

32. **REASONING AND SOLUTION** We know that $F_2 = (A_2/A_1)F_1$. Since the pistons are circular in cross-section

$$F_2 = \frac{R_2^2}{R_1^2} F_1 = \left(\frac{5.1 \times 10^{-2} \text{ m}}{6.4 \times 10^{-3} \text{ m}} \right)^2 (330 \text{ N}) = \boxed{2.1 \times 10^4 \text{ N}}$$