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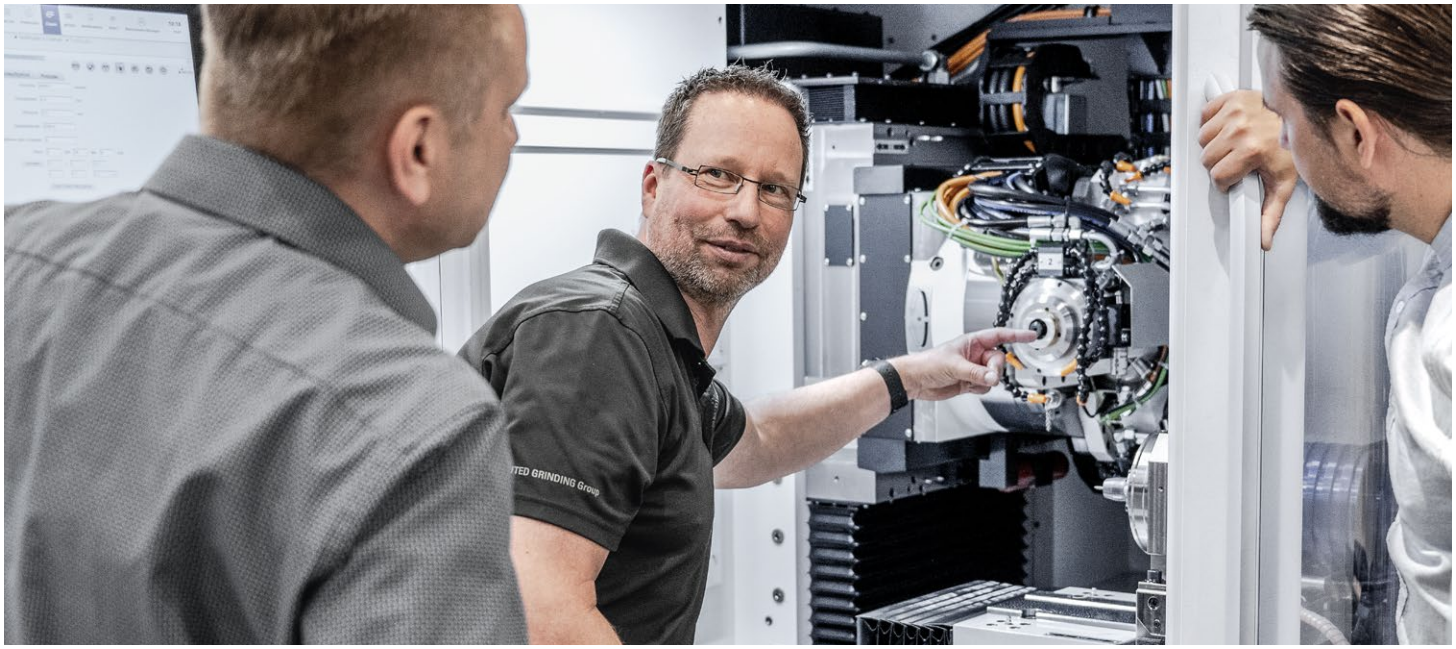
How to Tell When It's Time to In-House Your Cutting Tool Regrinds (With ROI Calculations!)



A scenario: you need a cutting tool regrind or modification turned around, and you need it now. Problem is, it may take longer than you would like for your vendor to ship it to your door.

If you experience long lead times getting cutting tool regrinds back from your vendor, it may make sense for you to consider in-sourcing your cutting tool regrinds.

Let's talk about the benefits of doing it, how much time and money you can expect to save over time, and a couple of WALTER tool grinding machines that are ideal for in-house regrinds.

Be sure to keep reading, because we have four business cases to explore—with ROI estimates in place thanks to our proprietary calculator.

WALTER HELITRONIC POWER 400

WALTER HELITRONIC G 200

WALTER HELITRONIC POWER DIAMOND 400

WALTER HELITRONIC RAPTOR

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A bit more on the ideal in-house regrind candidate

Let's imagine that you do experience lengthy lead times in cutting tool regrinds. Best case scenario in terms of time: you can probably pay a premium to bump your job to the top of your vendor's list.

