# Bell Nozzle Rocket Engine Calculations

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#### Nomenclature

 $\begin{array}{cc} P & & \text{Pressure} \\ T & & \text{Temperature} \end{array}$ 

 $\gamma \hspace{1cm} {\rm Ratio~of~specific~heats}$ 

mol% Mole percentage

#### Subscripts

 $\begin{array}{cc} c & \text{Chamber} \\ t & \text{Throat} \\ e & \text{Exit} \\ a & \text{Ambient} \end{array}$ 

## 1 Introduction

Documentation of calculations for a bell nozzle rocket engine

### 2 Calculations

- 2.1 Gasses
- 2.1.1 Propellant Stoichiometry
- 2.1.2 Ratio of Specific Heats of a Multi-Compound Gas