

## Job done - all over in a flush!

Tarquin Purdie, owner of Powerflush, on how powerflushing is signalling the death knell for the build up of rust and sludge in central heating systems...

Central heating systems corrode internally, when air is in the system, producing black iron oxide sludge deposits in radiators and other iron components.

These particles stick to all surfaces, causing premature failure of pumps and valves, cold unbalanceable radiators, blocked boiler heat exchangers and hot water heating coils. Overall system efficiency is greatly reduced and fuel wasted.

But there is a solution. Powerflushing works by connecting a powerflush machine and a powerful magnet filter to a central heating system pipe work by either removing the central heating pump or a radiator. The whole system can then be flushed without removing any additional radiators.

### Iron oxide sludge

The powerflush machine is set up so water flows from the radiators to a magnet filter, collecting all the iron oxide sludge, before reaching the boiler to minimise debris entering the boiler heat exchanger. A rust remover chemical - normally phosphoric acid based - is added and the boiler turned on.

The radiator surface temperatures are measured using infrared thermometers to detect cold/rust spots. Then by concentrating flow through individual radiators and vibrating the radiators, the rust spots are removed.

One by one the radiators, heating coils and all pipe work is flushed with clean water until water samples tested using electronic TDS and pH meters show clean and neutral readings.

A small amount of neutraliser is then added to compensate for residual chemical cleaner, followed by rust inhibitor and circulated throughout the system.

The powerflush machine is removed and central heating system reinstated. The heating is turned on and the radiators are balanced to optimise system efficiency.

I would like to dispel a couple of common myths about the powerflushing process.

The first is that powerflushing is perceived as boring, that those who are carrying out the work are doing the same thing every day, for seven hours a day.

But the fact that you are using so much different equipment - the van is piled high with dif-

ferent chemicals, pumps, heating elements, conductors, adaptors and SDS vibration drills - shows the variety of tools required for each job.

The work is less physical than installing central heating and boilers as once the equipment is brought into the building and set up it stays there for the duration of the flushing process and doesn't have to be moved around.

Plus there is the advantage that you carry out just one job a day and therefore not wasting time on the road travelling from one job to another.

### Huge savings

There is also a perception that powerflushing is expensive. We start at £350 plus VAT for a powerflush. Unless otherwise agreed our engineers arrive and start at 8am.

Depending on the size of the system being powerflushed and additional works, such as fitting Thermostatic Radiator Valves, which contribute huge savings to fuel bills long-term, jobs are generally completed any time between 2pm and 7pm. We stay for the day until the job is finished and we also offer a one year guarantee.

With the benefits you get - efficient central heating and hot water, rust protected central heating, a scale protected system and lower fuel

bills - we feel that powerflushing more than makes up for the cost of the powerflush itself.

Heating and plumbing engineer Barry Nichols, who is contracted to Powerflush and estimates that he has carried out as many as 3,000 power flushes over the past dozen years shared his own experiences with HPM.

He started by saying that the alternative to power flushing is horrendous as far as the costs are concerned. "An average power flush costs £500-600. If you compare that to the cost of ripping out and replacing radiators, boilers and pipes, plus all labour costs, as well as the time and trouble to take up the floorboards and carpets over a period of a week, you are looking at more than £4,000," he says.

Barry carried out central heating and boiler installations before switching to power flushing and admits that the work now is not as demanding. "You only have to set up the equipment once in the morning and you're not lifting and carrying all day," he says.

### Monitoring temperature

"Plus the work is more interesting. You are constantly monitoring temperature change, water flow rates and it's fascinating to see how much sludge can come out of the radiators.

"It is normally the bigger jobs that are easier to do as the bigger the system the bigger the pipework which means that there is so much better circulation. The smaller the system the harder job as the pipework is restricted and it is so much more difficult to get the sludge that has built up off the pipe."

Barry stresses that powerflushing is a skilled job and it should only be carried out by people who are fully trained and have gained experience from on-the-job working.

"You can easily just go and buy the equipment, but it is not as easy as plugging it all in and letting it run," he says.

"We don't want to see people carrying out bad workmanship as it damages the reputation of those who are doing powerflushing properly. One plumber tried doing the job himself four times and he still had to ask for my help. That goes to show how specialised this work can be."



Barry Nichol: After discovering power flushing he will never go back to installing central heating and boilers