



PHCC Educational Foundation Understanding Overhead

Step #1 Technician Direct Costs Worksheet

Instructions: Enter your information only in the blue cells below. Remember that an orange cell with a red triangle in the upper right corner means that you can get more information by moving your mouse over that cell. See the "Instructions and Examples" file that came with these materials for more details. When done, click on the "Step 2 Overhead" worksheet at the bottom of the screen.

EXAMPLE DATA

Tax Amounts/Rates	Limit	Rate
1a Federal Unemployment Tax (FUTA)	7,000	0.80%
1b State Unemployment Tax (SUI)	10,000	3.20%
1c Workers' Compensation	35,000	5.00%
1d Social Security	90,000	6.20%
1e Medicare	None	1.45%

	Tech 1	Tech 2	Tech 3	Tech 4	Tech 5	Tech 6	Tech 7	Tech 8	Tech 9	Tech 10
Wages & Hours Worked										
5a Hourly Wage Rate Paid to Employee	\$ 16.50	\$ 20.50	\$ 22.50	\$ 26.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5b Hours Paid per Week-Straight Time	40.00	40.00	40.00	40.00	-	-	-	-	-	-
5c Hours Paid per Week-Time and one-half	-	-	-	-	-	-	-	-	-	-
7a Paid Hours Vacation per Year	80.00	80.00	80.00	120.00	-	-	-	-	-	-
7b Paid Hours Holiday per Year	48.00	48.00	48.00	48.00	-	-	-	-	-	-
7c Paid Hours Sick Pay per Year	24.00	24.00	24.00	24.00	-	-	-	-	-	-
7d Paid Hours Training per Year	24.00	24.00	24.00	24.00	-	-	-	-	-	-
Paid Hours per WEEK for:										
8a Non-Billable Drive Time Between Jobs	10.00	10.00	10.00	10.00	-	-	-	-	-	-
8b Non-Billable Call Backs	0.50	0.25	0.10	-	-	-	-	-	-	-
8c Non-Billable Warranty Work	-	-	-	4.00	-	-	-	-	-	-
8d Non-Billable Meetings	1.00	1.00	1.00	1.00	-	-	-	-	-	-
8e Other Non-Billable Time	-	-	-	-	-	-	-	-	-	-
Employee Benefits										
12a Benefit 1-Weekly (uniforms/other)	\$ 25	\$ 25	\$ 25	\$ 25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12b Benefit 2-Monthly (medical/dental)	\$ 500	\$ 500	\$ 500	\$ 500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12c Benefit 3-401k (% of Annual Salary)	2.5%	2.5%	2.5%	2.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
12e Benefit 4-Weekly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12f Benefit 5-Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12g Benefit 6-Yearly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Key Statistics Based on Your Numbers:			
2a	Average Annual Gross Wages (Per Tech)	\$ 44,460.00	5a Avg. Hourly Wage Paid to Techs \$ 21.38
2b	Average Annual Gross Payroll Taxes	\$ 5,518.69	3a Average Cost Per Tech Per Paid Hour \$ 28.07
2c	Average Annual Gross Benefits	\$ 8,411.50	9b Avg. % of Tech Time That is Billable 60.53%
2d	Avg. Annual Gross Cost Per Tech	\$ 58,390.19	3b Average Tech Cost Per Billable Hour \$ 47.12

Now that you have entered your employee's information, scroll down or print this worksheet to view the calculations performed on your numbers. The red numbers in Column A will help you to match the numbers you entered above to the calculated values in the table below. If you need to change any calculations, change them in the blue cells above this set of instructions. When done, click on the "Step 2 Overhead" worksheet at the bottom of the screen.

