

## **Homeowners Report On Alternatives To Boiler Replacement Or Major Expenditure**

This report is presented with the compliments of Pritchard Plumbing & Heating of Bradford on Avon.

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Feedback: Any comments or questions about the information contained in this report would be very welcome.

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## **Your homes central heating system is a bit like your own body.**



Radiators – body

Boiler - stomach with gas or oil as food

Pump - the heart

3-port valve - is the brain, deciding whether energy from the stomach (boilre) goes to radiators or to the hot water cylinder, or both. If you don't know if your system has a 3-port valve don't worry, we'll get to that a bit later.

Unfortunately, like your body, if your system is not cared for by exercising regular servicing or kept topped up with regular nutrition in the form of corrosion inhibitor, serious problems start to appear with increasing regularity and severity.

If we carry on with the comparison with your body here are the closest medical conditions to common heating and hot water problems.

### **STROKES**

the 3-port valve gets sticky with sludge and gets stuck or burns out.

### **DEEP VEIN THROMBOSIS**

The collesterol of sludge and rust gradually lines the inside walls of your pipes and radiators and finally closes up completely like a small clot which stops the heat circulating around the system.

And like a blood clot it needs to be carefully removed.

### **STRANGULATED HERNIA**

Hard water limescale and sometimes rust particles and sludge will build up in the heat exchanger of the boiler resulting in noise and vibration. Clunkcs, rattles, rumbles.

If left untreated for a long period it will eventually break down for good. Very, very occasionally the heat exchanger may crack and let water out of the system.

In an ideal world you'll look after your system as much as you look after yourself.

BUT WHAT IF ...

**YOUR HEATING SYSTEM HAS BEEN A COUCH POTATO FOR YEARS?**

OR, IS GENETICALLY DIFFERENT BECAUSE OF AN ERROR IN THE DESIGN?

Go to the next page to find out what new technology can do for your heating system without spending a small fortune.

## **You are in luck**

Until quite recently, the only options available to you were

- 1 For severely blocked radiators - messy radiator removal and cleaning out with a hosepipe.
- 2 For blocked pipe - work a visit from a plumber to add a chemical in the HOPE that it will free up the blockage. Another visit a week or two later to draing the system down and refill it. This procedure has always been a bit hit and miss. Sometimes it works, sometimes it doesn't.
- 3 Boiler noise - if the noise is being cause by limescale a boiler noise reducer can be added that may remove seom of the scale and the noise.

Again, this is not a guaranteed procedure and may require one or two more doses. It is though, a relatively cheap option to try.

4 Pump failure and 3-port valve failure. These have a natural lifespan of between 5 and 10 years. However, if they are dirty when removed, it's a sure sign that your system needs a good clean if you want the new parts to last as long as they can.

Thanks to modern technology there is now an alternative to all of the above that's

- ✓ **Quicker**
- ✓ **Cleaner**
- ✓ **More efficient**

In fact, my customers have been so pleased with the results that I for one now offer this service with a "Fixed or You Don't Pay" guarantee.

The process I am talking about is called POWERFLUSHING.

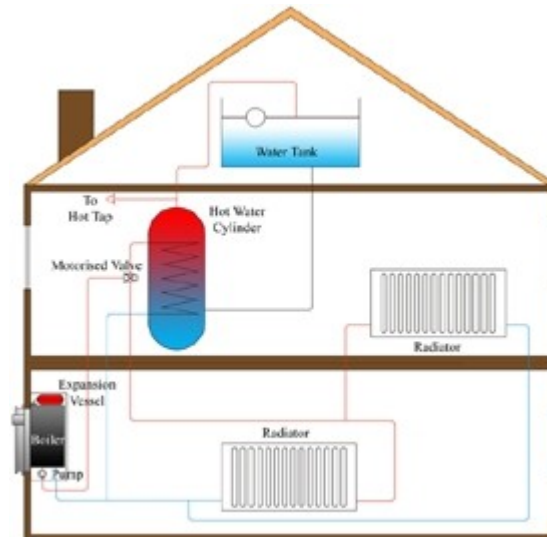
It's a process that uses specialist pumping equipment and (with my service) new generation cleansing chemicals that every square inch of your system **from the inside out**.

