Breakeven In Four Easy Steps
How To Calculate Your Breakeven On Labor (Short Form)

Calculation for Department: _________________________________

Why This Worksheet
Most HVAC, plumbing, electrical, and related companies lose money on service work. They have no idea how expensive it is to deliver a $50,000 “hardware store on wheels” driven by the most employable person in America. This worksheet was created to provide a simple way for managers to calculate the approximate cost to provide a service vehicle and a service technician on an hourly basis. You can view additional resources, watch how-to videos, obtain additional copies of this form, and see examples at www.mrhvac.com

Step 1: Standard Hourly Costs:

A. Technician Pay Per Standard Hour
   Regular time, no overhead, use your highest paid tech’s straight wage
   $ 

B. Direct Expenses Based on Compensation
   FICA, Medicare, unemployment, work comp, health & life, benefits (assume 30%) 
   %

C. Direct Labor Cost Per Standard Hour
   C = A + B% 
   $

Step 2: Lost Days:

D. Total Hours Available (no overtime)
   52 weeks x 40 hours per week
   2080 Hrs.

E. Number of Paid Vacations Hours
   We recommend at least 40 hours and up to 120 hours
   Hrs.

F. Number of Paid Holidays
   We recommend at least 56 hours
   Hrs.

G. Number of Paid Sick/Personal Days
   We recommend at least 40 hours
   Hrs.

H. Productive Hours Available
   H = D - (E + F + G)
   Hrs.

I. Non-Billable Hours (unproductive time)
   Hours paid but not billed to client—assume 50% for service & 20% for install
   %

J. Billable Hours
   J = (100 - I) x (H ÷100)
   Hrs.

K. Adjusted Direct Labor Cost Per Billable Hour
   K = (D ÷ J) x C
   $

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Step 3: Vehicle Costs:
A commercial vehicle costs a lot to operate. According to recent research performed by the AAA, it costs about 69.2 cents per mile to operate a non-commercial mini van. The internet is full of information on this topic so we encourage you to do your own research.

L. Miles Driven Per Year
   If unsure, assume 40,000 for service and 25,000 for installers

M. Cost Per Mile
   Assume 75 cents per mile for service and 60 cents per mile for installation

N. Total Vehicle Costs Per Year
   \( N = (L \times M) \)

O. Vehicle Cost Per Billable Hour
   \( O = (N \div J) \)

Step 4: Cost of Technician and Truck (no overhead):

P. Adjusted Direct Labor Cost Per Billable Hour
   See line K

Q. Vehicle Cost Per Billable Hour
   See line O

R. Your True Direct Cost of Labor (see notes below)
   \( R - (P + Q) \)

Surprised?
Are you surprised? Are you charging far less for labor than it costs you to provide it? For many of you, it would honestly be cheaper if you paid your customers to call one of your competitors.

Notes
1. This worksheet calculates your Direct Cost of Labor, not your Labor Breakeven Sales Point. In other words, you still must pay your company’s overhead (like rent, office salaries, owner’s compensation - the list goes on).
2. Nothing has been included for overhead and nothing has been added for profit.

Questions For You To Think About
1. How do the calculations change if we use a two-person crew (two people per vehicle)?
2. Why does the service department cost so much more per hour to operate?
3. How much more revenue would be generated if you increased your labor rate by $20.00 per hour?
4. How many labor hours must your company sell to breakeven?
5. What if you offer a senior citizen or service agreement discount? How much are you losing then?
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### Calculation for Department: Service (maintenance and repairs)

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#### Step 1: Standard Hourly Costs:

<table>
<thead>
<tr>
<th>A. Technician Pay Per Standard Hour</th>
<th>$25.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Direct Expenses Based on Compensation</td>
<td>30%</td>
</tr>
<tr>
<td>C. Direct Labor Cost Per Standard Hour</td>
<td>$32.50</td>
</tr>
</tbody>
</table>

### Step 2: Lost Days:

<table>
<thead>
<tr>
<th>D. Total Hours Available (no overtime)</th>
<th>2080 Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>E. Number of Paid Vacations Hours</td>
<td>40 Hrs.</td>
</tr>
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<td>F. Number of Paid Holidays</td>
<td>56 Hrs.</td>
</tr>
<tr>
<td>G. Number of Paid Sick/Personal Days</td>
<td>40 Hrs.</td>
</tr>
<tr>
<td>H. Productive Hours Available</td>
<td>1944 Hrs.</td>
</tr>
<tr>
<td>I. Non-Billable Hours (unproductive time)</td>
<td>50%</td>
</tr>
<tr>
<td>J. Billable Hours</td>
<td>972 Hrs.</td>
</tr>
</tbody>
</table>

### K. Adjusted Direct Labor Cost Per Billable Hour

\[ K = \left( \frac{D}{J} \right) \times C \]  
2080 divided by 972 = 2.139 times $32.50 = 69.517
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Step 3: Vehicle Costs:
A commercial vehicle costs a lot to operate. According to recent research performed by the AAA, it costs about 69.2 cents per mile to operate a non-commercial mini van. The internet is full of information on this topic so we encourage you to do your own research.

