6500 exhaust fan will just stop choking fire out

Posted by gattaca37 - 24 Nov 2012 02:04

I have a american harvest 6500 goin on its 4th season. Had this issue last year but was able to make it through bein it was a mild winter. The unit worked great and could push any temp heat the first 2 seasons. Here is what is goin on and I am curious if anyone has dealt with these issues.

I will have the furnace running and working great, i notice its holding the same temp in the house or has dropped a degree so I turn it up to cr-3 heat setting. c-2 setting is 4.5lbs/hr c-3 setting is 9lbs/hr. The factory setting happen to be c-2 is 5lbs/hr and c-3 is 13lbs/hr. I've had to drop the feed settings to be able to use the pellet furnace.

I will watch the U1 reading which will climb so fast (U1 tells ur exhaust flue gas temp) while the U2 reading barely raises (U2 tells u the duct temp). I happen to have a meat thermometer probe stuck down where rectangle duct goes on which I can only get it up to 75-80 degree heat and the U1 is around 550-560. I have gone to the adjustment settings and have raised the exhaust temps to 670 but no difference. When the U1 reading hits 550-560 (U2 is reading 125), the exhaust fan will just stop. this means pulling no air over fire to feed it. Draft fan light is on solid. I have switched out with another exhaust fan which i have as a spare, same thing, the U1 reading hits 545 and it stops exhaust fan.

When the stove is off and cold, the U1 reads 160. I have been told by paul williams (USSC) that the U1 should be no higher that the 300-400. I have consulted USSC and Brandon (one of the engineers) claims the computer circuit board needs to be replaced. tell me what u think and if u have dealt with this what have u tried. the exhaust and duct thermistor are both new and the vacuum pressue switch is new with 2 spares. I have have tried everything i know of.

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Re: 6500 exhaust fan will just stop choking fire out

Posted by lukecornstalker - 24 Nov 2012 18:04

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certainly looks like you've covered all the bases for trouble shooting. I don't own this particular model so this is just speculation, but are you exhausting into 3" or 4"? I just wonder if it's 3" then it just can't handle 9 or above for the feedrate. What is the spec on the exhaust duct thermistor? If it is a "open at 550f" then it is working properly as a safety shutdown.

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Re: 6500 exhaust fan will just stop choking fire out

Posted by gattaca37 - 24 Nov 2012 18:24

I have it using a 3" Simpson double wall exhaust. Runs 4' feet up on a diagonal and does a 90 degree shooting out of house with a 3' run. Have used this exhaust system since we had it, all 4seasons. The exhaust thermitor is the factory thermistor. All the parts I have switch have all been from ussc. We figured it was a dirty thermistor causing issue, cleaned and reinstalled, no difference, exhaust fan just stopped. Called ussc and they sent me a new exhaust thermistor, no difference, u1 approaches 550 and just shuts unit down

For some reason the u1 reading is higher than it should be and no one at ussc could answer me on this. It's 160(u1) when the system is cold and has not been run . I just don't want to buy a new circuit board and have same problem with exhaust fan shutting down. Don't want to have this turn into a nickel and dime issue. Thanks for the help.

The first 2.5 season I have been able to run 110-115 degree heat with no issue, not sure of u1 reading. Now I cant go over 75 degree actual warm air cause it will shut exhaust fan down due to u1 reading climbing towards 550. Like I said before, Paul Williams from ussc claims exhaust temps should be reading no higher than upper 300 and u2 readings should be 130-140. I get u1 at 550 and u2 at 128

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Re: 6500 exhaust fan will just stop choking fire out

Posted by lukecornstalker - 24 Nov 2012 21:49

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OK, this the fourth season, got ya. I can only think of one other thing that is not gonna cost anything, maybe you've already done this, but a thorough cleaning? From the exhaust fan housing to the end of the duravent, and a good scrape and clean of the heat exchanger. Other than that, I don't know, maybe see if USSC will test your circuit board for (hopefully) a small fee. That 160 reading on a dead cold furnace sounds suspect for sure.

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Re: 6500 exhaust fan will just stop choking fire out

Posted by gattaca37 - 26 Nov 2012 00:06

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I have and do annually if not semi annually. I pull the exhaust fan out and clean paddle of soot with a toothbrush . I clean soot with a 4.5 HP stanely vac. Cleaning fire burn area and whole exhaust area.

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Re: 6500 exhaust fan will just stop choking fire out

Posted by gattaca37 - 28 Nov 2012 01:48

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I am coming to this conclusion. I noticed that the U1 reading did go below 160 when off and cooling. I think something is going on (that I havent figured out yet) where the exhaust is getting more hot air than

it should. I am running on manual draft with dampner out 1". I have tried on auto and noticed no difference. Would there be something inside the fire area that would allow the heat to exit through the exhaust? Would it be the heat exchanger not exchanging the heat properly? How do u know if it is or isnt working? I am running c-2 at 3.8lb/hr and c-3 at 8lb/hr. I have had these at c-2 7lbs/hr and c-3 at 14.24lb/hr and never had an issue with the U1 reading going so high that it shut down the exhaust fan. Any clues or advice please post.

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Re: 6500 exhaust fan will just stop choking fire out

Posted by Tinman - 29 Nov 2012 03:55

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have you taken the flue complete apart and make sure there are no obstructions? sure seems like something on the order of something pluged to raise the flue temp so fast.

you said the draft fan light is on solid, is that after the exh fan shuts down or before?

just curious how much do they want for a new board?

I have the 6300 which is similar to yours.

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Re: 6500 exhaust fan will just stop choking fire out

Posted by Tinman - 29 Nov 2012 04:03

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just for the heck of it I just went out and checked the temps on mine.

Running on PR-2 (I have 5 pellets settings PR-1 to PR-5), I believe I'm burning about 7 lbs./hr.

the flue temp on the bare metal pipe as it leaves the furnace is 246 deg and the discharge air temp in the duct about 12" above the top of the furnace is 97 deg.

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Re: 6500 exhaust fan will just stop choking fire out

Posted by gattaca37 - 29 Nov 2012 11:10

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Yes flue is clean, I run a 3" chimneys brush through it and thats right at the exhaust fan into the t and then from the t up and out to exit. I can get a new circuit board for $219. The draft fan light goes on right as the exhaust fan quits. The furnace will stay on but exhaust fan is off until something cools enough for it to regain conscious. There r no obstructions from what I can see. What about the heat exchanger not working properly? From what I put in my last post, is there a way that if not working properly the heat will escapes through glue. Tell me what u think

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Re: 6500 exhaust fan will just stop choking fire out

Posted by lukecornstalker - 29 Nov 2012 15:52

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you have a real head scratcher G37. Again I am just speculating as I own a 6220, but I know on mine if I run the exhaust fan in manual, I have to be very diligent if I change the feed rate. If I get mine set and running consistent at say pr-3, then bumping it to pr-4 will set off a series of exhaust tweeks to find that sweet spot for nice even combustion. That's why I went back to auto on the exhaust fan but slowed the pulses down overall. It still ramps up with feed rate, but on a overall slower pace.

Is there a chance that you got into your c-codes and changed that U-1 parameter? Again, I don't know how your board works, but maybe if you can, just reset to all factory settings and see if it changes. Then start re-tweeking from there. Keep us posted, I would really like to know what it finally takes to get her purrin' again, good luck.

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