This report documents my senior project for California Polytechnic State University San Luis Obispo. I have chosen to do a senior project with Lisi Aerospace. Lisi would like to compare the manufacturer rated cycle count of taps versus an experimental one based on our machines in house. My goal for this project would be to run an experiment on one tapping machine and report on the achievable cycle count for the taps. I plan to do this in several ways including:

* Running extra cycle counts above tap manufacturer recommendations
* Documenting machine failure modes
* Create a process document to be repeated on other parts

My solution approach shall be based on these objectives. A document detailing this experimental process will be created. This will include documentation of part/tap failures, machine failures and any other data that needs to be recorded about the production run. Many different aspects of the batch will be covered such as: material, tap material, tap maker, part produced, and tooling setup used. My deliverables to Lisi include:

* Documentation of experiment
* Documentation of machine/part/tap failures
* Recommendation for extension of tap life