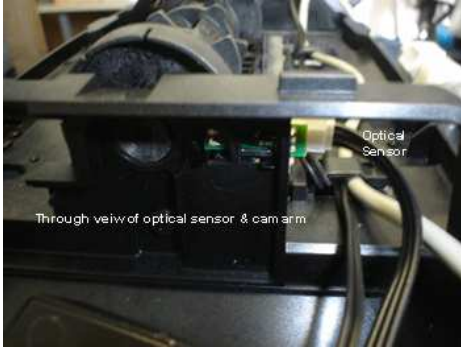


Confirm that the sensor has not been damaged it has a white electrical connection, two large black sensors and five locator lugs.



Sensor re site

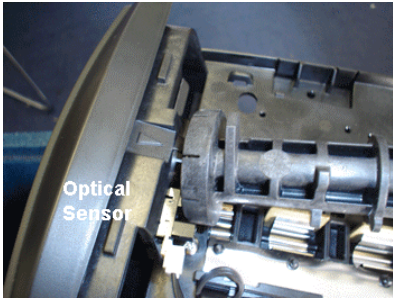
The lugs to the left of the white connector fit in the large hole to the left with the two lugs slot in to the two smaller locators



Through veiw of optical sensor & cam arm

Optical Sensor

This should be the view of the sensor when looking through the control housing from front to back

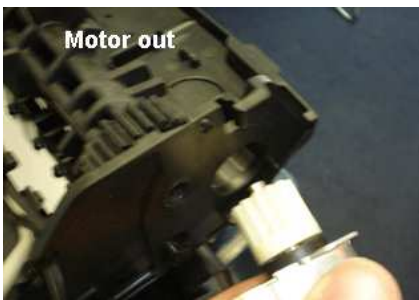


Optical Sensor



To re insert the cam, first position the front of the cam in the front locator

The rear cam housing has a slotted guide gently push the cam down on this guide you may also need to slowly turn the cam arm anti clock wise until it clicks into position and is completely horizontal.



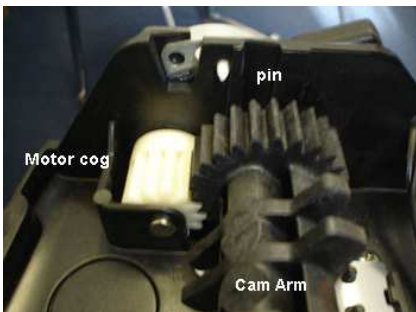
Motor out



Motor re fit

Now re site the motor unit with the black electrical connection to the right when viewing from front to back

This is how the motor should look it is difficult to turn when in position so try to put the motor in the right position before inserting
Once fully pushed in turn the motor to the left when viewing from left to right



Motor cog

Cam Arm

pin

Replace the white plastic pin into the hole on the housing (next to the two holes on the lug of the motor unit)