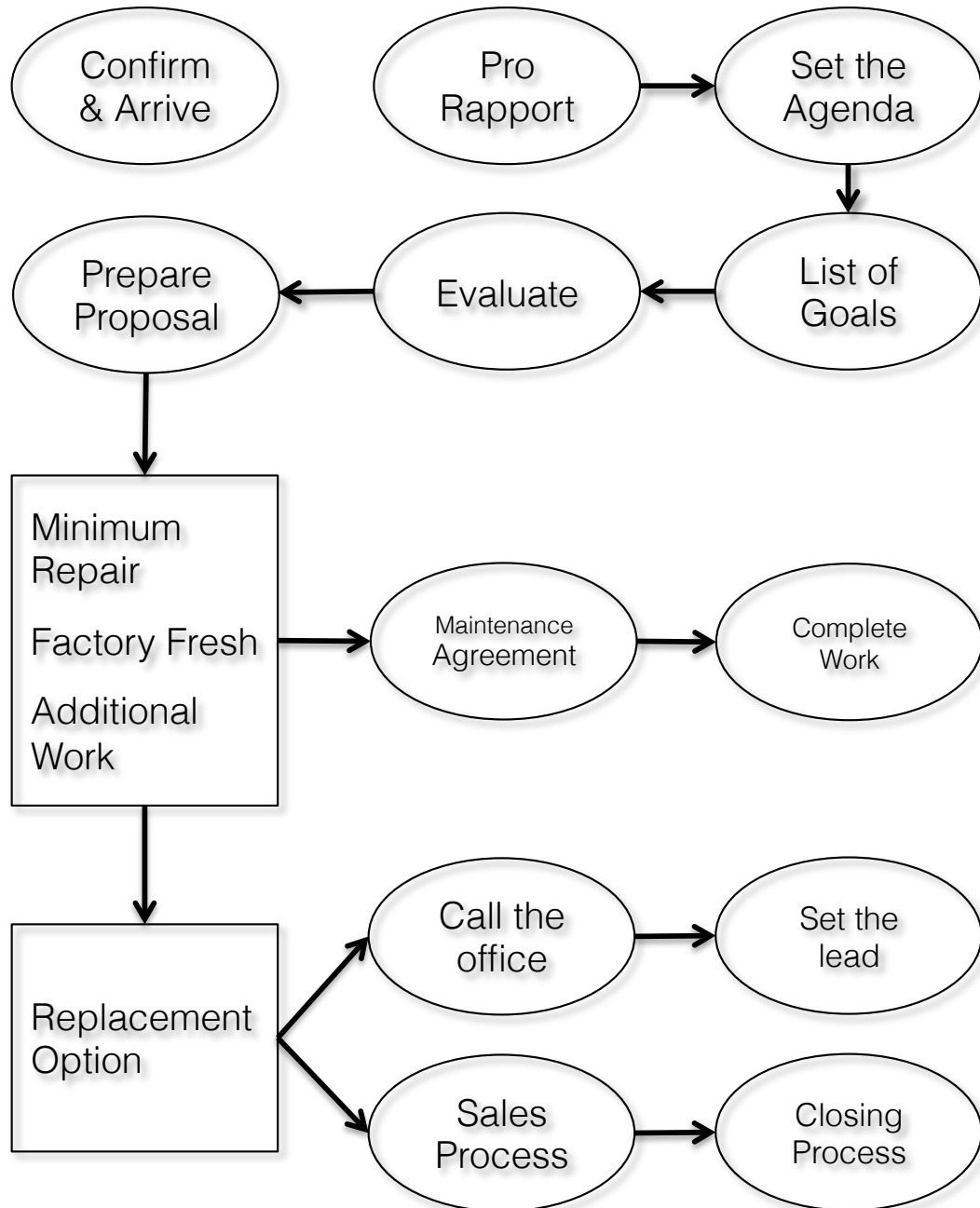


**Service Sales Excellence**  
**Student reference workbook**  
**Prototype V1**  
**January 2015**



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## Chapter 2 Arrive

- Be Prepared
- Park in the right place
- Look Sharp
- Knock on door
  - ✓ Take 2 steps back
- Introduce yourself
  - ✓ Show Business Card
  - ✓ Wear IID Badge
  - ✓ Put on Booties
- Ask for Purpose of call
- Explain the plan of action

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## Chapter 3 Professional rapport

Greet your customer

Offer a sincere compliment to “break the ice”.

Hello, I’m Tom with ABC Heating & cooling.

“This is a wonderful neighborhood, how long have you lived here?”

Confirm the reason for the call.

“What were you hoping to accomplish with our visit today.”

Write down what they want, repeat it back to them to make sure you are clear on why they called.

Put on your shoe covers and ask permission to enter the home.

“May I come in?”

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## **Chapter 4 Set an agenda.**

Explain where you need to go.

*I will need to see your thermostat, furnace, outdoor unit and electrical panel and be making a few trips in and out of your home. Which door would you prefer I use?*

*Gain a time commitment. (It will take about 20 to 30 minutes to diagnose what's wrong and prepare a few options for you to review. When I finish. I will show you what I found, review some repair options with you. Ok?)*

*If I find any other issues that have to do with Health, Safety or Comfort, may I bring it to your attention?*

*Would you show me where the thermostat, indoor unit and outdoor unit is located? (Be observant while walking with your customer and look for value proposition issues)*

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## Chapter 5 Written list of goals

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*To make sure I don't miss anything would you mind checking anything you might have in common with this list while I look at your indoor unit?*

### HVAC Business

Agreement

Technician process

Situation Survey

#### Objective:

Easily identify issues your customer may want resolved

1. Ask your customer if they have anything in common with this list.
2. When they select any of the situations, tell them that you would be happy to look into the issues and review a few options to resolve them.

**12 Common Health Safety & Comfort Issues that our Company can improve for you.**

**Do you have anything in common with this list?**

- Rooms difficult to heat and cool
- Uneven temperatures
- Rooms too hot or cold
- The home becomes uncomfortably warm before the air-conditioning system turns on
- The home becomes uncomfortably cold before the heating system turns on
- Excessive dust in the home
- Allergy, Hay Fever or Asthma symptoms
- The home feels muggy and clammy on warm humid days and nights
- The home feels dry and drafty on cold winter days and nights
- High fuel or electricity bills
- Excessive noise
- Dirt or condensation around registers or grills

If they select anything on the list, establish a written list of goals with your customer and gain permission to look into solving those issues while diagnosing the system.

