Ask Jon Eakes

Dripping bathroom fan

Last Updated: Thursday, March 28th, 2013, Created: Sunday, June 24th, 2001

Paul from Ajax, Ontario writes:Two years ago I had a ceiling ventilator fan with lights installed in the bathroom. During a very cold spell, water was dripping from the reflector into the bath tub. It has a 4" aluminum flexible pipe connected from the discharge opening into the attic straight into the roof, about 8' long. Is there any way of stopping condensation from forming. I'm afraid of using it as it is.-------- Reply:It is not always possible to stop all dripping from exhaust fan ducts that run through a Canadian attic. First you say that the fan goes "straight into the roof". I hope you mean that it goes through the roof to the outdoors, because if it were to exhaust into the attic itself, you are probably headed for condensation problems and rotting roof members.There are three things we do to try to stop problems with these ducts.1- Tape all the joints air tight (aluminum duct tape). This doesn't really have anything to do with water dripping from the duct, but protects the attic from escaping moisture.2- Wrap 6 inches of insulation around the ducts. OK, you can't get 6 inches around the duct -- do the best you can. But a thin layer of insulation on so called "insulated ducting" won't stop condensation inside the ductwork when the duct is inside a cold attic.3- Try to arrange the duct so that it slopes downhill to the outside. And avoid any sags in the duct that would collect water and grow mould. Sloping downhill is impossible if you go through the roof. The problem is, we can't stop all the condensation, so we might as well drain it outdoors rather than indoors. That means that ideally you do not go through the roof, but rather go out the vertical wall at the end of the attic. Now you can arrange a downhill slope to the outdoors. Do not exhaust into or even through the soffit area, as the warm moist air will just turn right around and come back into the attic.If you must go through the roof, there are new "roof exhaust hoods", which have 4" or larger collars so that you can actually attach the duct hose to the exhaust, and it is organized to drip most, although not all, the condensation out onto the roof.If you really want to have no problems, install your fans on an inside wall, run the duct down into the basement and out of the house. (Sneak the duct through a hollow wall or the back side of a closet.) Now all but the last 3 inches of ductwork is warm. You can even use an "in-line" fan and install the fan in the basement, which means it will be super quiet inside the bathroom. In-line fans are now commonly available in renovation centres.

Keywords:
Bathroom, Exhaust Fans, Fans, Attic, Duct, Ventilation