

Common faults...

The thing that most often go wrong with gas appliances and central heating

Today, this is a very short list. I'll add to it as I think of more things that go wrong regularly.

The thermocouple:

This is one half of a safety device. It is the sensor that sits in the pilot light flame and delivers an electrical current when hot, holding a solenoid valve open, allowing gas to flow. If the pilot goes out the thermocouple cools, the electricity stops and the gas gets shut off. Thing is, these thermocouples seem to degrade over time, producing less and less electricity. The boiler will spontaneously shut down, and be hard to light again.

A new thermocouple is about £5 to £10, plus, say £50 or so to fit and test that it is working correctly and safely. Any decent gas engineer will have a selection of 'universal' thermocouples in the van.

The flue fan:

These fail on modern boilers at about two year intervals. The boiler will simply fail to start, and will sound different from usual, because the fan isn't running.

New fans vary from about £80 to £150, and take about an hour to diagnose. Then there will be a trip to the spares shop to get a new one and another hour or so to fit it.

Radiators getting hot when heating is turned off:

I'm getting quite a few questions about this at the moment. There are two completely different ways of piping up and controlling a heating system, and both ways can suffer from this for different reasons. Both will take a bit of explaining but here goes...

1) The old type of heating system has a boiler that is kept hot all the time 'hot water' is selected on the programmer. Hot water from the boiler rises and travels by natural convection up to the hot water cylinder and keeps it warm too. When the heating is turned on as well, a pump starts and draws water from the already hot boiler and pumps it around the radiators. When the house is hot enough, or the heating is turned off, the pump simply stops running. But natural convection can make hot boiler water circulate around the upstairs rads when the pump is NOT on, so a "check valve" is inserted into the pipe feeding the upstairs radiators. This check valve is held closed with a weight or light spring and stops the natural convection occurring, but the pump is able to overcome the resistance when it starts running. Upstairs radiators get hot when the heating is turned off if this check valve fails or has debris lodged in it.

2) The modern heating system has both a room thermostat and a hot water cylinder thermostat. These are temperature-sensitive switches that turn on the boiler when heat is required by either the hot tank or the living space. When the room 'stat calls for heat the boiler fires up and a 'diverter valve' directs the hot water to the radiators. When the cylinder 'stat calls for heat the same thing happens but the diverter valve directs hot water to the hot water tank. When both 'stats are calling for heat the

diverter assumes a 'mid position' allowing hot water to flow to both circuits at once. When a diverter (or 'mid-position valve' as it is sometimes called) fails or gets some debris stuck in it, hot water intended for the hot water circuit can leak past into the radiator circuit, making the radiators warm even though the heating is turned off.

Whichever reason is causing radiators to get hot, a drain-down is required to allow replacement of the faulty component, but there is no reason not to cope with the problem by turning off the radiators that are getting hot. No harm will be done.

Radiators NOT getting hot when the heating is turned ON:

Sometimes pump failure, sometimes failure of the motor in the motorised valve. With pump failure, sometimes the upstairs radiators will continue to heat up by natural convection leaving just the downstairs rads cold.

System pressure repeatedly falling to zero:

This means water is being lost from the system. Adding water using the filling device restores pressure but fairly quickly it falls back to zero again. Sometimes this is a leak but often the cause is the pressure relief valve (PRV) 'letting by'. This, in turn, is usually caused by failure of the expansion vessel to operate correctly. The pressure first rises too high leading to the PRV opening but it fails to close properly, allowing water to continue to drip out all the time. A new PRV is usually needed and the expansion vessel needs to be re-charged with air, or replaced.