*Did you find anything in common with that list?*

*Tell me about that.*

*How long has this been going on?*



(Get your customer talking about the things they want and establish a list of goals)

*It sounds like you want to:*

Confirm the results your customer wants based upon what they selected on your list.

Write it down.

Repeat it to them.

Gain permission to look into solutions while you are there

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## Chapter 6 Evaluate the system

Determine what it will take to satisfy their Important / Urgent need.

Discover any additional work necessary to reduce their risk of unexpected equipment failures.

### HVAC Business Agreement Technician process

#### Service Proposal

##### 1. Document Customers Goals.

##### 2. 1<sup>st</sup> proposal:

Restore operation simply to get the system operational.

##### 3. 2<sup>nd</sup> proposal:

Restore operation to manufacturers specifications including replacing fatigued components.

##### 4. 3<sup>rd</sup> proposal:

Everything else required to satisfy everything on their list of goals (In order of priority).

##### 5. Obtain Approval

*If over 8 years old, review Repair/Replace process*

<ul style="list-style-type: none"> <li>Restore Operation</li> <li>Even Temperatures</li> <li>Reduce allergy Triggers</li> <li>Minimize noise</li> </ul>	<b>No Risk Service Proposal</b>	Date <u>3/25/2014</u>
	Name <u>Tom Wittman</u>	Order # <u>11350</u>
	Address <u>11956 Hoster Lane</u>	Invoice # <u>22765</u>
	Phone <u>Carmel, In. 46032</u>	

Proposal #1	Outstanding _____	Accept _____	Decline <input checked="" type="checkbox"/>
<i>Diagnostic Fee:</i> \$95 <i>Replace Defective Condenser Fan Motor and Capacitor:</i> \$495 \$590			
Truck Charge / Diagnostic Fee		\$	
Warranty:	Preferred \$ <u>\$501</u>	Save <u>\$89</u>	Reg. \$ <u>\$590</u>
Proposal #2	Outstanding _____	Accept <input checked="" type="checkbox"/>	Decline _____
<i>Diagnostic Fee</i> \$95 <i>Replace Defective Condenser Fan Motor and Capacitor</i> \$495 <i>Deep Cleaning, Lubrication, Filter service, Coil cleaning</i> \$195 <i>Replace pitted contactor</i> \$120 \$906			
Truck Charge / Diagnostic Fee		\$	
Warranty:	Preferred \$ <u>\$770</u>	Save <u>\$136</u>	Reg. \$ <u>\$906</u>
Proposal #3	Outstanding _____	Accept _____	Decline _____
<i>Make bedroom more comfortable, Reduce allergy triggers and minimize noise.</i>			
<i>1. Replace return drop with proper size.</i> \$395 <input checked="" type="checkbox"/> <i>2. Seal and insulate all ductwork.</i> \$1,200 <input checked="" type="checkbox"/> <i>3. Install Hospital Grade air filter</i> \$1,600 <i>4. Install Ultraviolet Light Air Purifier</i> \$895 \$4,090			
Truck Charge / Diagnostic Fee		\$	
Warranty:	Preferred \$	Reg. \$	

Acceptance of work to be performed and associated fees.	Proposal #1	\$
Proposals include all materials, labor and applicable taxes.	Proposal #2	\$
	Proposal #3	\$
	Subtotal	\$
	Discount	\$
	Total	\$

Customer Authorization X \_\_\_\_\_

\*Offer valid for 7 days.

## Chapter 7 Prepare options that will satisfy the additional list of goals.

Determine what your customer needs to see and hear to understand how what you propose will satisfy their additional list of goals.

## **Chapter 8 Profile the existing system 1 of 3.**

Bring urgency (Attention) to the primary Important / Non-Urgent issue.

### **System Profile 1 of 3:**

- 6 years old
- Repairable
- Out of manufacturers warranty

System is 6 years old and in fair shape

Average life is 12 to 15

Proper operation can be restored  
Manufacturer warranties have expired

Equipment components tend to fail more  
Frequently around the 6 or 7 year mark.

And as you know, systems never fail in mild weather. Its more likely to fail when Its 10 degrees outside at 1:00 AM.

Routine maintenance will reduce unexpected catastrophic failure.

We can put that savings toward your agreement, which will entitle you to:

- Front of the line Demand Service
- 2 future tune up services
- \_\_\_\_\_
- \_\_\_\_\_

- \_\_\_\_\_

**Chapter 9 Profile the existing system 2 of 3.**

Bring urgency (Attention) to the primary Important / Non-Urgent issue.

System Profile 2 of 3:

- 2 years old
- Open Tune Up
- Active Manufacturers warranty

System is 2 years old and in Good shape

Average life is 12 to 15

Equipment components tend to fail more

Frequently around the 6 or 7 year mark.

And as you know, systems never fail in mild weather. Its more likely to fail when Its 10 degrees outside at 1:00 AM.

Routine maintenance will reduce unexpected catastrophic failure and prolong the life of your new system.

Your agreement will entitle you to:

- Front of the line Demand Service
- 2 future tune up services
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

For only \$ \_\_\_\_\_

We are scheduling our tune up's in \_\_\_\_ and \_\_\_\_.

May I add you to the schedule?

## **Chapter 10 Profile the existing system 3 of 3.**

Bring urgency (Attention) to the primary Important / Non-Urgent issue.

Profile # 3

System Profile:

- 12 years old
- Repairable
- Out of manufacturers warranty

System is 12 years old and in fair to poor shape.

Average life is 12 to 15

Operation can be restored

Future frequency of failure is high due to age and general condition of system components.

Manufacturer warranties have expired

Given the systems age and condition, This might be a-lot of money to put into repairing it.

I could have our consultant stop by today and show you what a new could do for you before you spend that much money or I can go ahead with the repair.

What would you like to do?

