Beware of The Quoting Black Hole!

Putting Trust Into Your Mold Quotes!

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Discussion Points:

- Typical Concerns of Moldmakers
- The Demands On Mold Pricing
- Problems In Mold Pricing
- What Rates Should You Charge?
- Current Pricing Solutions
- Requirements For Pricing Solution
- Software Solution Approach
- Making it All Work!
- What Does Your Quoting Cost You?

Typical Concerns of Mold Quoters

- **How to account for unattended machine time**
- **Pricing unattended machine time – should it be priced differently?**
- **Determining your hourly shop rate (Blended rate or Varying rates?)**
- **Materials & Components – covering your costs.**
- **Should you charge more for CAD/CAM time than manufacturing time?**

The Demands on Mold Pricing

- **Moldmakers are used by OEM's and Tier 1's for: Budgetary pricing, followed by target pricing and eventually actual RFQ's multiplying quoting efforts**
- **Number of quote requests increasing.**
- **Quick product launches & kickoffs – shorter time to provide quotes.**

The Demands on Mold Pricing

- **Customers requiring detailed Cost Breakdown Sheets – requiring extra effort and time.**
- **High personnel costs for quoting as estimating staff needs to be experienced and highly skilled.**
- **The quality of their estimating represents a substantial share in the financial success of a project.**

The Demands on Mold Pricing

- **Insufficient time - quick turnaround expected – can lead to errors in quotes.**
- **Lots of competition - May be competing with 10 other companies for same work with 2, 3, or 4 rounds of quoting expected.**

The Problems of Mold Pricing

- **Each Mold is Unique**
- **Lowest quote wins!**
- **Low profit margins**
- **Every estimator has different level of knowledge – no consistency with results within the same company.**

The Problems of Mold Pricing

- **Varying Customer Standards**
- **Vastly Different Approaches in MFG Methods**
- **Mold Designs Would Be Helpful – But Typically Not Available**
- **Success Rate Of 3-10% - Doesn’t Allow Proper Time to Dive Into Details**

The Problems of Mold Pricing

- **High # Of Assumptions**
- **Differing Quality Requirements**
- **Varying Methodology For Calculations**
- **Different Manufacturing Methods**
- **Quotes Are Rushed By Customer**
- **Hourly Rates / Burden Rates not correctly set**

What Rates Should You Charge?

- **Blended Common Rate for machines/labor?**
- **Sub-contract work – typically charged out at higher rates.**
- **Blended rate is easy to calculate:**
- **Track total fixed costs and total hrs per month (Machine hrs + CAD+ CAM hrs + assembly hrs)**
- **Simply divide total costs for the month by # of hrs to get your hourly overhead rate and then add profit margin**

What Rates Should You Charge?

For Example:
3600 Hours worked in month

900K Labor for month
60K Fixed Costs
30K Variable Costs
180K Total Costs

$180K/3600hrs = $50 Burden Rate
Add your profit margin (30%)

= $65 Shop Rate

What Rates Should You Charge?

- **Blended Common Rate – for all machines & labor?**
- **Maybe not such a good idea? For example:**
- **20 yr old Harig Grinder vs New 5 axis Makino CNC**
- **Sure you're making gobs of money on grinding operations /hr, but it's likely very few actual hours in today's shops, while CNC machining could run into the hundreds of hours and if you're barely covering costs, your margins will be slim. Time to get more grinding jobs so you can earn a profit!**

What Rates Should You Charge?

- **Varying Rates? Maybe you should! But how do you set properly?**
- **What About Combined Rates for Machine & Operator?**
- **And What About Unattended Operating Time? Priced same as with operator? That's OK for grinding & other lower cost operations.**
- **The Use of a Burden Rate Calculator will tell you what your costs are and what you need to be charging!**

Machine Burden Rate Calculator

Machine:	CNC	Milling
Description	**Unit**	**Input/Result**
Basic Economic data		Only fill in spaces having this color
Working days per year	days	240
Working hours per day	h	16.00
Hourly rate of machine operator	$	21.00
Machine operator overhead in %	%	30.00
Years of usage of machine (for amortization)	years	8.00
Machine availability in %	%	95.00
Productivity in %	%	85.00
Maintenance costs per year in %	%	5.00
Interest rate per year in %	%	5.00
Rental/financing costs for space in sq ft/month	$	4.50
Costs for electrical power in $ per kWh	$	0.20
Air costs in $/m³	$	0.25
Water costs in $ per m³	$	2.00
Sales overhead costs in %	%	5.00
Overhead costs in %	%	25.00
Profit	%	15.00
Input machine costs		
Average power consumption in kW	kWh	8.00
Additional materials in %	%	2.00
Water consumption in m³/h	m³/h	0.15
Air consumption in m³/h	m³/h	1.00
Needed space for machine incl. surrounding areas in sq ft	ft²	500.00
Machine costs in $	$	$448,000.00
Transportation and assembly	$	$26,000.00
Costs for additional equipment	$	$43,000.00
Training costs in $	$	$12,000.00
Sum of overall investment	$	$529,000.00
Calculation of machine hourly rate		
Theoretical utilization period per year	h	3,840
Effective utilization period 1 (machine run time)	h	3,264
Effective utilization period 2 (machine run time productivity)	h	3,101
Amortization per year	$	$66,125.00
Costs for interest rate per year	$	$13,225.00
Additional material per year	$	$10,580.00
Maintenance costs per year	$	$26,450.00
Space costs per year	$	$27,000.00
Power costs per year	$	$5,222.40
Air costs per year	$	$816.00
Water costs per year	$	$979.20
Overall costs per year	$	$150,397.60
Machine hourly rate without overhead and profit	$/h	**$48.50**
Machine hourly rate incl. overhead and profit	$/h	**$70.33**
Machine hourly rate incl. overhead, profit & machine operator**	$/h	**$97.63**

What Rates Should You Charge?

