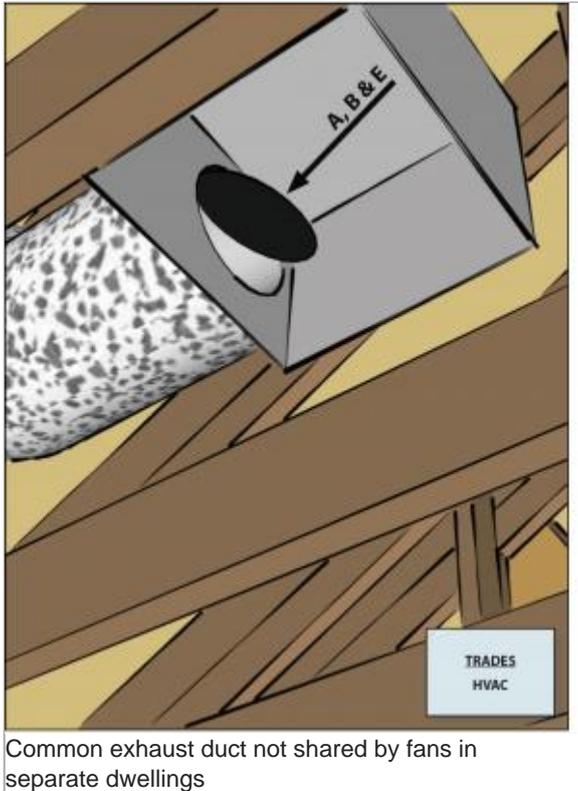


Common Exhaust Duct Not Shared by Fans in Separate Dwellings

Last Updated: 08/15/2013

Scope



Common exhaust duct not shared by fans in separate dwellings

Local Mechanical Exhaust

Common exhaust duct not shared by fans in separate dwellings.

- A. Install separate exhaust ducts for separate units.

If fans from separate dwellings do share a common exhaust duct, one of the following must apply:

- A. The fans must run continuously, OR
- B. Each outlet must have a back-draft damper to prevent cross-contamination when the fan is not running.

ENERGY STAR Certified Homes Notes:

[Note: Guidance for [ENERGY STAR Certified Homes Version 3.0, Revision 08](#) is coming soon.]

ENERGY STAR Certified Homes (Version 3.0, Revision 07), Exhaust outlets from more than one dwelling unit may be served by a single exhaust fan if the fan runs continuously or if each outlet has a back-draft damper to prevent cross-contamination when the fan is not running.

See the [Compliance Tab](#) for related codes and standards requirements, and criteria to meet national programs such as DOE's Zero Energy Ready Home program, ENERGY STAR Certified Homes, and Indoor airPLUS.

Description

Exhaust fans should always be ducted to a location outside the home (See [Kitchen Exhaust](#) and [Bathroom Exhaust](#)). Ideally, each exhaust fan should have its own individual duct to the outside and each unit should have its own ducting to prevent cross contamination. However, in multi-unit dwellings, such as condominiums or townhouses, builders sometimes prefer to connect the exhaust fans to a common exhaust duct, for reasons of layout or a wish to minimize penetrations through the roof (See [Back-Draft Dampers at Shared Common Exhaust Duct](#)). ENERGY STAR permits multiple units to share a common exhaust duct if each fan has a back-draft damper to prevent cross-contamination when the fan is not running or if all fans connected to the common exhaust duct are set to run continuously.



Figure 1 - Exhaust fans in separate dwelling units should not share a common exhaust.

How to Install Back-Draft Dampers in Exhaust Fans to Make a Shared Duct Possible

1. Install back-draft dampers where the exhaust duct meets the exhaust fan in each unit. The dampers should open when the fan is actively exhausting and should shut when the fan is off. When the exhaust fan is operating, the back-draft damper is pushed open by airflow to allow air to exit through the exhaust duct.