- Make presentation
- Educate the customer
- Follow equipment profile
- Explore additional work
- Explore Replacement Lead
- Explore Maintenance. Agreement
- Close the decision
- Take course of action

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## Chapter 11 System Design Considerations

### **Example 1:**

Chapter 12 **The rusty cabinet** (Air handler or furnace): (Take a photograph of the rusty cabinet)

Symptoms:

Odors, allergy triggers, excessive dust.

Situation: Rust on the bottom of the cabinet of a furnace resting on a concrete floor.

Ask your customer “What does this look like on the bottom of your furnace?” while pointing to the rust in the photograph. They will say “Rust?” you say “that’s right. What’s happening is:”

Cause: “Moisture from the concrete wicks up through the insulation on the inside of the blower compartment and causes the metal cabinet to rust out.”

Problem: Mold and mildew grows in dark damp places just like the inside of the blower compartment (take photograph illustrate) what does that look like?”...”Right.” “When the blower turns on, where does that go? (Let the customer answer the question then reply) that’s right. It gets distributed throughout your home. Could this be contributing to your the allergy symptoms, dust and odors?”

Solution: “When we install your system, we will set the indoor unit on a plastic pad that will serve as a moisture barrier to prevent this from happening. Can you see how that will reduce allergy triggers, dust and odors in your home?”

**Example 2:**

Chapter 13 The 90-degree return drop:

**Symptoms:**

Noise, increased operating costs, excessive dust, longer run times, reduced heating and cooling capacity, uneven temperatures in the home.

**Action:**

Take a photo of the transition, the air filter and spotlight the patterns of the dirt captured on the filter. Often times, due to the air turbulence, half of the filter will load up first because air takes the path of least resistance. Once it loads up, the velocity of the air will cause most of the dirt to blow through the filter.

**Cause:** The air takes an indirect route to the blower intake making the system work harder to move and creates an uneven distribution of air in the home.

**Problem:** Reduction of filtering capability, uneven air distribution, increased noise and higher cost of operation.

**Solution:** Install a new return airdrop with a sweeping 90-degree radius elbow into a sealed external filter rack making it easier for the blower to evenly pull the air through the filter and distribute it throughout the home. Can you see how this will improve the filtering capability, reduce operating cost and help even out hot and cold spots in your home?



### **Example 3:**

Chapter 14 Restricted return air drop (Return duct drop too small):

Symptoms:

Noise, increased operating costs, excessive dust, longer run times, reduced heating and cooling capacity, uneven temperatures in the home.

Action:

Take a photo of the drop, the air filter and spotlight the patterns of the dirt captured on the filter. Often times, due to the air velocity, the air filter will load quickly causing contaminants captured on the filter to “blow through” or “Bypass” the filter, contaminate the HVAC system and blow into the home through the supply registers.

Cause:

The heating and air-conditioning blower pulls air from the house through return air grills, into the return air ductwork, then it enters the return air drop which connects the ductwork to the blower compartment. If any part of that return system, the grills, the ductwork or the return air drop is too small, your heating and air-conditioning system will have to work harder to circulate enough air to keep your home comfortable. Improperly sized duct work causes increased operating costs, excessive dust, longer run times, reduce heating and cooling capacity and uneven temperatures in the home.

Let me give you an example:

“Imagine trying to breathe through a coffee stirrer straw.

You have to agree that would be a very difficult task right? That is how hard your blower has to work when the ductwork is too small. Can you see how that is creating some of the problems you are experiencing?”

Now imagine breathing through a big gulp straw. That would be much easier and much more comfortable wouldn't it?” You would have to agree that properly sizing the return drop will help your new system perform much better than if the duct design were left the way it is, right?”

Solution:

“When we install the proper sized return air ductwork to your new furnace, your system will be quieter, filter the air better, maintain better

temperature throughout your home and cost less to operate. Does that make sense?"

**Example 4:**

Chapter 15 Leaking ducts in unconditioned attic space:

Symptoms:

Increased operating costs, excessive runtime, excessive dust, and increased allergy triggers and poor humidity control.

Action:

Take photographs of leaking ductwork. An easy way to illustrate leaks is to insert an object into the leaking hole such as a pen or pencil, screwdriver or any type of item that will illustrate a leak. Take photographs of air leaks and the duct system in general.

Cause:

The blower pulls air from the house through return air grills, into the return air ductwork located in your attic, then it enters the return air drop, travels through your air filter to the blower compartment. The blower pushes the air through your furnace, your air conditioner coil, through your supply ductwork where the air is distributed throughout the home.

I found several leaks in the ductwork as you can see by these photographs. There are 15 to 20 holes just like these. Each hole represents about 1% of the air that is being pulled from your attic. So, if we add up all of the 15 holes I found, what percentage of the air is being distributed into your home from your attic?

What temperature is your attic in the summer?...and in the winter? Right.

Can you see how much harder your system has to work to keep your home comfortable if 15% of the air it is heating or cooling is coming from the attic? Not to mention the additional cost of operation.

What else is in your attic?

What kind of insulation is this? Right.

The ductwork is also pulling insulation, dirt, dust and allergens from the attic area, into your filter. Now, (hold up the air filter) we can literally see through this filter. In fact, if we poured salt on this filter, the salt would fall right through, right?

Can you imagine how much of the dust, insulation particles and allergen particles have been blowing through your filter and distributed through your home?

To make matters worse, 15 to 20% of the conditioned air that should be going into your home is being lost into your attic because of the leaks on the supply ductwork. That reduces the capacity of your furnace and air conditioner by 15 to 20% which makes it difficult to maintain even temperatures and may cause the home to be uncomfortable in extreme temperatures.

Can you see how sealing and insulating the ductwork and installing a hospital grade air filter along with an airtight filter cabinet will:  
Reduce allergy triggers, Minimize dust, Help even out hot and cold spots and reduce operating cost? Does that make sense?

### **Example 5:**

Chapter 16 Horizontal air handler suspended in attic with inadequate supports:

Safety issues:

When horizontal units are suspended from rafters in attics, they should be supported in a fashion that prevents the unit from buckling in the middle. Often times, horizontal units are supported on each end, putting pressure and weight in the middle of the unit causing it to buckle. One indication of this is that the doors will not align with the original screw holes creating air leaks, condensation leaks and eventually, property damage.

