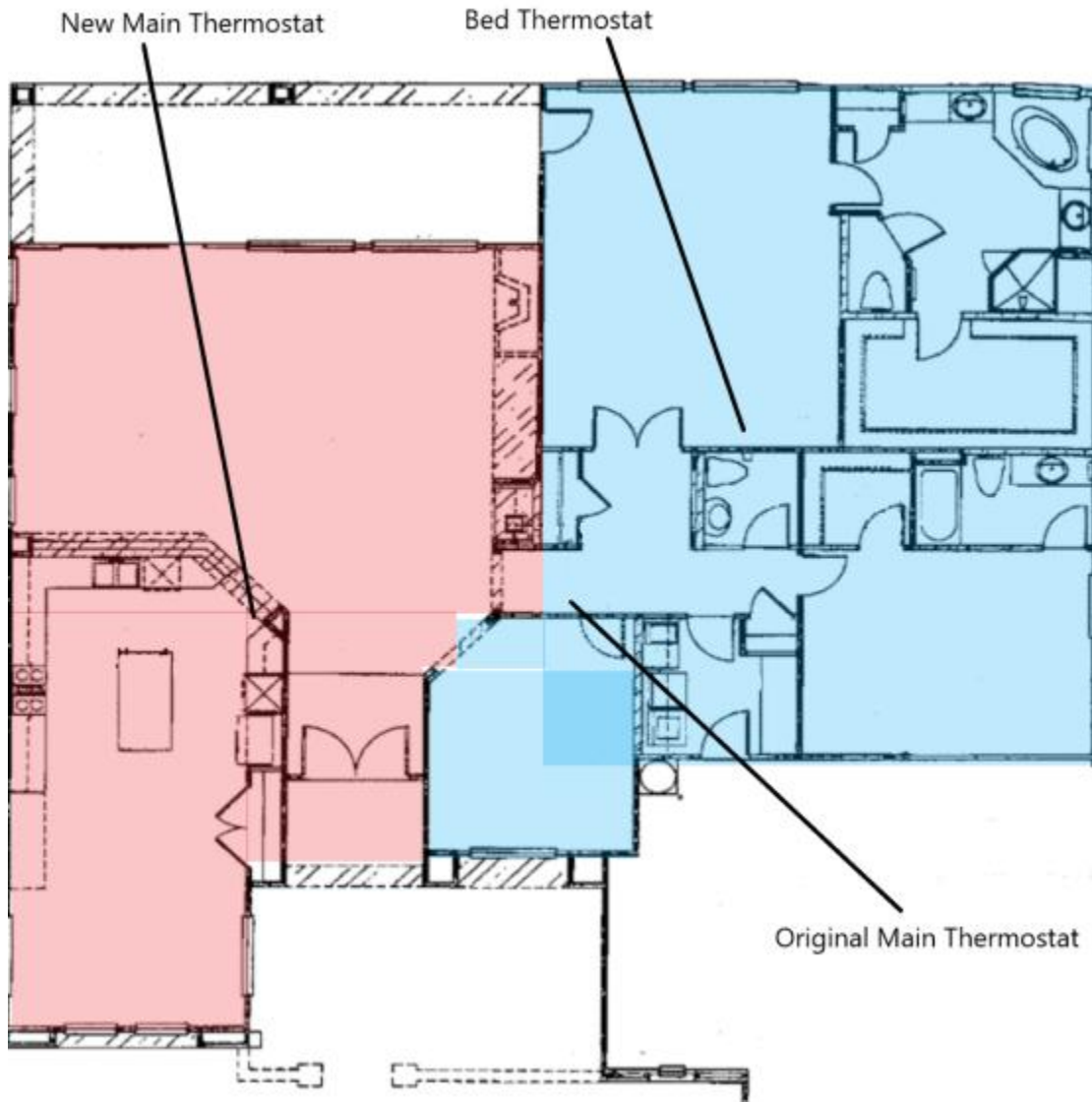


AC Thermostat Placement

As the home automation system progressed to being able to monitor how long the AC units ran, it quickly became obvious that the Bed AC unit was working much harder than the Main AC unit.

The Del Webb Saratoga model home has two AC units that service different parts of the house. As can be seen below, the Bed AC services the blue area, and the Main AC services the red area.

