After having my HVAC doors break for the second time, I have decided to once-and-for-all fix the HVAC by replacing all four doors (non-dual climate control) with the steel Heater Treater replacement doors. Right now, I only have air coming out of the panel vents with no floor heat and no defrost capability.

Heater Treater replacement doors, $229 delivered. Ordered Friday, USPS delivered Tuesday. In the kit is 9v set of wire leads that enables you to check each actuator/door function without the need to connect the HVAC control harness. This is a nice touch. You see the doors labeled Blend, Mode 1 and Mode 2. The Mode 1 is actually the Defrost door and the Mode 2 is actually the Mode door and controls the floor vents. However, the Heater Treater folks really put a premium on not pulling the dash, and have designed their instructions (which, by the way, are very thorough, in addition to their installation videos on their website) for the installer to cut into the HVAC box and cut some of the metal frame behind the ash tray/cup holder area in the dash for the R&R of a couple of the HVAC doors. That may be a good alternative for some folks, but I am one of those ISTJ types (Myers-Briggs personality indicator), and cutting into the box just doesn't "cut it" for me. IMHO, the only way to do this right, is complete disassemble/reassemble.

Heater Treater four-door kit with new Recirculation housing:

I am not reinventing the wheel by re-documenting what a couple of others have done on the various CTD forums in regards to removing the dash and HVAC housing. Those threads can be easily found and I am actually following their instructions regarding R-134 discharge, disconnect of A/C lines, draining of coolant, disconnect of heater lines, dash and HVAC removal, and replacement and recharging. I am kind of trying to fill in some gaps with this write-up and take the previous threads through a 100% HVAC R&R.

In September 2006, the dealer replaced these parts on my truck under warranty:
5127758AA – Lower HVAC housing (updated part from factory original with what I believe to have better coupler stops, like the recirculation housing)
5073964AA – Defrost door
5019632AA – Coupling
5073963AA – Panel Door (I assume this is the Mode/floor vent door)

Due to my recirculation door not breaking at the time, they did not replace the recirculation door or the recirculation housing that has been updated with coupler stops. I am not even sure if the new recirculation housing was available at that time. But again, this is a once-and-for-all fix, so I bought the updated recirculation housing from the local dealer for just shy of $49, part number 68004226AB. By the way, one lady behind the parts counter knew the part number by-heart. I mentioned, "I guess you get pretty familiar with parts you replace a lot, don't you?" She replied emphatically, "Yes." It's also interesting to note that the housing comes complete with door, door coupler, and actuator…and used to cost less than $20 when it was released several years back. At less than $50 now ($55 retail), it's probably still a good deal versus buying all of the parts separately.

I replaced the recirculation door with the Heater Treater recirculation door. The interesting issue is that the Heater Treater coupler doesn't have the stud that engages the coupler stops on the housing. It isn't really needed as the recirculation housing itself provides the stops for the doors, which also makes the stops on the redesigned housing a moot point as well. Now I am wondering why the redesign of the housing? I am leaving the recirculation housing off the HVAC box until I disassemble it, replace the doors, and reassemble.

Heater Treater Recirculation Coupler:

Updated recirculation housing with Heater Treater door installed:

When removing the HVAC box from the firewall, I found it easier to disconnect the heater lines from the engine instead of at the firewall. There isn't much room up underneath the cowl and made the disconnection go more quickly with less skinned knuckles and frustration.
Disassemble HVAC box by removing the dozen or so screws from around the periphery of the box.

