# You Priced That Job HOW???

Moe Barnacle and his brother Larry are co-owners of Moe, Larry and Curly's AC Company. (Curly is the nickname of Larry's wife, Roberta. She is the office manager/receptionist/ dispatcher/accountant/etc. for the nine-person company). Moe does the sales, job estimates, and labor oversight; Larry is head installer (he works with four other installers); there are two service technicians.

Moe gets a monthly income statement that includes a "rolling twelve" column—a column that shows the last twelve months of data, so that each statement contains an entire year. Moe uses data from the rolling twelve column to help him calculate job bids.

Moe's statement shows that overhead (which varies very slightly from statement to statement) averages 26% of sales.

Moe has a job to bid today. His takeoff shows costs (materials, equipment, labor, etc.) of $4,700. He wants to make 14% net profit on the job. He can bid it one of three ways, and how he bids it can make or break his company—except he does not realize that! Let's explore what he can do.

## The Simplest Method—The Single Divisor (SID) Method

Before Moe attended a financial management class at his distributor's, he would have bid the job by taking his costs of $4,700 and multiplying them by 1.40 (the markup he thought he needed for 26% overhead and 14% profit) to get $6,580. But he learned that was the wrong method and now uses the method taught by the financial class instructor, the "SID" method (SID standing for **Si**ngle **D**ivisor).

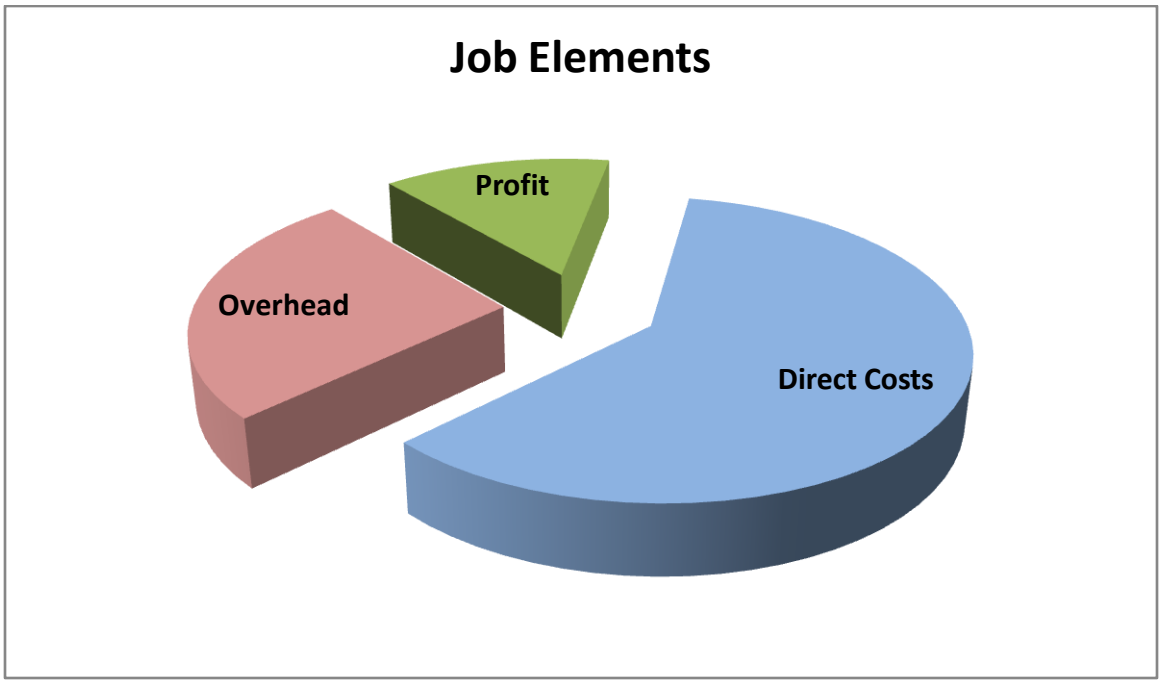
He now bids this job at $7,833, the way his financial guru showed him in the workshop.

Here is how he got that.