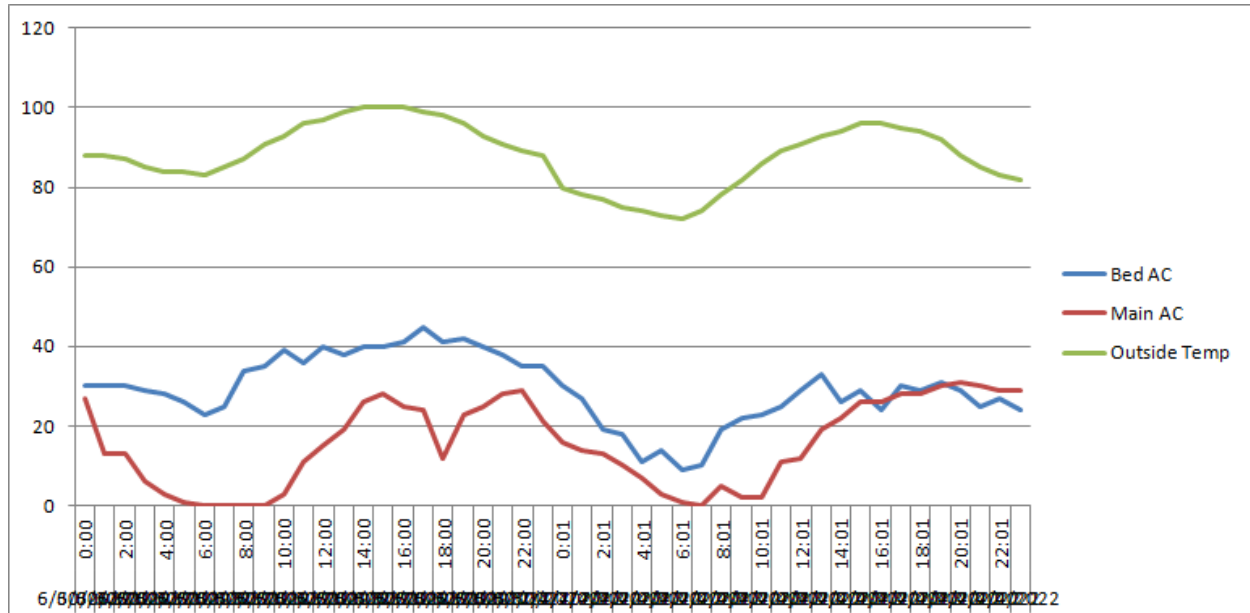


For some bizarre reason, the thermostat for the Main area (red) was actually placed in the Bed area (blue.) This caused the Bed AC to cool the Main AC thermostat and keep it from running properly. This resulted in two issues: (1) the Main AC didn't share its part of the cooling load, and (2) the Main area was several degrees hotter than the Main AC thermostat setting.

AC Thermostat Placement

The main area thermostat was moved to its new location on 7/2/2022. The following chart shows two similar temperature days:

- 6/30/2022 on the left – before the thermostat was moved.
- 7/4/2022 on the right – after the thermostat was moved.



You can clearly see on the left that the bed AC was working much harder than the main AC. During peak hours it was running about 40 minutes every hour. After the thermostat was moved, it was only running about 25 minutes per hour during peak hours and the main area AC picks up much more work and even runs longer than the bed AC as the sun shifts to the front of the house.

Before the thermostat was moved, the main AC never ran more (or even got close to running the same amount) than the bed AC.

Because of the house orientation it is normal for the bed AC to work harder in the morning (as the bed area gets more sun in the morning) and for the main AC to work harder in the evening (as the main area gets more sun in the afternoon.)

The main area is now much more comfortable and because the AC units are running for less time every hour you are also saving money.

What is Involved

If you are not comfortable working with house wiring or climbing around in the attic then it is highly recommended that you call an AC technician (or handyman) to move the thermostat.

If you are comfortable doing these things, here are the basic things that you will need.

You will need some thermostat wire (5 conductor 18 gauge) which can be purchased at any hardware store or electrical supply shop. You will need approximately 70 feet or so – I bought a roll of 250 feet on Amazon here for \$66, but you can get it wherever you like:

[Woods 64169644 Thermostat Wire, Brown - Electrical Wires - Amazon.com](https://www.amazon.com/Woods-64169644-Thermostat-Wire-Brown-Electrical-Wires/dp/B078383838)

Once you have the wire, you need to climb up in the attic and disconnect the old thermostat wire. Before you disconnect the wires make sure that you take a picture so that you can make sure to reconnect the new (longer) wire in the same place.

You can follow the existing wire back to the AC unit in the attic. Make sure to unplug your AC unit while you are doing this – the plug is obvious once you are in the attic.

In my case there was an “air cycler” unit (which looks a lot like another thermostat) attached to the AC unit. The thermostat wires ran into this unit as shown below. If your AC does not have the “air cycler” then you need to follow the wires into the main control board.



Basically once you find where the old thermostat wire was connected, you want to disconnect it and connect one end of your new longer wire in its place.

Then you need to find where the wall meets the ceiling where the new thermostat will be located. This is easy to find because there is a large bundle of white power wires that go into this wall.

You will need to drill a hole in the wood near where the existing power wires (without drilling into the power wires!) go into the ceiling (unless the existing hole is already big enough to allow you to pass the thermostat wire into it – then you can use the existing hole.)

Unwind enough wire so that the new wire goes from the AC to your new hole location and cut the wire so that there is at least 10-15 feet of extra (so that it can go in the wall.)

Push the extra wire into the hole such that it goes down the inside of the wall towards the house floor.

AC Thermostat Placement

Remove your existing hallway thermostat (again taking a picture of how the wires are attached before you remove them.) Find a spot in the new location at the same height as where the old thermostat placement and drill roughly a 1" hole in the dry wall.



Here is the hard part. Now you need to “find” the wire that you pushed down from the attic and pull it out this hole. I created a “hook” tool from a coat hanger and after many tries was able to find and pull out the new thermostat wire.

I purchased a camera that you can shove in the wall on a wire that was very helpful. If you can't locate the wire, let me know and I can bring it over to help you out if you live near me. If the wire is not obvious this is very helpful in figuring out where it went.

[Teslong Dual Lens Inspection Camera](#)



Once you have the wire out you can mount the thermostat plate to the wall with the two screws that you got when you took it down, cut the wire to a reasonable length and re-attach it to the thermostat – making sure the colored wires are in the same locations as the photo you took before removing it.

Once you double check your work, you can go back in the attic and plug the AC unit back in and you should be good to go!

Remember – I take no responsibility for these instructions, your situation may be different and if you are not comfortable doing this work I highly recommend that you call a qualified AC technician to do the job.