(If only there was such an easy way to do the same for my body!)

Turn to the page titled HOW POWERFLUSHING WORKS for more information.

# COMMON PROBLEMS, THEIR SYMPTOMS AND CAUSES IN OPEN-VENT SYSTEMS

If you have an airing cupboard with a hot water cylinder inside you have what the trade call an 'open-vent' heating system. There is also a section on combination boilers



## Noises

### Symptoms

Boiler or system bangs, hisses, boiling or bubbling noises, boiler turns on and off, may take a long time to heat house or hot water.

### Causes

1. build up of limescale/rust within boiler. Causes 'cattentation' which is turbulence in the boiler.
2. build up of sludge or rust within system which stops the heat leaving the boiler quickly enough. The water starts to boil inside the boiler and then tries to expand up the pipework. Puts stress on pipework and boiler.

### Solutions

1. Boiler needs descaling. Can be done manually by adding descaler in the header tank and let it circulate around for a week or two. May require more than one visit and must be correctly dosed to avoid damage to the system. Alternative is to use a powerflush pump to circulate descaler chemicals around the boiler. Depending upon who you use results may or may not be guaranteed.
2. Have the system dosed with sludge remover by a professional who will then return in a week or two and drain the system before refilling with corrosion inhibitor. May or may not work. Or, have the system powerflushed by a specialist which (depending upon who you use) is guaranteed to work.

## Pump Problems



### Three Common Makes Of Domestic Pump

Modern pumps are designed to have a working life of at least five years. In many cases they will carry on for fifteen or even twenty years.

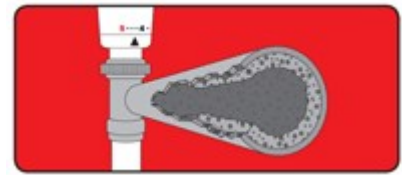
Symptoms No heat in radiators and possible nohot water. Regular pump failure. Pump lasts less than five years.

Causes

1. System design fault putting too much workload on the pump.
2. Sludge or rust in system which causes pump to work too much or larger bits of rust can jam the impeller blades within the pump and burn the motor out.

Solutions Replace pump. Check the inside of the pump to see how what state it is in. If it happens again within five years then you have a problem with sludge and/or rust.

## Radiators Problems



<u>Symptoms</u>	Cold or lukewarm. Particularly at the bottom or in the middle.
<u>Cause</u>	Build up of sludge in the radiators.
<u>Solution</u>	Old fashioned way with sludge remover chemicals and a couple of visits.
<u>Symptoms</u>	Cold at top. Requires frequent venting.
<u>Cause</u>	Excess gas within the system. Too much air entering the system.
<u>Solution</u>	If you radiators need bleeding more than two or three times a year then you have a problem within the system. Most commonly there is sludge and rust in the system which encourages the hydrogen and oxygen molecules that water is made up of to separate out. That's why the 'air' that comes out can smell so bad. This is not good for your system.

## Hot Water Problems

Symptom No hot water

Cause Pump failure. See above.



### Two Common Types of 3-port/mid-port valves

3-port valve failure. These days most open-vent heating systems are called 'fully-pumped' systems, which means that the water from the boiler is pumped to both the radiators and the hot water cylinder. A motorised valve called a 3-port or mid-port valve is then used to divert the hot water from the boiler to either the radiators, the cylinder or both at the same time.

Solution Motorised valves have a natural life span of 5 to 10 years although they commonly seize up if there is a large amount of sludge or rust in the system. The short-term solution is to replace the valve or possibly just the motorised head of the valve. Both are specialist jobs and I recommend that you employ a plumber/heating engineer to do this for you.

In the long run though you may be better off having your system cleaned out either by the old-fashioned method of adding chemicals and the draining or by the more certain method of Powerflushing.

Symptom A little hot water and then either lukewarm or none at all.

Cause

1. A blockage in the internal coil inside the cylinder that carries hot water from the boiler.
2. In hard water areas the hot water capacity of the cylinder can be greatly reduced by the sheer amount of limescale that has built up within it over the years. In five years I've come across this only once.

