



SERVICE BULLETIN

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Number: SMB19-0027

Issued: 12/20/2019

Title: Vane Axial Fan Stator Temperature Limit
Nuisance Trips

Revision: -

Expires: 12/31/2020

Dept.: CML Quality

Category: Information Only

Dealer Bulletin Number: N/A

PRODUCT CATEGORY:

3-6 Ton Light Commercial Rooftop Vane Axial Fan units with gas heat

MODELS AFFECTED:

48FC, 48GC, 582K, 581K

SITUATION:

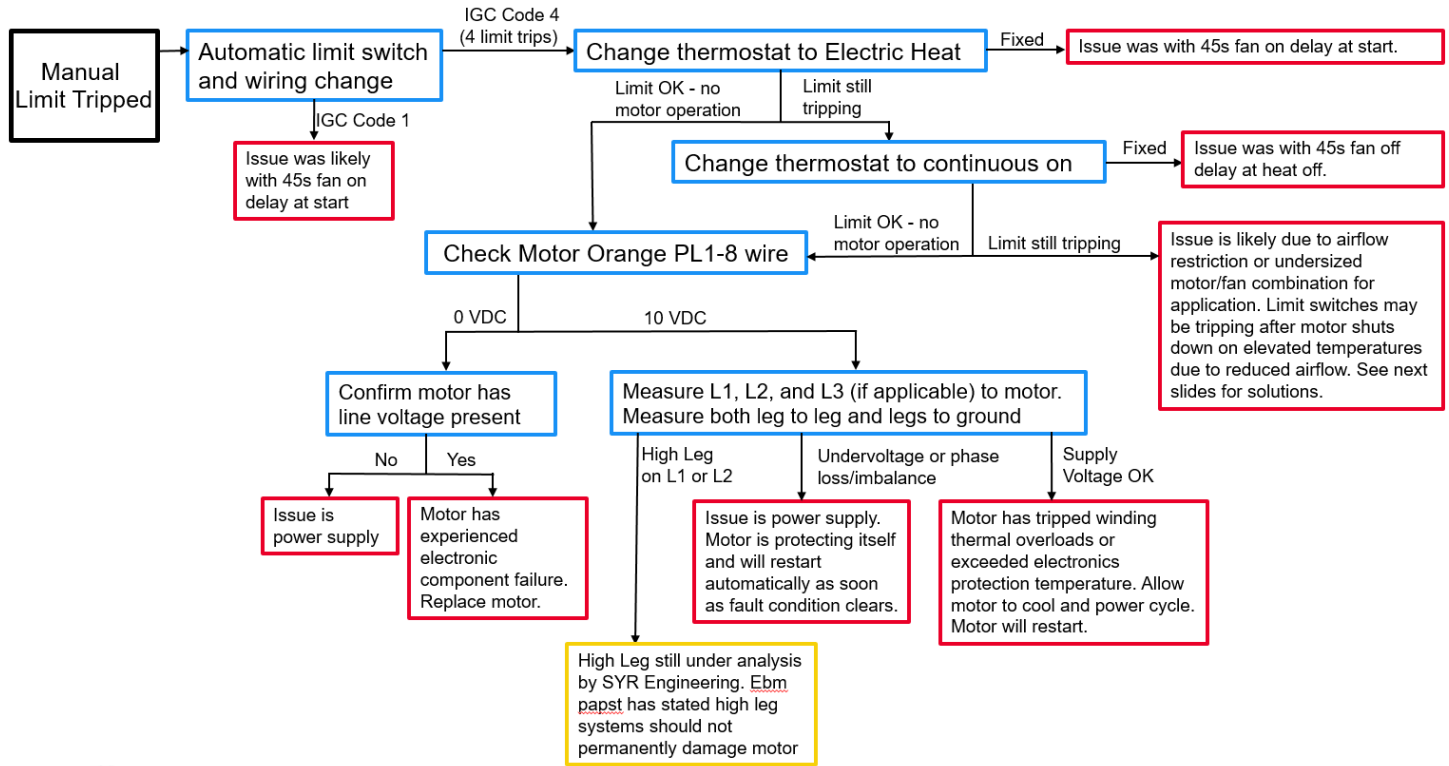
Reports of nuisance tripping on the vane axial fan stator over temperature switch result in loss of heat. This temperature switch is installed on the side of the vane axial fan to protect the shroud from excessive heat in the event of loss of air flow. It is a manual reset switch, which results in a technician having to open the unit to re-gain function.

