

TOP 10 PROBLEMS IN YOUR ATTIC

CHECKLIST

Your certified **Attic Systems**™ specialist will determine what parts of our **Home Attic Plan**™ are needed to solve the problems in your home.

1 Air Leakage - Heated air rises to the top of your home where it finds many ways to leak out into your attic and is lost. For every cubic foot of air that leaks out, a new cubic foot of air from the outside leaks in at the bottom of your home to replace the air that left. Thus, as air leaks to the attic in the heating season, it makes the lower part of your home drafty and uncomfortable. Air leaks through pipe and wire holes, duct chases, the seam at the top of walls between drywall and through framing, and at framing details that create big pathways for air such as kneewalls, and multi-level attics.

2 Ducts - Ducts in attics are a very bad idea. First of all, ducts leak air at all their seams and joints. When they leak air that you paid to heat and cool into the attic, that air and money is lost because your attic is vented to the outside. Second, your ducts are woefully under insulated. In the winter, a gas furnace heats air to 120°F and blows it through your ducts. But those ducts are in a very cold attic and they are cold. The cold ducts cool the air you paid to heat before it ever gets to the rooms intended. In the summer, it's the opposite, as the air conditioner makes 55°F air and sends it through ducts in a 130°F attic! It's a big waste of energy, it causes discomfort, and it causes your heating/cooling systems to run a lot more.

3 Air Leaks Around the Chimney - Building codes require a 2 inch air space between wood and a chimney. Unfortunately, this creates an expressway for air leakage out of every home in North America with a chimney - from the basement and living levels right to the attic and out.

4 Leaky Attic Hatch or Scuttle - The attic access is probably the largest hole in the top of the house. It leaks plenty of air and is a big gap in the insulation.

5 Leaky Can Lights - Tens of millions of recessed "can" lights have been installed with holes, joints and seams in their housings that allow air to leak freely around the light bulb, up through the housing and into the attic where it is lost to the outside. This airflow increases when the light bulb is on and heats up. To make matters worse, they are not fire rated to have insulation up against them, so they are a gap in the insulation.

6 Whole House Fan in the Ceiling - This is a huge air leak in the top of the house and a gap in the insulation. The louvers leak air you paid to heat all the time! Removal and drywall over the hole is usually the solution, or an airtight insulated box can be built around the fan, which can be opened during use.

