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SHOP FLOOR Lasers

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CUTTING THROUGH UNCERTAINTY

Keeping your CO_2 laser – and your fabricating business – in shape during uncertain times

We are living through a pandemic and our economy is in flux. Disruptions have become the new normal. This means being flexible is the name of the game. With some customer orders plummeting and the uncertainty of when and how fast the recovery will happen, your best bet is to remain flexible and ready. You can shut down a machine to save operation costs when the work is not there, but you don't want to cut down on maintenance. When the workload is back, you want to be able to hit the ground running.

It has never been a better time for reviewing your best practices to ensure your CO_2 laser machine is kept in good shape, ready to work and able to adjust to flexible workload demands.

Saving CO_2s

With the spotlight shining on the rapid development of fiber lasers that can cut faster and thicker, good old CO_2 lasers are sometimes kept in the shadow. However, for many job shops and other fabricators, this technology still cuts parts reliably and cost-effectively, as long as it is well maintained.

Why is it that we insist on talking about CO_2 when the market has almost completely gone fiber? Although many of the recommendations in this article would apply to both CO_2 and fiber, the value of CO_2 often gets overlooked.

Fiber lasers are fast. They have fewer parts and have operating costs that are allegedly a fraction of those of a CO_2 laser. But not everything that glitters is gold. All things considered, the modular build of newer fiber lasers may not show in your operation cost during the first year or two, but it can result in costly repairs when, for example, a cutting head goes out.

Most notably, however, new fiber technology gives you limited options to source parts and consumables and get service from companies other than the OEM. On the other hand,

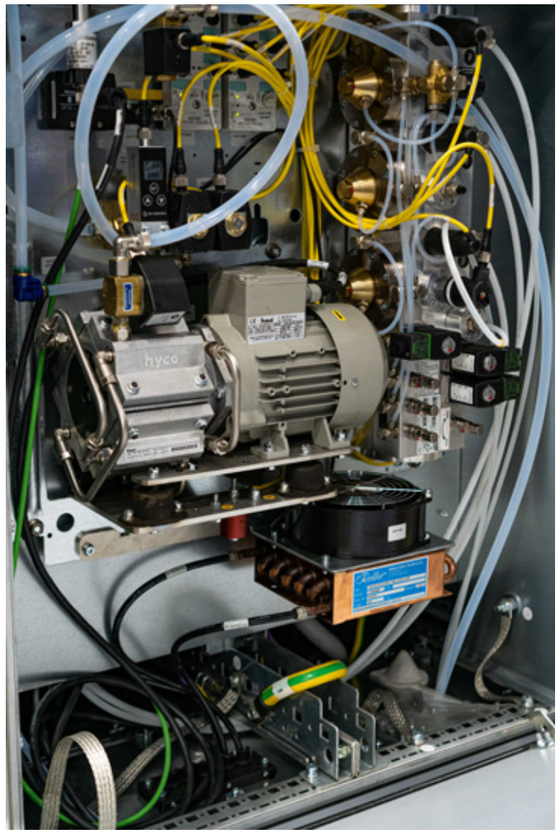
Changing filters on a laser is one of the many preventive maintenance tasks to tackle during downtime to keep a laser machine in good working order.

you can find plenty of aftermarket alternatives for your CO_2 laser that are technically sound, ensure product availability and offer significant savings compared to the OEM.

Another factor to consider is serviceability. Many fabricators have developed in-house capabilities to maintain and service their CO_2 lasers. With fiber lasers, as with any new technology, the learning curve will initially result in a higher dependency on external service and its associated cost.

For reference, the average laser machine has a service life of about 15 years. And no matter how long you end up keeping your CO_2 laser, a machine that is well maintained and cared for typically yields a longer service life and a higher residual value. However, you might be surprised to hear how the market value of your →

used equipment has plummeted. If your older machine is still alive and well, and you are not in dire need of space, you might want to hang onto it longer instead of giving it away for almost nothing.



Pumps, drives and valves are some of the parts inside the cabinet of a laser machine that are good candidates to find alternative qualified sources to save a fabricator money.