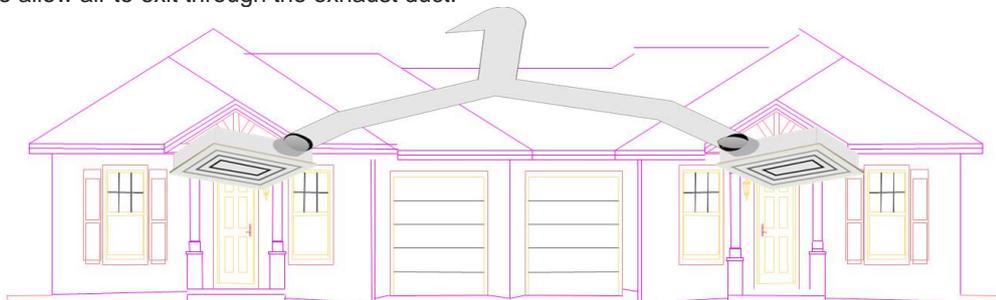


Figure 2 - Exhaust fans in separate dwelling units can share a common exhaust if each exhaust fan is equipped with a back-draft damper to prevent cross contamination.

2. Remember to remove any packing tape used to hold the dampers closed during shipping.

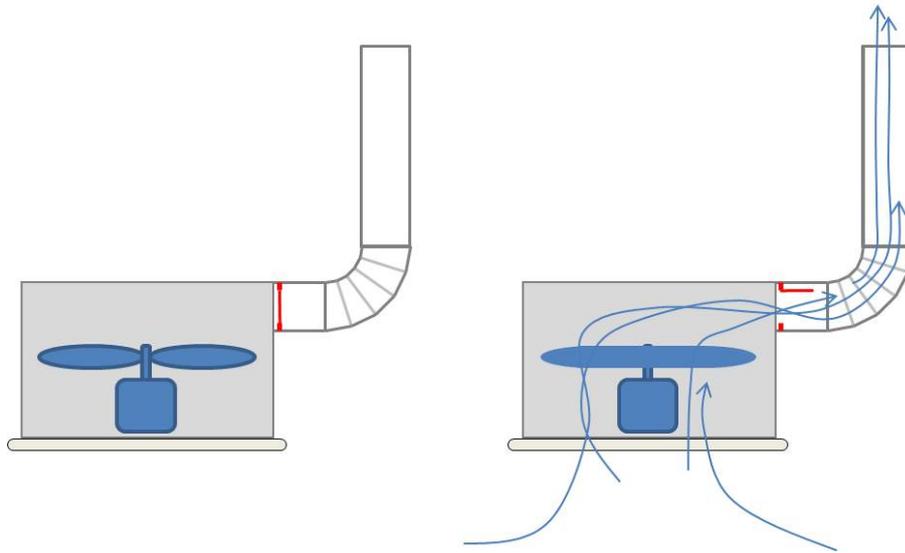


Figure 3 - The back-draft damper is open when the fan is actively exhausting and closes when the fan is off.

