

Never Assume

Every day we take hotline calls that, at first glance, seem to be a basic, straightforward problem but end up turning into a complicated headache.

Recently I took a call on a 2008 F-350 with the Dual Automatic Temperature Control (DATC) system. The complaint sounded fairly simple: The right hand (RH) side was blowing about 30 degrees warmer than the left hand (LH) side.

My first thought was the most common, and likely cause, was a problem with one of the blend door actuators. However, I found that's what the technician thought as well, so he had already replaced the suspect blend door actuator, to no avail! As I talked with him, I learned more details to this story. The vehicle seemed to work a little better if the temperature control was set to 60 degrees, which is the maximum cold setting. Both sides seemed to blow within a few degrees of each other and seemed to be nice and cold. As soon as the temperature control was set to 65 degrees (the next setting up), the problems started.

Since the settings of full cold (60 degrees) and full hot (90 degrees) basically tell the DATC module to just go full cold or hot regardless of what temperature inputs tell it the ambient or in-car temperature is, and anything in between relies on the inputs to control the temperature and mode outputs, I started suspecting some sort of input malfunction. The DATC module has the capability to run a self-test via the scan tool or through the push buttons on the front. When the tech did both versions of the self-test, both stated there were no codes, indicating the module was satisfied with all of the inputs. Even though the RH blend door actuator was new, I asked him to verify that the feedback signal from it was working as expected, which it appeared to be doing.

Since the blend door actuators seemed to be working, I suggested checking the operation of the in-car temperature sensor and the ambient temperature sensor to be sure both were working correctly. Of course they showed normal readings, so no luck there. We also discussed checking the charge of the refrigerant in the A/C system, although I told him that while I've certainly seen incorrect charge cause odd temperature differences side to side, the problem is usually still apparent when going to the full cold position. In this case, the system charge was found to be low on refrigerant. After the system was properly evacuated and charged, to our surprise, it started working correctly!

As we like to say, "Never assume anything." In this case we assumed the system was properly charged because it seemed to blow good and cold on the driver's side, but it wasn't. Never overlook the basics, especially when everything else seems to check out OK.

-By Bob Mordorski, Identifix Ford Team Leader
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