Double-Bell Heater Construction Retrofit Workshop

With:

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October 21-24, 2010
Ajax (Greater Toronto Area), ON Canada

Table of Content

Outline

- Overview of possible solutions for retrofit of masonry heaters into or in place of existing masonry fireplaces.

- Overview of the selected solution for this particular application.

- Overview of the basic theory for bell heater design and construction.

- Retrofit construction of a double-bell heater with black bake oven into an existing msonry fireplace with outside chimney in a city home in Ajax, the Greater Toronto Area, ON, Canada.

The heater will have a T-shape core with a black bake oven and two warm air channels to maximize heat output in the application. The heater core is planned to be finished during the workshop with rough brick facing ready to accept stucco/plaster and tile finish later. It will be vented through a stainless steel liner in the existing outside chimney.

Participants will be provided with a complete set of drawings for this double bell heater and upon completion of the workshop should be able to build this heater on their own assuming they have sufficent masonry skills for such projects.

Workshop Logistics

Workshop has been approved by the MHA Educational Committee. MHA Certified Heater Masons attending this workshop will receive 4 points towards their continued education goals.

Workshop is limited to a maximum of 8 participants due to space limitations.

Workshop fee of $380 CDN for four days of workshop includes lunches. Lodging is not provided and its cost is not included in the workshop fee. Ajax is a large city in Toronto's suburbs and offers lots of choices for lodging. The hosts will be taking payments by check at the time of reservation. The full cost of the course is due up front to confirm a spot. Dead line for registration is October 1, 2010.
Interested people should reserve a spot by contacting Stas and Irina at 905-427-48-06 or Stas at stasagafonov@yahoo.com and Irina at ivileito@ctv.ca

Workshop location:
22 Slater Crescent, Ajax, Ontario, L1S 3J3, Canada

Goals

The goal of this workshop is to provide an example of possible solution for retrofitting a masonry heater into or in place of an existing masonry fireplace. Participansts will be provided with the overview of different situations and possible solutions and will build a retorift heater in the hands-on workshop environment. Participants will have opportunity to bring up their situations for discussion of possible solutions.

Safety

All participants must bring their own safety equipment:

- Safety boots or closed toed shoes (no sandals)
- Eye protection;
- Hearing protection;
- Dust mask;
- Gloves (rubber and construction).

Participants should expect to be working with refractory and clay brick, refractory and thin set mortars, and ceramic wool. Participants should bring their own basic hand tools (trowels etc.) and should expect to be working with the following power tools:

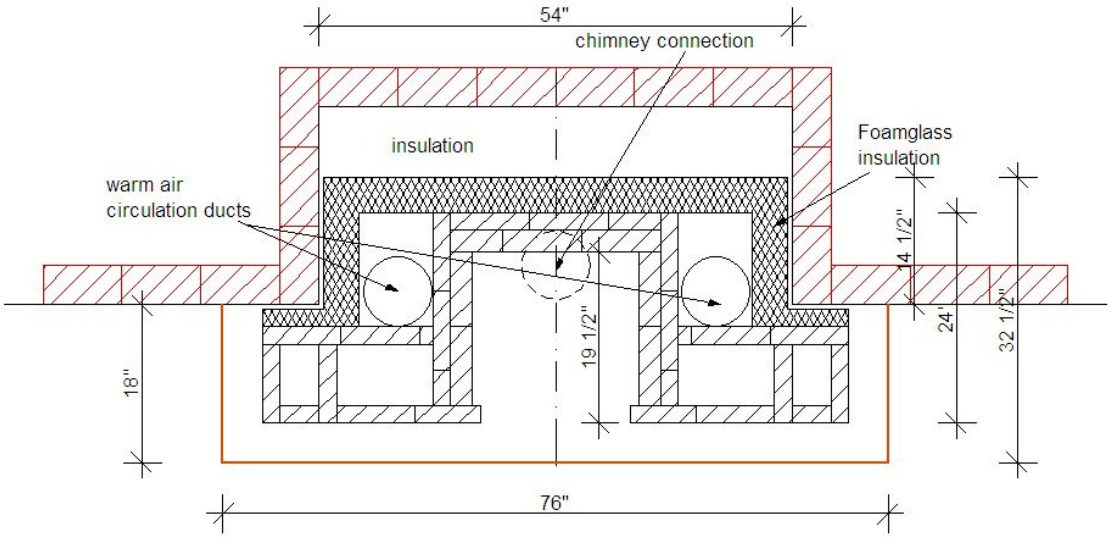
- Wet saw
- Small angle grinder.

Heater Core

Test heater core will be built using standard 2" firebricks and large refractory tiles 12"x24"x2 ½" with 2 ½" inner firebox liner. The heater is designed for 50-60lbs load of hardwood. Nominal heat output under two 50lbs loads a day is about 18-20000 Btu hr.

The heater is designed to be built on top of reinforced hearth extension slab keeping total depth of the unit at 18" to avoid cutting the floor and rearranging floor joists.

Heater core plan:



Heater Facing

The test heater will be faced using clay brick laid in cement-based mortar.