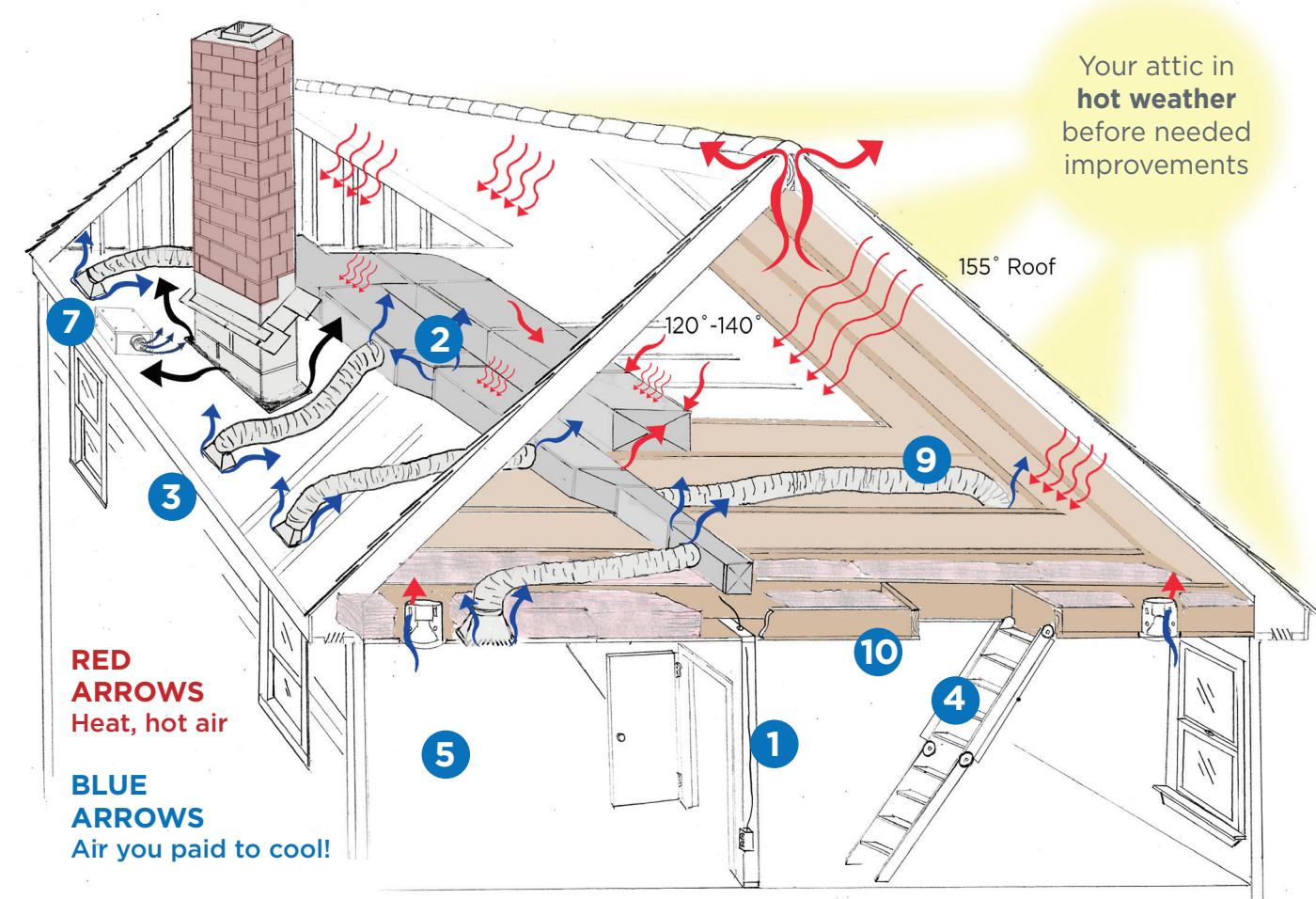
7 Bathroom Fans Vented Into Attic - Bath fans dumping into the attic pump in moisture, feeding mold and rot. Duct bath fans out - ducting damp air outside where it should be helps prevent mold and rot.

8 Ice Damming - When heat gets into the attic from air leaks and poor insulation, it warms the roof and melts snow. The water runs down to the eave where it's not under the influence of heat from the house anymore and it refreezes and blocks water flow off the roof. Water then backs up under the shingles and leaks into the house causing major water damage inside. It only has to happen once and you'll never forget!

9 Radiant Summer Heat - When the sun beats down on the roof, it can heat the shingles to 160°F! This heat in the mass of the roof radiates into the attic. This is why your attic is way above outdoor air temperatures in the summer. The attic heat then radiates down through the ceiling making your rooms much warmer than they have to be and causing your air conditioning to work overtime to try to keep up. It takes until much later in the evening until the roof and attic cool down.

10 Not Enough Insulation - Building codes have changed over the years and what was once adequate, is no longer enough to stop heat flow - in during summer and out during winter. There should be enough insulation to keep your ceilings under the attic above 65 degrees in winter and below 75 degrees in the summer. Otherwise you are heating or cooling your rooms with a ceiling that's too cold or too hot. Fiberglass batts are poor insulation because of gaps, spaces, thermal bridging and wind washing.

As you can see, insulation is just part of the solution in your home, and should never be installed with all the air sealing measures completed first. Hot and cold air go right through insulation!



RED ARROWS
Heat, hot air

BLUE ARROWS
Air you paid to cool!