Solutions

1. See solutions above.
2. If the cylinder has a large amount of scale in it you have either have the scale physically removed by undoing the immersion element and sucking it out with a wet and dry vacuum. Warning: Not recommended as cylinders in this condition are usually very old and can split when the immersion is removed. In addition, the scale is extremely hard and cannot always be broken into small pieces for removal by the vacuum.

Your alternative is to have the cylinder descaled by a professional. Again, be extremely cautious about doing this yourself. The chemical reaction between what is almost pure limescale and the acids used will generate quite a lot of gas in a short space of time which you must know how to deal with.

**Homeowner's – You Can Save Money,  
Worry And Freedom From Long, Cold Winter Nights**

**Does Your Home's Heating System Have One Or More Of These Seven  
Symptoms?**

- 1 One or more radiators are completely or partially cold.
- 2 The radiators require frequent bleeding of collected air.
- 3 The boiler clumps and bangs, especially at start-up.
- 4 The central heating header tank (if you have one) in the attic is warm
- 5 Central heating pump failure.
- 6 Black water from radiators when emptied or bled of air.
- 7 The age factor: systems 10 years of age upwards will have a build up of corrosion.

**The Truth Is Your Heating System Is Under Attack  
From The Moment It's Filled With Water**

Were you there when your heating system was completely or partially filled with fresh water?

The moment your system was first filled with fresh water, it came under attack from the oxidising properties of water. Water rusts stuff.

Assuming (rightly or wrongly) that your plumber took a water sample and analysed the chemical composition of the water, and then correctly added the right amount of corrosion inhibitor to your heating system you will have had a valiant but increasingly tiring protector for up to 18 months.

After that even the strongest chemical is virtually dead!

Initially the oxygen in the water starts to attack the radiators internally.

This produces 'ferric hydroxide' which turns the water orange, and releases hydrogen gas. This orange water quickly turns clear (after 3 weeks or so), but the hydrogen gas continues to attack the base metal causing 'iron oxide' deposits, and more hydrogen.

These collect in the system and form a **black sludge**, which causes all sorts of problems such as **boiler noise, repeated pump failures or poor circulation**, often all three!

The debris and catalytic chemicals released during thousands of chemical reactions start to move around the system - collecting in low points, bends and turnings, radiator valves.

Over time they gather, rest, restrict, compromise and weaken the various parts that make up any heating system.

Adding an inhibitor will dramatically slow down further corrosion, and is always added as the final process of Power-Flushing.

The problems listed above will happen in any heating system, but if you live in a hard water area your problems are only just beginning.

For Free Advice Or To Book A Free Home Survey, Call Ian Pritchard on 01225-869036 or 07971-270064.

## **A Warning For Home-Owners In Hard-Water Areas**

For those of us who live in a hard water area (about 60% of the country) the overall effect of these problems is multiplied by the damaging effect of limescale.

When you look at your taps are they free of scale or discolouration? Probably not.

Living, as we do, in a hard water area, scale starts to form almost immediately on the inside of your boiler, radiators, radiator valves, hot water cylinder and pipework.

If you have had a combination boiler installed your plumber has probably (and should have at least) installed a boiler protector – which, as it's name suggests only protects your boiler.

An easy way to tell if your heating system needs more protection is if your taps are dirty with scale, or you have drip marks on the bath. If you have either of these problems you can rest assured that the same build-up of scale (calcium deposit) that you can see on your taps or bath is happening on the inside of each and every tube inch of your central heating pipework.

But it doesn't get scrubbed off or dissolved with chemicals when you're cleaning the rest of your home.

### **Are You Paying Too Much For Your Heating?**

Just 0.8mm of limescale (about twice the thickness of this piece of paper) will increase your fuel bill by an average of 9%.

If the water in your heating system hasn't been tested each year and topped up with just the right chemical you can be sure that the pipework has gradually built-up an internal coating of limescale.

This congestion increases hour after hour, day after day.

It's like peeling an onion in reverse. An extra layer gets added time after time.

The result is dramatic. But, but like watching children grow, because it happens gradually we often don't notice the change. Until it's too late.

You probably wouldn't believe just how small the pipe can get in a hard water area like this.

Just like the black sludge in your system, this build-up will:

- 1 Decrease the amount of heat you get.
- 2 Reduce the efficiency of your boiler
- 3 Increase the chances of boiler or pump failure
- 4 Dramatically increase the amount of gas or oil your boiler must burn to keep you warm.