EXAMPLE DATA

Enter Tax Amounts/Rates		Limit	Rate	Max Cost
1a	Federal Unemployment Tax (FUTA)	7,000	0.80%	\$ 56
1b	State Unemployment Tax (SUI)	10,000	3.20%	\$ 320
1c	Workers' Compensation	35,000	5.00%	\$ 1,750
1d	Social Security	90,000	6.20%	\$ 5,580
1e	Medicare	None	1.45%	

	Total	Average	Tech 1	Tech 2	Tech 3	Tech 4	Tech 5	Tech 6	Tech 7	Tech 8	Tech 9	Tech 10
2a Annual Gross Wages	\$ 177,840	\$ 44,460	\$ 34,320	\$ 42,640	\$ 46,800	\$ 54,080	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2b Annual Gross Payroll Taxes	\$ 22,075	\$ 5,519	\$ 4,717	\$ 5,388	\$ 5,706	\$ 6,263	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2c Annual Gross Benefits	\$ 33,646	\$ 8,412	\$ 8,158	\$ 8,366	\$ 8,470	\$ 8,652	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2d Annual Gross Technician Cost	\$ 233,561	\$ 58,390	\$ 47,195	\$ 56,394	\$ 60,976	\$ 68,995	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3a Average Cost Per Paid Hour		28.07	\$ 22.69	\$ 27.11	\$ 29.32	\$ 33.17	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3b Average Cost Per Billable Hour		47.12	\$ 36.14	\$ 42.76	\$ 45.96	\$ 63.65	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4 Number of Techs	4		1	1	1	1	-	-	-	-	-	-
5a Hourly Wage Rate Paid to Tech		21.38	\$ 16.50	\$ 20.50	\$ 22.50	\$ 26.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5b Hours Paid per Week-Straight Time		40.00	40.00	40.00	40.00	40.00	-	-	-	-	-	-
5c Hours Paid per Week-Time and One-Half		-	-	-	-	-	-	-	-	-	-	-
6a Total Paid Hours per Week		40.00	40.00	40.00	40.00	40.00	-	-	-	-	-	-
6b Total Paid Hours per Year	8,320	2,080.00	2,080	2,080	2,080	2,080	-	-	-	-	-	-
7a Paid Hours Vacation per Year	360	90.00	80.00	80.00	80.00	120.00	-	-	-	-	-	-
7b Paid Hours Holiday per Year	192	48.00	48.00	48.00	48.00	48.00	-	-	-	-	-	-
7c Paid Hours Sick Pay per Year	96	24.00	24.00	24.00	24.00	24.00	-	-	-	-	-	-
7d Paid Hours Training per Year	96	24.00	24.00	24.00	24.00	24.00	-	-	-	-	-	-
7e Annual Hours for 8a to 8d	744	186.00	176.00	176.00	176.00	216.00	-	-	-	-	-	-
Paid Hours per WEEK for:												
8a Non-Billable Drive Time Between Jobs	40	10.00	10.00	10.00	10.00	10.00	-	-	-	-	-	-
8b Non-Billable Call Backs	1	0.21	0.50	0.25	0.10	-	-	-	-	-	-	-
8c Non-Billable Warranty Work	4	1.00	-	-	-	4.00	-	-	-	-	-	-
8d Non-Billable Meetings	4	1.00	1.00	1.00	1.00	1.00	-	-	-	-	-	-
8e Other Non-Billable Time	-	-	-	-	-	-	-	-	-	-	-	-
8f Annual Hours for 8e to 8i	2,540	635.05	598.00	585.00	577.20	780.00	-	-	-	-	-	-
8g Total Annual Non Billable Hours	3,284	821.05	774.00	761.00	753.20	996.00	-	-	-	-	-	-
9a Maximum Annual Billable Hours	5,036	1,259	1,306	1,319	1,327	1,084	-	-	-	-	-	-
9b % of Total Hours that are Billable		60.53%	62.79%	63.41%	63.79%	52.12%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
9c Total Paid Leave Hours per Year	648	162.00	152.00	152.00	152.00	192.00	-	-	-	-	-	-
9d Total Paid Leave Days per Year	81.0	20.25	19.00	19.00	19.00	24.00	-	-	-	-	-	-
9e Total Other Non Billable Hours/Year	889	222.21	211.50	211.25	211.10	255.00	-	-	-	-	-	-
9f Total Other Non Billable Days/Year	111.1	27.78	26.44	26.41	26.39	31.88	-	-	-	-	-	-
9g # of Billable Hours/Work Day		4.84	5.02	5.07	5.10	4.17	-	-	-	-	-	-
10a Federal Unemployment Tax (FUTA)	\$ 224	\$ 56	\$ 56	\$ 56	\$ 56	\$ 56	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
10b State Unemployment Tax (SUI)	\$ 1,280	\$ 320	\$ 320	\$ 320	\$ 320	\$ 320	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
10c Workers' Compensation	\$ 6,966	\$ 1,742	\$ 1,716	\$ 1,750	\$ 1,750	\$ 1,750	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
10d Social Security	\$ 11,026	\$ 2,757	\$ 2,128	\$ 2,644	\$ 2,902	\$ 3,353	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
10e Medicare	\$ 2,579	\$ 645	\$ 498	\$ 618	\$ 679	\$ 784	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
11a Total Annual Tax Costs Per Tech	\$ 22,075	\$ 5,519	\$ 4,717	\$ 5,388	\$ 5,706	\$ 6,263	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
11b Tax Costs Per Paid Tech/Hour	\$ 10.61	\$ 2.65	\$ 2.27	\$ 2.59	\$ 2.74	\$ 3.01	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
11c Tax Costs Per Billable Tech/Hour	\$ 17.78	\$ 4.44	\$ 3.61	\$ 4.08	\$ 4.30	\$ 5.78	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12a Benefit 1-Weekly (uniforms/other)	\$ 100	\$ 25	\$ 25	\$ 25	\$ 25	\$ 25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12b Benefit 2-Monthly (medical/dental)	\$ 2,000	\$ 500	\$ 500	\$ 500	\$ 500	\$ 500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12c Benefit 3-401k (% of Annual Salary)	10%	2.50%	2.5%	2.5%	2.5%	2.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
12d Benefit 3- in Dollars	\$ 4,446	\$ 1,112	\$ 858.00	\$ 1,066.00	\$ 1,170.00	\$ 1,352.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12e Benefit 4-Weekly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12f Benefit 5-Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12g Benefit 6-Yearly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12h Total Annual Benefit Cost Per Tech	\$ 33,646	\$ 8,412	\$ 8,158	\$ 8,366	\$ 8,470	\$ 8,652	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12i Benefit Cost Per Paid Tech/Hour	\$ 16.18	\$ 4.04	\$ 3.92	\$ 4.02	\$ 4.07	\$ 4.16	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12j Benefit Cost Per Billable Tech/Hour	\$ 26.95	\$ 6.74	\$ 6.25	\$ 6.34	\$ 6.38	\$ 7.98	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