L. Miles Driven Per Year
   If unsure, assume 40,000 for service and 25,000 for installers
   
   40,000 Miles

M. Cost Per Mile
   Assume 75 cents per mile for service and 60 cents per mile for installation
   
   75 Cents

N. Total Vehicle Costs Per Year
   \[ N = (L \times M) \]
   
   $30,000.00

O. Vehicle Cost Per Billable Hour
   \[ O = \left( \frac{N}{J} \right) \] ($30,000 divided by 972 = $30.86)
   
   $30.86

Step 4: Cost of Technician and Truck (no overhead):

P. Adjusted Direct Labor Cost Per Billable Hour
   See line K
   
   $69.55

Q. Vehicle Cost Per Billable Hour
   See line O
   
   $30.86

R. Your True Direct Cost of Labor (see notes below)
   \[ R = (P + Q) \] ($69.52 + $30.86 = $100.38)
   
   $100.41

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Questions For You To Think About
1. How do the calculations change if we use a two-person crew (two people per vehicle)?
2. Why does the service department cost so much more per hour to operate?
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4. How many labor hours must your company sell to breakeven?
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Labor Breakeven Worksheet Instructions

Introduction
With the help of James R. Leichter (Mr. HVAC), UMKC's School of Business, and the Small Business and Technology Development Center (SBTDC), we have developed an accurate and easy to use labor cost worksheet. This worksheet will allow service managers and contracting business owners to calculate the proper retail price of labor in just minutes without advanced accounting knowledge or financial reports.

What This Worksheet Does and Does Not Do
This worksheet will help contractors, such as HVAC, refrigeration, heating, air conditioning, plumbing, electrical, appliance and other related businesses, calculate the correct retail price for labor. This worksheet does not attempt to calculate the proper retail price for equipment, parts, or materials. This particular worksheet does not factor in general administrative overhead. The reason is that administrative overhead would need to be broken out by department (like service or replacement) and that is not possible for many contractors. Our intention was to determine the true cost to provide a qualified technician along with a properly equipped vehicle.

Why This Worksheet
Accounting experts have devised many methods of calculating the breakeven price and breakeven sales point for products and services. Most of these approaches are valid and worthy of study. However, they can get very complicated and often require detailed financial data that is difficult to obtain for most contractors. This labor price breakeven worksheet was designed to take a very simple yet reliable approach to calculating the proper selling price for labor. Even though many complicated techniques were bypassed, this breakeven worksheet offers the right balance of simplicity and accuracy.

Step-By-Step Instructions
The following are detailed instructions for completing the Breakeven in Four Easy Steps worksheet. We have also provided a sample worksheet for you to use as a guideline.

Each paragraph below corresponds to the paragraphs found in the worksheet. Even though the worksheet is easy to fill out, you may find some of the tips and advice here very helpful.

Step 1
A. The amount of money you pay your technician for regular standard time without any benefits or overhead. You might call this “straight time”.
B. This refers to the expenses that are directly associated with each dollar of labor. These items are limited to federal and state payroll taxes, federal and state unemployment, health and life insurance, worker’s compensation, uniforms, etc. Do not include vehicle expenses because they will be handled later. Do not include general overhead items such as rent, office wages, etc. If you don’t have accurate and reliable information, a very good rule of thumb is 30%.
C. This figure is what you pay your technician (line A) plus the cost of direct expenses found in line B. The formula seems a bit confusing at first. See our example for help. Basically, if you use our 30% rule of thumb, just multiply line A by 1.3. That will add 30% to line A.

**Step 2**

D. This is the number of hours that you normally have available to sell each year per technician. There are only so many hours of labor that a company can sell. Your company is available all day long even if no one calls. Un-billable hours have to be paid for by someone and that cost is added to your hourly rate. Overtime is not considered because it’s usually unpredictable. Our default value is 2080. This is the number of hours available to sell each year. We came up with number by considering that there are eight hours in a standard work day and 52 weeks in each year. Generally you would not consider adding extra hours for overtime unless overtime was predictable; like part of an ongoing contract. Note: When a technician performs work during “off-hours”, they are very profitable. That’s because they are creating additional billable hours above and beyond what was considered when you calculated your labor pricing.

E. This is the number of hours you offers coworkers for their vacation. Generally you should offer 40 hours (one week) of vacation for one to two years of service, 80 hours for three years, and 120 hours of vacation for coworkers who have been with you for five years or more.

F. Enter the number of paid holiday hours you offer your coworkers. Generally we recommend that you pay New Years, Labor Day, Memorial Day, July 4, Thanksgiving, Christmas Eve, and Christmas. Eight hours is paid for each holiday.

G. It’s important to offer employees paid time off for sick days and other personal time. Employees should be encouraged to stay home when they are genuinely ill. They should not feel as if they have to fake illness to take time off for family events or to run personal errands like getting their vehicle registered. We recommend that you offer 40 hours of personal time per year. We do not recommend that you allow these hours to accumulate and roll over from year to year (use them or they are lost).

