

# ENGINEERING AUTOMATION

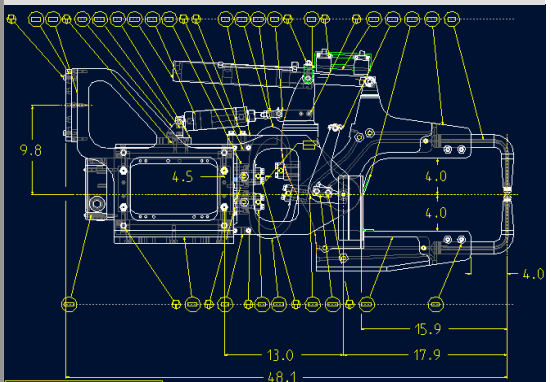
Project # 7

EN

## Advanced Engineering project

### The action:

For spot welding guns, a family of 3D configurations have been developed, able to meet the general customers demands. Basically, customers can configure their self the desired equipment by choosing preset values of the characteristic parameters. After the generated configuration is validated the software generates detail and assembly drawings, reducing the engineering cycle time close to 0.



### The Project:

Design a family of spot welding guns using an interface with a choice of parameters previously short-listed and confirmed through FEA.

### Required resources:

This type of projects are leaded by experienced engineers with extended knowledge about all the components integrated in welding equipment, able to use FEA and to read the analyze results. They also have extended CAD knowledge and able to use virtual interchange assemblies. CAD Resources: Pro / E Wildfire 2 Flex Eng module. FEA Resources: Pro / Mechanica.

### Features:

This project involves parametric modeling of components, family member components generation by changing parameters, FEA to validate configuration components and defining the configuration maximum load, development and implementation of interchange assemblies and development of the interface for selecting the welding gun parameters.

### Achievements:

Automatic design of welding equipment through preselected choice of parameters values is a powerful tool to increase sales. Basically the customer can generate by itself according to equipment needs the desired welding gun. The speed in the manufacturing process is very fast due to drawings are generated automatically.

### Peculiarities:

- Definition of components modifiable parameters.
- Generating components 3D models by changing parameters.
- FEA validation of components and setting max. load.
- Development of the parameter selection interface.