<u>Engine Development Intern Screening Questions</u>

Due to a high number of applications, the internship positions at Liquid Piston are competitive. The below screening questions will assist us in an efficient interview process. In lieu of a cover letter, please answer these questions in a format of your choice.

1) Please read our SAE paper titled "Development of the XMv3 High Efficiency Cycloidal Engine", which you may obtain in the Technology section of our website. Keep a list of your notes/questions/suggestions, and include with your application.

2) Show/describe your experience in the most "in depth" area of your expertise. How did you become interested in this niche? What do you know that sets you apart from other students? Note: A bad answer is saying something like "engine development". A good answer is very specific, such as "heat treatment of 4140 steel" or "CFD of turbulent gas flows" or "FEA of engine crankshafts". We are looking for your depth of knowledge, so please go into detail as much as you would like. A prior work portfolio or Sr. Research Paper is an acceptable answer to this question, as long as you specify which work was personally yours, if a group project.

3) Do you have any experience in a machine shop? Have you worked with a mill or lathe before? Please describe the most complex part you have machined.

4) Do you have any experience working on engines? What was the hardest part and how did you learn to overcome it.

5) Please describe a time when your communication skills were most challenged, what actions you took, and the outcome. Prior LPI interns have rated communication skills as the most helpful requisite for success, so experience with challenges in this area will stand out.

6) Please describe specifically what you think you can contribute to Liquid Piston, based on the information you have so far. What do you expect to learn at LiquidPiston? What is the goal of your internship? Where do you see yourself 5 years from now, 10 years?

7) Rate your expertise in the following programs:
    a. I am able to use X% of SolidWorks's functionality
    b. I am able to use Y% of SolidWorks Simulation's functionality
    c. I am able to use Z% of ANSYS Mechanical's/FLUENT's functionality

8) If applicable, please provide an example of when you have done the following:
    a. Used MATLAB to code and solve a complex engineering problem
    b. Used LabVIEW in a testing environment
    c. Designed parts which were later produced by a 3rd party machine shop