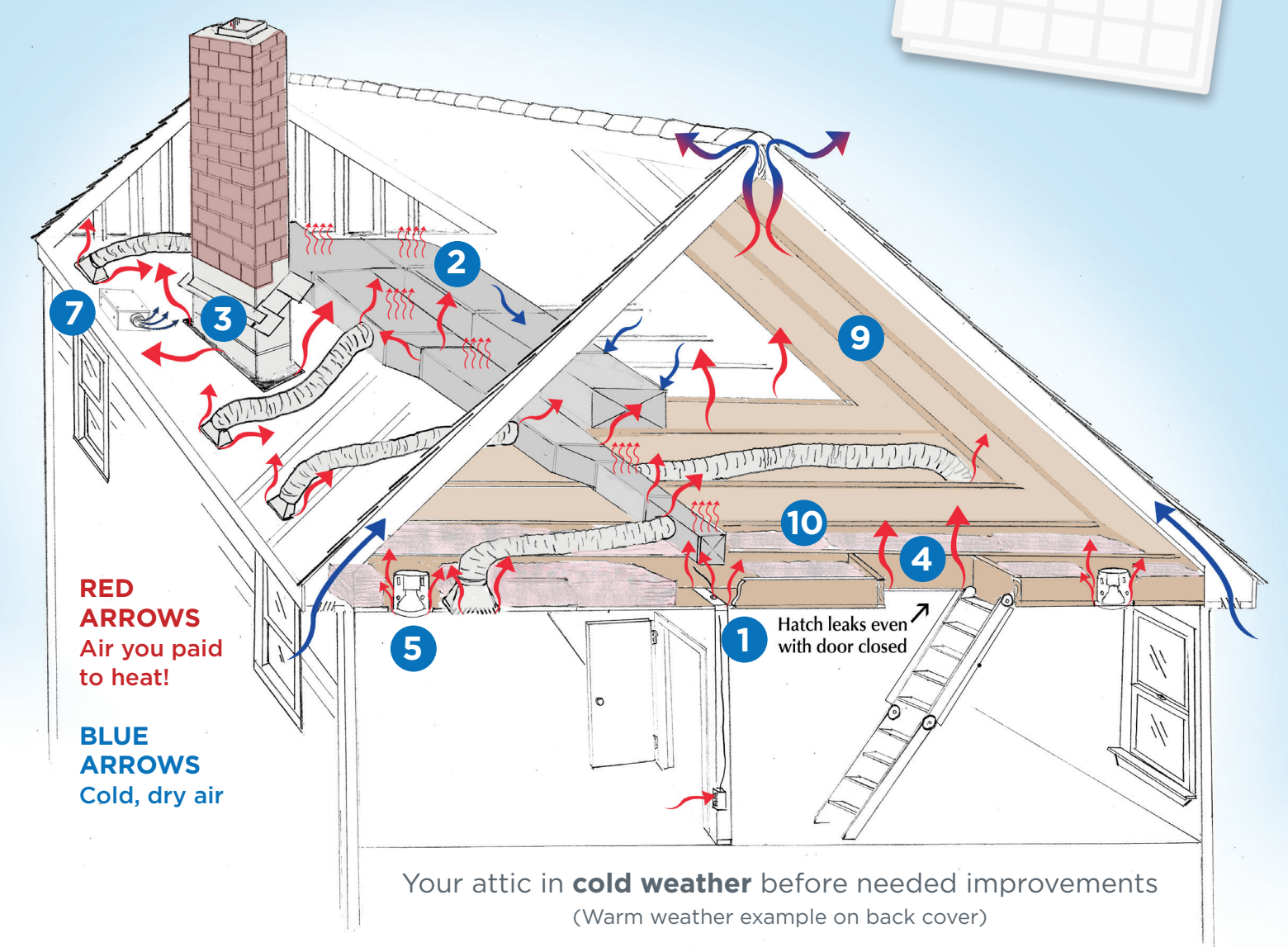
- | | |
|--|--|
| ☐ Attic air sealing | ☐ David Lewis Hatch Cover |
| ☐ TruSoft™ Insulation Baffles | ☐ Stefan's Radiant Barrier |
| ☐ TiteShell™ Can Light Covers | ☐ SunChuter™ Radiant Barrier |
| ☐ Airtight flashing at chimney | ☐ SuperDeck™ Insulated Storage Area |
| ☐ Seal around duct boots | ☐ Insulation Dams |
| ☐ Tight 'n True™ Duct Encapsulation | ☐ Catwalk |
| ☐ TruSoft™ Blown Insulation | ☐ Mold-X2 Cleaner |
| ☐ Blocking in multi-level attics | ☐ Duct bath fans outside |

