

Become An Empowered Consumer!

**THE 7 BIGGEST PROBLEMS
PEOPLE HAVE WITH THEIR
HEATING & AIR CONDITIONING
SYSTEMS
And How To Avoid Them**

Here it is at last. The booklet you've been waiting for.

The "7 Biggest Problems People Have ... " Includes the following:

Read This Guide and You'll Discover:

- 7 Biggest Problems People Have with their Heating and Cooling Systems After Installation
- The 3 Most Common Problems You'll Have When Choosing A Contractor By Price Alone
- The 6 Costly Misconceptions About Heating & Cooling
- 3 Simple Ways To Save Money
- How To Avoid The 6 Most Common Rip-offs

**By Tracy Savoy
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Dear Homeowner, Architect, Engineer or Contractor,

Thank you for taking the time to read these tips on choosing a contractor. This free information will help you pick the best contractor for you. The more knowledgeable you have about the heating and cooling industry, the fewer problems you will have.

Education is truly the first step to making a good decision. You do it before you buy a house, a car or anything else. Why not before you buy a furnace or air conditioner or hire someone to install it?

You'll learn why you should never pick the contractor with the lowest price. You'll also learn why all contractors are different and why communication is so important. This consumer guide can make your service experiences painless and trouble free.

You start by reading this special report. This fact-filled report will reveal how to avoid **6 most common rip-offs**. You'll learn the **7 biggest problems** after installation and the **5 most costly misconceptions** about Heating & Cooling. You'll also find information about **3 simple ways** to save money that could save you thousands of dollars!

This information was compiled to be a valuable resource. PLEASE TAKE A FEW MINUTES TO READ IT! If you have any questions, please call me at **(303) 955-2114**.

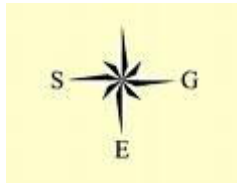
Sincerely,

Tracy Savoy

Tracy Savoy

Design Engineer

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I'm Tracy Savoy and I own www.load-calculations.com. I've been in the Residential heat loss – heat gain load calculation business for over 3 years and have completed projects in 41 states, Bermuda, Bahamas, Canada, Mexico, Asia, and the UK.

In that time, I've learned that **Heating & Air Conditioning** is a subject of much confusion. Misconceptions, myths and out-and-out lies abound today that needs to be exposed.

This Consumer's Guide was prepared as an educational service to assist you in making an informed, intelligent decision about heating & air conditioning and selecting a company to perform this service for you.

I have dedicated my company to consumer awareness and education and helping homeowners get the highest return from their furnace & air conditioning investment. I welcome your inquiries and will gladly answer your questions.

"The 7 Biggest Problems People Have After an HVAC System is Installed & How to Avoid Them."

Problem #1 -- You Picked a Contractor Based Only on Price!

The old adage is really true. "You get what you pay for." This is especially true in the contracting business. If you want good contracting you should decide to deal with a contractor because of the overall value you receive, NOT because they are the lowest priced.

Here's why...

Value = Quality + Service + Price

It is **impossible** for any company in any industry to offer the cheapest price, have the highest quality, and provide the best service all at the same time. You can get high quality and super service, but you can't get both and still get the lowest price.

Just like in your business, you hire the best people and buy the highest quality products -- consequently, you have to charge more for your services. Total Value is all three -- **Quality, Service and Price!**

The 3 most common problems YOU WILL have when you pick a contractor who only offers the lowest price:

- 1) The first problem is that dirt-cheap contractors don't usually stand behind their work if there is a mistake. Sure, other contractors might do your job for a little less money, but how will they treat you when there is a mistake with your job?

To give the cheapest price, they usually have low-wage, inexperienced employees that have not been adequately trained. **The end result is that you get what you pay for and the little bit of money you saved ends up costing you more in the long run!** Believe me, this is a little saying we tell our customers: "The good feeling of a cheap price is long gone before the stench of poor quality is ever used up."

2) The second problem with a contractor who offers the lowest price is that they tend to also offer the lowest quality. Your furnace and/or air conditioner is the biggest appliance in your home and one of the best investments you can make in your home if done properly.

Plainly said, "Shoddy or low quality contracting because of cheap price costs you money." No amount of savings is worth this. You've worked too hard and spent too much money on your home. Why throw it away for the few pennies you save on a contractor?

3) And the third reason why picking the cheapest contractor is a problem is that you might get charged extra for things other contractors normally include in their quote in the first place. You'll be charged extra for such things as filters, thermostats and overtime due to bad estimates. Cheap contractors will nickel and dime you to death. What seemed like a good price actually ends up costing you more in the end. This is just a tactic cheap contractors use to get in the door.

