

### **Sr. Design Engineer Screening Questions**

Have you lead Junior design/development engineers?

Have you designed a prototype (of any machine) that you later built and tested yourself?

Have you been responsible for the design of an engine subsystem or assembly that went to production? In what capacity?

Explain a time when you have modified a design based on an unexpected test or analysis result:

Have you written End of Test reports? Were you responsible for troubleshooting and debugging failed components?

Describe how you motivate a “difficult” but important supplier:

Have you contributed to published papers? In what capacity?

What is the greatest achievement of your career, from an innovation perspective?

Do you have an M.S. or PH.D. ?

From 1(novice) to 10(industry expert), rate your understanding of:

- a) thermodynamics
- b) heat transfer
- c) mechanical design
- d) Diesel Engines
- e) SI engines.

Describe the most challenging-to-manufacture component you have ever designed. How did you decide tolerances? How did you decide manufacturing processes to meet them?

Do you have a deep understanding of modern efficiency improvement technologies such as boosting, HCCI, friction reduction, or other?

What is your expertise (1-10) in engine simulation tools such as:

- a) Solidworks
- b) GT-Suite
- c) CONVERGE CFD
- d) Thermal and structural FEA?

Are you, personally, capable of creating/modifying:

- a) FEA model mesh size, type, constraints
- b) A Matlab program to predict rotary engine shaking forces
- c) A spur gear tooth profile, to minimize friction under specified constraints?

Do you enjoy getting your hands dirty:

- a) Do you assemble or inspect hardware for your current job?

- b) Do you know how to operate manual or CNC equipment?
- c) Have you ever rebuilt an engine?
- d) Made major modification to a personal engine or vehicle?

Do you have experience in a Research environment? What is the minimum ratio of (work related) good to bad days can you tolerate without getting depressed?

Do you have a permit to work in the US?

What do you want to accomplish in the next 5 years of your career?

What do you think are the biggest technical challenges faced by Liquid Piston?

What do you think are the biggest non-technical challenges faced by Liquid Piston?

What do you like about LiquidPiston's design?

In one sentence - why do you want to work for LiquidPiston?