And on the subject of dollars and cents: if you're turning over a lot of tools—and have a lot in your inventory—that means you're constantly shopping for regrinds and buying new tools. The cost adds up in a hurry.

There are many benefits to in-sourcing your cutting tool regrinding including cost reduction, inventory management and tool availability.

Is there a business case for buying a tool grinder solely for regrinds?

Simply looking at the benefits will tell you that the answer to that question is yes. It's a massive value add to be able to reduce your inventory, slash lead times, and be in total control of regrinding the exact tools your shop floor needs. You can drop other jobs and prioritize a hot one whenever you need to.

The business case makes even more sense if you don't just look at regrinding, but at modification as well. You may need a tool with a 20 thousandths radius, or a small or big chamfer.

With WALTER tool grinding machines (which we'll talk more about in a bit), you can regrind the tools, and you can also make that special tool with the features you need. Features include step tool, modified radius, ball nose, change length of cut and change diameter.

How can shops calculate ROI for in-housing regrinds and modifications?

The UNITED GRINDING North America team actually has an ROI calculator with details on capital equipment investment, human labor, materials, power and depreciation.

Within that spreadsheet, we can factor in overhead costs and see cost savings you'll get from things like reduced inventory and elimination of shipping costs. Other non-quantifiables, like modification flexibility and the speed of regrinds, can be factored in as well.

The calculator also takes into account the lower number of new tools you have to buy. If a new tool runs you $100 USD and you can regrind it three times, now you've taken the cost of owning that tool from $100 to $25.

Want us to crunch the numbers for you? Get in touch with our Tool division to request your ROI calculation.

But to get started, we have a quartet of fictional-yet-believable business cases to take a look at.

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In-house regrind business case #1: small job shop, larger tools

The rundown:

We imagine this shop has limited staff, a high mix, small batch sizes, and is chewing on the possibility of diving into regrinding with their first CNC tool grinding machine.

The machine:

For this shop, we found ROI using a HELITRONIC RAPTOR tool grinder without any automation attached. The HELITRONIC RAPTOR is WALTER's time-tested workhorse that brings major cost-efficiency alongside its productivity.

The estimates:

We estimated HELITRONIC RAPTOR machine utilization to be at 50%, with one operator running one 40-hour shift per week. We ballparked the shop's tool consumption to be 6,000 tools per year, at an average cost of $90 per tool.

The results:

Using these estimates, our small manufacturer would save in the low six figures per year by bringing regrinds in-house. These savings would almost exactly offset the annual expenses that come with machine financing and labor. It would likely take somewhere between 2 and 3 years to fully recoup the purchase price and hit positive ROI.

The recommendations:

With this ROI figure in mind, we would recommend that this shop pull the trigger on their new HELITRONIC RAPTOR with no automation.

In-house regrind business case #2: mid-size, high-productivity job shop

The rundown:

Our team paired this scenario with a job shop that focuses on aerospace. Factors for considering in-housing their regrinds include controlling external costs, accounting for larger batch sizes and high labor cost sensitivity. This would be their first automated tool grinding CNC.

The machine:

We also fit this customer with a HELITRONIC RAPTOR, but this time with automation. Giving the HELITRONIC RAPTOR a top loader frees up a stretched-thin staff (and lowers labor costs). Instant win-win.

The estimates:

Thanks to the top loader, HELITRONIC RAPTOR machine utilization is bumped up to 60%, with 0.5 operators (halved because they can be in front of the machine only half the time) running one 40-hour shift per week. We put the shop's tool consumption at 5,000 per year with an average cost of $130 per tool.

The results:

This job shop would also save in the low six figures per year by bringing regrinds in-house, but with a key difference compared to Business Case #1: their annual savings would be about 75% more than their annual machine and labor expenses.

Our customer would fully pay off their machine and reach positive ROI in just over 2 years. Plus, the top loader would pay for itself in the first year.