Let **Attic Systems**™ apply our **cutting edge technology** to transform your home today!

Attic Systems
INSULATION
Comfort + Savings

Attic Systems
INSULATION
Comfort + Savings

HOME ATTIC PLAN



RED ARROWS
Air you paid to heat!

BLUE ARROWS
Cold, dry air

Your attic in **cold weather** before needed improvements
(Warm weather example on back cover)

To make the rooms you live in more comfortable and energy efficient...

The priority is nearly always
THE ATTIC!

Think of the attic as the top of your house, and as outside space, since it is vented. Your attic can be very close to the outside air temperature in winter (cold!) and much higher than outside air temperature in the summer when the sun is out - up to 140°F! While attic configurations will vary of course, here are some typical problems going on in millions of attics that possibly affect your entire home too . . .



EACH HOME IS DIFFERENT

Attic Systems' certified energy and comfort specialists will do a complete inspection and analysis and determine what components of the Home Attic Plan™ are necessary in your home to make it more comfortable and less expensive to own.

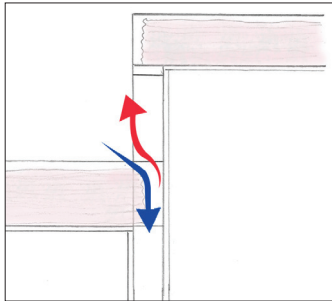
INSULATION WORKS TWO WAYS

Insulating your attic properly reduces heat loss in cold weather and heat gain in hot weather.



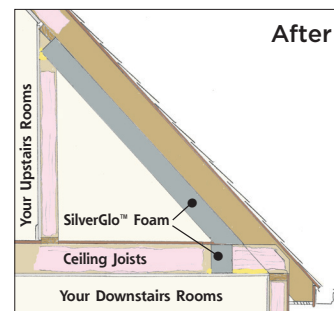
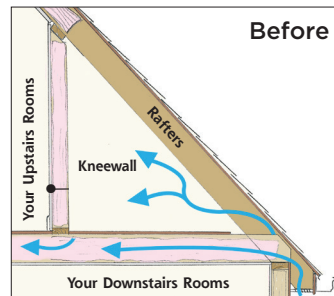
MULTI-LEVEL ATTICS

These often need blocking on interior walls to prevent air from inside leaking out and cold air from descending down interior wall cavities, making a cold wall that bisects the house and affects at least two rooms downstairs.



SUPER KNEEWALLS

Kneewall spaces are often cold in winter and hot in summer, making the adjacent room uncomfortable. The walls need insulation and floors need to be blocked to make the room comfortable and the kneewall suitable for storage.



DUCT BATH FANS OUTSIDE



Attic Systems will get moisture where it's supposed to be - safely outside. Your bath fan will be ducted with insulated duct work through the gable end wall of your attic, gable or the roof or soffit.

Tight 'n True™ Duct Encapsulation

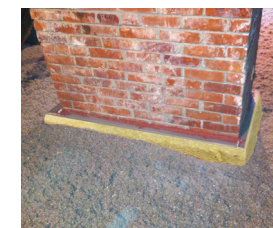


In this very important step, duct joints are sealed and insulation is added to existing insulation. The best ways to do this is with spray foam, which seals air leaks very well and insulates at the same time with superior R value. This makes a huge difference in the amount and temperature of the air delivered to your rooms.