Additionally, there should be a secondary “safety” condensate drain installed underneath the horizontal air handler to minimize the possibility of water damage to ceilings. Condensate drains are more likely to “stop up” when air handlers are located in attic areas due to the conditions of the attic area.

Symptoms:

Water leaks, Increased operating costs, excessive runtime, excessive dust, and increased allergy triggers and poor humidity control.

Solutions:

A secondary drain pan, safety switch that turns the air conditioner off when it senses moisture in the secondary drain and properly supporting the unit in a fashion that prevents it from “buckling” in the middle will solve this problem.

Duct sealing and insulating is also highly recommended.

**Example 6:**

Chapter 17 Dirt streaks coming from supply diffusers or grills story:

**Symptoms:**

Excessive dust, and increased allergy triggers and poor humidity control.

**Action:**

Take photographs to illustrate the situation.

**Cause:**

Often times when supply registers or diffusers are installed, there are air gaps between the duct fitting and the register. Removing the register or grill will expose those gaps. As the air blows through the register or grill, it pulls air from the gaps creating dirt streaks on ceilings and registers. The air coming from the gaps often times carry allergens, dust and contaminants since that air usually comes from the area surrounding the ductwork, usually the attic, crawlspace or basement.

**Solution:**

Seal all air gaps between the duct fitting (supply boot) and the drywall to prevent air from being pulled into the conditioned space.

**Example 7:**

Chapter 18 Un-level outdoor unit:

Issue:

Increased operating cost, excessive noise, reduces life expectancy and increases the work load on the air-conditioning system.

Action:

Take photographs to illustrate the situation.

Cause:

Oil, stored in the bottom of the air-conditioning compressor is used to lubricate the mechanical components of the unit. Oil is either distributed to those components from a small suction tube or by immersing a device that mechanically distributes the oil. When an outdoor unit becomes out of level, the air-conditioning system is unable to distribute the proper amount of oil to lubricate the mechanical parts causing premature wear and tear, increased operating cost, excessive noise and ultimately, failure.

Solution:

Install the outdoor unit level and in a fashion that prevents it from becoming out of level due to thawing, freezing or erosion of the soil.

**Example 8:**

Chapter 19 Excessive refrigerant lines solder connections:

Issue:

When copper is welded, the copper oxidizes. Oxidation is to an air-conditioning system as cholesterol is to a human heart. Too much of it at once or small amounts over a period of time will cause damage or failure.

Solution:

Install the lines with as few solder connections as possible by using copper tubing benders.

Purge lines with a small amount of nitrogen while making the solder connections to eliminate oxidation inside the copper lines.

Pull a vacuum on new lines before opening the refrigerant valves.

### **Example 9:**

Chapter 20 Leaky ducts located in garage:

**Symptoms:** Increased operating costs, excessive runtime, excessive dust, and increased allergy triggers and poor humidity control, possible CO levels in home.

**Action:** Take photographs of leaking ductwork.

**Cause:** The blower pulls air from the house through return air grills, into the return air ductwork located in your attic, then it enters the return air drop in your garage, travels through your air filter to the blower compartment. The blower pushes the air through your furnace, your air conditioner coil, through your supply ductwork where the air is distributed throughout the home.

I found several leaks in the ductwork as you can see by these photographs. There are 15 to 20 holes just like these. Each hole represents about 1% of the air that is being pulled from your garage area. So, if we add up all of the 15 holes I found, what percentage of the air is being distributed into your home from your attic and garage? What temperature is your attic and garage in the summer?...and in the winter? Right.

Can you see how much harder your system has to work to keep your home comfortable if 15% of the air it is heating or cooling is coming from the attic? Not to mention the additional cost of operation.

What else is in your attic and garage? Right.

The ductwork is also pulling insulation, dirt, dust and allergens from the attic and garage area, into your filter. Now, (hold up the air filter) we can literally see through this filter. In fact, if we poured salt on this filter, the salt would fall right through, right?

Can you imagine how much of the dust, insulation particles and allergen particles have been blowing through your filter and distributed through your home?

When you start your car in the morning or turn it off after you pull it into the garage, often times the exhaust fumes get drawn into the ducts when the blower is running along with the other chemicals and cleaning



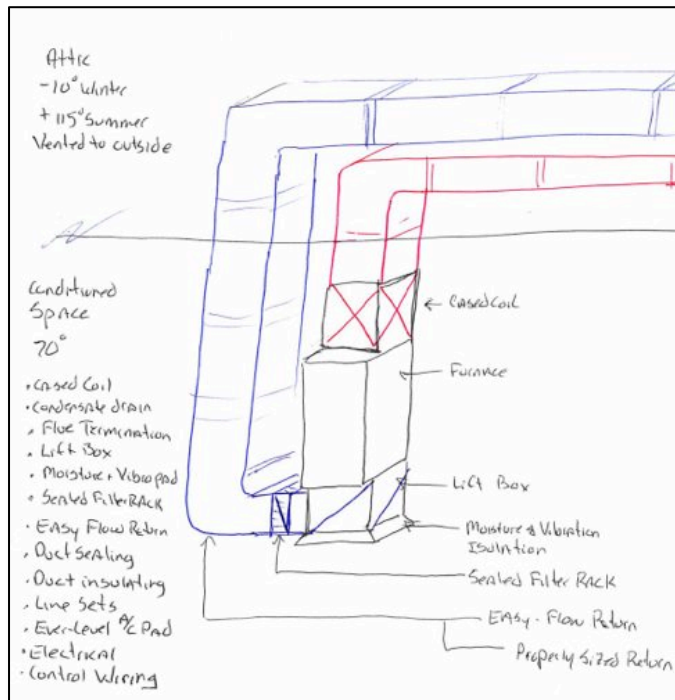
supplies increasing allergy triggers and odors. To make matters worse, 15 to 20% of the conditioned air that should be going into your home is being lost into your attic because of the leaks on the supply ductwork. That reduces the capacity of your furnace and air conditioner by 15 to 20% which makes it difficult to maintain even temperatures and may cause the home to uncomfortable in extreme temperatures.

