When we purchased the twenty-year old coach, the original Duotherm furnace was removed, the wall thermostat was removed, and the intake and exhaust holes in the coach's exterior wall were sealed. Having a furnace-free coach was not an option for us (for comfort and resale value) so we knew we had to install a new furnace.

Because of potential rust, reliability and general safety issues, we didn't want to buy a used Duotherm of the same vintage. I did see some available on the internet for nearly the same cost as a new furnace. Simply replacing parts was not an option either, because the original furnace was completely removed.

We immediately faced three challenges:

1. Duotherm no longer makes furnaces, and

2. The cabinet that housed the original furnace was not going to be altered in size or location, and

3. The Duotherm's intake and exhaust holes already cut into the skin did not match the location of other manufacturer's holes. (More on this later)

Our first challenge was: Duotherm no longer makes furnaces. Atwood and Suburban are the key (if not only) manufacturers now. We visited new RV showrooms and other RVs in our campground to take a look at which brand others are using. We also did countless hours of research on the internet studying measurements, specifications, installations, etc. The search began for an Atwood or Suburban model that would work within the coach.

To meet our second challenge, the Atwood or Suburban model would have to physically fit in the cabinet and vent to the bottom (to connect with the existing Avion ductwork) as opposed to venting to the side.

The Atwood models were all too big to fit in the cabinet, and required a very large hole to be cut in the exterior skin of the coach. Their exterior access doors are white metal, and are similar in size and look to the hot water heater or refrigerator access doors. We noted that a lot of new RVs are using Atwood models. Atwood could vent either to the bottom (with an adaptor kit) or to the side. Their size and unattractive exterior access door ruled them out for us. Prices were nearly identical to Suburban.

Suburban makes many different models of furnaces. We knew from the internet and a visit to a local RV dealer's parts department that the Suburban NT Series would physically fit into the cabinet, and had only two exterior holes similar to the Duotherm. The holes, however, would not match up to the existing holes in the coach. Suburban makes a low profile model as well, but it was too wide to fit into the Avion cabinet.

DECISION MADE

We decided on the Suburban NT Series. Next step was to determine the BTUs needed. For large RVs, Suburban makes a 40,000 BTU model and a 34,000 BTU model. My original owners manual did not indicate how many BTUs the original Duotherm had. For a 34' trailer, I assumed we would need a 40K unit; however, I took the advice of several experts and opted for the 34K unit. Apparently, having too many BTUs is nearly

as bad as having too few – the efficiency of the furnace begins to deteriorate. Thanks to the owners manuals posted on the Silver Avion site, I could see that the 1984 model used a 30K unit, and 1986-onward models used a 34K unit. We decided on the NT-34SP model.

Having decided WHAT to purchase, we began the search to decide WHERE to buy it. As you may suspect, local RV dealers are selling the furnace for about $100-$200 over the prices on the internet. The cheapest site we found was www.rvproshops.com They had free shipping and no sales tax for North Carolina. Far and above the cheapest prices on nearly everything we've shopped for. $507.21 total cost of furnace delivered to my door.

IMPORTANT NOTE WHEN ORDERING:

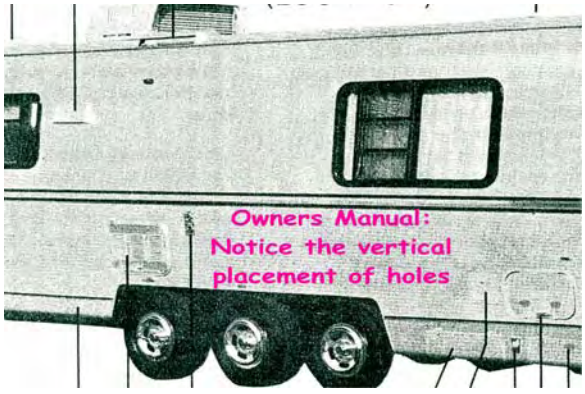
When ordering a replacement Suburban furnace for your Avion, you will also have to order a bottom ducting adaptor kit (Suburban part #062164 - $21.00 at RV Proshops) and 4 side duct hole covers ($1.68 each from PPL Motorhomes) The unit comes shipped from the factory with the 4 side duct holes and bottom duct openings OPEN; therefore, to force the air to the bottom duct opening, you must close off the 4 side duct openings! Very important to remember to order the side duct closings! If you ask 10 different service techs, you'll get 10 different answers as to whether or not you actually need the bottom ducting adaptor kit; however, for only $21, I opted to err on the side of needing it. Personally, I think it is needed – it provided an airtight and secure connection between the furnace and existing Avion ductwork. Otherwise, the furnace simply "sits" over the Avion ductwork opening.

Now we have a furnace that will physically fit into the Avion cabinet, and is adequately sized for the coach. Next step will be to install the unit.

EXHAUST HOLES

Our owner's manual, as many of you know, was designed to cover many years of Avion models from the 1980's. The street side photo of the exterior in the owner's manual shows the furnace intake and exhaust holes stacked vertically: intake on bottom, and exhaust on top (heat rises, so it won't be sucked back into the furnace is my guess)

OWNERS MANUAL PHOTO:



On our 1983, however, the holes are horizontal. When we were researching furnaces on the internet, we had to study the exterior shot of our coach, rather than rely on the photo in the owner's manual. Note, too, how close the actual hole is to the refrigerator access door…

ACTUAL COACH PHOTO:

Our extensive study of replacement furnaces told us that the new furnace would use a vertical hole arrangement; therefore, our existing horizontal holes would not be useable. For safety reasons, the manufacturer strongly warns that intake and exhaust tubes NOT be bent or shaped, but should be connected directly to the holes in a straight line. We'll take their advice on that one, too!

We hoped that we could use the forward-most hole as our new exhaust hole, and drill a 2 ¼" hole directly below that one to provide a new intake hole. Doing this would leave only one of the original holes plugged, and cause only one new hole to be drilled into the skin. This would leave the exterior looking like this:

Another option would be to drill 2 new 2 ¼" holes and leave the original holes capped off. This would leave the exterior looking like:

Stay tuned for the installation process….