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Technical Bulletin

Potential lockout condition with revision "B" controls

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Tech Bulletin #: TB09.002

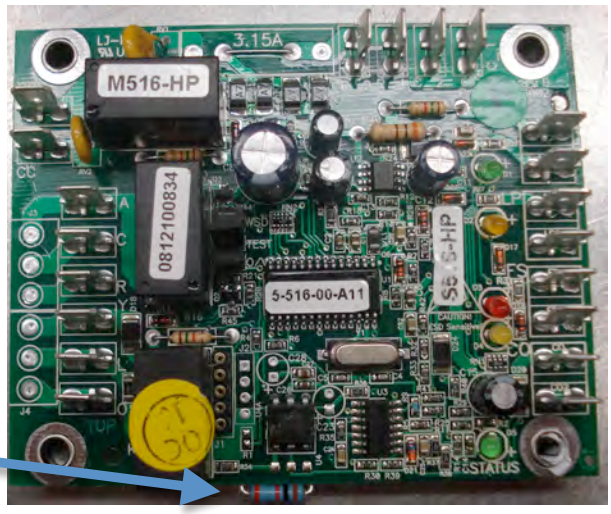
Our Quality Assurance Manager has observed in the testing station at our manufacturing plant in Mitchell, two "B" revision units where the compressor continued to run after the thermostat signal was disconnected. There have been hundreds of units tested with no occurrences of this behavior. However, in the interest of avoiding any troubleshooting problems in the field, we felt that customers should be notified in the event that there are other boards behaving in this manner.

One potential symptom would be a high pressure lockout in heating or a low pressure lockout in cooling. Another potential symptom could be the contactor attempting to start, but not fully engaging (you will hear the contactor trying to energize). In either case, these symptoms will only be noticed in "B" revision units with ECM motors. GeoComfort models have a "B" after the capacity (e.g. GT048**B**); Hydron Module models have a "B" as the last digit in the model number.

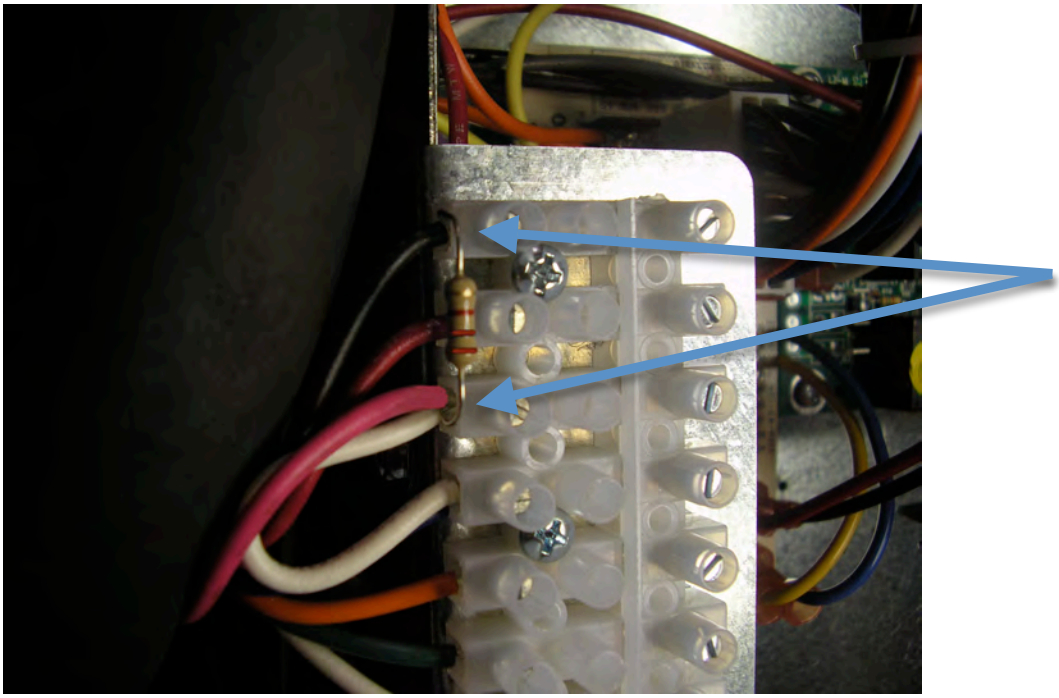
The cause of this behavior is back feed voltage from the ECM fan motor. In some cases, depending upon the line voltage and the quality of power, the back feed voltage may be enough to energize the lockout board, thereby engaging the compressor relay that sends 24VAC to the compressor contactor coil. We have not been able to duplicate the condition in our Greenville location. Therefore, we do not expect this condition to occur on any widespread basis. Our board vendor has made a change to the lockout board to avoid any future potential issues.

The plant in Mitchell has made the change to all units currently shipping. The warehouse in Greenville is adding the change to all units in stock. All units shipping now include the modification. Below is a picture of the new lockout board.

1k Ohm resistor (1/2 Watt) added at the plant to eliminate back feed voltage



For units already installed that exhibit this condition, the picture below shows an alternate method that achieves the same results. Units shipping from the Greenville warehouse will have the alternate design as shown below; units shipping from Mitchell have the new lockout board, as shown above. Eventually, all units will be shipping with the new lockout board, and will not have a resistor at the terminal strip.



Attach 2.2k Ohm resistor (1/2 Watt) between Y1 and C at the left hand side of the low voltage terminal strip.

If you have not experienced the condition described above, there is no reason to add the resistor to the terminal strip. There are hundreds of units installed that have not exhibited this condition. This technical bulletin is only a notice of a potential condition that could occur. If you are experiencing this condition, normal warranty policy applies.

It should be noted that if the compressor contactor has failed, the technician should look for a resistor either soldered to the board or attached to the terminal strip. If no resistor is present, the resistor should be added when the contactor is replaced.

Enertech Manufacturing will send a resistor if needed, or the resistor may be obtained at any Radio Shack or most electronics parts stores. The Radio Shack part number is 271-1121. If you have any questions regarding this change, please contact your distributor's technical services department.