- **Use a Machine Burden Rate Calculator to understand your true costs.**
- **Accounts for such things as footprint of the machine, utilities, leasing costs, training, setup, maintenance, etc**
- **Ask us for your FREE No Obligation Burden Rate Calculator!**

What Rates Should You Charge?

- **Should you charge more for Design, CAD/CAM?**
- **CAD/CAM rates could include the hardware, software and training that is used to support their efforts.**
- **Huge expense for this equipment, needs to be covered.**
- **Alternatively – spread these costs over the fixed costs for a higher overall burden rate.**

What Rates Should You Charge?

- **Material Costs – most shops add 10%**
- **Blocks of steel come in oversized – and you are buying that weight – and then cutting it off!**
- **OEM's & Tier level suppliers expect that as well – So Cover It.**
- **Some shops don't factor in cost in quote if the steel/components are already in inventory!**
- **If already in stock – still charge!**

Current Pricing Solutions

	Mold Makers	Mold Buyers
• Experience/Spreadsheet Similarity	85 %	15 %
• Database Solution	10 %	40 %
• Expert Solution (Software)	<5 %	15 %
• Get Quotes from Moldmaker		30 %

Current Pricing Solutions

- **Most moldmakers use a combination of Excel + Past Experience ('Gut Feeling') filling in what they 'think' the hours are – some will also have some self designed formulas incorporated.**

- **Quoting Sessions – A whole team of people to give input.**

- **Hand drawn layouts are commonly used to determine mold block sizes**

Current Pricing Solutions

- **High Experience needed but knowledge is lost if estimator leaves company**
- **Using former quotes is critical if no real post calculation is carried out**
- **Close monitoring of real production necessary - benchmarking**

Current Pricing Solutions

- **A Different Approach is the "Expert Solution"**
- **Used by some OEM's, Tier level suppliers**
- **Each quote is calculated 'new'**
- **Requires major setup of knowledge base.**
- **Expert software – can be used by moldmakers as well as mold buyers**

The BIG BUT !!

- **Not easy to use, very time consuming to setup**
- **Benchmarking is extremely difficult – requires assistance from suppliers**
- **Popular with some OEM's and Tier Level suppliers whose users have little knowledge of mold building**
- **Can lack accuracy**
- **No true 'gut feeling' by users if quotes generated are OK or not**

Basic Requirements for Quote Software

- **Easy To Use Interface**
- **Reliable & Repeatable Results**
- **Customizable (Hourly Rates, Mfg Philosophy)**
- **Flexible (Mfg Processes, Mold Types)**
- **Integration Into Other Company Systems**
- **Database (e.g. Materials, Search Old Quotes)**
- **In The End, Can The Numbers Be Trusted?**
- **Software Must Generate Quotes Quicker**
- **Adequate Support Available**

Special Considerations in Selecting Quote Software

- **Generation of tool layout**
- **Automatic calculation of steel sizing & costs**
- **The use and analysis of 3D-files for calculation**
- **Use for ballpark calculation as well as work scheduling**
- **Quick retrieval of past, similar parts & quotes for quote comparisons**

Buyer Beware! (Hidden Costs!)

- **Maintenance agreement – optional or mandatory? What percentage?**
- **Is it a rental or purchased?**
- **What are the Terms? – 3 yrs? Minimum # of licenses? Mandatory Maintenance? etc.**
- **Is Support available (when you need it)?**
- **How long to train users?**
- **Is a positive ROI even possible?**
- **Most important – How much time is required to setup and use?**

Making it All Work!

- **Know your Burden Rates**
- **Benchmark Your New System By Quoting Past Jobs**
- **How Does it Compare with Actual Numbers?**
- **Make Adjustments!**
- **Keep Steel & Component Costs Updated**

Making it All Work!

- Keep History of – Everything!
- Compare Past Results & Analyze
- As new technology or processes are introduced, measure time savings
- Consider multiple (but similar) templates for varying tool types
- All-inclusive pricing – avoids missing items

What Does Your Quoting cost You?

- **Things we've heard:**
- **I'm the owner - So my time is 'FREE'? (It's not free time because you're the owner – that's expensive overhead!)**
- **"Quoting costs nothing - It's just overhead!"**
- **Use our Quote Software ROI calculator – see your cost of quoting per winning quote & cost to quote jobs not awarded. You may be surprised!**

What Does Your Quoting cost You?

