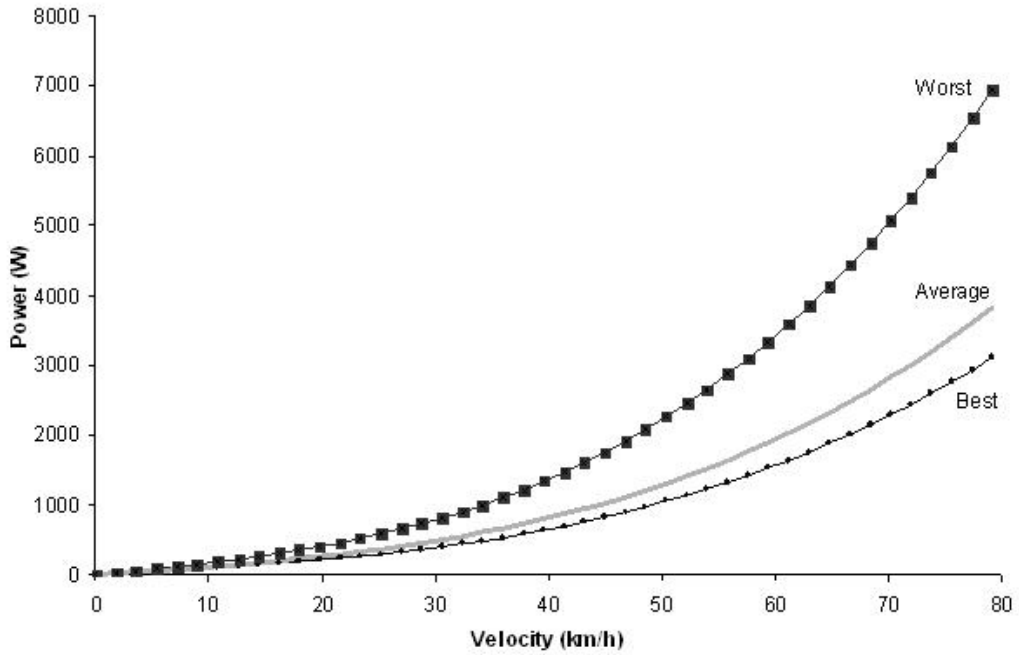
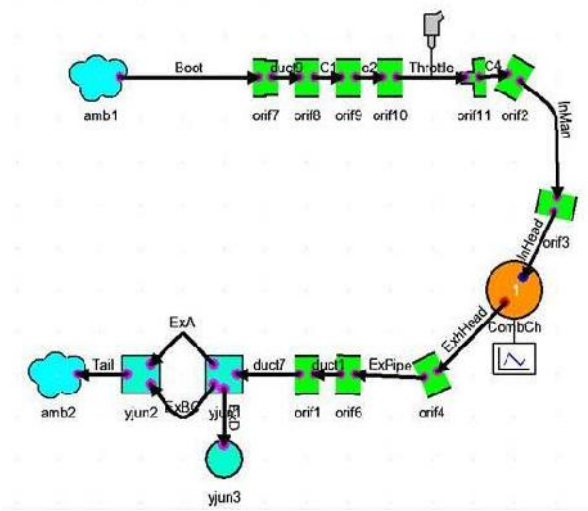
ENGINE MODELING WITH RICARDO'S WAVE



"Wave" is an engine simulation software from Ricardo Engineering. It is a 1-dimentional fluid dynamics model in which all gaseous passages are modeled as pipes of various lengths. The model includes a combustion model, a combustion chamber mixing model (for ERG), as well as various thermal conductivity and friction models and emissions models. It does not do a detailed 3-dimentional analysis of gaseous flow, or combustion, but instead uses "lumped parameter" models (such as a 2-zone combustion model). This makes it exceptionally easy to set up, and quick to run. Running various scenarios on a given engine typically takes only a few seconds, where as a 3-D model might take hours or days.

Covered Topics Include:

- Critical Engine Parameters
- Engine Model Physical Input Data
- Operational input parameters
- Cycle averaged model output
- Instantaneous model output
- Engine Optimization Techniques
- Model to experimental correlation



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