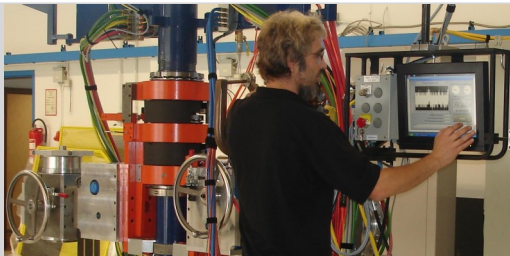


Peculiarities:

- Analyze ways to increase the efficiency of welding guns testing.
- Analysis of the loads that would be managed by the test bench.
- Generating a modular concept.
- Optimizing and validating components using FEA.



WELDING GUNS TEST BENCH

Project # 5

EN

Automotive industry applications

The action:

The necessity to test a large number of welding guns leads to the design of a test bench where a single test operator can perform simultaneously up to three welding guns tests.

This test bench insures independent positioning of each tested gun through the design of its arms who allows rotation around two axes.

Ergonomics was also considered, the control panel position can be adjusted according to the test operator needs.

The Project:

Design a test bench for spot welding guns allowing placement and testing of various gun configurations in real welding positions. This test bench allows to connect all the inputs of the tested weld gun according to customer specifications. This test bench runs simultaneously two or three welding guns.

Required resources:

This type of projects use standard design office resources. CAD Resources: Pro / E Wildfire 2, Flex Eng module. FEA Resources: Pro / Mechanica.

Features:

This project required a dimensional analysis and the analyze of the centers of gravity positions of the possible welding guns configurations that will be tested. After the maximum loads was determined, FEA was performed to validate components materials and dimensions.

Achievements:

This test bench decreased welding guns testing cycle with more than 50%. The test operator enjoys increased ergonomics during his work through setting the control panel in optimal position.

