

Abstract

The Cal Poly IME department recently purchased a robotic welder. The faculty would like to see this robot incorporated into the welding class. The robot was capable of moving, but was not able to perform a weld prior to this project. This problem is addressed by creating a demonstration part for the welding class. The objectives that need to be complete for this to be possible is designing a part, designing a fixture, analyzing the cost of robotic welding, and implement welding the part in the class. The part is designed with specific requirements in mind. The fixture is designed using an approach from “A Review on Design of Fixtures.”

The results of this project are a completed part and fixture. There were several issues that occurred when fabricating the fixture. This resulted in a fixture that was incapable of producing parts that met the requirements. The robotic welding process is shown to be impractical for this application from an economic standpoint. The robotic welder is now fully operational and with little effort can be used in the welding class.