



## WANTED: Mechanical Engineer – Engine Brake Design & Development

### TRAITS OF A GOOD FIT INCLUDE:

- Wrench monkey and math nerd
- Passion for automotive design
- Familiar with engine valvetrains
- Hands-on mechanical skills
- Developed mathematic/analytical skills
- Autonomous worker
- Able to roll with the punches, adapt to on-the-fly changes
- Basic electrical and LabView skills
- Excellent communicator
- Ability to work well with others

We are recognized as a North American leader in design and manufacture of exhaust brakes, intake shut-off valves, engine brakes, as well as air-spring helper kits for light and heavy duty diesel engine vehicles. We are conveniently located in Port Kells (Surrey), BC, blocks from Highway 1, the Golden Ears Bridge, and South Fraser Perimeter Road.

### *We are currently looking to grow our engine brake development team:*

- Improving capacity for new engine brake projects
- Reducing design and development duration
- Improving abilities in performance and endurance testing

### *Responsibilities of a fitting individual will include:*

- Following the direction of the engine brake team lead
- Integration of existing engine brake technology into new engines
- Support development of new engine brake technology
- Generation of solid models and drawings sets
- Verification and validation activities including generation and execution of test plans (Dyno, bench test, field, customer)
- Keeping a current Design Failure Mode and Effects Analysis (DFMEA)
- Design of test engine fixturing, air and fluid routing
- Installation/removal of test parts on engine
- Instruct engine technician on work to be completed
- Coordinating/scheduling/training/monitoring dyno operators
- Reporting status to stakeholders/keeping collaborators updated

### *The following will make you stand out from other candidates:*

- Comfortable with and able to use advanced mathematics to solve/simulate engineering problems
- Comfortable with cam design (velocity, acceleration and jerk calculation)
- Strong in trigonometry/motion analysis



- Familiar with thermodynamic calculations, including estimating engine work
- Familiar with material properties, wear, and contact stress (Hertzian)
- Able to conduct SolidWorks stress simulations (Von Mises)
- Familiar with producing and dimensioning drawings (GD&T)
- Experienced with use of Design Failure Mode and Effects Analysis/managing project risks
- Practical experience/abilities needed for engine cradle, driveshaft, fly wheel modification
- Experienced with LabView, data acquisition, sensor wiring, CANBus protocols
- Support patent applications
- Comfortable with engine valvetrain disassembly/assembly
- Able to identify high level goals, and steer oneself appropriately
- Able to work well with design engineering, QC, procurement, manufacturing, logistic, and customers
- Excellent spoken and written English
- Organized – able to keep track of project deadlines, project statuses, costs, customer specifications, as well as other project documentation

***We offer:***

- EGBC license mentorship
- Opportunity to participate in patents, publications and conferences
- Opportunity to travel to Europe and Asia
- Competitive compensation
- Excellent health benefits
- RRSP matching
- Contributions towards continued education
- Regular company functions (i.e. BBQ's, bowling, sporting events, annual holiday party, etc.)

While we are open to candidates with varying levels of experience – the ability to learn, independence/maturity, and a good cultural fit will have major bearing on candidate selection

**All applications without a cover letter will be ignored – justify how you are a fit for the above.**

If your credentials match the above requirements and you have the dedication and experience to fill this role, please submit your resume via email (as a Word document or a PDF file) to [hr@pacbrake.com](mailto:hr@pacbrake.com).

Please include the job title and website (i.e. Mechanical Engineer – [www.Pacbrake.com](http://www.Pacbrake.com)) in the subject line of your email, along with wage expectations.

We thank all applicants, however, only those candidates selected for interviews will be contacted.

**- Pacbrake Management**