This is quite difficult to recreate as different failure modes are likely causing these trips, but the service team has troubleshooting work flows to help narrow down the failure mode. If you experience a jobsite with this issue, please reach out to post-sales support or follow the instructions provided in this document. These instructions will provide a series of actions that will either fix the issue for your site, or remedy the need for repeated manual resets.

A factory update will implement an automatic reset switch, and route the temperature switch through the IGC board for fault handling. If we identify other potential causes that lead to the limit switch trip events, we may issue a revision to the bulletin with further actions.

SOLUTION:

Please follow this flowchart and use the attached data sheet to send feedback to the design team.



Limit Switch Replacement

Parts:

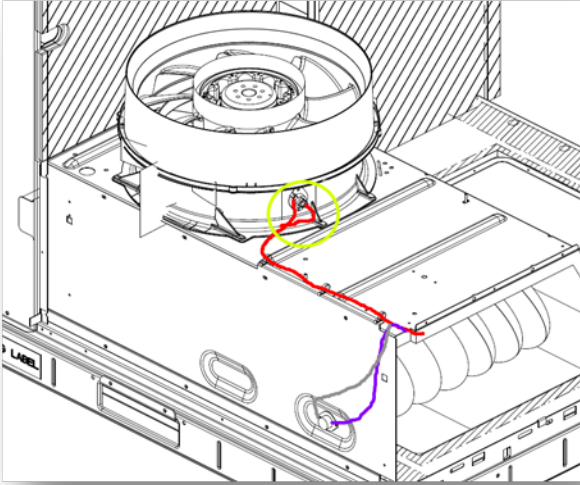
- 24 inches of 16 AWG wire
- 2 insulated female spade terminals
- 1 splice connector

Tools:

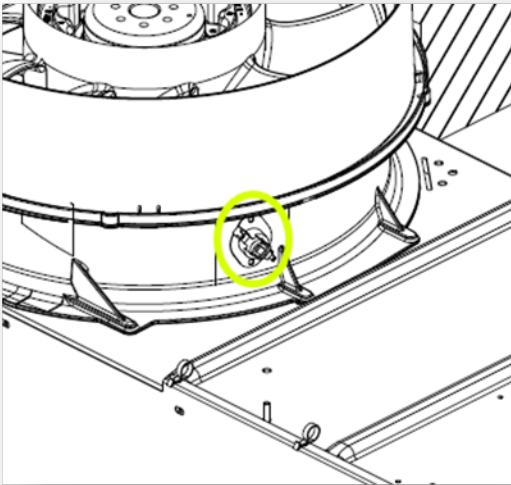
- Wire crimper / cutter
- Nut driver

Limit Switch Replacement Instructions:

1. Remove the 2 red wires from the stator limit switch, and connect them together with the splice connector.



2. Remove the manual reset fan limit switch from the stator, and install the new automatic reset limit.

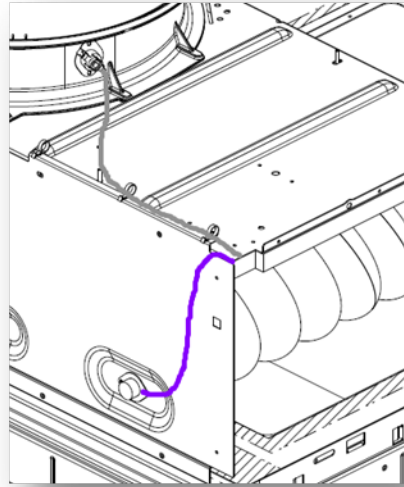
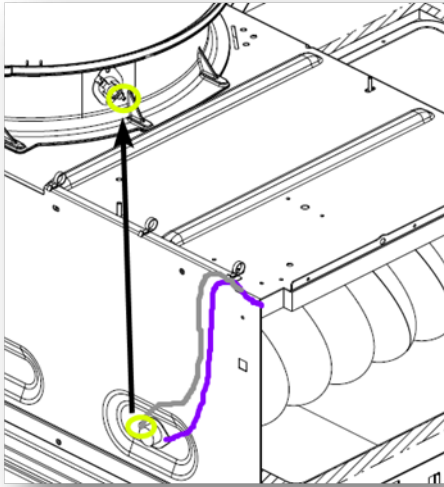


Limit recommended

HH18HA160 (160° F)

ATTENTION! UTILIZE ONLY THE SPECIFIED AUTOMATICALLY RESETTING LIMIT SWITCH. FAILURE TO DO SO CAN YEILD AN UNSAFE APPLICATION RESULTING IN INADEQUATE SENSING OF THE AIRFLOW INSIDE THE STATOR HOUSING.