Can you see how sealing and insulating the ductwork and installing a hospital grade air filter along with an airtight filter cabinet will: Reduce allergy triggers, Minimize dust, Help even out hot and cold spots and reduce operating cost? Does that make sense?

#### Chapter 21 **Sketching out an illustration**

of their system or referring to an illustration as you are describing what you've found while showing them the photo evidence greatly enhances the customer experience. It can also serve as additional information for your Installation team.

Below is an example of a conversational sketch.



Make a list of “talking points to keep your conversation on track as illustrated on the bottom left side of the “sketch example”.

Tell the “system story” and involve your customer in the conversation as illustrated in the previous 9 examples.

Constantly refer to the photographs of their system as you move along with your story for credibility and relevance.

Slow your pace and tempo down. Take it slow. Give your customer time to understand each situation.

## Preparing your options

**You must become an expert** in selecting equipment combinations designed to satisfy everything on your customers’ list of goals and connect the dots between system features and how those features get the job done.

When your customer draws the conclusion that what you are proposing will satisfy everything on their list of goals and believes that there is very little risk in doing business with you and your company, they are more likely to invest more money to get what they want.

This is why it is so important to establish a written list of goals in early on in the sales call so they are clear on what you will be putting together for them and you are clear on exactly what they want.

Fundamentally, you need to know how to explain and demonstrate how each feature of different systems you design for them will solve their specific and unique problems as listed on their list of goals.

### Make areas more comfortable:

- Making it easier for them to heat and cool their home
- Maintain more even temperatures
- Even out hot and cold spots

Which rooms are difficult to heat or cool?	→	
What areas have uneven temperatures?	→	
Where are the hot or cold spots in your home?	→	
How humid is your home in the summer?	→	<u>Control humidity levels in the home:</u> <ul style="list-style-type: none"> <li>• Reducing allergy triggers</li> <li>• Reducing odors in the home</li> <li>• Making the home more comfortable</li> </ul>
How dry is your home in the winter?	→	
How often do you have to dust?	→	<u>Minimize dust circulation</u> <u>Reduce Allergy Triggers</u>
Who in your home has Allergy, I	→	
What was your highest heating bill?	→	<u>Reduce operating costs:</u> <ul style="list-style-type: none"> <li>• Saving them money</li> <li>• Helping them offset their investment</li> </ul>
What was your highest cooling bill?	→	
What would an average bill be?	→	
excessive noise from your system?	→	<u>Reduce system noise:</u> <ul style="list-style-type: none"> <li>• Helping them sleep better</li> <li>• Making it Easier to hear the television</li> <li>• Make enjoying their deck better</li> </ul>

Make yourself relevant to your customer by offering solutions that are important to them and in alignment with what they told you they wanted when you established their list of goals. Focus on the things that are important to THEM, not you.

**Never stop learning** and stay ahead of the HVAC technology curve. Understanding the dynamics of Pressure, Temperature and Moisture and some basic principles of Conduction, Convection and Radiation will help you identify problems and offer believable solutions.

**Example #1:**

Chapter 22 Allergy triggers and Humidity... (Relationship between temperature and moisture)

Mold is an allergen. Mold (Fungi) produces allergens when it grows. When mold stops growing, it stops producing allergens. Mold (Fungi) stops growing when the relative humidity is below 50%. Above 50% it produces allergens. Below 50% it does not. (Problem is significantly improved!)

### Example #2:

Chapter 23 Dust mite fecal matter is an allergen.

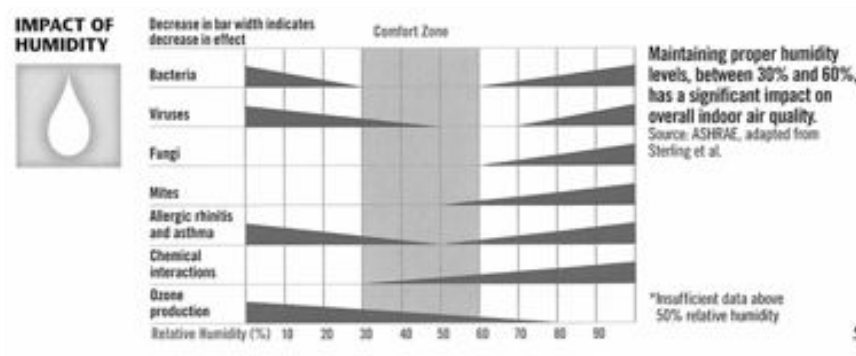
Dust mites are microscopic bugs that feed on pet dander, hair and skin. Fecal matter secretion from dust mites trigger allergies. Dust mites hydrate themselves by absorbing moisture from the humidity in the air. If the relative humidity falls below 50%, dust mites cant hydrate and they die.

Can you see how by controlling the humidity level below 50% in a home will reduce allergy triggers caused by dust mites? (Problem is significantly improved!)

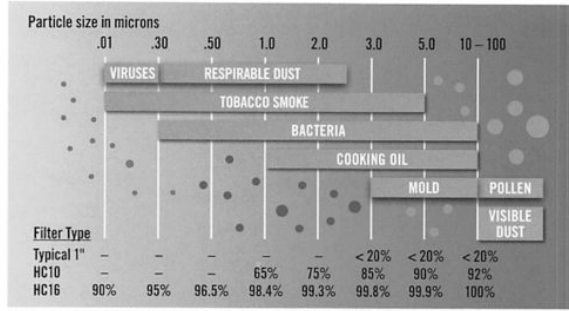
### Example #3:

Chapter 24 Bacteria, Viruses and Asthma symptoms flourish when the relative humidity is below 35% in the winter (Dry) and above 60% in the summer (humid). When we control and regulate the relative humidity in the home between 50% in the summer months and above 35% in the winter, Allergy triggers, asthma triggers and odors are reduced. Can you see how designing a system that can control and regulate the humidity in your home will make your home healthier and more comfortable?

Chapter 25 **3<sup>rd</sup> party references are important.** Study the charts below and think through different scenarios your customer might be seeing, hearing, tasting, smelling or feeling in the home, then connect the dots between the experience your customer wants to make better and how you propose to make it better.



