Tons to PSI calculations

Tons * 2000 = lbs

$area = \pi r^2 \; for \; a \; circle$ where r is the ram radius (diameter / 2)

$\frac{lbs}{in^2}$ = PSI

For a ram diameter of 10 inches;

r = 5

area = $\pi 5^2 = \pi \cdot 25$ = 78.5398163 in^2

250 tons * 2000 PSI = 500,000 lbs

500,000 PSI / 78.5398163 in^2 = 6,366 PSI

To shorten this to quickly use your calculator to convert tons to PSI

2000 * tons / π / r^2 = PSI

(use x^2 button for r^2)

PSI to Tons

$$x \; PSI \cdot \pi \cdot r^2 = lbs$$

$$lbs \cdot \frac{1 \; ton}{2000 \; lbs} = tons$$

To shorten this to quickly use your calculator to convert tons to PSI

x PSI* π * r^2 / 2000 = tons