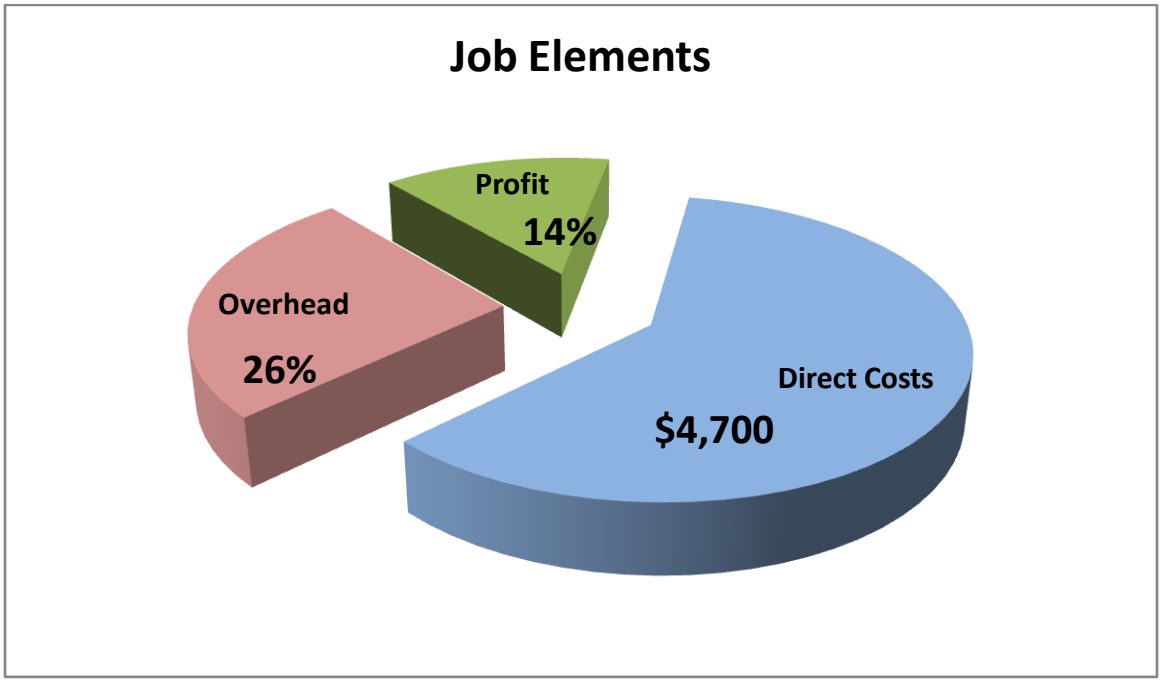
A job bid most cover three distinct chunks of information:

1. the job's direct costs (labor, materials, equipment, permits, fees, freight, and so on)
2. some of the company's overhead
3. some net profit as the reward for doing all this work

We can portray this in the form of a pie chart. Since on most jobs the direct costs are the biggest piece of the pie, the chart would look about like this:




Let's take what we know about Moe's job and overlay it on the chart:




Together, the left side slices (overhead and profit) total 40%, while the right side slice is $4,700. At first, this seems to be a problem—we have percents on two slices, and dollars on the third. But we can use a little basic math and hit a solution.

If the overhead and net profit together are 40%, how much is left for the direct costs? Since the whole pie is 100%, we subtract 40% from 100% and get 60%. The direct costs slice is 60% of the whole pie.

It is also $4,700. Combining these two facts, we get "**$4,700 is 60% of what the job should go for.**" Now that becomes an easy case to solve, and we use a "ratio" to do it. Here is how it goes:

If $4,700 is 60% of the job, what is 100%?

Mathematically, it looks like this:

$$\frac{\$4,700}{60\%} = \frac{P}{100\%}$$

where P is the job price. If you recall your math class from school, you might remember that to solve something like this, you multiply the diagonals, like this:

$4,700 x 100% = P x 60%

Since 100% is the same thing as 1.00, and any number multiplied by 1.00 is that number, this can be simplified to this:

$4,700 = P x 60%

This next step is the key: to solve for P, we divide both sides of the statement by 60%. This gives us:

$$\frac{\$4,700}{60\%} = \frac{P \times 60\%}{60\%}$$

If we divide any number by itself, what do we get? 1. So, 60% divided by 60% is 1, so the statement becomes this:

$$\frac{\$4,700}{60\%} = P$$

To divide by 60%, we use 0.60 on our calculator (unless you have a percent key) and we find that the job price works out to $7,833 (and some loose change).

