

Motorized focussing unit for stereo microscopes for manual assembly control



Task

In a manual assembly machine various process steps with different focus distances need to be performed, using a stereo microscope with long working distance objectives. The operator needs to adjust the focus manually several times to proceed his work. The continuous focusing between focussing and assembly steps and the resultant deflection has led to serious quality issues. Aim was a automation of the focussing step to allow a effective and ergonomic work.

Solution

The stereo microscope is now mounted onto a saddle which is moveable due to a motorized drive. To keep the users hands free for assembly, different focus levels are activated using two foot switches. Different positions are programmable and accessible in succession. A continuous focussing is also possible. The whole project was realized in 8 weeks—from a first project outline to implementation at the customers site.

Further developments

To accelerate assembly processes and improve quality control even more, we offered the customer a auto-focus option and a automatic image processing solution.

Used components

The following standard components of Opto Sonderbedarf GmbH were used to solve this problem, can easily be adapted to similar projects or could be a useful addition:

043-610002	Focussing Drive R for coarse focussing
100-JC3-66	Jointed Coupler 3 links, M6-M6, L=186mm
043-490113	Extension Tube MZ 220mm; 1.0x

