SERVICE AND APPLICATION NOTES

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Limit Testing for Communicating Variable Speed Furnaces

Lennox Technical Support is often asked the proper way to test a primary limit in a furnace. For furnaces with PSC, Constant Torque or non-communicating variable speed blowers please see Service and Application Note H04-09 (Corp. 0419-L7).

This note is to address what happens when testing the limit in furnaces with communicating variable speed blowers. Some examples are G71MPP, SLP98 and EL296V models.

In order to test the limit operation, the recommended practice is to restrict air flow across the unit and wait for the limit to open. On units with PSC, Constant Torque and Non-communicating variable speed motors, the test procedure as noted in Service and Application Note H04-09 (Corp. 0419-L7) is applicable as these units will continue to operate until the limit opens shutting the unit down.

Communicating Variable speed furnaces operate in a different manner. These units will reduce blower cfm as well as unit firing rate in order to maintain operation if airflow be comes restricted. Modulating units operate slightly differently than 2-stage units.

On **modulating** communicating variable speed furnaces, when conducting the traditional restricted airflow test, the unit will reduce blower cfm and reduce the firing rate in order to continue heating. The furnace will continue to reduce blower cfm and firing rate in an effort to find a cfm that it can operate and provide heat. Once the furnace determines it cannot operate at the static, the unit will shut down, without ever tripping the limit in the furnace. This is normal operation.

On **Two-stage** communicating variable speed furnaces, when conducting the traditional restricted airflow test, the unit will reduce blower cfm and firing rate from high-fire to low-fire in order to continue heating. The furnace will continue to operate in low-fire mode and will shutdown when the primary limit switch opens.

If you have any questions, please contact Lennox Technical Support at (800)453-6669.