If it's determined that saving your CO_2 laser isn't a viable option, it's important to remember that many OEMs have been pushing new equipment at attractively high discounts and offering very low interest financing based on the current economic environment. From that perspective, it has never been a better time to buy a new machine.

Finding parts

With Covid-19 restrictions, more people have been working from home, including purchasing and manufacturing engineers. With less day-to-day distractions from their operations, these key decision makers have more time to do research for better options. This serves as the perfect opportunity for companies to calculate the value of their older machine and research the most cost-effective options to source parts that may be required to operate or revitalize a CO_2 laser. Keep in mind that many older machines may need new parts.

Fabricators might be afraid that at some point older parts might no longer be available. OEMs might offer →

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There are multiple players in the aftermarket for laser consumables, such as the lens shown above. Make sure the specifications and quality match the OEM requirements.

newer retrofits to replace discontinued parts for that 15-year-old machine. A good rule of thumb for determining if a retrofit is worth the expense can be broken down to two factors: does the retrofit add new functionality or features that are useful that were not available with the old part and does the new part or retrofit extend the useful life of the machine?

If the answer is no to one or both of these questions, you might consider third-party suppliers that offer a remanufactured version of the original part. For the tens of thousands of CO_2 lasers in operation all over the world, there are still good sourcing options available. If you do your research and supplier qualification ahead of time, it will →

When a CO_2 laser is kept in good working condition, it can be more valuable on a shop floor than on a used equipment auction block.

save you invaluable downtime when a spare part is needed.

In times of economic struggles or constraints, progressive companies look for different and better ways of doing things, including finding various sourcing alternatives, taking the time to qualify vendors and validating the stability of these companies even after an economic downturn.

Unforeseen opportunities

In addition to spending time evaluating old machines and researching the parts that may be needed to extend their operational life, remote working is opening up several unforeseen opportunities. Take floor space as a good example of that. The competition between an unproductive non-value-added area (i.e., office) and a productive one (factory) is nothing new to a fabricator. →

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What is new is that many office functions have been forced to work remotely from home. This challenge, which appeared to be a temporary fix, is here to stay – at least where it makes sense. If planned thoughtfully, fabricators can gain more factory space at the expense of less and redesigned office space, increasing their operating margins.

In the midst of the pandemic, companies have also been inadvertently perfecting their virtual reality capabilities. Many OEMs now offer online and virtual training. Therefore, it's critical to take advantage of training your production and maintenance employees. They can attend remote training sessions without the associated cost of travel.

Video-assisted service calls allow specialized personnel to troubleshoot your machine faster. This can be as sophisticated and expensive as VR glasses or as simple as a Facetime call. This technology is here to stay and grow, so be creative and put it to good use.

The pandemic has also pushed the importance of health and safety to new heights. Additional hygiene measures and mandatory PPE, new workflows and contactless transactions have become the norm to protect employees and reduce the risk of being shut down. Companies that understand this are well-positioned to tackle future health and safety risks.

Mitigating risk

Overall, laser job shops and other businesses knew well before the pandemic: Don't put too many eggs in one basket. As some industry sectors, such as food service or aerospace, have been hit hard, others like medical equipment, IT and construction have been growing. By diversifying, your company reduces the risk of a large business downturn.

Trade tariffs and other supply chain disruptions have also left many fabricators scrambling for better cost alternatives or parts altogether, resulting in exorbitant costs or delays that affect a company's ability to deliver to its customers on time. Companies are turning away from offshore options and are looking at local suppliers with stable supply chains and short lead times.

Reimagining supply chains requires substantial time commitments, which pre-pandemic, often couldn't be afforded. Thanks to remote working, however, staff are experiencing fewer distractions and can focus this new-found time on supply chain issues and the like.

As the clouds of the pandemic clear, successful companies will continue to benefit from a new remote work environment. Companies must take advantage of state-of-the-art technology to seamlessly integrate every aspect of their business – from employees to supply chain to customers.

By being open to change, thinking creatively, seizing opportunities and maximizing the use of existing resources and equipment, including CO_2 lasers, companies will emerge stronger from the pandemic and beyond. ●

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