**PARTICLE-REMOVAL EFFICIENCY – HEALTHY CLIMATE® AIR CLEANERS**



Note: HC10: Healthy Climate® MERV 10 filter, HC16: Healthy Climate MERV 16 filter

**MERV RATINGS EXPLAINED**

MERV	Composite average particle size efficiency, % in size range, µm			Examples	Typical Applications
	Range 1 0.30-1.0	Range 2 1.0-3.0	Range 3 3.0-10.0		
1	n/a	n/a	E3 < 20	Standard 1* Disposable Filters	Residential Homes, Commercial Buildings, Industrial Factories—helps protect HVAC equipment from damage
2	n/a	n/a	E3 < 20		
3	n/a	n/a	E3 < 20		
4	n/a	n/a	E3 < 20		
5	n/a	n/a	20 ≤ E3 < 35		
6	n/a	n/a	35 ≤ E3 < 50		
7	n/a	n/a	50 ≤ E3 < 70		
8	n/a	n/a	70 ≤ E3	1* Pleated Media Filters	Residential Homes, Commercial Buildings—helps maintain HVAC equipment efficiency
9	n/a	E2 < 50	85 ≤ E3		
10	n/a	50 ≤ E2 < 65	85 ≤ E3		
11	n/a	65 ≤ E2 < 80	85 ≤ E3		
12	n/a	80 ≤ E2	90 ≤ E3		
13	E1 < 75	90 ≤ E2	90 ≤ E3	2*-5* Precision Pleated Media Filters	Residential Homes, Commercial Buildings, Health Care Facilities—helps improve indoor air quality by significantly reducing airborne allergens
14	75 ≤ E1 < 85	90 ≤ E2	90 ≤ E3		
15	85 ≤ E1 < 95	90 ≤ E2	90 ≤ E3		
16	95 ≤ E1	95 ≤ E2	95 ≤ E3		

Source: ASHRAE 52.5



PURIFICATION	
<b>Problem</b>	<b>Odors and Chemical Vapors</b> Perfumes, cleaning supplies, paints, pet odors, cooking fumes and other airborne contaminants
	<b>Small, Respirable Particles and Bioaerosols/Microorganisms</b> Pollen, dirt, pet dander, dust mites, bacteria, viruses and mold
<b>Solution</b>	<b>Air-purification systems attached to the furnace or air handler, where contaminants are removed and destroyed before air is recirculated into the home</b>



ELIMINATION	
<b>Problem</b>	<b>Small, Respirable Bioaerosols/Microorganisms</b> Pet dander, dust mites, bacteria, viruses, mold and other contaminants that can collect on the air conditioning coil, reducing system efficiency, and circulate through the home.
<b>Solution</b>	<b>UVC lights dramatically reduce concentrations of potentially harmful microorganisms</b>



VENTILATION	
<b>Problem</b>	<b>Poor Airflow</b> A common problem in newer homes, which are tightly sealed to conserve energy. Instead of continually moving, indoor air becomes stagnant, and contaminants have no way to escape.
<b>Solution</b>	<b>Ventilation systems replace stale, contaminated indoor air with outdoor air—providing the fresh-air feel of an open window, with virtually no heat/energy loss or safety risk</b>



HUMIDITY CONTROL	
<b>Problem</b>	<b>Too Much Moisture</b> Can make the air feel stuffy and warmer than the actual temperature, and can also promote the growth of mold, mildew, fungi, bacteria and viruses
	<b>Too Little Moisture</b> Can cause dry skin, sore throats and respiratory problems, along with annoying static electricity
<b>Solution</b>	<b>Dehumidifiers and humidifiers work with the home's heating and cooling system to keep moisture levels balanced in every room</b>

CAT#	DESCRIPTION
<b>PUREAIR™ SYSTEM</b>	
X8785	PC020-28 PureAir System*
Y2922	PC095-28 PureAir System
X8787	PC014-23 PureAir System
<b>PUREAIR MAINTENANCE KITS</b>	
X8795	PC020-28
X8796	PC095-28
X8797	PC014-23

\*Can be used in Packaged Units by using Y0629 mounting kit

CAT#	DESCRIPTION
<b>HEALTHY CLIMATE® UV LIGHTS</b>	
X4573	UV-1000 Germicidal light
X4575	UV-2000 Germicidal Dual light
X9423	UVC-24V
X9424	UVC-41W-S
X9425	UVC-41W-D

CAT#	DESCRIPTION
<b>HEALTHY CLIMATE HEAT AND ENERGY RECOVERY VENTILATORS (HRV/ERV)</b>	
Y2144	HRV3-300 (300 CFM)
Y2143	HRV3-195 (195 CFM)
Y2142	HRV3-095 (095 CFM)
Y2141	HRV3-200 (200 CFM)
Y2140	HRV3-150 (150 CFM)
Y2139	ERV3-260 (260 CFM)
Y2138	ERV3-150 (150 CFM)

<b>LENNOX® VENTILATION CONTROL SYSTEM (LVCS)</b>	
X4141	LVCS Lennox Ventilation Control System

CAT#	DESCRIPTION
<b>HUMIDITROL®</b>	
94M41	EDA-024B
94M42	EDA-036C
94M43	EDA-060D

<b>HEALTHY CLIMATE DEHUMIDIFIER</b>	
Y3003	HCWH-065
Y1841	HCWH-090
Y1842	HCWH-135

<b>HEALTHY CLIMATE HUMIDIFIERS</b>	
Y3476	HCSteam-16
Y3479	HCSteam-35
Y2789	HCWP3-18A Power 18 gal. w/Automatic Control
Y2788	HCWP3-18 Power 18 gal. w/Humidistat
Y2787	HCWB3-17A Bypass 17 gal. w/Automatic Control
Y2785	HCWB3-12A Bypass 12 gal. w/Automatic Control
Y2786	HCWB3-17 Bypass 17 gal. w/Humidistat
Y2784	HCWB3-12 Bypass 12 gal. w/Humidistat

You will never go wrong when you back up what you say and recommend with facts. A good habit for any sales person is to make a statement followed up the facts.

“Based on what I’m hearing from you, I’m going to recommend a pure air system because...”

