

Ask Jon Eakes

The combustion air duct for my furnace freezes the basement. What to do?

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When the contractor installed a new furnace, he put in a great big air duct from outdoors right into the furnace room. This tends to freeze the basement floor. Can I close it off?

Response:

This duct is necessary in most modern homes and even in well sealed renovations to assure adequate air flow for the furnace chimney. Without it, the exhaust fans in the house could cause the furnace to backdraft dangerous exhaust gases into the basement and hence throughout the house. No you should not block it off. There is however an elegant solution developed and proved in Alberta, that is simply poorly known in the rest of Canada. It is a motorized damper that is inter-connected with the furnace system so that when the furnace is not on, it closes off this air duct to keep the basement warm and prevent over ventilation and drying out of the house. When the thermostat calls for heat, this device opens up first to assure air for the furnace, and then the furnace kicks in. It closes just when the furnace doesn't need any more air. Not any motorized damper will do the job, particularly for gas furnaces where the Canadian gas code is the law. The only damper that satisfies the need to be fail-safe and freeze proof is known as a Hoyme Damper and it will cost you about \$200 installed. If your heating contractor has never heard of it, Hoyme is located in Camrose, Alberta.

For more information about chimney backdrafting check out ["Spillage Susceptible"](#) in the Nuts&Bolts section.

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