H. Productive Hours Available is the net hours available for you to sell. You are simply subtracting vacation, holiday, sick time, and personal time off from the 2080 hours that are available each year. We understand that you may have opportunities for overtime but OT should not be considered in our calculations.

I. Non Billable Hours refers to the hours in each business day that you can’t bill someone. For example, a service technician arrives to work at 8am and leaves work at, let’s say, 5pm. That’s nine hours but he would be lucky if he actually charged someone for five out of the eight hours he was at work. The difference between available hours and billable hours (hours charged to someone) is called Non Billable Hours. This is the main reason service work has such high overhead. Note: Some companies only pay technicians for time they have actually billed. These companies are basically 100% billable with the exception of training – which should always be paid time. If you pay your technicians for billable time only, than you should only consider training time. Here is one more important thing to think about, if you pay only billable time, than you should be paying your technicians a lot more money per hour. Either way, technicians must make $75,000 or more if you are going to get and keep great technicians. The final number will usually be nearly the same either way.

J. Billable Hours is equal to Productive Hours Available (line H) less Non Billable Hours (line I). These are the hours that you will actually sell. For a service department, that might be just 50% of what was available to sell.

K. Adjusted Direct Labor Cost Per Billable Hour is actually what a technician costs you per hour. The reason this number is higher is because even though a technician is available eight hours per day, they rarely ever bill out eight hours in a day. While some days are better than others, many service technicians are lucky to bill out 1000 hours per year. Installation technicians might create 1700 hours of billable labor per year.
Step 3

L. We need to know how many miles you drive each year. If you are not certain please use our rule of thumb. Our rule of thumb for a service vehicle is 40,000 miles per year. An installation vehicle might travel 25,000 miles per year. If you work in a rural area, you may travel even more miles (which helps debunk the myth that rural companies have less overhead).

M. We must now consider the considerable cost of operating a commercial vehicle. For many of us this is a full sized van or “box truck”. Either way it’s not unusually to invest $50,000 in such a vehicle once you have bought it and equipped it with shelving, ladder racks, ladders, tools, and inventory. Service vehicles are the most expensive to operate because they typically travel more miles that installation vehicles do each year. Service vehicle usually have more inventory and tools. Locating your actual vehicle related expenses may be hard to do so consider using our rule of thumb which is 75 cents per mile. This is a good number when gasoline prices are at $3.10 per gallon and the base cost of the vehicle is approximately $30,000.00. This number is also valid even if you lease the vehicle or if you are no longer making payments on it.

N. Here you simply multiply the number of miles you drive every year by the money it takes to travel one mile and you should have a pretty good idea of what it costs to operate a vehicle per mile. This final number includes gasoline, insurance, maintenance, wear and tear (depreciation), license and registration, etc. For most of you, this number will be in the $30,000.00 range.

O. This number is what it costs you to operate your vehicle per billable hour. To figure this out, divide line N by line J. For most of you, the cost will be about $31.00 per hour.

Step 4

P. This is same number as line K. You are just copying it over.

Q. This is same number as line O. You are just copying it over.

R. Add line P and line Q together. That is Adjusted Direct Labor Cost Per Billable Hour plus Vehicle Cost Per Billable Hour. This number is what it costs you to provide a qualified technician and a properly equipped vehicle per billable hour.

Important Notes

No Overhead and No Profit

For many of you this number is far higher than what you are charging per hour. Well, it gets worse. We haven’t even paid for overhead. In other words, this rate doesn’t cover office wages, rent, general insurance, telephone, cell phones, advertising, utilities or anything else.

We have not adding any money for profit which, of course, is the sole reason for the existence of your business. If you are not making a reasonable profit than you’re going to lead a miserable business life and you will fail.

What To Do If You Are Charging Less Than Your Breakeven

You can turn things around through a combination of increased labor pricing and higher prices on most parts. We highly recommend flat rate pricing. Flat rate pricing allows you to quote a price for the repair before the works is started. Clients have an opportunity to ask questions and hear their options before work do the work. Presenting a guaranteed price allows most businesses to easily charge 20% to 30% more while reducing price related complaints. This is no different than what you are doing when you write a sales proposal and ask for approval. Once you get approval and do the work, nobody complains about the price. Right?
**Where to Go From Here**
As we mentioned, this is a simplified worksheet. As you become more comfortable with this subject, you may wish to create a detailed list of overhead and calculate the correct labor rate to pay for all of that overhead. You may also wish to breakout overhead by department; such as service or installation. You may then recalculate for each department.

Advanced managers should also consider the impact of diagnostic or travel fees on their labor rates. Since these fees are usually sold below cost, they will cause your labor rates to increase. Another area for the advanced manager to consider is the impact of selling parts, materials, equipment, and other non-labor items. If these items produce gross profit (some companies do not mark up items), this action might allow you to lower your labor rates.

**Getting Extra Help**
If you have questions on how to fill out this worksheet, please email us at info@mrhvac.com.

**Comment and Suggestions**
We would also be very interested in knowing your thoughts and opinions on this free worksheet. Please email us at info@mrhvac.com.