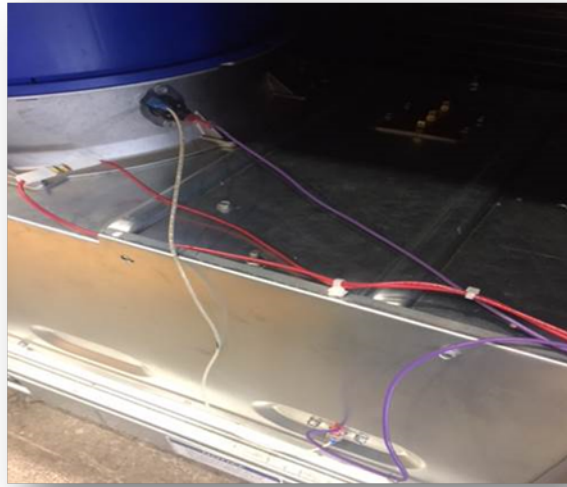
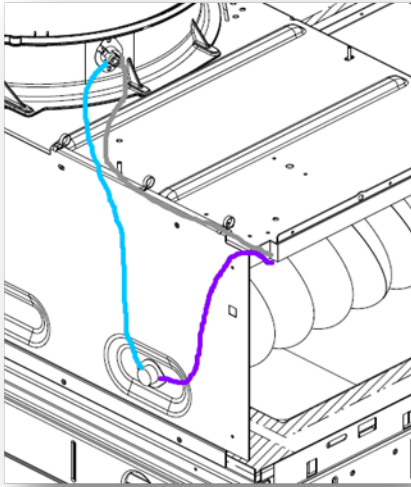
3. Disconnect one of the leads from the unit leaving air temperature limit switch (either lead will work), and connect that lead to the fan stator limit switch.



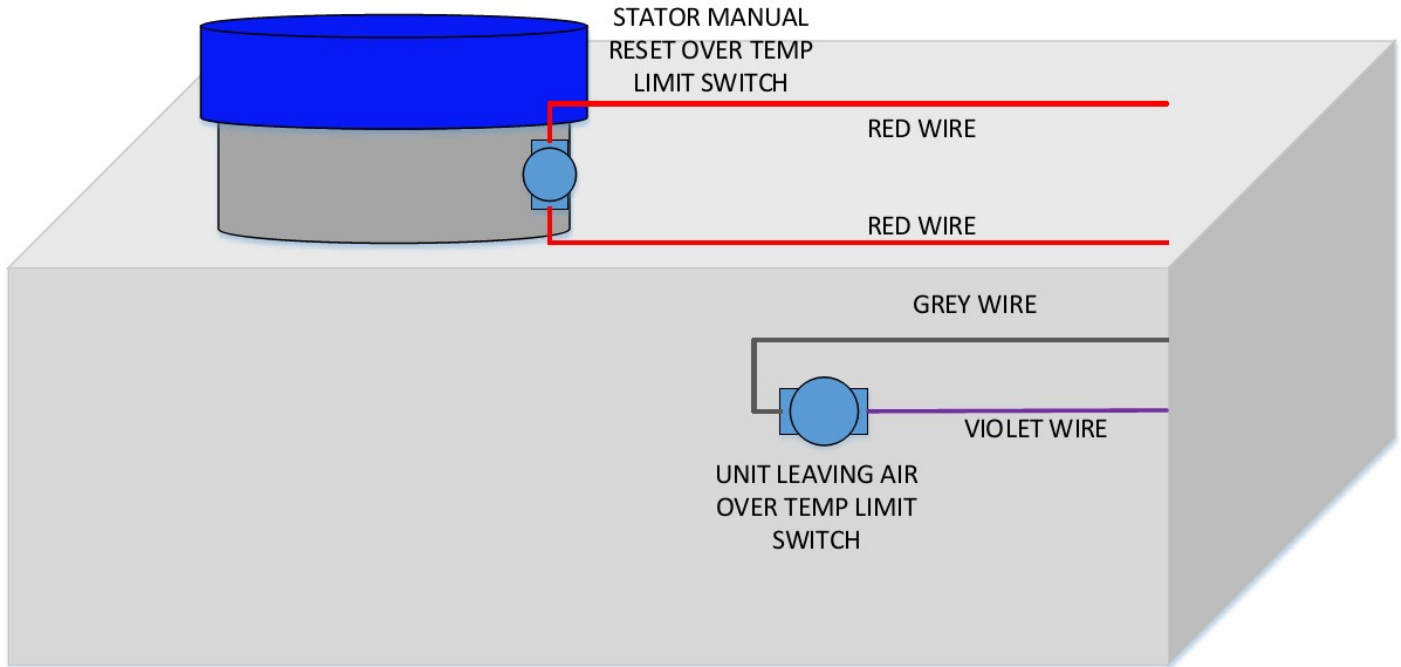
4. Take 24 inch piece of wire, strip ends, and crimp female connectors



