

Density Altitude vs Air Density Ratio

You hear a lot about Density Altitude (DA). What is the difference between DA and Air Density Ratio % (ADR)? DA and ADR contain the same air density information but the units of measure are different. This information is used to determine the mass airflow of an engine and, therefore, the fuel required to burn at the same air/fuel ratio (AFR) as a previous tune-up. Computech uses ADR in an effort to make tuning for weather more understandable. When the ADR changes 1% then the fuel to the engine must be adjusted 1%.

Here are the equations to convert both ways:

$$\text{ADR} = (35805 - \text{DA}) / 358.69$$

$$\text{DA} = (-358.69 * \text{ADR}) + 35805$$