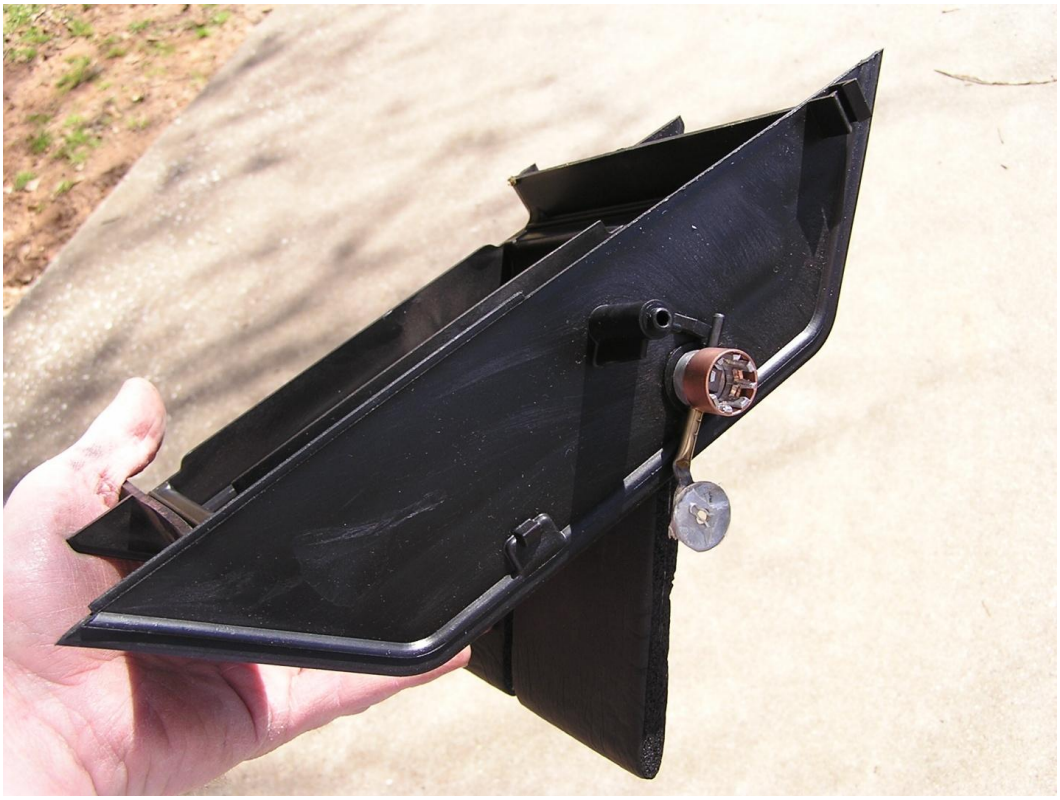
With each door, remove the actuator by removing the two Phillips-head screws and disengaging from the coupler. Take a set of needle nose pliers and pull the coupler straight out of the door axle. Once the coupler is removed, the door falls out. Reinstall in reverse with Heater Treater door and steel coupler, and actuator (don't worry about door position) into/onto the housing.

On one of the couplers, the drift pin that engages the door stops on the HVAC housing was too long and would not fit into the groove that leads to the stop. In some cases, the door stop is actually a groove cut into the housing plastic, versus a plastic projection that extends perpendicularly toward to door axle. In this case, I simply tapped the drift pin medially to shorten the pin on the door stop engaging side. Hope this makes sense. If you decide to do this project and run into this issue, you'll immediately know what I am talking about.

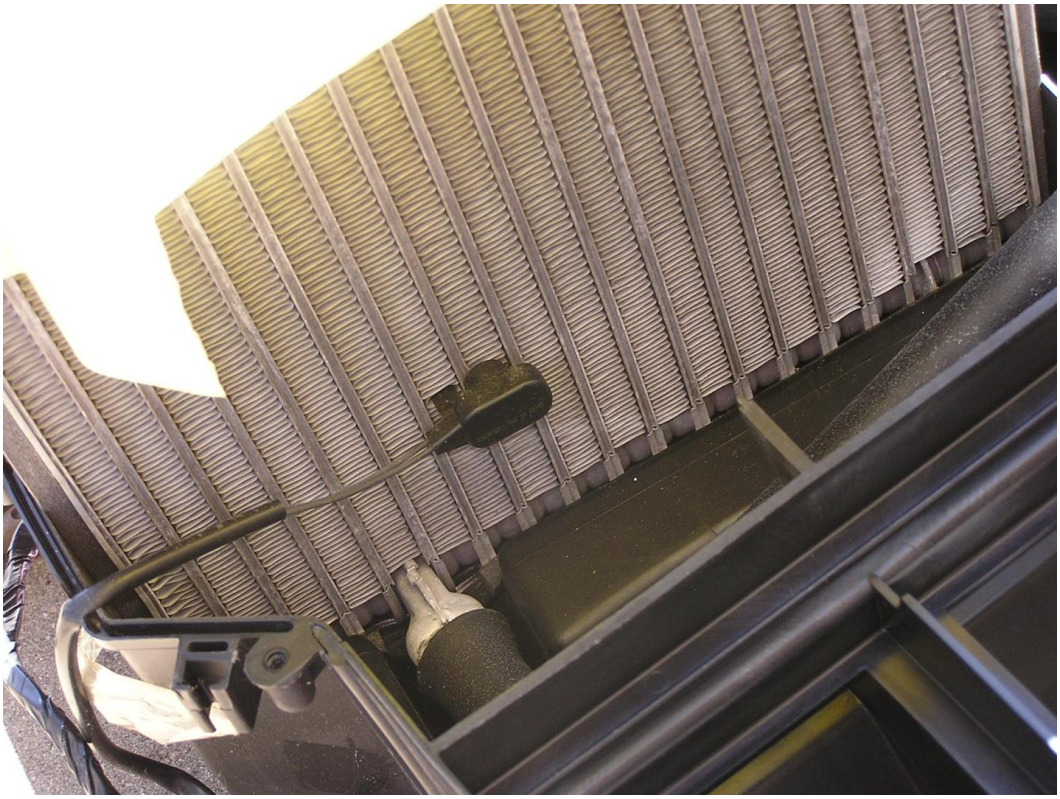
Shortened drift pin:

Mode 2 (as Heater Treater calls it), or Mode door/floor vent door replaced:

Blend door replaced. You'll notice the arm that connects to another door below the heater coil via a rod and are actuated together. This door is not replaced, but I cannot think of a single incident where that door has broken. It doesn't engage anything; it just rotates on its axle:



Fin sensor left in place. I have never had the freezing-up issues that others have reported and where the relocation of the sensor was the remedy. I figured, if it ain't broke, don't fix it.



The culprit for my woes: Broken Defrost door, (or Mode 1 door as Heater Treater calls it). This is the second time it has broken…and the last.

New defrost door installed:

Reassemble HVAC together with Recirculation housing and reinstall back onto firewall and reinstall dash. Be careful to not damage the airbag harnesses near the bottom center of the firewall, which would be located just under the cup holders on automatic transmission trucks. The dash is A LOT heavier than I was expecting and it is very feasible to damage the airbag connections.

There you have it. Hopefully, the result is an HVAC system that will never break again. Honestly, only time will tell, but dollar for dollar, it is well worth it to spend almost the same amount of money on steel parts instead of plastic. So if you have the TIME and the desire, I highly recommend this fix/upgrade. The doors are well engineered, albeit a little homemade looking. I am curious to see if any rust develops due to condensation in the system. Again, only time will tell.

COLLATERAL DAMAGE:

As I was draining the radiator for the heater line disconnect, the radiator experienced a catastrophic failure. I was standing by the truck and the trickle of antifreeze suddenly turned into a flow of antifreeze. I looked down and quickly realized I was running out of bucket space. My attempts to close the valve/draincock were futile as there were no threads to engage with the valve. None. Apparently the female threads on the radiator are pressed into the radiator cavity with an insert of some sort. My assumption is that when I opened the valve, this turning motion stripped the insert within the radiator. The result: a perfectly square hole with nothing for the valve to grab, thus, closing the hole.

Fastener Engineering Rule #1 – the easily replaced part is always engineered to be LESS durable than the core part. Note the perfect draincock. Not a scratch on it, no evidence of being cross threaded, etc. Just one of those things… actually, it's just one of those almost $700 things. Low and behold, the radiator part number has been superseded, and interestingly enough, the draincock has been redesigned. Who woulda thunk it? Come to find out, there are over 300 of the radiators on back-order and I was very fortunate that a dealer local to me had one in stock. I guess I was also very fortunate that this valve didn't let go on the road somewhere. Maybe there was a way a good radiator shop could fix it, but those places are nearly extinct now (like all the other good specialty shops), and I couldn't afford the downtime either.

Something else I'm not really impressed with is the fact that you just about have to disassemble the whole front end of truck to get the radiator out. By the way, the service manual is lying when it comes to radiator R&R. Don't believe it.

Hope this helps. Good luck.