

The Glitch & The Fix — August 2007

## What Were They Thinking?

### The Glitch

**Overview:** Here's an *extremely* messed up installation for you to ponder. This is what greeted my good friend and ace hydronics troubleshooter Harvey Youker when he responded to an S.O.S. call from a do-it-yourselfer last winter.

For some reason this installation was not delivering the unsurpassed comfort promised by the folks who sold our DIYer the hardware.

**Exercise:** See if you can spot at least 10 errors.

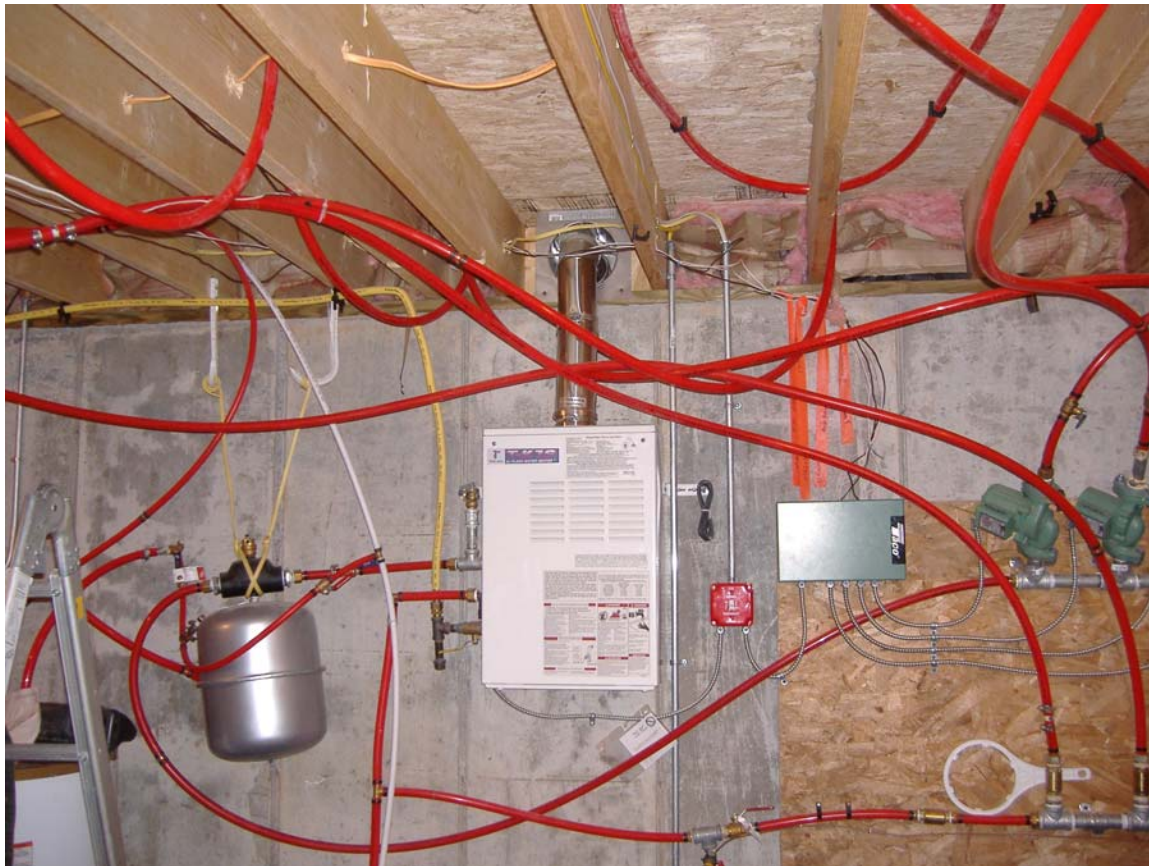


Photo courtesy of Harvey Youker – HYTech Heating

## The Fix

Where do we start on this one? It's a poster child for why homeowners shouldn't be installing their own heating systems. Here's a list of 10 details I consider poor or unacceptable:

1. The expansion tank is mounted using a sling of electrical cable — Could this be for seismic reasons?
2. The plateless staple-up tubing installation — What was he thinking???
3. No insulation on underside of "radiant floor panel."
4. Use of galvanized fittings for circulator header — For all we know, there may be automotive antifreeze in this system.
5. Mounting angle of circulators — I have no clue about the compound angles used.
6. Size and type of tubing connected to "boiler" —  $\frac{3}{4}$ -inch PEX
7. Use of instantaneous water heater as "boiler" — This device has a high pressure drop. Notice that all zone circulators are piped to the "header" that comes out of "boiler" and passes through air purger. Wow! He did manage to pump away from the expansion tank.
8. Unsupported tubing everywhere — Perhaps this is used for hanging wet laundry.
9. Pressure relief valve mounted vertically and pointing straight out at left side of "boiler" — Given the riser off the tee, this is probably a P&T relief valve with a rated operating pressure well beyond that of other components.
10. Thermostat cables in very close proximity to vent connector.

Perhaps you can find even more errors.

The only "fix" for this calamity is to hire a hydronics professional who will disassemble just about everything and start over. Darn. There goes the savings the owner anticipated from doing it himself.