To avoid buying on price alone, we suggest you choose two or three contractors and rank them in the order that is important to you such as **Quality first, Service second, and Price last.**

Problem #2 – The Equipment is Undersized

Most Americans tend to undersize their HVAC equipment in an effort to save money. While **slightly** under sized equipment (by a margin of 10% or less) may actually provide more comfort at a lower cost, most are designed improperly and will not maintain the desired temperature.

Having an undersized heating and cooling system in your home can be a problem. An undersized heating and cooling system will always be running and will never satisfy the required temperature. Undersized equipment will also not last as long as a properly sized system. If you think your system is undersized, have a load calculation performed on your home. This is accomplished by a qualified engineer who gathers all your building information. All these measurements are then put into a manual J calculation to determine the size of equipment that would need to be installed to properly heat and or cool a home.

Problem #3 – The Equipment is Oversized.

Oversizing your HVAC system creates many problems including short-cycling, marginalized temperature control and pockets of stagnate air. In addition, oversized equipment can degrade humidity control during the cooling season, requires larger duct runs which increases the installation cost, increased operating cost because of the increased demand on utilities and adds unnecessary stress to the equipment shorting the life of the equipment.

Having an oversized heating and cooling system in your home can be a problem. This can easily be seen in the summer when it is hot and muggy. An oversized system doesn't run long enough to remove the proper amount of moisture from the air to make the environment feel comfortable. If you think your system is oversized, have a load calculation performed on your home. This is accomplished by a qualified engineer who gathers all your building information. All these measurements are then put into a manual J calculation to determine the size of equipment that would need to be installed to properly heat and or cool a home.

Problem #4 – Internal Loads are Not Properly Accounted For.

Many contractors ignore many internal load components (anything that consumes electricity, gas, or solid fuel). There are two types of internal loads. The sensible heat load comes from lights, equipment such as computers and TV and hooded equipment such as broilers, ranges and ovens. The mixed heat load contains both sensible and latent components. Mixed loads come from people and hottubs/whirlpools.

Knowing how and when a building is used is critical to determining the building's heating and cooling requirements. The main internal heat sources are the people themselves, the electric lights they need and the electric equipment they use. People emit heat as a natural by-product of their living functions. Electric equipment and appliances contribute to the heat of a space as a by-product of their operation.

Problem #5 -- You Don't Give Your Contractor Enough Time to Complete Your Job Properly!

Mistakes happen when you rush!

When you're in a hurry, you may forget to tell your contractor certain instructions. Or you might make a mistake in the judgment or purchase decision because you were concentrating on getting it done, instead of getting it done right.

Schedule. Schedule. Schedule.

Before you work on your contracting project, talk with your contractor. Get your contractor involved from the beginning because there might be a more efficient way to finish your project on time that you don't know about.

You can save time, money and headaches from the very beginning by communicating with your contractor!

Why do most people do the opposite of this and wait until the last minute to talk to the contractor? Because everyone takes the contractor for granted. Everyone thinks the contractor can easily take care of his or her work. Most everyone thinks the contractor is sitting around waiting for his or her job to come through the door. This isn't the case.

You should think of your contractor as your "project partner". Consult with your contractor. Let them know in advance what you want installed or fixed. Ask them if there are any tips they can give you to make your job go smoother.

You are not the only customer your contractor has. When they walk in the door and you're saying you need it now, a contractor can't always help you. YOU need to work together.

Problem #6 -- You Pick a Contractor Who Doesn't Guarantee Their Work.

ALWAYS ask for references. This is probably the easiest way you can avoid any problems with a contractor. ALL good reputable contractors will eagerly give you references. Ask your contractor to give you at least three names of people who they have done business with in the last 60 days. And also ask them how long they have worked with this customer.

This is the easiest way you can pick the right contractor for YOU!

All reputable contractors guarantee their work automatically. This means if they make a mistake on your job, they will re-do or fix your job at no charge. Unfortunately, there are unethical contractors who won't do this. Instead, they won't make good on your work and may not take any responsibility for their mistakes.

An unethical contractor may hold your work hostage or may say that they will fix your job, but pin the problem on you and tack on an extra charge. There are about a hundred other things a not-so-good contractor may do to you.

The best thing you can do is pick a contractor who unconditionally guarantees their work. If it's not done right and it's their mistake, they will do it again or fix it.

This is the easiest way you can pick the right contractor for YOU!