**UNMATCHED CLEANING POWER OF THE PUREAIR™ SYSTEM, COMPARED TO OTHER TECHNOLOGIES**

	PureAir™ System	Active Carbon Filter	HEPA Filter	High-Energy UVC Light	Standard Box Filter	Electronic Air Cleaners
Captures small, breathable particles down to 0.3 micron	•		•			•
Captures airborne mold and other bioaerosols down to 0.01 micron	•		•			
Destroys odors (cooking fumes, pet odors)	•	• <sup>1</sup>				
Removes chemical vapors (fumes from household products)	•	• <sup>1</sup>				
Reduces ozone	•	•				
Does not generate ozone	•	•	•	• <sup>2</sup>	•	
Whole-home hospital-grade filtration	•					
Low operating cost	•	•		•	•	

<sup>1</sup>Only captures, does not destroy  
<sup>2</sup>With use of non-ozone lamps.

Dave Lennox Signature® Collection PureAir™ Air Purification Systems			
	PC014-23	PC016-28	PC020-28
Precision Pleat™ Filter	MERV 16	MERV 16	MERV 16
Filter Life	Up to One Full Year*	Up to One Full Year*	Up to One Full Year*
Lamp Life	2 Lamps/1 Year	2 Lamps/1 Year	2 Lamps/1 Year
Insert Life	1 Year	1 Year	1 Year
Electrical Rating	120/230V; 50/60 Hz; 150 watts; 1.2/65 amps	120/230V; 50/60 Hz; 150 watts; 1.2/65 amps	120/230V; 50/60 Hz; 150 watts; 1.2/65 amps
Dimensions HxWxD (in.)	21-1/8 x 10 x 23	17-1/4 x 10 x 28-1/2	21-1/8 x 10 x 28-1/2
HxWxD (mm)	540 x 254 x 584	438 x 254 x 724	540 x 254 x 724

\*Based on average hours of fan operation from six cities when thermostats are placed on “auto” versus “continuous” fan. More frequent filter changes may be required in situations with high dust or dirt loads.

**MERV RATINGS EXPLAINED**

MERV	Composite average particle size efficiency, % in size range, µm			Examples	Typical Applications
	Range 1 0.30-1.0	Range 2 1.0-3.0	Range 3 3.0-10.0		
1	n/a	n/a	E3 < 20	Standard 1* Disposable Filters	Residential Homes, Commercial Buildings, Industrial Factories—helps protect HVAC equipment from damage
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4	n/a	n/a	E3 < 20		
5	n/a	n/a	20 ≤ E3 < 35		
6	n/a	n/a	35 ≤ E3 < 50		
7	n/a	n/a	50 ≤ E3 < 70		
8	n/a	n/a	70 ≤ E3	1* Pleated Media Filters	Residential Homes, Commercial Buildings—helps maintain HVAC equipment efficiency
9	n/a	E2 ≤ 50	85 ≤ E3		
10	n/a	50 ≤ E2 < 65	85 ≤ E3		
11	n/a	65 ≤ E2 < 80	85 ≤ E3		
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14	75 ≤ E1 < 85	90 ≤ E2	90 ≤ E3		
15	85 ≤ E1 < 95	90 ≤ E2	90 ≤ E3		
16	95 ≤ E1	95 ≤ E2	95 ≤ E3		

Source: ASHRAE 52.5

...As you can see, it is a health care facility grade system that significantly reduces airborne allergens. This system hands down, performs better than any other filtration and purification system for residential applications. Can you see how this system will reduce airborne allergy and hay fever triggers?” Let the facts, statistics and evidence tell the story for you whenever possible. Be prepared.

## **Equipment features**

**Become an expert in explaining equipment features** and how they solve problems relevant to each customer.

### **Examples:**

Chapter 26 Variable airflow compared to single stage airflow

Variable airflow helps minimize temperature swings by gradually increasing the airflow on a call for heating or cooling instead of forcing air out of your vents at full speed before your system had a chance to condition it. You can also set the blower to circulate the air at a very low speed during the off cycles which will maintain a more even temperature as well as clean and purify the air 24/7 instead of limiting healthy air circulation, cleaning and purifying to a call for heating or cooling.

Chapter 27 Variable capacity air conditioning compared to 2-stage and 1- stage De-Humidification and cooling cycle compared to cooling only cycle

A properly sized air conditioner will maintain a (insert your number here) 72-degree indoor temperature at a (insert your number here) 100-degree outdoor temperature. Your home requires 3 tons of cooling. Air conditioners fall under three classifications: single stage, two stage and variable stage.

What percentage of the days your air conditioner operated last year was close 100 degrees outside?

Right... On average, 20% to 30% of the time. In fact, the median summer temperature in our area is 80 degrees. On a humid 80 degree summer day, your three-ton air conditioner cycles on, cools the house quickly because it is designed to handle a 100 degree day, resulting in poor humidity control and higher operating cost. Have you ever experiences an 80-degree day where the temperature is satisfied but it still feels humid and uncomfortable? That's why.

A variable speed air conditioner has 66 stages of cooling, paired with a variable airflow blower. This system will match the proper capacity (speed) of the air conditioner and airflow to the outdoor conditions. Once the temperature in the home is satisfied, then, it will check the relative humidity and shift to a dehumidification cycle to maintain a more comfortable and healthy humidity level in the home, delivering



clean, crisp and fresh air. And by the way, this is the quietest, most efficient system in its class available today.

**A two stage air conditioner** operates similar to a variable speed without 64 stages of air-conditioning and a limited de-humidification cycle.

Chapter 28 Modulating heat compared to 2-stage and 1-stage

A properly sized furnace will maintain a (insert your number here) 68-degree indoor temperature at a (insert your number here) -10-degree outdoor temperature. Your home requires 90,000 BTU's of heating. Gas furnaces fall under three classifications: single stage, two stage and variable stage.

What percentage of the days your furnace operated last year was close - 10 degrees outside?

Right... On average, 20% to 30% of the time. In fact, the median winter temperature in our area is 25 degrees. On a cool 25 degree winter day, your 90,000 BTU furnace cycles on, heats the house up quickly because it is designed to handle a -10 degree day, resulting in dry, drafty air and higher operating cost.

