ERRATA for

Mechanical PE Sample Questions and Solutions

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Mechanical Morning Sample Questions

p. 36, Question 138:

Change the problem statement as follows:

A room contains equipment that consumes 3,000 W of power. In addition, 5 lb/min of water vapor is released into the room. The resulting cooling load (Btu/hr) is most nearly:

Mechanical Systems and Materials Questions

p. 73, Question 510:

Change the gearbox ratio in the problem statement and figure as follows:

The gearbox ratio is 2.5:1.

p. 89, Question 538:

Change sentence 3 as follows:

The diametral pitch is 6 teeth/in.

Thermal and Fluids Systems Questions

p. 106, Question 523:

Change h_2 in the figure as follows:

h_2 = 1,452 Btu/lbm.

Mechanical Morning Solutions

p. 122, Solution 108:

The first line should read as follows:

1. Determine minimum centerline of holes $\text{℄} = 2.4 - 1.2 - 2(0.05) = 1.1$

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Mechanical Systems and Materials Solutions

p. 164, Solution 525:

Change the equation in the solution as follows:

$$t = r_i\left(\sqrt{\frac{\sigma_\theta + P}{\sigma_\theta - P}} - 1\right)$$

$$t = 12\left(\sqrt{\frac{20,000 + 7,500}{20,000 - 7,500}} - 1\right)$$

$$t = 5.80$$

p. 166, Solution 529:

Change the first equation in the solution as follows:

$$J_u = \frac{f(3g^2 + f^2)}{6}$$

p. 169, Solution 536:

The formula for the critical speed should be given as:

$$\text{speed}_{crit} = \frac{215}{L^2}\sqrt{\frac{EIg}{\rho A}}$$

Thermal and Fluids Systems Solutions

p. 175, Solution 502:

Change line 9 in the solution as follows:

$$= 0.01623 + (0.93)(173.72 - 0.01623)$$

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Thermal and Fluids Systems Solutions (continued)

p. 175, Solution 503:

Change line 4 in the solution as follows:

$$= (0.85)\left[(1.4)\left(287\ \frac{\text{J}}{\text{kg•K}}\right)(-56.7°\text{C} + 273\,\text{K})\left(\frac{\text{N•m}}{\text{J}}\right)\left(1\frac{\text{kg•m}}{\text{s}^2\text{•N}}\right)\right]^{0.5}$$

p. 179, Solution 509:

Change line 4 in the solution as follows:

$$+ [0.1714 \times 10^{-8}\ \text{Btu/(hr-ft}^2\text{-°R}^4)](31.42\ \text{ft}^2)(0.5)[(450 + 460)^4 - (65 + 460)^4\text{°R}^4]$$