Problem #7 – Certain Rooms are Too Hot in the Summer or Too Cold in the Winter.

- **70% of systems need improvement**
- **52% are not satisfied with their system**
- **33% of new installations require one or more call-backs**

The most common project type I receive, is people who are upset because their million dollar investment is too hot in the summer and/or too cold in the winter.

Load calculations cost approximately \$400 - \$1000 per house based on size and take between 2 – 8 hours based on size. If a number of homes of similar plans are being calculated, costs may be lower. However, the additional cost is usually recouped immediately because the system can typically be downsized.

It is important to select someone up to date on industry recognized standards and utilizes a quality load calculation software program. The software should be based on Air Conditioning Contractors of America (ACCA) guidelines for sizing HVAC equipment, Using Manual J, an engineer calculates heat loss from the building through walls and ceilings, leaky ductwork, and infiltration through windows, doors, and other penetrations as well as heat gain into the building from sunlight, people, lights and appliances, doors, walls, and windows, and infiltration through wall penetrations. Design conditions for the area are also used as inputs into load calculations.

Benefits/Costs

The benefits of properly sizing HVAC systems include satisfied and comfortable customers, lower initial and operating costs, reduced callbacks, longer equipment run times and less cycling, and proper dehumidification during the cooling season.

Bonus! Bonus! Bonus!

Problem #8 -- You Don't Understand the "Lingo"

Alright, this wasn't one of the original "seven mistakes" for this guidance, but it IS important. It's so important, that we've decided to define the most common Heating and Air terms so YOU understand what contractors are saying!

BTU: (British Thermal Unit) -- The amount of energy that's needed to change the temperature of one pound of water by one degree Fahrenheit. This is what the heat removed from your home is measured in.

COIL: Looks like a radiator on a car. Usually installed inside the box on top of your furnace. It takes the heat and moisture out of the air as the refrigerant (what you might know as Freon) evaporates.

CONDENSER: This is the unit outside the home that's usually making all the noise (at least in the older models). This holds the compressor, which is the heart of your system. In addition, it also transforms your refrigerant (Freon) from a gas to a liquid. Finally there's a fan discharging heat to the outdoors.

ENVELOPE LOADS or SKIN LOADS: Loads associated with the roof, walls, windows, doors, floor and partitions.

INFILTRATION: Air that leaks into a building through the building envelope.

HUMIDITY: The quantity of water vapor present in air. It can be expressed as an absolute, specific or a relative value.

REFRIGERANT: This is the real name for what many people call Freon. It's the fluid that evaporates at low temperatures and pulls heat and humidity out of the air.

SPLIT SYSTEM: The most common system in the country. Some components are inside the home and others outside. The inside is the furnace and evaporator coil. Outside is the condensing unit.

TON: The unit used to measure the capacity of an air conditioning system. One ton of air conditioning removes 12,000 BTUs of heat energy per hour from your home.

ZONE: A single area with a similar thermal and use characteristics.

"The 6 Costly Misconceptions About Heating & Air Conditioning."

Misconception #1 -- As long as it's running, it's O.K.

Not necessarily. Equipment often appears to be running fine but may be on the brink of failure. Furnaces can have cracked heat exchangers and appear to run properly. However, they are leaking carbon monoxide setting up a very dangerous situation. Air conditioners will run low on refrigerant but have to run harder and longer. This can eventually lead to equipment failure. Just because it runs when you want it to doesn't mean there's not a serious problem.

Misconception #2 -- Changing filters is all the maintenance you need.

That's a good start but more should be done. Changing and keeping filters clean is critical to maintaining the proper air flow through your equipment. However, there are numerous things that should be done regularly. The blower should be inspected and lubed. Refrigerant level and thermocouples checked. Burners adjusted and cleaned. You see, it's more than just changing filters.

Misconception #3 -- It's normal for some rooms to be hotter or cooler than others.

No. Each room should maintain proper temperature. With a properly designed air distribution system all should be comfortable. A properly designed system will have different size ducts and registers serving each room. The ducts and registers should only be identical if the rooms are identical and that is unusual. The ducts should also have adjustable dampers for adjusting the air-flow to each area. A room by room load calculation should be preformed so each room is properly conditioned.

Misconception #4 -- Indoor air quality is not a problem at my house.

Not true. All houses have indoor air quality problems. They just differ in severity. All houses have some problems with dust. It is usually most noticeable right after you've dusted or when company is coming over. In the springtime, pollen can be a big problem. And if you have pets, there's pet hair and dander that get in your air. There are also fumes from painting, hairspray, cooking, and who knows what else. Plastic in your house is always giving off molecules as it sets up. If you have allergies, all these problems feel amplified by your sneezing and runny nose. All houses have indoor air pollution, some are just worse than others.

