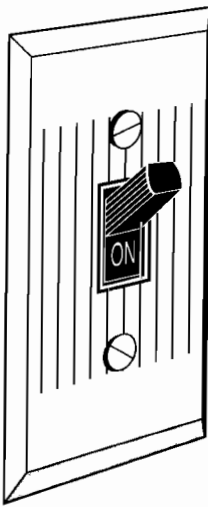


## Residential Ventilation Issues

by Dara Bowser & Bob Allison

### Are Switches Required in Exhausted Rooms When a Central System Is Used?

In a previous column, we discussed the pro's and con's of 3-way vs parallel switches in kitchens, bathrooms and water-closet rooms to control central ventilation systems. The question has arisen as to whether or not a switch is required in the kitchen bathroom or water-closet room location if the ventilation is provided by a central system.



VENTILATION FAN

Reviewing the requirements briefly:

(a) The *Principal Ventilation Fan* is required to be controlled by a centrally located on-off switch which is marked "**Ventilation Fan**". A dehumidistat or other automatic control may be used, but it must be in addition to the manual switch. 9.32.3.4.(2),(3),(4)

(b) *Supplemental exhaust fans* are required to be controlled by a manual switch located in the same room as the exhaust air inlet. 9.32.3.5(5)

(c) An *exhaust air intake* is required to be installed in each kitchen, bathroom and water-closet room. 9.32.3.5(2)

(d) Supplemental exhaust required in Article 9.32.3.5. may be provided by an HRV. 9.32.3.5.(7)

For a Type I house with an exhaust-only ventilation system comprised of individual fans, this arrangement is quite simple:

- the Principal Ventilation Fan has a labelled wall-switch which turns it on and off, and
- each local Supplemental Fan has an on/off wall switch (separate from the light switch) in the same room as the fan or inlet.

In other situations, an HRV or other central fan is used to provide both principal and the supplemental exhaust requirements. In this case, it is usual to install duct branches to the kitchen, bathroom and water closet locations to provide the "Supplemental Exhaust" required by Article 9.32.3.5. When this is done, the HRV directly provides the requirements of Article 9.32.3.5. and is clearly contemplated by sentence (7) of the same article. As such the requirement for a switch is clearly set out in sentence 9.32.3.5.(5). This sentence also contemplates that such a system may be a multi-branch system in that it uses the language "exhaust air inlet".

In the case where a central system provides both the principal and supplemental ventilation, it is common practice that the switches located in the kitchen, bathroom and water-closet areas control only the supplemental or "high-speed" rate of the central system. These switches sometimes take the form of "one-shot" interval timing switches which will switch on the "high speed" exhaust rate for a fixed period of time (say 15 or 20 minutes) and then return the system to its "normal" setting.

Not so casual readers will note that there appears to be two requirements for supplemental fans. The first arises from sentence 9.32.3.5.(1) in which the supplemental fan(s) are required to make up the difference between the *Principal Exhaust Fan Capacity* and the *Total Ventilation Capacity*. The second appears in sentence 9.32.3.5.(2) where an "exhaust air intake" is required in each kitchen, bathroom and water-closet room. These requirements are independent, that is either or both requirement may be provided by the principal or supplemental fan(s).

A supplemental fan may be required by either or both requirements.

**Conclusion:** Switches are required in kitchens, bathrooms and water closet rooms, whether they are exhausted by *individual fans* or by the *exhaust inlet* of a central system. In the case of individual fans, the switch usually controls the fan on and off. In the case of a central system which provides both principal and supplemental ventilation, the switch usually controls the higher speed of the central system.

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## Building Safety Week '96

**B**uilding Safety Week has come and gone for '96 and I trust another successful year for everyone who participated. Please forward any and all information and photos your municipality or chapter may have from home shows or other local activities, so that we may publish them for the benefit of our membership.

Twenty municipalities have purchased supplies from our office this year and we thank you for your support, as well as ONHWP, who co-sponsored this important annual event.

Also, please forward your suggestions to myself or the OBOA office for 1997 Building Safety Week - we appreciate your contributions.



*Left to Right: Len King, Christine Hey, Debbie Eydt, Mayor Bob Morron.*



*Left to Right: Town of Richmond Hill - 1996 BSW - Angela Tye, Leonard Aitken, Samantha Hollett, Cynthia Mackenzie, Kirsty Ralls, Anna-Marie Cooper.*