

Then *non-intercooled*:

$$\text{Pressure ratio} = \frac{320 \text{ hp}}{220 \text{ hp} \times 0.87 \times 1.25 \times 0.90} = 1.49$$

Intercooled:

$$\text{Pressure ratio} = \frac{320 \text{ hp}}{220 \text{ hp} \times 0.98 \times 1.25 \times 0.90} = 1.32$$

These two pressure ratios give the following boost pressures:

Non-intercooled:

$$\text{Boost} = 0.49 \times 14.7 = 7.2 \text{ psi}$$

Intercooled:

$$\text{Boost} = 0.32 \times 14.7 = 4.7 \text{ psi}$$