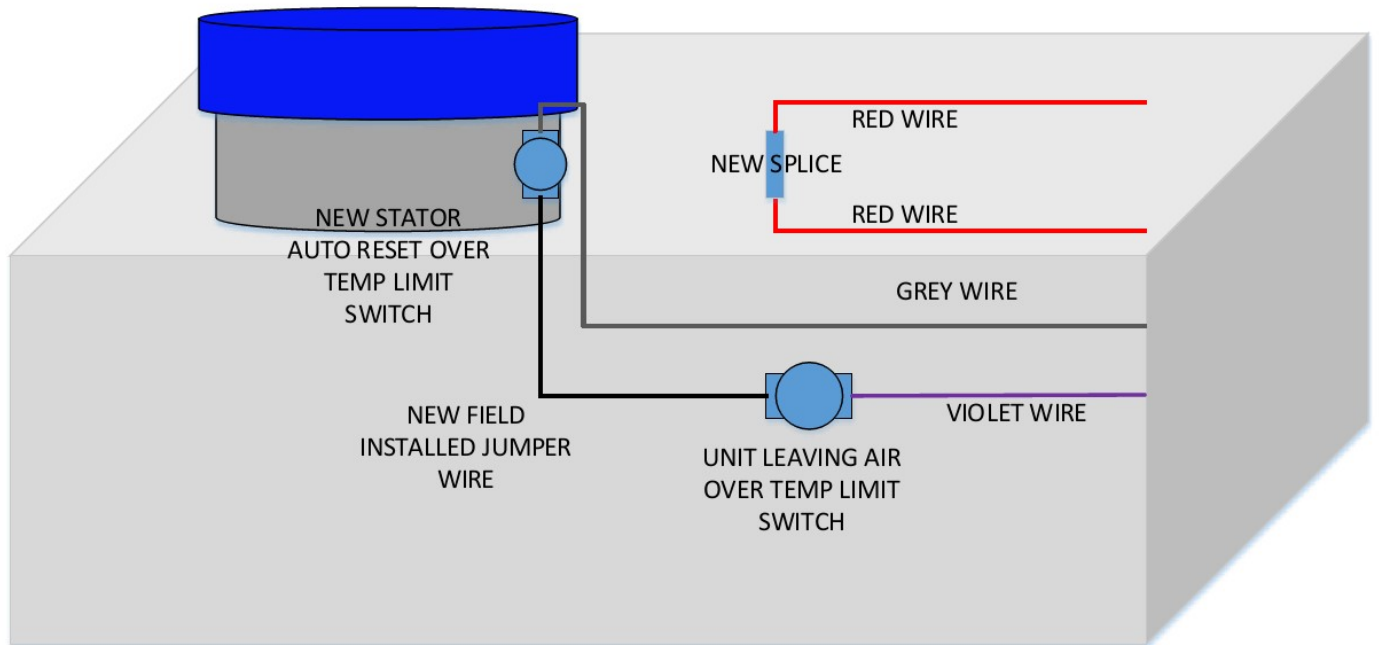
5. Using the 24 inch jumper wire, connect the fan stator limit switch to the leaving air temperature limit switch.

