

## Demonstration Outline

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*“Flash combustion wood stoves are very different from stoves you're familiar with.”*  
Overall, these wood stoves are 3 times better than good air-tights of the past.  
*These are vastly superior to pellet stoves.*

Fireside's unique burn model demonstration illustrates each of the advancements below, each contrary to what used to be true. Demonstrations are educational and entertaining.

**There's never pressure to buy a stove.**

Flash combustion technology, (burning of smoke), doubles the efficiency as compared to air tight stoves of the past. That's half the wood for the same heat! This single advancement is great, but even better when you factor in several additional benefits you're likely not aware of:

- 1- Ease of Use:** As a consequence of half the wood usage, there's a doubling of the burn duration. This makes it much less likely **a morning re-start will be needed**. Furthermore, half the wood usage means half the wood stacking, toting, loading & ash removal. No more mess either, due to processed wood that comes by pallet, a clean brick like shape that's easy to load. Google 'Bio Bricks', or 'Envi Logs'.
- 2- Home Temperature Stability:** Not only does doubling the efficiency double the burn duration, but large wood holding capacity stoves can now be installed in most smaller homes, further extending burn duration. 24/7 burning is now much more likely to happen. Half the wood handling, with double the burn duration, means it's less likely the fire will go out. **24/7 burning means the long time it takes to reheat remote rooms does not have to be repeated daily.**
- 3- Free fuel option:** Historically rejected due to dangerous creosote, **pine and other scrap wood is demonstrated to those who visit to be totally smoke free** exiting the chimney, even when the stove is smoldering on the lowest air setting. However, the public is still told to reject pine. Therefore, pine can be found in bulk, often free for the taking. Tree service techs sell hardwood, but often leave pine at the jobsite. Homeowners are told to burn it in the backyard fire pit, but that now requires pulling a town permit, and they don't like the work and cost of taking it to the landfill. Many will use 'Craigslist' or 'FB marketplace' to post 'free pine on the curb'. Also, builders often post work site locations for free scrap wood pickup, saving dumpster costs. When buying hardwood, a stove with 80% efficiency translates to an oil heating cost equivalent of one dollar a gallon.
- 5- Centerpiece of the home:** Many are unaware of the air wash feature. Air is directed over the glass, to keep soot from dirtying the glass. Easy to maintain fire views, add a new dimension of charm to any home. Seeing the fire is also a safety benefit to children, as seeing danger upon entering the room serves as a warning. Furthermore, long distance viewing adds to ease of use, in that there's no longer the need to walk to, and open up the stove to see if time to reload. Fireplaces use triple the wood and work for the same fire view duration. Thus, fireplace fire views are more for special occasions. Now, charming fire views can be 24/7, and the heating benefit will offset most of the oil/gas heating costs.
- 6- Maintenance Economy:** Most of my 4000 customers **go over 10 years without chimney cleaning**. This saves 10 years of annual cleaning costs, or \$1900. I've stopped selling stoves that, because of faulty design, **plummet in performance when overheated**. Over firing occurs with everyone from time to time. The resulting repair is very expensive, as the warranty is void if over fired. **Who would keep using a failed stove?** It's the majority of folks who remain unaware of what they lost. Advanced engineering in the special brand Fireside offers, make them a lifetime investment, even when severely over fired (red hot).
- 7- Installation & room space savings:** With concealed shielding built in, clearances to combustible walls have been reduced up to 80% with certain stoves. Our large, 2000-3000 sq ft display stove meets code at just 4.7" to a combustible wall. Some still need 36" clearance. This means you can forego expensive wall protection, and use a lower cost, space saving hearth floor pad.
- 8- Now Carbon Neutral:** Emissions of carbon dioxide from wood burning is now equivalent to what is given off by the same wood rotting in a landfill. Furthermore, for every cord of renewable wood fuel used, there's less oil emission pollution, and less money to given foreign oil suppliers.

### **9- Fireplace inserts now heat as efficient as freestanding stoves:**

Advanced designs are present with some fireplace inserts. They can heat the entire home, at the same efficiencies as a free standing stove, all while preserving the look and feel of a fireplace. Advancements include convective jackets to project heat forward. Also, unlike when I installed stoves in the 80's, flex pipe now exists. Flex pipe allows curving navigation up through the damper to the chimney top, where it is blocked off air tight. No need for ugly sheet metal block offs, that never sealed that well.

