

**ERRATA for**  
***PE Mechanical: Thermal and Fluid Systems Practice Exam***  
ISBN: 978-1-947801-41-7  
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Errata posted 04/01/2026

**Revisions are shown in red.**

**Solution 33:**

$$\begin{aligned}\text{Fluid power} &= \rho \dot{V} (1/\rho) \Delta P \\ &= \dot{V} \Delta P \\ &= (25 \text{ gal/min})(50 \text{ lbf/in}^2)(\text{ft}^3/7.48 \text{ gal})(\text{min}/60 \text{ sec})(144 \text{ in}^2/1 \text{ ft}^2)(\text{hp-sec}/550 \text{ lbf-ft}) \\ \dot{W}_{\text{fluid}} &= 0.73 \text{ hp} \\ \text{shaft hp} &= 0.73 \text{ hp} / 0.7 \\ &= 1.04 \text{ hp}\end{aligned}$$