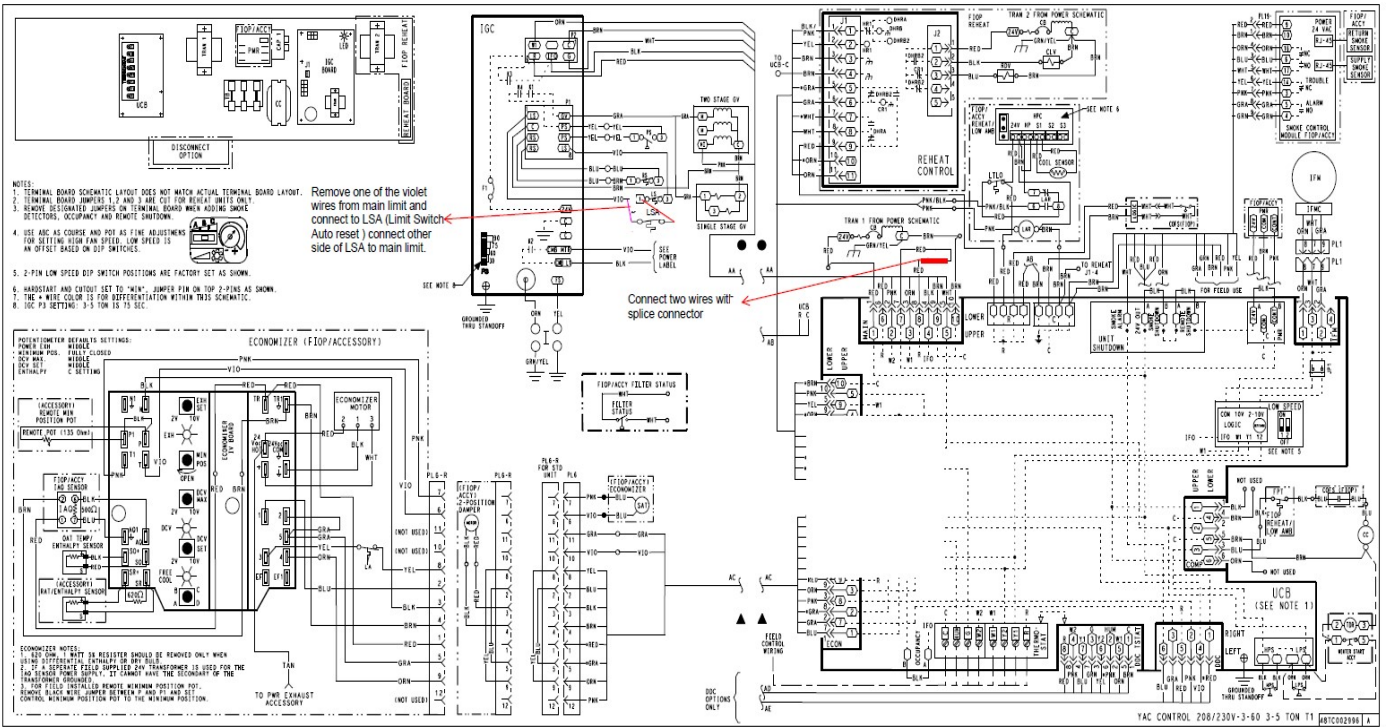


6. When completed, the wiring for the two limit switches should have changed as shown in the diagram below
Before:



After:





With this complete, there is one last item to check before going through the rest of the trouble shooting flow chart. Check to be sure that all four retaining tabs on the Vane Axial Fan shroud are fully engaged with the stator. You can do this by pressing down on the blue shroud in the area above the four tabs. You should not be able to see a gap between the stator and shroud. Even though there may be some movement axially (rotationally), you should not see movement vertically when you press down. Correct any gaps before attempting to run the unit.

Please fill in this data sheet and return it with your warranty claim:

BEFORE ANYTHING CONFIRM IF UNIT HAS IGC FLASH CODE	
Application Information (Location/Build Type/Etc)	
Install date (if known)	
Unit Model Number	
Unit Serial Number	
Field accessories installed? (economizer, etc)	
Adapter curb present?	
Motor Model Number	
Motor Serial Number (bottom right motor label)	
Motor Week Code (top right motor label ###/## format)	
Has Manual limit been replaced with Automatic? (y/n)	
What is the setting of Automatic limit (if present)?	
Is Auto limit wired in series with leaving air limit? (y/n)	
Unit Design Airflow/Static (if known)	
L1-L2	
L2-L3	
L1-L3	
L1-G	
L2-G	
L3-G	
Motor Vdc supply signal - Orange to White in motor plug or across Pin 1 of IFM plug and VDC tab on UCB (See Slide 3)	
Vdc setting - Use two Vdc tabs provided on UCB (see Slide 4)	
UCB Vdc output signal - Gray to White UCB motor plug or across Pin 1 of IFM and VDC tab at UCB (See Slide 5) - May be lower than Vdc supply signal if jumping R-G on FC07 and GC units	

Warning: Do not perform any of the servicing instructions provided in this Service Bulletin unless you are a trained and qualified technician. Observe all precautions in the instructions, equipment tags, labels, and observe all other safety precautions that may apply. Failure to follow this warning could result in property damage, personal injury or death.