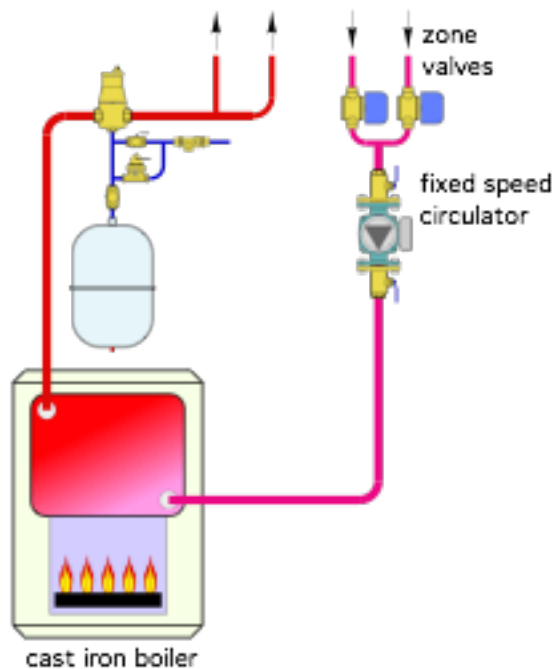


The Glitch & The Fix, Sept 2016
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Following Instructions...

The Glitch:

The schematic very similar to the one below appeared in a manufacturer's installation manual. It represented their recommendation for installing a two zone system. Can you identify at least five things that could be changed to improve this system?



The Fix:

What's wrong?

1. The zone valves should be located on the supply side of the zone circuits to eliminate heat migration into inactive zone circuits.

2. The tee shown below the zone valves is a “bullhead” tee. When both zones are on, return flows slam directly into each other. This creates turbulence and noise. It also wastes circulator head.
3. There should be at least 12 diameters of straight pipe leading into the circulator. Placing it close to the side port of the bullhead tee allows turbulent flow into the circulator. This decreases circulator performance and creates noise.
4. The circulator in the glitch drawing is pumping *toward* rather than away from the expansion tank. This causes a decrease in pressure within the zone circuits when their circulators operate.
5. There is no provision for differential pressure control in the original system.
6. There are no purging valves in the original system.

These glitches have been corrected in the fix drawing.

Differential pressure control is managed by a pressure regulated variable speed circulator. It could also be managed by a differential pressure bypass valve in combination with a fixed speed circulator.