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Step 3: Break-Even and Job Pricing Worksheets
 Instructions: Enter your data only in the blue cells. Remember to roll your mouse cursor over orange cells to get more information. See the "Instructions and Examples" file that came with these materials for more details. When done, click on the Step 4 Tab at the bottom of this sheet.

Break-Even Worksheet
 Use this worksheet to quickly determine what hourly charge is required to recover company expenses and make the desired profit.

Company Direct Cost Per Billable Hour	\$	47.12
Company Overhead Cost Per Billable Hour	\$	71.79
Billable Hour Charge Required to Break-Even	\$	118.91
Profit Percentage Desired		10.0%
Billable Hour Charge Required to Make Desired Profit	\$	132.12

Quick Job Pricing Worksheet
 Use this worksheet to see an example of a job estimate designed to cover company costs and net the desired profit.

	Amount
Your Cost of Materials	\$ 4,125.00
Other Job Costs	\$ 100.00
Estimated # of Billable Hours	32
Labor Cost @ \$47.12 Per Billable Hour	\$ 1,507.99
Overhead Cost @ \$71.79 Per Billable Hour	\$ 2,297.15
Total Costs	\$ 8,030.14
Desired Profit Margin %	10.00%
Desired Profits in Dollars	\$ 892.24
Calculated Selling Price	\$ 8,922.38

EXAMPLE DATA

"WHAT IF?" PRODUCTIVITY GOAL WORKSHEETS

Impact of Tech Productivity on Hourly Charges

Note: The "Billable Hour Charge" numbers above are based on the overhead and direct technician expenses you entered. Productivity is the one factor that has the largest potential impact on profitability. Use the worksheet below to explore the impact of productivity changes on the hourly charge required to make the desired net profit.

