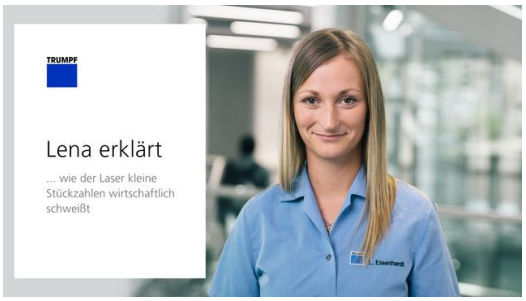
RAMONA HÖNL

How do you weld a few components cost-effectively with a laser?

A laser welder offers many benefits to sheet-metalworking companies. The system saves time and produces top-quality weld seams. Lena Eisenhardt, technical demonstrator at TRUMPF's Customer Center, shows us how the TruLaser Weld 5000 can be used to weld even low volume parts cost-effectively.



Welding without fixtures

In automated welding, a fixture is usually required to hold the individual sheet-metal parts together and position them properly. But with small batch sizes, the cost of such fixtures is often prohibitive. A workaround recommended by Lena is to tack the component first. Using a laser or a handheld TIG welding device, the technician sets tack points that position and hold together the component's sheet-metal parts during the welding process.

Offline programming

Then the technician loads a drawing of the component to TRUMPF's TruTops Weld programming software, and chooses the spots to be welded. One of the benefits of this method is that the programming is done offline – that is, on a PC. In other words, laser welding system continues operating while the next job is being programmed. Now all the operator has to do is select the parameters and load the program to the machine. The machine then welds the component, quickly and reliably.

Automatic image processing increases process reliability

It is not a problem for the TRUMPF TruLaser Weld 5000 if the next components are not in precisely the programmed position. Its TeachLine function measures the edges of the component, detects deviations and adapts the welding program.

Lena Eisenhardt completed her apprenticeship as an industrial mechanic at TRUMPF. Since 2018, she has been working as a demonstration engineer at TRUMPF's Customer Center. In the spring of 2021, she will finish her further training as an industrial supervisor for metalworking.

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