So, what can YOU do to get rid of this unseen, potentially catastrophic problem?

### **Here Is A Clean, Quick, Thorough, Guaranteed Solution**

Technology has moved on in the plumbing world just like every other industry.

Some professional plumbers now have access to a specialist, self-contained pumping unit that can clean your system in a fraction of the time it would normally take. And do a better job too.

The process involved is called '**Powerflushing**' – a unique new service that thoroughly removes

heating system problems caused by excess sludge and limescale.

## **How Powerflushing Works**

### Chemical Cleaning

It is important to power flush a heating system as soon as you have notice one of the seven symptoms. And just about essential to have it done prior to fitting a new boiler to an existing system to prevent possible future problems. Most systems are found to contain corrosion and sludge, even if no flow problems have yet shown themselves.

The power flushing process is a highly effective method of flushing heating systems, guaranteeing to purge it of sludge, scale and corrosion deposits.

The power flushing pump is simply connected into the heating system, either across standard circulator pump couplings, across the tails of one radiator or wherever most practicable. The powerful flow, combined with a customised, carefully chosen cleaning chemical and an instantaneous flow-reverser device, dislodges and mobilises deposits and corrosion which resist traditional system cleaning methods.

### Pump And Dump

Once the corrosion and sludge deposits have been loosened and mobilised, fresh clean water is forced through the heating system, pushing the contaminated water out through a full bore dump valve as waste.

During the process, radiators are individually flushed, without removing or disconnecting them from the system, by directing the full output of the pump through each radiator separately.

### Final Clean and Protect

At the end of the flushing process, the system contains fresh clean water. An inhibitor is then added to prevent further corrosion. Reinstatement of the system to normal operation takes only a few minutes.

### Summary

Basically, Powerflushing is the process by which heating systems are forcibly cleansed using the right chemical at high velocity, but low pressure, so that no physical damage is caused to the system. The objective is to restore systems with circulation and boiler noise problems (caused by sludge, corrosion deposits and limescale) to optimum operation. Power flushing removes these deposits and the problems that they cause.

Powerflushing can make a dramatic difference to the operating efficiency of most systems.

## **What Can You Expect After Having Your Heating System Powerflushed?**

- Any radiator cold spots will be removed.
- our radiators will only need bleeding from time to time – which
- The boiler will be reassuringly quieter.
- The life of your heating pump will be improved.
- The inside of your heating system will be clean and smooth.

If you have one of more of these problems I urge you to pick up the phone and get some free, friendly advice:

### Problems

- 1 One or more radiators are completely or partially cold.
- 2 The radiators require frequent bleeding of collected air.
- 3 The boiler clumps and bangs, especially at start-up.
- 4 The central heating header tank is warm (or even hot!).
- 5 The central heating pump failures.
- 6 Black water from radiators when emptied or bled of air.
- 7 The age factor: systems 10 years of age upwards will have a build up of corrosion.

One quick telephone call to us, and together we can decide whether Powerflushing will work for your heating system.

**Act today. Don't take the chance that you'll have to spend anything from £80.00 for a replacement pump to £2,200 for a new boiler.**

### **Cast-Iron, Two Year Guarantee**

I normally guarantee this process for one year. No other plumber (that I know of) does this.

And, because of the great results that my clients have experienced, the proven track record of the service and my desire to make sure that you will be totally happy I've taken the unprecedented step of doubling the guarantee to TWO years.

In twelve months time I will call you and arrange a time to come back (free of charge)

- 1 I will call you to arrange a suitable time— no need for you to remember.
- 2 A water sample from your heating system will be taken and analysed.
- 3 If there is any drop in active corrosion inhibitor I will add some more to bring the chemical composition of the water back to the correct level.
- 4 Everything will be switched back on and checked to make sure that it's working properly.
- 5 Your system will be protected for at least another year without any further effort on your part.

So that's at least a whole two years' peace of mind.

For at least two years you can be certain that your heating system is properly protected from corrosive attack, has radiators that have no cold spots, pumps that don't break down because of rust and boilers that cost less to run.

**Call Me Today on 01225-869036 or 07971-270064 For Free Advice**