Ensuring Success

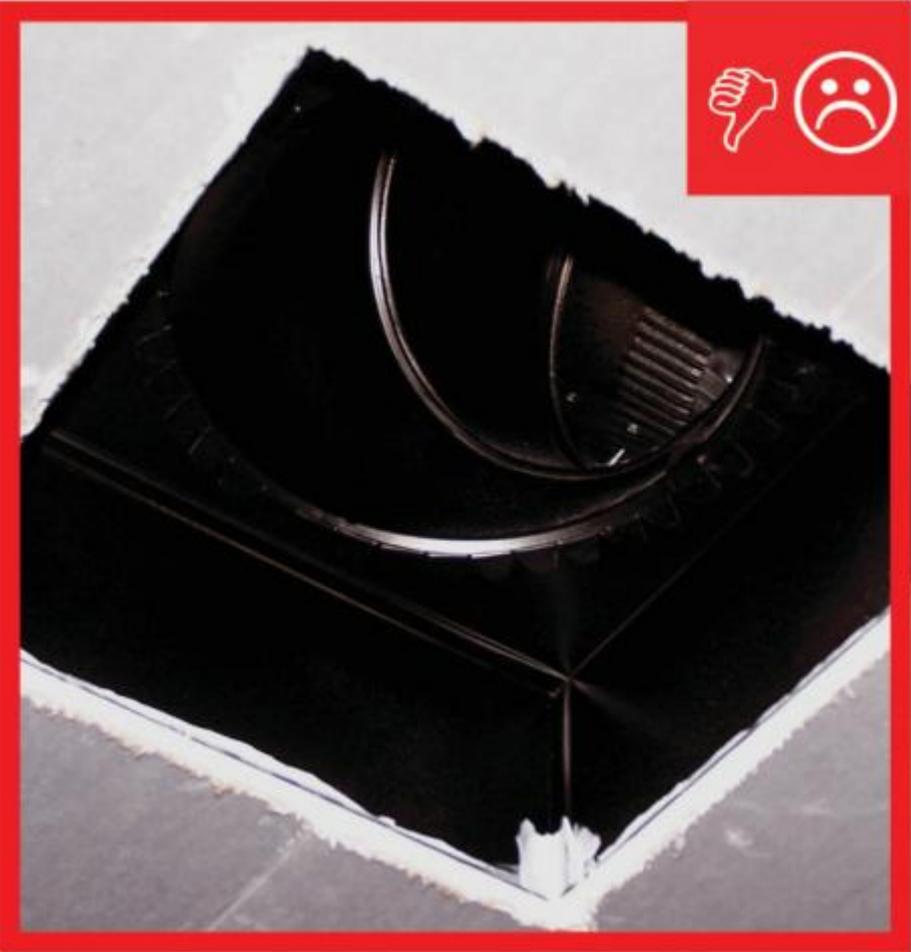
In multi-unit dwellings, such as condominiums or townhouses, the HERS rater will inspect the ventilation system exhaust ducts to ensure that one of the following is true: 1) each unit has its own exhaust duct that is individually ducted to the outside, or 2) if the units share a common exhaust duct, all of the fans are set to run continuously, or 3) each fan outlet has a back-draft damper to prevent cross-contamination when the fan is not running.

Climate

No climate specific information applies.

Training

Right and Wrong Images



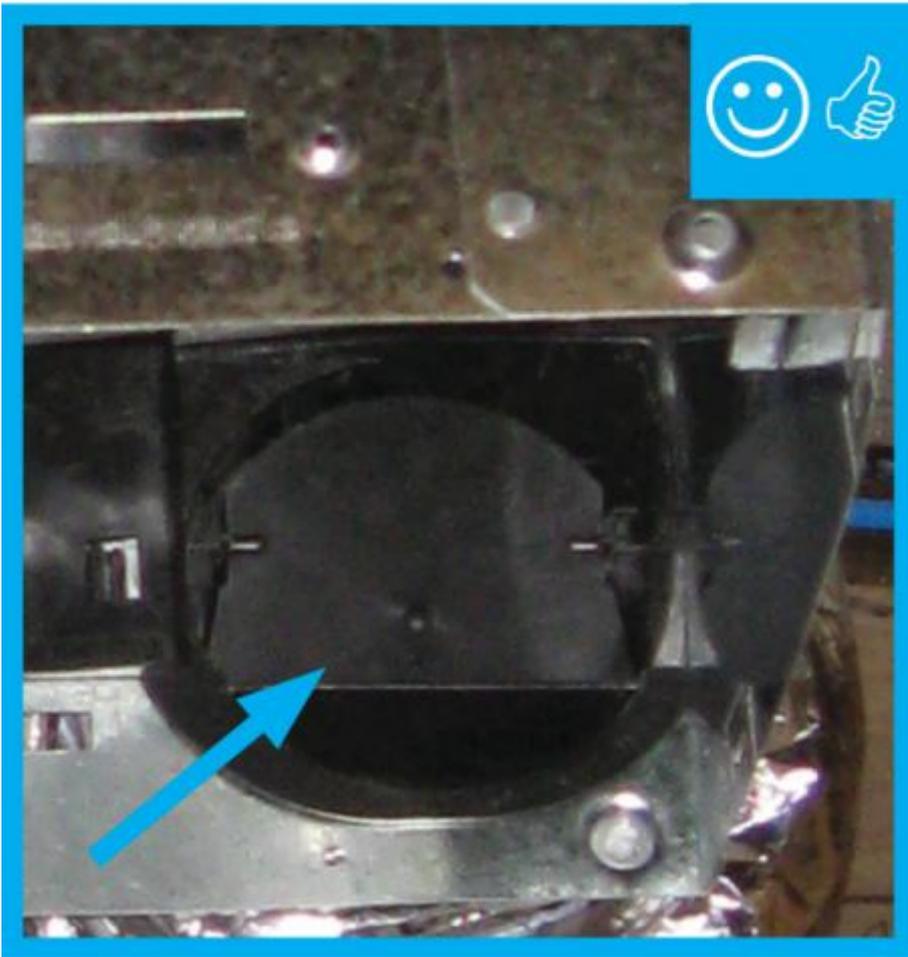
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Display Image: [ES_HVAC_QIRC_8.3_8.4_PG90_145d_102811.jpg](#)