## **Questions & Answers**

### **Why is it a big mistake to select a flash combustion wood stove without a multi part demo?**

Many shop in a preset manner that works well as a rule, but fails with flash combustion stoves. Many want to grab a brochure, prices, and run...too busy for a demo they feel they don't need. Especially during the Fall busy season, most salespeople don't have the ability or the time to patiently guide you to optimal stove. It also takes a while to demonstrate numerous 'hidden' improvements, and how they all combine to more than triple the benefit of wood heating. Everyone is amazed, especially those who thought they already knew. **Once it sinks in that these are so wonderful, it takes just seconds to prove something equally as eye opening- that most popular selling expensive stoves soon permanently revert back to 1/3 their promised performance.**

This is proven by opening the stove loading door just a tiny bit, so it holds a small paper. The small leak is enough to negate the weak vacuum that sucks air out of the smoke combustion tubes. Right before your eyes, through the stay clean glass, you observe the flames from smoke burning go away, and the controlled fire is now raging due to this tiny air intake breach. The chimney now billows smoke. The stove is now too big a heater for the home, overheating on the low setting. Free scrap wood and pine is no longer a clean burn option. The resulting halving of the efficiency means twice the wood cost and handling. This alone made it 1/2 the stove. Add in all the other losses listed above, (double burn duration, clean chimney, temp stability) and it has reverted to less than a third of what it should be. So leaks nowadays, unlike the past, result in a huge loss, as it is cheaper to buy a new stove than to pay for the leak repair the warranty doesn't cover.

### **Are there any other costly stove construction flaws to avoid?**

There is a long list of inherent stove design flaws to steer clear of, other than simply avoiding weak seamed cast iron stoves. Another phase of the showroom demonstration is a stove design show and tell. How a wood stove is made is now critically important, and never mentioned in a brochure. Properly engineered stoves often cost less than stoves that fail.

### **Design qualities that keep 'Country' stoves undamaged & performing well, even when repeatedly turned cherry red hot: (cherry red heat destroys most stoves, but not well engineered models)**

- Very thick steel. 1/4" to 5/16" thick.
- Unibody construction: Rounded weld free corners with a laser cut door opening.
- Stainless steel secondary combustion tubes WITH stainless baffle retainers.
- High density fire box brick that can last the life of the stove.
- Ultra thick and long lasting door gasket, when combined with a self adjusting door handle mechanism, has allowed most folks over a decade of service life without changing.
- The glass gasket is not held in with clips of a sheet metal frame. These can't be tightened when the gasket shrinks and you get the dreaded leak/vacuum loss. There is a half inch thick cast frame that has adjusting bolts to clamp down on the shrunken gasket. Just seconds to fix, rather than the failed removal of tiny screws that often snap leaving the thread stock in the hole, rendering the door to a machinist to drill and tap to re-secure the glass.

### **How can remote parts of the home be heated without excessively overheating the source room?**

Today's 80-94% efficient stoves are now double the 'air tight' stove's 40-50% efficiency. This alone doubles the burn duration, where you don't have to start over with kindling each morning. When it is this easy to keep going, it then stays heating 24/7. Half the wood cost also adds to the incentive to a 24/7 burn. It is 24/7 heating that moves heat effectively to other rooms, not fans. Having the heat source room maintained at a cozy warm 76 degrees, translates to a 24/7, 66-70 degree temperature in the far away rooms. In conclusion, 24/7 burn durations, made feasible with the combination of half the wood usage, and overnight burn durations, allows maximum and stable heating of upstairs and remote rooms.

### **Why are blowers ineffective in spreading heat the other parts of the home?**

To see proof why, have the salesperson turn the burn display blowers on high. Step back 10 feet and notice air movement has stopped. No air can be felt 10 feet away. This proves the blower air barely gets halfway across the room, far from getting to other rooms.

### **Blowers seem to extract more heat, so how could they be harmful to performance?**

Outdated 'air tight' stoves, were a relatively good 35-50% efficiency, twice that of the 'pot belly' stoves they replaced. However, 35-45% meant that more than half the heat is wasted up the chimney. Blowers performed a bit of 'damage control', in capturing some of this wasted heat. The capturing of some wasted heat, not long distance air movement, is why blowers helped. This is the era of stoves is long gone, and with them, blower benefits mostly gone too. Blowers, when used with extended burn stoves, cause more harm than good by cooling the smoke volatile's, that pass un-ignited, halving the efficiency halving the burn duration, and dirtying the chimney. Further liability includes: buying the costly blowers, noises and rattling if not maintained, and the pitiful 1 year guarantee.

