Johnson Controls Unitary Products
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DATE: July 29, 2010 **YS-033-10**

TO: All York Branch Service Managers
All York Distribution Service Managers
All Regional Managers

SUBJECT: 33" Gas Furnace 2 Stage Control Board Issues

PRODUCT: TM8V, TMLV & TM9V

This letter is a follow up to ST-038-10 and provides labor for field implementation of the suggested fixes.

In addition to the "no blower" operation issue addressed in ST-023-10, we have recently learned of an issue with the "Comfort Profile" feature of this control not operating as expected. This service letter will recap all known issues with this control.

The control board was phased in around August 2009 (W0H9 furnace serial number prefix), SAP# 542766, and provided as a Source 1 replacement part for previous generation boards, S1-33102955000.

Fault Codes

The fault codes listed for the two stage models contain some misleading information. The 3 and 10 red double flash codes do not exist. The 4 red flash code means that one of the thermal limits in the circuit has opened the limit or rollout switch, for up to five minutes. The 5 red flash means that one of the thermal limits in the circuit has been opened for over fifteen minutes. This is usually indicative of a rollout switch, but could be any thermal limit. The 11 red flash code means that any thermal limit in the circuit has been opened from five to fifteen minutes.
Note: Limit opening 5 times in one call for heat will result 4 red FC in memory and soft lockout.
See attached summary of current fault codes on last page of this letter. The fault code tables in all literature will be updated to reflect these corrections.

No Blower Operation

This issue was addressed in service letter ST-023-10 with a couple of field fix options provided until the control board logic can be changed.

"Comfort Profiles"

Recently, we have received field reports of the "Comfort Profile" feature not operating as expected. We have confirmed a "Hardware" issue exists with the control. It will take some time to fix the hardware issue, so a field fix has been created.

1. For the "Comfort Profile" feature implemented by the 'Delay' jumper, it is necessary to add a wire jumper from the 'R' terminal to the 'O' terminal and then set the 'Heat Pump' selection jumper to 'Yes', refer to Fig 1.

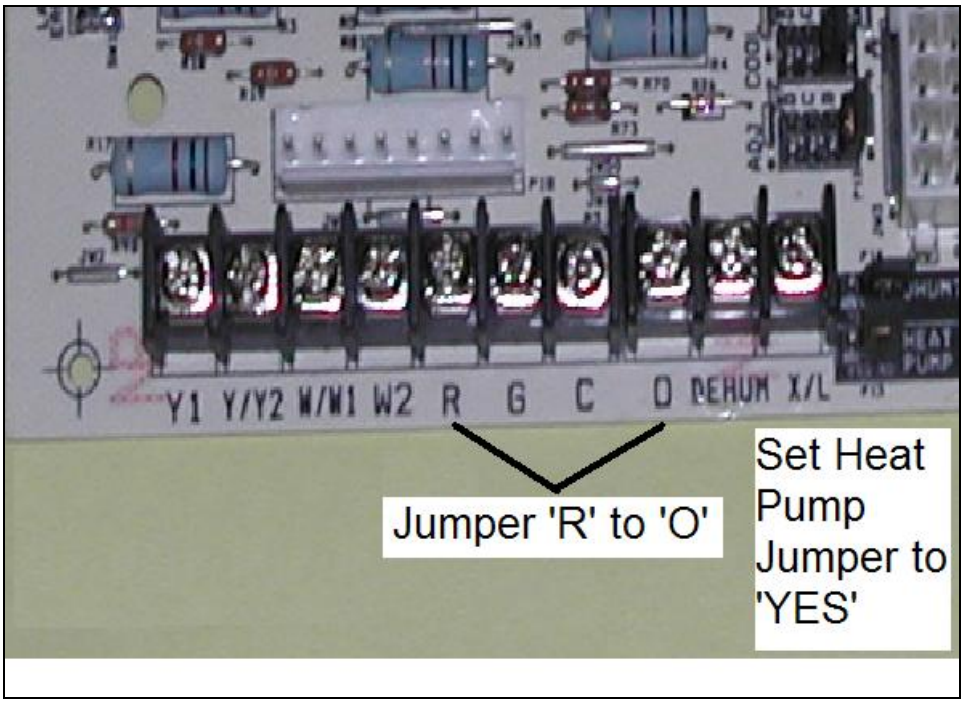

Figure 1: Setting up Board for Comfort Profile

2. To achieve full programmed cooling CFM, it is necessary to add a wire jumper from the ‘R’ terminal to the ‘DEHUM’ terminal and set the ‘DHUM’ selection jumper to ‘Yes’, refer to Fig 2.