Company Direct Costs Per Paid Technician Hour	\$	28.07
Based on the data entered in Step 1, the maximum average productivity currently possible for your field technicians is:		60.53%
This normal loss of productivity is what requires the company to charge this amount to recover its direct costs:	\$	47.12
Enter the target average productivity of company field technicians. (Enter the % productivity you wish to achieve.)		65.0%
At the average productivity rate entered above, the Company Adjusted Direct Labor Cost Per Hour is:	\$	43.19
Company Overhead Cost Per Billable Hour	\$	66.85
Billable Hour Charge Required to Break-Even	\$	110.03
Profit Percentage Desired		13.2%
Billable Hour Charge Required to Make Desired Profit	\$	126.77

Productivity Impact on Quick Job Pricing Worksheet

Use this worksheet to see an example of a job estimate designed to cover company costs and net the desired profit, taking into account the productivity calculations developed into the worksheet to the left. Compare this selling price to the one above in Cell I20.

	Amount
Your Cost of Materials	\$ 4,125.00
Other Job Costs	\$ 100.00
Estimated # of Billable Hours	32
Labor Cost @ \$43.19 Per Billable Hour	\$ 1,382.02
Overhead Costs @ \$66.85 Per Billable Hour	\$ 2,139.05
Total Costs	\$ 7,746.07
Desired Profit Margin %	13.20%
Desired Profits in Dollars	\$ 1,177.97
Calculated Selling Price	\$ 8,924.04

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EXAMPLE DATA

Step #4 Company Profit Analysis

Instructions: Enter your actual company data only in the blue cells. Remember to roll your mouse cursor over orange cells to get more information. You can examine different profit scenarios in the section to the right by adjusting the blue cells on this worksheet and the previous worksheets. See the "Instructions and Examples" file that came with these materials for more details.

<u>Actual Sales & Costs</u>	<u>Monthly</u>	<u>Annually</u>	
Average Company Sales per Month:	\$ 52,000	\$ 624,000	
Additional Sales	\$ 15,000	\$ 180,000	
Revenue From Any Other Sources	\$ -	\$ -	
Your Cost of Materials on These Sales	\$ 14,000	\$ 168,000	Materials at 27% of Gross Company Sales

<u>Revenue</u>	<u>Monthly</u>	<u>Annually</u>	<u>%</u>
Gross Company Sales	\$ 52,000	\$ 624,000	77.61%
Additional Sales	\$ 15,000	\$ 180,000	22.39%
Revenue From Any Other Sources	\$ -	\$ -	0.00%
Total Gross Sales & Other Revenue	\$ 67,000	\$ 804,000	100.00%

<u>Expenses</u>	<u>Monthly</u>	<u>Annually</u>	<u>% of Gross Revenue</u>
Cost of Materials	\$ 14,000	\$ 168,000	20.9%
Direct Labor Costs	\$ 19,463	\$ 233,561	29.0%
Total Overhead Cost	\$ 30,125	\$ 361,500	45.0%
Total Expenses	\$ 63,588	\$ 763,061	94.91%

Net Profit/(Loss)	\$ 3,412	\$ 40,939	5.09%
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Your Calculated Annual Sales Target

This worksheet shows the sales volume (and resulting profits) possible if your technicians are able to work exactly the number of billable hours you calculated in Step 1 at the Billable Hour rate calculated in Step 3.

Target of 5,036 Total Billable Hours @ \$132.12 per Billable Hour.

<u>Annually</u>	<u>Target Sales</u>
\$ 665,344.64	Target Sales Volume
\$ 180,000	Additional Sales
\$ -	Revenue From Any Other Sources
\$ 179,131	27% Materials to Gross Company Sales

<u>Annually</u>	<u>%</u>
\$ 665,345	78.71%
\$ 180,000	21.29%
\$ -	0.00%
\$ 845,345	100.00%

<u>Annually</u>	<u>% of Gross Revenue</u>
\$ 179,131	21.2%
\$ 233,561	27.6%
\$ 361,500	42.8%
\$ 774,192	91.58%

\$ 71,153	8.42%
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