Seal Around the Chimney¹



Metal flashing and fire caulk seal the big air leaks around the chimney.



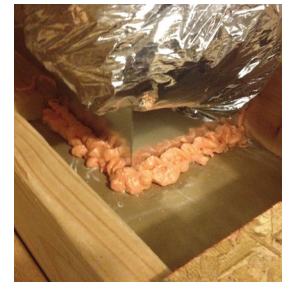
A barrier around it keeps insulation away per building and safety code.

Remove Old Insulation



Attic insulation in your home can get nasty over the years, it sits collecting dirt, dust, bugs, rodent feces, bird droppings and other undesirable stuff. Attic Systems™ can remove the damaged, soiled insulation in your attic and get it ready for air sealing and new, clean, fresh TruSoft™ Cellulose.

Seal Around Duct Fittings*



A heat register or grill located in the ceiling is a hole in the drywall around the "boot", located behind the grill. The perimeter of these holes is sealed to prevent air leakage when the heat or AC is off, and a "powered air leak" when it is on.

RESULTS!

Your entire home is much more **comfortable** with **lower heating/cooling costs**.

Stefan's¹ Radiant Barrier

In homes with ducts or air handlers in the attic, attics that are needed for storage, in warmer climates, or when there is a problem with rooms below being too hot in the summer, a radiant barrier will reflect the heat from the roof deck and make your attic as much as 20 degrees cooler. Over the entire area of the ceiling, this can make a big difference inside your home. This measure is not always necessary - your Attic Systems technician will let you know.

Mold-X2 Cleaner & Botanical



Mold - X2 Cleaner effectively eliminates mold and mildew stains on contact. Mold - X2 Botanical, a plant-based disinfectant is sprayed on surfaces, preventing mold from growing back.

Catwalk to Equipment

Blown insulation is very deep and makes navigating an attic impossible. If there is heating or cooling equipment in the attic that must be serviced, Attic Systems can build an insulated catwalk so access to the equipment is possible.

TruSoft™ Cellulose Insulation



Finally, insulation is the last part of the Home Attic Plan™. Blown cellulose is made from recycled paper, is flame, mold and pest retardant, and denser than fiberglass with a higher R value. By blowing it in, TruSoft™ cellulose fills all irregular gaps and voids to create a seamless blanket

across your attic. Because it's blown in higher than the ceiling joists, thermal bridging is eliminated. Ducts are all or partially buried which is beneficial.

Insulation Dams



Dams are insulated to divide areas that will have blown insulation and areas that won't (like storage areas, catwalks to equipment and the equipment itself). Storage dams keep the loose insulation where it needs to be and away from unwanted areas.

SuperDeck™



If storage space is needed in the attic, our SilverGlo™ foam board insulation is installed flat and then plywood is installed on top. This makes a storage deck without sacrificing the R value in that area.

Air Sealing*

Gaps and holes at wire and pipe penetrations, duct and pipe chases, and the top of walls are sealed to stop air leakage. The average attic floor is full of holes, gaps and seams.

TiteShell™ Can Light Covers*

They stop airflow through the fixture and allow insulation to be blown right against them.

*These measures MUST be done before insulation is installed in any attic. Air leaks right through insulation. If air leaks are not stopped before insulation is installed, you will not get much benefit from insulation, and you have made the air leaks almost impossible to get to by burying them in insulation!

¹Named for Josef Stefan 1835-1893. Austrian Physicist known for Stephan's Law relating to radiant heat.

²Named for its inventor, David Lewis, a Connecticut expanded polystyrene foam engineer and Attic Systems™ associate.

David Lewis² Hatch Cover*

To prevent air leakage from the hatch or scuttle area, our exclusive hatch cover with R20 insulation value and radiant barrier on top is installed. It accommodates folding stairs that stick up above the attic floor when folded up.