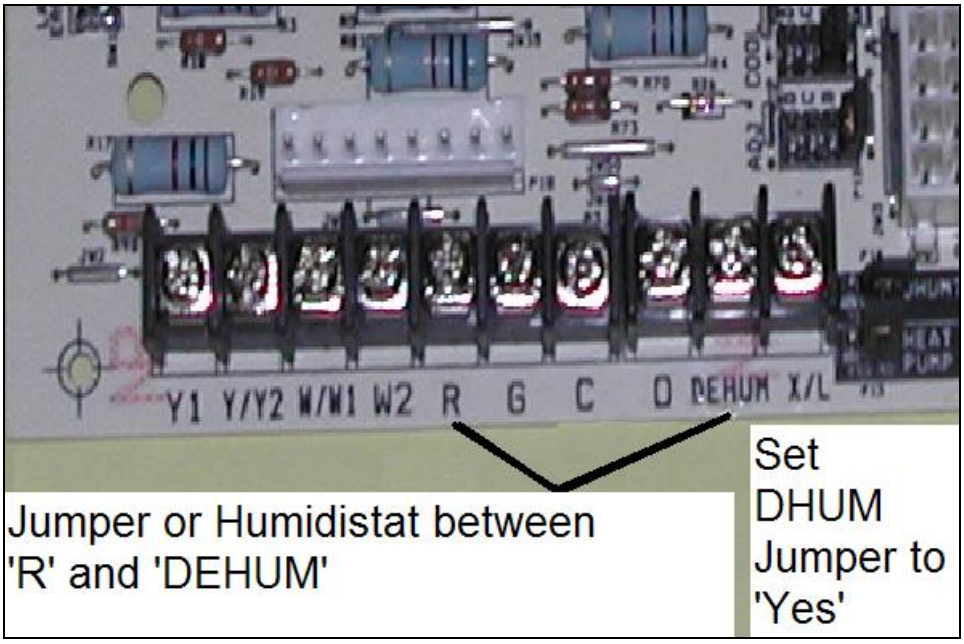

Figure 2: Setting up Board for Full Cooling CFM or Dehumidification Feature

3. For the “Dehumidification” feature to be active, where the blower runs at 85% of the programmed speed in high humid conditions simply add a ‘Humidistat’ between ‘R’ and ‘DHUM’, instead of the wire jumper as described above, refer to Fig 2.
4. Moving the System Selection Jumper HEAT PUMP to ‘YES’ will have no effect on Cooling only systems.

Since these issues do not create a major problem with the operation of the furnace, the current board will continue to be used until a new board is available. There will be additional field notice at that time.

For field installed units, this service letter will provide a one hour labor allowance for the installation of the one or both of the jumpers mentioned above. File a warranty claim through normal channels and reference the YS service letter number to receive credit.

Note: When replacing a Two Stage Board with separate CFM board to the new Single Combination board a new 16 pin to 16 pin with 16 wires ECM motor connector cable will be required; S1-02541130000 which is packed in the replacement board kit.

Set CFM Selectors (ADJ, COOL, DELAY and HEAT) on the new board the same as the replaced CFM Board.

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UTEC IFC Boards Two Stage with Variable ECM Motor	
LED Flashes - "Fault Codes"	Two Stage Variable/ECM Motor
	542766, S1-33102955000, 1170-121
Steady Off	No Power To Board; Door Switch Open or Control Failure
Solid LED, Any Color	Control Fault Detected; Reset Power, If It Continues - Replace Board
Slow - Green Flash^	Normal Operation; **No Call For Heat,** No Active Errors
Slow - Amber Flash^	Normal Operation; **Call For Heat**, No Active Errors
Amber Flash	Low Flame Sense Current
4 Amber Flash	Y Present Without G Call
1 Flash Red *	Flame Sensed With Gas Valve Off; Check Wiring and Earth Grounding
2 Flash Red *	Pressure Switch Stuck Closed; Check Wiring
3 Flash Red *	1st-Stage Pressure Switch Open
4 Flash Red *#	Limit or Rollout Switch Opened, Soft Lockout if Opened 5 Times in One Call for Heat
5 Flash Red * ##	Limit or Rollout Switch Opened for More Than 15 Minutes, see 4 and 11 Flash Red
6 Flash Red * #	Pressure Switch Cycle Lockout; Pressure Switch Opened Five Times During A Single Call For Heat
7 Flash Red * #	Flame Loss Cycle Lockout; Flame Not Proven After Three Tries
8 Flash Red * #	Flame Dropouts Five Times During A Call For Heat
9 Flash Red	Earth Grounding Or Reversed Line Voltage Polarity, Low Voltage Transformer Leads Reversed; Check Wiring Diagram and Earth Grounding
10 Flash Red *##	Gas Valve Energized With No Call For Heat; Check Unit Wiring
11 Flash Red * ##	Limit or Rollout Switch Opened from 5 to 15 Minutes, see 4 and 5 Flash Red
12 Flash Red	N/A
13 Flash Red	**[Being Developed]** 2nd Stage Pressure Switch Open With W2 Call
Normal Flash Speed = 1/3 Second On - 1/3 Second Off With 2 Seconds between groups; ^ Slow Flash = Two Second On - Two Second Off; * = Stored In Error Code Memory; # = One Hour Soft Lockout; ## = Hard Lockout, Reset Power	
Fault Code Retrieval: To retrieve fault codes, push and hold the "LAST ERROR" button for more than 1/5 second and less than 5 seconds.	
The LED will flash up to five stored fault codes. The control will flash the most recent error first and the oldest error last (last in first out). There will be a 2 second pause between the separate codes	
Solid LED error codes will not be displayed. If there are no fault codes in memory, the LED will flash two rapid green flashes.	
Fault Code Reset: To clear the fault code memory, push and hold the "LAST ERROR" button for at least five seconds. The LED will flash three rapid green flashes when the memory has been cleared.	