When Moe first learned this in the seminar, he was doubtful. After all, this is a whopping $1,253 ***more*** than he would have bid the job using his old method, and he was already finding it hard to stay competitive in his market. So the financial class guru showed the class how it worked out. This is what he wrote on the flip chart:

| | |
|---|---|
| Job sold for | $7,833 |
| Less costs | $4,700 |
| Leaves | $3,133 |
| Less o'head | $2,037* |
| Profit | $1,096 |
| Profit % | $1,096/$7,833 = 14% |

* Overhead is assumed to be 26% of sales; 26% of $7,833 is $2,037.

By golly, it worked! Moe was stunned, and then it began to hit him—over the years, he had been bidding **all** of his jobs too low. And **that** was probably why he was not making very much money over the last few years!

Moe remembered how the financial guru then told the class this:

> **"Now that you see this process, we can generalize it with this statement: to find a job's bid price, divide the job's direct costs by the quantity [100% minus the sum of the company's overhead and the profit you want]. In accounting, overhead plus profit is also called Gross Margin, so we can simplify this rule to this: divide the job's costs by [100% less the Gross Margin]. Symbolically, it looks like this:"**

**The Right Price = Job Costs / [100% - GM%]**

The guru then went on to say that Gross Margin has two sources—the overhead as shown to you by your income statement, and the profit you want to make on the job. "You should set your profit goal in proportion to the job's complexity and risk," the guru advised.

This all made sense to Moe, but when he started pricing jobs this way, he found that his competitors were really blowing him out of the water. He lost a lot more jobs, but the ones he **did** get he made good money on.

His loss of jobs then lead him to enroll in a sales school taught by his manufacturer. He spent four days in Arizona learning a whole new way to sell, and when he got back, he started using what he learned and saw a dramatic jump in his success rate.

Moe was purring along like a fine V-12 engine, happy as he could be, enjoying his new tax bills (and thankful he had cash in the bank to pay them on time now). All was great, until he went to a seminar at his distributor conducted by a guy name Harshaw from a company called Lodestar.

**The Problems with SID**

In the workshop Harshaw taught, he reviewed the SID method with the class and echoed what the other financial guru had taught Moe four years earlier.

But then, Harshaw rattled Moe with new information.

Harshaw threw out this job scenario. With overhead of 26% and a net profit goal of 14%, what is the price for a job where materials and equipment come to $4,800 and labor is $2,600? (Labor would have normally been $1,400, but this job has some tough things to work around.)

The class got to work on the problem, punching their calculators, and almost everyone came up with the right answer of $12,333 (and some pocket change). Everyone felt good that they got it, until Harshaw dropped the bomb.

"Nice job, but wrong answer," he said. He then went on: "The key here is that this job has more labor than normal on it. The income statement becomes a compilation, an average, of all the jobs you do over the year. Since this job has unusual costs, we cannot bid it with the SID method because SID assumes that overhead is always what the income statement says it is, and on a high labor job, that is just not the case."

Harshaw explained it this way: You have only so many hours of labor to sell in a year, and you have a certain amount of overhead you must carry. If a job takes more labor than normal, it had better carry more overhead than normal, or at the end of the year, you won't end up making the profit you planned on making.

Harshaw then taught the class a method he called **COWL**—**C**overing **O**verhead **W**ith **L**abor. Here is how it works:

Take a twelve-month income statement. If you only get one of these a year, it must be your year-end statement (which is dangerous to use as you get beyond the first quarter of next year, as data can change quickly). Better is to do what Moe does— get a rolling twelve every statement.

Next, compare the overhead dollars to the labor dollars by dividing labor into overhead. This becomes your "overhead factor" (or $O_f$). For example, if Moe had total labor last year of $180,000 and overhead of $240,000, his $O_f$ would be 240,000 / 180,000 or 1.3333. (Four decimal places is adequate.)

With the SID method, overhead is unknown, so it is recovered by dividing the known (job costs) by a factor that has overhead built into it. But with COWL, overhead now becomes a known quantity.

Let's assume that the job Harshaw gave the group to solve was being done by Moe with his 1.3333 $O_f$. How would Moe now bid this job?

With a labor estimate of $2,600, Moe multiplies by 1.3333 to get an overhead estimate of $3,467. Moe now has every piece of the pie identified except the profit, so here is the math he would use to get the final price:

| | |
|---|---|
| Material | $4,800 |
| Labor | $2,600 |
| Overhead | $3,467 |
| Total Costs | $10,867 |

To get 14% profit, Moe now divides the total costs by [100% - 14%] or 0.86. The job would bid for $12,636. This is $303 higher than the SID method. Not a big difference, but 2% profit. If this happened all year, Moe would not make his 14% goal—he'd make only 12%.