### **Why do some folks with high efficiency stoves claim the blower helps?**

Small stoves are frequently chosen for a number of faulty reasons, listed further on in this article. **When burning on a high setting, the small, or relatively\* small stove's efficiency is reduced, and then, just as with old generation stoves, blowers can recapture some of the waste.** So most folks who state blowers help, have a stove that is very small for their size home, or have a home so large the largest stove is relatively small. **\*if the home is huge, even a large stove is relatively small.**

### **Why you should steer clear of catalytic stoves?**

Most folks assume catalytic stoves are high tech. That's not so. Catalytic's have long been obsolete 80's technology, but few still exist, as a cheap way of making its brochure more appealing. Catalytic's should be avoided for numerous reasons. Today's best stoves, oddly labeled 'non-catalytic', imply they are 'non-high tech', when instead they are far superior. This far superior, 'non-catalytic' technology involves firebox flash combustion. Here are the facts. Catalytic and non-cat stoves are 'tested' as having similar high efficiencies, due to the combustion of smoke fuel before it exits the stove. With new technology non-cat stoves, smoke burning (secondary combustion), are view-able flames seen through 'stay clean' glass. These added flames account for the near doubling of efficiency. With catalytic stoves, the smoke burning is not seen. Worse than that, the catalytic, and the resulting flames, originate near the exit of the stove, heating a tiny fraction of the stoves surfaces, resulting in heat lost up the chimney. The EPA brochure efficiencies include the heat from flames lost up the chimney. In conclusion, not only do non-cat stoves net higher efficiencies, non catalytic stoves do not have to follow a tedious list of catalytic do's and don'ts. Catalytic converters are fragile, and expensive to periodically service and replace (\$350 to \$550). There is a long list of do's and don'ts in starting, loading and operation. Furthermore, forget about burning a nearly free fuel, scrap wood and pine, such as many enjoy, issue free, in clean burning non-cat stoves. These 'free' fuels will quickly plug up and damage a catalyst, and catalyst & chimney cleaning procedures are a chore. Even colored newspaper ink can damage a catalytic.

### **Why do cast iron and cast iron soapstone stoves claim to 'hold heat'?**

All stoves today have virtually the same wood fuel economy- they all average about 80% efficiency. Cast iron or fastening soapstone around the cast iron stove does nothing to give you more heat. Instead, there is a negligible shift in the heat response. That is, there is a delay in initial heating, with a proportional delay in cooling down. There is no net gain! In other words, the small amount of extra heat that lingers later was heat lost in start-up. If you had a choice, would you choose a heating delay, or want the stove to linger on a few minutes longer? Does it matter?

### **Why not more word of mouth from happy customers if wood heating is now 3 times better than good air tight stoves of the past?**

Flash combustion stoves aren't easily promoted. If not artfully demonstrated, you won't learn how great they are, and how easily they are undermined. Unless you change burning habits, smoke won't burn, and it stays at 1/3 potential. At 1/3 potential, it's still as good or slightly better than the previous stove you were happy with. Never knowing what you could have, you never complain or change habits. You also are not telling others how great it is. Even if you do tell others, it really doesn't sink in. When I demonstrate to the spouse who is exploring, and they are overwhelmed with excitement, they go home and tell their spouse. The spouse always doubts it, and has to come in to show I was wrong and exaggerating. Then I go through the presentation points proving everything all over again. Only then they understand. Word of mouth is not very effective with this unique product, unless they are one of my 4200 customers.

### **Why large stoves have a reputation for unwanted excessive heat.**

Most folks understanding of stoves is based on a positive experience with what are now considered low performance 'air tight' stoves. They liked them because, at the time, were state of the art. Ironically, the more expensive cast iron stoves failed most often. 'Caulked seam' failure allowed unintended air to enter and overheat. Even in this era of EPA regulated & tested stoves, the majority of caulked or fiberglass seamed stoves soon revert to the same old leaky stove that would benefit from a stove pipe damper to rein in the overheating. After operation with dry wood on a high setting, the red hot cast iron slightly expands, cracks, and degrades furnace cement or fiberglass seams that encircle each of the 6 cast iron plates that make up the stove. With seams leaking, it can overheat even on a low setting. Furnace cement or fiberglass seams between cast iron plates are not easy to renew, so the stove pipe damper came to the rescue, preinstalled knowing this would happen. But the damper only helped limit overheating so much. It became common knowledge that too large of a stove for the home will overheat. The remedy is verifying proper construction before purchasing. Unfortunately, this information is not provided in a brochure.

Not convinced? Look up a schematic diagram of a new cast iron stove. Some have over 100 parts. Disassembly and re-assembly is no longer a 2 day handyman project. It must be uninstalled, moved outside, crated, lift truck secured to ship far away to the manufacturer, if they even offer repair services. Once repaired with new seams, at considerable cost, it is re- crated, shipped back, and re-installed. Very costly...and it will just fail again. Stay away from cast iron, and cheap steel stoves too.

**Please don't skip the demo**, provided at 52 Main Street, Wakefield. On weekdays, please call 401-783-6054 with an hour's notice to prepare for your visit, anytime between 10-7 PM. Saturdays 10-5pm without any call prior. Rest assured, there's never any pressure to buy. After the demo, no purchase or deposit is needed. I'll email a written quote for the whole package, installed with permit. You can mull it over, and if interested, email back stating you'd like to proceed. Expect installation within 1-5 days, and pay from home on completion, saving a trip back to the store.