ROI – Improving Method or Quoting Software

ROI Calculator for Improving Your Quoting Method or by Using ToolQuote											
Please only fill in area in yellow to get results.											
Current standard quoting procedure											
Number of quotes per year	#	1200	**ONLY Fill in areas in yellow**	Based on	100 quotes per month or						
Average time estimator for one quote	hrs	0.75			23.5 quotes per week (51 week year)						
Average time designer for one quote	hrs	0.5									
Hourly cost or shop rate of estimator	$	50									
Hourly cost or shop rate of designer	$	40									
Cost per year for quoting currently	$	**$69,000.00**									
Quoting with IMPROVED METHOD or TOOLQUOTE											
Estimation time reduction in percent	%	20	minimum expected - should be more (keep low for very detailed quotes, higher for ballpark)								
Reduction of designer time in percent	%	50	Could be 100% reduction with ToolQuote's automatic layout feature								
No. of quotes per year	#	1200									
Average time estimator for one quote	hrs	0.6									
Average time designer for one quote	hrs	0.25									
Hourly rate of estimator	$	50									
Hourly rate of designer	$	40									
Cost per year for quoting if using IMPROVED METHOD or TOOLQUOTE	$	**$48,000.00**									
Reduction of designer time in hours	hrs	300.0									
Estimation time reduction in hours	hrs	180.0									
Total extra hours available per year for other projects	hrs	**480.0**	**<<<< Time Savings Alone <<<<**								
Cost of Investment			Prices shown are approximates - contact us for up-to-date pricing								
Discount - if applicable	$	-$900.00	Maintenance not charged first year with ToolQuote								
Cost of TOOLQUOTE	$	$6,000.00	Additional seat is approx $4500								
training	$	$1,200.00	Two 1/2 days of training - via WebEx - no travel costs								
Maintenance	$	$900.00	Includes updates, support								
Purchase Price	$	$7,200.00									
est. cost to implement / data setting of profiles	$	$5,000.00	?? This # is set high to be fair - your costs to implement could be much lower.								
First Year Investment		**$12,200.00**			We can work with you to ensure that the learning						
					curve is shorter with setup/benchmarking assistance from JDL						
First year savings with IMPROVED METHOD or TOOLQUOTE	$	**$8,800.00**									
Savings after adding in Extra hours not used in quoting	$	**$32,800.00**									
avings/year thereafter with IMPROVED METHOD or TOOLQUOTE after maint fee	$	**$20,100.00**	not including extra hours saved								
Savings/year including extra hours saved	$	**$44,100.00**									
Yearly Maintenance	$	$900.00									
What do all those lost quotes cost you?											
Your Current System											
Number of jobs awarded per year	#	36									
Win percentage of jobs quoted	%	3.0%									
Average shop cost to produce one quote	$	$57.50									
Average cost per winning quote	$	$1,916.67	←←←	This is what your quoting costs are for every job awarded							
Cost to quote all jobs not awarded	$	**$66,930.00**									
Using IMPROVED METHOD or TOOLQUOTE											
Number of jobs awarded per year (assuming # stays same)	#	36									
Win percentage of jobs quoted	%	3.0%									
Average shop cost to produce one quote	$	$40.00									
Average cost per winning quote	$	$1,333.33	←←←	This is what your quoting costs could be for every job awarded by using IMPROVED ME							
Cost to quote all jobs not awarded	$	**$46,560.00**									
Not awarded cost savings with IMPROVED METHOD or TOOLQUOTE		**$20,370.00**									
The extra cost per winning quote by not using IMPROVED METHOD or TOOLQUOTE		**$583.33**	←←←	Additional profit possible per awarded job by using IMPROVED METHOD or TOOLQUOT							
Total Cost of Ownership (TCO) - 3 years		**$14,000.00**									
TCO - Costs **saved** over 3 years		**$121,000.00**									

Find Out Costs Yourself!

- **Quote Software ROI Calculator**
- **Machine Burden Rate Calculator**
- **E-mail for No Obligation copy.**
- **JLambing@JDLTech.ca**

What if you could?

- Capture your ‘gut feeling’ experience and past history
- Generate a tool layout, steel sizes and costs automatically
- Get a time savings in the quotation process up to 80%
- Get increased accuracy & more trust in those numbers
- Store and document company knowledge in a common and identical way of calculation within the company
- Work with varying mold types – Inj molding, die cast, high cav, etc
- Remove typical quoting redundancies
- Automatically take into account commonalities
- Save quote history automatically
- Look up similar past quotes quickly – and copy into new quote
- Search by picture of part , RFQ, quote, dwg, or part number, etc

- Well, it’s possible – with ToolQuote! Contact us at Info@JDLTech.ca

Final Thought - Our Pet Peeve 'FREE' Estimates!

- **You mean – some charge for estimates?**
- **Yes & maybe you should too!**
- **Consider this for those who are using you as a quote supply source in place of their own quoting specialists. You can always offer to deduct the cost of quoting on winning bids.**
- **Have them put some skin in the game!**
- **Your time is valuable! Why should you offer your time for free?**

Thank You!
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TOOL QUOTE

INTERACTIVE QUOTING FOR TOOLMAKERS

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