Display Image: [ES HVAC QIRC 8.3 8.4 PG90 146e 102811.jpg](#)



Display Image: [ES HVAC QIRC 8.3 8.4 PG90 147f 102811.jpg](#)



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CAD

None Available

Compliance

The Compliance tab contains both program and code information. Code language is excerpted and summarized below. For exact code language, refer to the applicable code, which may require purchase from the publisher. While we continually update our database, links may have changed since posting. Please contact our [webmaster](#) if you find broken links.

[ENERGY STAR Certified Homes](#)

[Note: Guidance for ENERGY STAR Certified Homes Version 3.0, Revision 08 is coming soon.]

ENERGY STAR Certified Homes (Version 3.0, Revision 07), HVAC System Quality Checklist, Local Mechanical Exhaust. Common exhaust duct not shared by fans in separate dwellings. Exhaust outlets from more than one dwelling unit may be served by a single exhaust fan if the fan runs continuously or if each outlet has a back-draft damper to prevent cross-contamination when the fan is not running.

[DOE Zero Energy Ready Home](#)

Exhibit 1: Mandatory Requirements. Certified under ENERGY STAR Qualified Homes Version 3.

[2009, 2012, 2015, and 2018 IECC](#)

This topic is not specifically addressed in the IECC.

[2009, 2012, and 2015 IRC](#)

Section M1507.2 Recirculation of air. Exhaust air from bathrooms and toilet rooms to not be recirculated within a residence or to another dwelling unit and must be exhausted directly to the outdoors. Exhaust air from these rooms cannot discharge into an attic, crawl space or other area inside the building.

[2018 IRC](#)

Section M1505.2 Recirculation of air. Exhaust air from bathrooms and toilet rooms to not be recirculated within a residence or to another dwelling unit and must be exhausted directly to the outdoors. Exhaust air from these rooms cannot discharge into an attic, crawl space or other area inside the building. This section shall not prohibit the installation of ductless range hoods in accordance with the exception to Section M1503.3.

Retrofit: [2009, 2012, 2015, and 2018 IRC](#)

Section N1101.3 (Section N1107.1.1 in 2015 and 2018 IRC). Additions, alterations, renovations, or repairs shall conform to the provisions of this code, without requiring the unaltered portions of the existing building to comply with this code. (See code for additional requirements and exceptions.)

Appendix J regulates the repair, renovation, alteration, and reconstruction of existing buildings and is intended to encourage their continued safe use.

More Info.

Access to some references may require purchase from the publisher. While we continually update our database, links may have changed since posting. Please contact our [webmaster](#) if you find broken links.

Case Studies

None Available

References and Resources*

1. [DOE Zero Energy Ready Home National Program Requirements](#)

Author(s): Department of Energy

Organization(s): DOE

Publication Date: April, 2017

Standard requirements for DOE's Zero Energy Ready Home national program certification.

2. [ENERGY STAR Certified Homes, Version 3 \(Rev. 07\) Inspection Checklists for National Program Requirements](#)

Author(s): U.S. Environmental Protection Agency

Organization(s): EPA

Publication Date: June, 2013

Standard document containing the rater checklists and national program requirements for ENERGY STAR Certified Homes, Version 3 (Rev. 7).

*Publication dates are shown for formal documents. Dates are not shown for non-dated media. Access dates for referenced, non-dated media, such as web sites, are shown in the measure guide text.

Contributors to this Guide

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