The recommendations:

There is no question here. Assuming consistent tool consumption, we would recommend this shop jump on their HELITRONIC RAPTOR with top loader every single time.

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In-house regrind business case #3: smaller job shop, smaller tools

The rundown:

This machine shop customer of ours is similar in some ways to Business Case #2, but with smaller tools, a lower mix and more sensitivity to big equipment purchases. They also dabble in making new tools, prototyping, and modification of tools as needed.

The machine:

We imagined this customer could use a HELITRONIC G 200 with top loader. The automation actually doesn't add anything to the machine's tidy 25 sq ft footprint since it is fully integrated inside the machine.

The estimates:

We placed machine utilization at 50%, with 0.5 operators running one 40-hour shift per week. This customer's annual tool consumption is on the lower end, at 2,500 per year, and an average cost of $50 per tool.

The results:

This customer would save in the low 5 figures each year by bringing re-grinds in-house. Sounds appealing until you realize annual machine and labor expenses would be four times higher than the savings, and it would take over a decade to pay off the machine and hit positive ROI.

The recommendations:

Pretty straightforward: we'd say this one is a no-go. That said, if tool consumption goes up, or there is an increase in prototyping and tool modification, this customer has a much better case for making the purchase.

In-house regrind business case #4: the power user

The rundown:

There are not many machine shops more prolific than this one. Walk onto the floor and you instantly notice the high competency. They use larger and more complex tools for aerospace and automotive applications. There's a high potential for cost savings.

The machine:

This customer is getting a HELITRONIC POWER 400 from us. It's one of our most rigid WALTER tool grinders, and with a bevy of available options, it is capable of just about everything that would be needed. This machine would also be paired with a top loader, bumping up machine utilization and cutting labor costs in half.

The estimates:

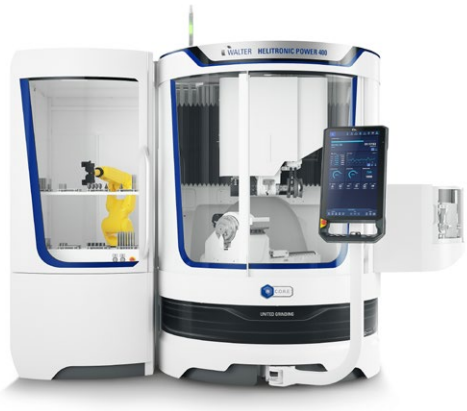
Here, machine utilization is at 60%, with 0.5 operators running one 40-hour shift per week. These guys go through a lot of tools, about 7,500 per year. Average cost per tool is $80.

The results:

This shop would save in the low six figures every year by in-housing their regrinds. These savings would amount to about 20% more than the annual costs of the machine and the labor attached to it. It would take a little over 3 years to pay off the machine and hit positive ROI.

The recommendations:

This one probably gets a green light from us as well, with the caveat that if tool consumption were to decrease, the cost savings associated with in-house regrinds would decrease correspondingly.



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The software side of things

Paired with the WALTER family of tool grinders is the famous HELITRONIC TOOL STUDIO software, known all over the world for its full features, ease of use and its ability to produce complex end results.

There are too many HELITRONIC TOOL STUDIO features to list here, but a couple that will have powerful meaning to shops who are in-housing regrinds: full collision detection and the massive knowledge base.

Collision detection is a feature that cannot be turned off at any time. It will stop the machine and tell you it found a collision, which is good peace of mind and a great safeguard against dangerous situations.

And when you're regrinding, the HELITRONIC TOOL STUDIO knowledge base instantly calls up whatever end mill you need with values, speeds, feed rates and more already plugged in. With that default tool already loaded, it's much easier to make the necessary modifications to get the final tool you want.

Talk to UNITED GRINDING North America about in-house regrinds

No matter which WALTER machine is right for you, the UNITED GRINDING North America team is here to provide expert assistance, training and ongoing support through the lifespan of your tool grinder.

If you're interested in exploring in-sourcing your regrinds and tool modification operations, talk to us to get your custom ROI calculation.

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