Misconception #5 -- Service contracts are a waste of money.

No. Regular service is critical to making your equipment last a long time and run efficiently. Regular servicing also can detect small problems before they become more serious. No one wants their system to fail on the hottest or coldest day of the year. Regular servicing helps keep your system in tip top shape and pays for itself in the long run.

Misconception #6 -- The Company that offers the lowest price is the company you should hire.

Maybe -- but not always. Here are a few points to consider.

Point #1: The price you see offered may not be for the services you want performed. Before you select a company, decide what you want to accomplish. Price is usually an indication of quality. More efficient equipment costs more. Better-trained service people cost more. Reliable service and products cost more. You don't buy the cheapest car, clothes, or foods. Don't let price be the deciding factor when choosing a contractor.

Point #2: The price you see advertised may not be the price you pay. Many homeowners have learned that the low price they saw advertised was not the amount they were charged.

And if you've hired a contractor, you too may have been the victim of false or misleading advertising. You probably learned the hard way that some companies offer a cheap price -- and then pressure you into paying a lot more once they get inside your home. Some of them may even break the law by using illegal bait and switch tactics.

As in all businesses and professions, the Heating and Air industry has its share of bad apples. I take no pleasure in telling you this, but some are unethical -- and sadly, a few are dishonest. By their misleading advertising and false promises, they cast a dark shadow on our entire industry.

Then you'll find other companies -- professionals like us who work hard to earn your trust and respect. As a way of improving our profession, we've dedicated our business to educating the public. The only way you can make an intelligent decision is to have all the facts you need.

"3 Simple Ways to Save Money on Your Next HVAC System"

Recommendation #1: Make a commitment to yourself to get your equipment serviced. The longer you wait, the sooner it'll wear out. Seriously consider a service contract. Regular service will extend the life of your equipment and help maintain its efficiency.

Recommendation #2: Do something about indoor air pollution. Maintain good quality air in your home. This begins by regularly changing your filter. Next, consider an electronic air cleaner, having your ducts cleaned and sanitized, and installing a heat recovery ventilator. The latter will allow you to bring fresh air into your house without wasting the energy you use to heat and cool your air.

Recommendation #3: Ask questions. The way you learn about a company is to ask specific questions and listen carefully to the answers. Here are the questions I suggest you ask:

1. Are you licensed?
2. Are you certified to recover air conditioning refrigerant?
3. Can you provide a room by room load calculation?
4. Can you give me five references of recent customers?
5. Do you offer financing or take credit cards?
6. What training have you had in the last year?
7. Are you a member of any trade associations and, if so, which ones?
8. Can you be reached in an emergency?

"How to Avoid the 6 Most Common Contracting Rip-Offs"

Ask your contractor about these items:

1. A gas safety shut-off.
2. Not putting a new flue pipe in at all to bring the furnace up to code.
3. Not using proper angles, sizes and clearances when putting the flue pipe in.
4. A level foundation or slab for your air conditioner to sit on.
5. Ask for experienced and trained technicians.
6. Ask your contractor about the requirements for clearances, refrigerant lines, combustion air for your furnace and accessibility.

These are all items often ignored.

You now know what your contractor should be providing you: great service by a well-qualified contractor who can service your equipment completely and thoroughly -- removing the bacteria, fungus, chemicals, pollens, and tobacco products from your system and indoor air.

Here's one last point: I know that many consumers are skeptical about contractors. I'm skeptical as well. So in addition to dedicating my business to consumer education, we do one more thing as well.

We guarantee our work. That's right. We fully guarantee every job we do. If you aren't happy with our work, we'll work to make it right. And if you still aren't pleased, you pay nothing. Not one cent. What could be fairer?

As a matter of fact, add this question to the list of things to ask a contractor you're considering hiring, "Do you guarantee your work?" Not all companies do -- and it's important that you have this information before you make your decision.

EXPERIENCE OUR GUARANTEED SERVICE RISK-FREE!

The most discriminating homeowners, architects, engineers and contractors in this area rely on me to take care of their heating & air conditioning load calculations and keep their client's homes comfortable. I will give you a complete project evaluation and tell you exactly what you can expect from our service. **NO SURPRISES!**

So call our office right now at **(303) 955-2114**.

I look forward to adding you to my list of satisfied clients

Sincerely,

Tracy Savoy

www.load-calculations.com