**A variable speed furnace** has 66 stages of heating, paired with a variable airflow blower. This system will match the proper capacity (speed) of the furnace and airflow to the outdoor conditions. Once the temperature in the home is satisfied, then, it can (optional) shift to a air circulation cycle to maintain a more comfortable and healthy humidity level in the home, when paired with a whole house humidifier and health care grade air filter, delivering clean, crisp and fresh air. And by the way, this is the quietest, most efficient system in its class available today.

A two-stage furnace operates similar to a variable speed without 64 stages of heating.

Be prepared to demonstrate:

- Noise decibel rating comparison
- Operating cost comparison

Chapter 29 Your customer is in control of buying.

You are in control of the process. Having said that, you must develop the ability to detach yourself from the price. They determine the price, not you. It has to make sense for them, not you. Give them the opportunity to discover what the Best system can do for them compared to a Better, Good and Basic and let them decide. The worst thing we can do to a customer is not give them the opportunity to see the BEST solutions available to them. Their job is to decide if it makes sense to buy it, not yours. Your job is to follow the process.

**12 Common Issues that can be improved with a properly designed HVAC system.**

**Do you have anything in common with this list?**

- ..... Which rooms are difficult to heat or cool?
- ..... What areas have uneven temperatures?
- ..... Where are the hot or cold spots in your home?
- ..... How humid is your home in the summer?
- ..... How dry is your home in the winter?
- ..... How often do you have to dust?
- ..... Who in your home has Allergy, Hay Fever or Asthma?
- ..... What was your highest heating bill?
- ..... What was your highest cooling bill?
- ..... What would an average bill be?
- ..... Where do you notice excessive noise from your system?
- ..... Which registers or grills accumulate dirt?

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- ..... What was your highest heating bill?
- ..... What was your highest cooling bill?
- ..... What would an average bill be?
- ..... Where do you notice excessive noise from your system?
- ..... Which registers or grills accumulate dirt?

Chapter 31 Service Proposal

## No Risk Service Proposal

Date \_\_\_\_\_

Name \_\_\_\_\_ Order # \_\_\_\_\_

Address \_\_\_\_\_

Phone \_\_\_\_\_ Invoice # \_\_\_\_\_

Proposal #1	Outstanding _____	Accept _____	Decline _____
Truck Charge / Diagnostic Fee			\$
Warranty:	Preferred \$	Reg. \$	
Proposal #2	Outstanding _____	Accept _____	Decline _____
Truck Charge / Diagnostic Fee			\$
Warranty:	Preferred \$	Reg. \$	
Proposal #3	Outstanding _____	Accept _____	Decline _____
Truck Charge / Diagnostic Fee			\$
Warranty:	Preferred \$	Reg. \$	

Acceptance of work to be performed and associated fees.  
Proposals include all materials, labor and applicable taxes.

Customer Authorization X \_\_\_\_\_

\*Offer valid for 7 days.

Proposal #1	\$
Proposal #2	\$
Proposal #3	\$
Subtotal	\$
Discount	\$
Total	\$

# No Risk Service Proposal

Date \_\_\_\_\_

Name \_\_\_\_\_ Order # \_\_\_\_\_

Address \_\_\_\_\_

Phone \_\_\_\_\_ Invoice # \_\_\_\_\_

Proposal #1	Outstanding _____	Accept _____	Decline _____
Truck Charge / Diagnostic Fee			\$
Warranty:	Preferred \$	Reg. \$	
Proposal #2	Outstanding _____	Accept _____	Decline _____
Truck Charge / Diagnostic Fee			\$
Warranty:	Preferred \$	Reg. \$	
Proposal #3	Outstanding _____	Accept _____	Decline _____
Truck Charge / Diagnostic Fee			\$
Warranty:	Preferred \$	Reg. \$	

Acceptance of work to be performed and associated fees.  
Proposals include all materials, labor and applicable taxes.

Customer Authorization X \_\_\_\_\_

\*Offer valid for 7 days.

Proposal #1	\$
Proposal #2	\$
Proposal #3	\$
Subtotal	\$
Discount	\$
Total	\$

# No Risk Service Proposal

Date \_\_\_\_\_

Name \_\_\_\_\_ Order # \_\_\_\_\_

Address \_\_\_\_\_

Phone \_\_\_\_\_ Invoice # \_\_\_\_\_

Proposal #1	Outstanding _____	Accept _____	Decline _____
Truck Charge / Diagnostic Fee			\$
Warranty:	Preferred \$	Reg. \$	
Proposal #2	Outstanding _____	Accept _____	Decline _____
Truck Charge / Diagnostic Fee			\$
Warranty:	Preferred \$	Reg. \$	
Proposal #3	Outstanding _____	Accept _____	Decline _____
Truck Charge / Diagnostic Fee			\$
Warranty:	Preferred \$	Reg. \$	

Acceptance of work to be performed and associated fees.  
Proposals include all materials, labor and applicable taxes.

Customer Authorization X \_\_\_\_\_

\*Offer valid for 7 days.

Proposal #1	\$
Proposal #2	\$
Proposal #3	\$
Subtotal	\$
Discount	\$
Total	\$



# No Risk Service Proposal

Date \_\_\_\_\_

Name \_\_\_\_\_ Order # \_\_\_\_\_

Address \_\_\_\_\_

Phone \_\_\_\_\_ Invoice # \_\_\_\_\_

Proposal #1	Outstanding _____	Accept _____	Decline _____
Truck Charge / Diagnostic Fee			\$
Warranty:	Preferred \$	Reg. \$	
Proposal #2	Outstanding _____	Accept _____	Decline _____
Truck Charge / Diagnostic Fee			\$
Warranty:	Preferred \$	Reg. \$	
Proposal #3	Outstanding _____	Accept _____	Decline _____
Truck Charge / Diagnostic Fee			\$
Warranty:	Preferred \$	Reg. \$	

Acceptance of work to be performed and associated fees.  
Proposals include all materials, labor and applicable taxes.

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\*Offer valid for 7 days.

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Proposal #2	\$
Proposal #3	\$
Subtotal	\$
Discount	\$
Total	\$