Harshaw then summarized this method with a new formula, which looks a lot like the SID method:

$$\text{Right Price} = \frac{\text{All job costs (equipment , material, labor AND overhead)}}{[100\% - \text{Profit\%}]}$$

Whereas SID had overhead in the divisor as part of the Gross Margin calculation, in COWL overhead is known so it goes on the top, leaving only Profit for the bottom factor.

The class then spent several minutes working examples of different types of jobs to learn that on high labor jobs, COWL prices a job higher than SID, while on a low labor job, COWL gives a lower price than SID. In other words,

***On labor intense jobs, COWL bids high; on material rich jobs, COWL bids low.***

Most contractors would agree that labor intense jobs tend to be bad ones; things always go wrong, and they are difficult to finish on time and on budget. Most would also agree that material rich jobs are the ones they want.

Yet SID pricing forces a contractor to be low priced on high labor jobs, and high priced on rich material jobs. The very jobs you ***don't*** want to see will be yours with SID!

Then it dawns on Moe—since he prefers to sell the top of his line, most of his jobs are material rich jobs. With COWL pricing, he'd be more competitive (and *still* make his profit goals) and win more of those high-end jobs! But because he has been pricing them with SID he has been high and losing most of them.

After this workshop, Moe began bidding all of his high-end jobs with COWL and saw a dramatic increase in the number of high-end jobs he got! That year, he even won an award from his distributor for the greatest improvement in his high-end mix.

**A Problem with COWL**

In the Lodestar seminar where Moe learned COWL, he also learned that there is one danger in using COWL—you must be dead on with your labor estimate! If labor comes in higher than planned, there won't be enough overhead in the job to make it profitable.

Now here's the scoop: I have seen some contractors have a difficult time estimating labor on a job and bringing that job in at or under the labor budget. To those contractors, I advise you price jobs with a method that was taught in the seminar Moe attended: the **DORM** method (which stands for **D**ual **O**verhead **R**ecovery **M**ethod).

To use DORM, you'll need to compute two factors. The math is complex and difficult, but you'll only need to compute your DORM factors two or three times a year. In all cases, you need to use a statement that is accurate.

The first factor you'll need is the Material Factor, or what we call $F_M$. Here is how it is computed:

$$F_M = \frac{\text{Overhead x Labor}}{\text{Direct Costs x Materials}}$$

The second factor is the Labor Factor, which we'll call $F_L$. Here is how it is computed:

$$F_L = \frac{\text{Overhead x Material}}{\text{Direct Costs x Labor}}$$

Be careful! These two expressions look similar, but they give very different results!

Moe uses his rolling twelve income statement and plugs the numbers off of it into these two equations. He gets $F_M$ of 0.2160 and $F_L$ of 0.8900.

To price a job with DORM, Moe takes the material estimate for the job ($4,800) and multiplies it by 0.2160 to get $1,037. This is how much overhead is assigned to material. He then takes the labor estimate ($2,600) and multiplies it by 0.8900 to get the overhead assigned to labor (in this

case, $2,314). This is a total overhead "bogey" of $3,351. To this, Moe adds the material and labor estimates for a total estimated job cost of $10,751. To get the bid price at 14% net profit, he divides this by 0.86 and quotes the job at $12,501.

Notice that the DORM price came out somewhere between the SID and COWL. It always will. Whereas SID can be low on high labor jobs and high on rich material jobs (and COWL will be the opposite), DORM will always come out between the two.

It is that difference between the two extremes that gives DORM its safety net. If Moe does not estimate labor accurately on a job, there will be ***some*** overhead recovered by the material (which he usually nails pretty accurately).

**Some General Cautions**

To keep this article short and simple as possible, I left out a lot of important accounting stuff and procedures. These make the COWL and DORM method even more precise. But trying to use COWL and DORM without knowing them can be risky. They are covered in detail in the Lodestar workshop *You Priced That Job HOW???*

If you would like to learn more of the science behind these job pricing methods and lower your risk in using them, ask your distributor to invite Lodestar out for the workshop. You'll come away with a handy manual and software on a CD-ROM. Once you learn how to use COWL, you'll probably see your high-end sales take off!