



## *AES Technical Bulletin*

### **Negative Pressure**

**Product models covered:** All models of Wood/Biomass/Corn/Wood Pellet Magnum & Country Flame Appliances.

**Topic:** This technical bulletin will be addressing negative pressure in the home, what to look for, when it can affect the unit, the affects of negative pressure, and how repairs are handled so that normal operation can be resumed.

**What to look for:** If negative pressure exists in the home it will be hard to heat and more expensive to heat. The unit will not produce as much heat and the heat cannot be circulated around the home. This may be indicated in the home with the additional running of the primary furnace to adequately heat the home. If any remodeling has occurred or if this is a newer home, it is a very real possibility that negative pressure exists. If excessive fly ash (see Technical Bulletin T-0038 concerning Soot & Fly Ash) on the exterior of the home and/or on the interior of the home exists, a technician needs to access the home for fresh air requirements.

**When the unit is affected:** Some indications of negative pressure affecting the stove can occur approximately 3 days after the stove is lit for the first time. The glass gets dirty very easily, the firepot might keep filling up even though you pull the air adjustment out, and you notice that the venting fills up with soot rapidly (see Technical Bulletin T-0038 concerning 'Soot and Fly Ash'). The unit will shut down and be cold; the error light may be flashing. In some instances negative pressure in the home will cause a draft reversal in the unit and could cause a hopper fire (see Technical Bulletin I-0005 concerning 'Burn Back into the Hopper Area').

**Negative pressure affects:** After a few days, the exhaust can no longer adequately pull out all of the fly ash so the exhaust, that would normally exit the stove outside, is being drawn into the home by negative pressure. The house will use the combustion air intake from the unit and actually suck air and soot backwards through the system. This might happen through the venting if it is not sealed properly or it might come out when you open the door for maintenance and also backwards through the air wash system. Sometimes this also occurs if there is an intake for fresh air too close to the exhaust on the outside of the home. Depending on the venting configuration this could be aggravated by back drafts, high wind and cold chimneys. In some instances negative pressure will result in a hopper fire.

**Repairs:** This can be easily corrected by checking the venting and making the needed changes. It is imperative that the dealer or installer check the unit for proper operation to make sure that there is nothing mechanical wrong with the appliance and then determine the homes need for proper fresh air. Contact you local dealer, service technician or installer for service.