LASER WELDING OF A SET OF 3 COMPONENTS, INDUSTRIAL VISION-ASSISTED

CHALLENGES

▶ Welding of the 0.05 mm-thick main tube (thin body on thick body) calls for full control of the power provided by the laser beam

▶ After welding, the main tube must not be deformed

▶ Laser welding must not cause starting fractures in the main tube.

▶ The positioning accuracy of the welding is ± 5 μm

▶ Weld 1 must be sealed and free of projections on the main tube and cover

▶ Weld 2 must not distort the main tube

▶ To prevent oxidation by welding under a protective atmosphere and extract sooting

RESULTS

▶ Weld 1 is perfect and sealed, and meets the customer's requirements

▶ Weld 2 has not deformed the main tube and meets the customer's requirements

▶ Repositioning using dynamic industrial vision to permit approximate location of the support

set consisting of 3 components

ADVANTAGES

▶ No deformation of the material

▶ No oxidisation

▶ High speed

▶ Intuitive engraving software

▶ High-resolution image

▶ Easy laser focusing

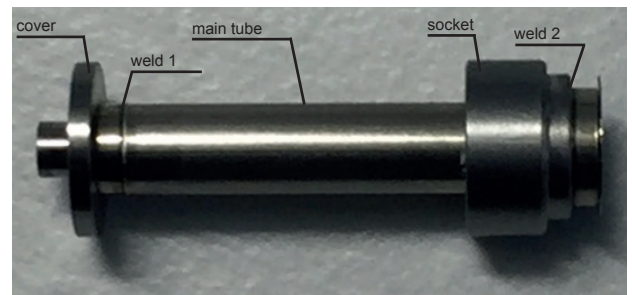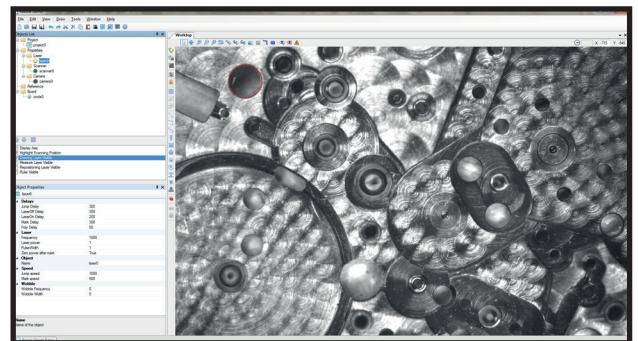*screenshot of the settings for the welding software*

CPAUTOMATION PRODUCT

GENERAL SPECIFICATIONS

Welding machine	TLase
Speed	< 2 s per weld seam
Positioning accuracy	+/- 1 μm
Welding accuracy	+/- 5 μm