

Significant errata in A Heat Transfer Textbook, 4th ed. (as of July 1, 2019). This applies to the print edition from Dover Publications (2011), ISBN 978-0-486-47931-6. These corrections have been made progressively in the ebook versions after 2011, and all of them are incorporated into the 5th ed. (appearing during 2019).

Page 4, line 10: Delete second occurrence of "to harness"

Page 30, line 6: "E" should be "e"

Page 30, Eq. (1.29): This result is more precisely called Wien's *displacement* law.

Page 31, Fig. 1.15: Units on ordinate are arbitrary (i.e., vertical scaling quantitatively incorrect).

Page 37, Prob. 1.1: line 3, replace "for" by "fir"; line 5, replace "gradient" by "temperature variation".

Page 37, Prob. 1.3: Replace "drop" by "rise".

Page 37, Prob. 1.4: Replace "(1.13)" by "(1.14)".

Page 38, Prob. 1.10: Replace "-0.70" by "0.70".

Page 43, Prob. 1.30: Replace "diamond 1 lb" by "diamond IIb".

Page 44, Prob. 1.31: Replace "0.006" by "0.06".

Page 60, Fig. 2.6: Replace "(2.19)" by "(2.15)".

Page 89, Prob. 2.10: Replace " T_{∞_1} " by " T_{∞_l} ".

Page 89, Prob. 2.13: Replace "processed" by "pressed".

Page 90, Prob. 2.22: Delete "and insulation".

Page 91, Prob. 2.22, line 6: Replace "stell" by "steel" and "if" by "of".

Page 91, Prob. 2.23, line 6: Replace " q_1 " by " q_l ".

Page 91, Prob. 2.27, last line: Replace " T_{2_c} " by " $T_2(r_c)$ ".

Page 92, Prob. 2.32: Take $\bar{h}_{\text{inside}} = 126 \text{ W/m}^2\text{K}$.

Page 93, Prob. 2.36: Replace "0.0005 m" by "5 mm" and " $T^\circ\text{C}$ " by " $T \text{ K}$ ".

Page 96, Prob. 2.45c: Replace "1 and 2" by "a and b".

Page 111, line after eqn. (3.12): Replace "(3.11)" by "(3.1)".

Page 131, Prob. 3.10: Replace "(3.2)" by "(3.20)".

Page 135, Prob. 3.38: Equation should read

$$\varepsilon = 1 - \exp\left\{\left[\exp(-NTU^{0.78}r) - 1\right](NTU^{0.22}/r)\right\}$$

Page 152, line after eqn. (4.14) Replace "quotation" by "equation".

Page 161, Fig. 4.5 For $\Gamma = 0$, switch the labels $Bi = 0$ and $Bi = \infty$.

Page 162, line above eqn. (4.26) Replace " δ " by " L ".

Page 180, first equation: Replace “ $d(a/P)/d(x)$ ” by “ $d(A/P)/dx$ ”.

Page 181, Fig. 4.13: Replace “ \bar{b} ” by “ \bar{h} ”.

Page 182, line 5b: Replace “transfer given” by “transfer is given”.

Page 182, first equation: Replace “199” by “119”.

Page 183, Fig. 4.14: Replace “Fig. 4.12” by “Fig. 4.13”.

Page 185, Problem 4.7: Replace “stream” by “steam”.

Page 185, Problem 4.8, line 6: Delete “expression”.

Page 187, Problem 4.24, line 6: Replace “ $T = T_w$ ” by “ $T - T_w$ ”.

Page 189, Problem 4.30: Replace “ ϵ_f ” by “ ζ ”.

Page 191, Problem 4.43, line 7: Delete “has”.

Page 205, last equation: Replace “ m ” by “ n ”.

Page 206, line 7: Delete “outer”.

Page 213, Fig. 5.10c: The labels for “2.5” and “25” should be interchanged.

Page 222, line above eqn. (5.44): “Dimensional” should be “nondimensional”

Page 224, second line below eqn. (5.51): Delete “beyond”.

Page 224, footnote: “an” should be “and”.

Page 225, 3rd line after example: “Thick” should be “thin”.

Page 256, Problem 5.21: “[$Q = 36.8 \text{ W}$]” should be “[$Q \approx 39 \text{ W}$]”.

Page 256, Problem 5.22, line 4: “ $S_c \gg S_d$ ” should be “ $S_c = S_d$ ”.

Page 261, Problem 5.38, line 2: “ $\text{W/m}^2\text{K}$ ” should be “ $\text{W/m}\cdot\text{K}$ ”.

Page 262, Problem 5.43, line 4: “ $\text{W/m}^2\text{K}$ ” should be “ $\text{W/m}\cdot\text{K}$ ”.

Page 262, Problem 5.44, line 5: Replace “30” by “525”.

Page 264, Problem 5.52a: “(1.20)” should be “(1.19)”.

Page 265, Problem 5.55, line 3: Replace “conduction” by “convection”.

Page 275, line 7: Delete “fully developed”.

Page 275, line 13: Replace “boundary layer” by “boundary layer on a flat plate”.

Page 313, eqn. (6.75): The sign of the first term should be “+”.

Page 313, footnote, line 2: Replace “this century” by “twentieth century”.

Page 333, Problem 6.3, first bullet item: Replace “ $\partial/\partial\eta$ ” by “ $d/d\eta$ ” throughout.

Page 337, Problem 6.36, line 1: Replace “6.3” by “6.2”.

Page 360, line 5: Replace “root-mean-square” by “surface”.

Page 363, line 11: Replace “(7.43)” by “(7.42)” and “it” by “ f ”.

Page 364, line 5: Delete “root-mean-square”.

Page 365, 366, Example 7.3, 7.4: The bulk properties should be evaluated at 50°C.

Page 368, caption of Fig. 7.8: The correct citation is Reference [7.20].

Page 368, line 3: Replace “4.8” by “5.0”.

Page 371, line 9: Replace “3.657” by “4.32”.

Page 385, line 13: The result is for a sinusoidal variation of temperature around the tube circumference, not for an isothermal tube.

Page 389, Problem 7.13: Replace “ $3(73-5)/4 = 51$ ” by “ $5 + 3(73-5)/4 = 56$ ”.

Page 390, Problem 7.17: Replace “ $\varepsilon/D = 0.00006$ ” by “ $\varepsilon/D = 0.0006$ ”.

Page 399, chapter quotation: The quotation is a paraphrase of Burton’s text.

Page 400, line 2b: Replace “of” by “off”.

Page 410, eqn. (8.20): x should be in the numerator.

Page 412, Example 8.1: Minor changes to the property values as follow: $\nu = 1.578 \times 10^{-5} \text{ m}^2/\text{s}$; $\alpha = 2.213 \times 10^{-5} \text{ m}^2/\text{s}$; $\text{Pr} = 0.713$; and $k = 0.02623 \text{ W/m}\cdot\text{K}$. Three computed results change as follow: $\text{Ra}_L = 1.625 \times 10^8$; $\overline{\text{Nu}}_L = 61.9$; and $\delta/L = 0.0431$.

Page 430, line 4b: “(8.12)” should be “(8.48)”.

Page 433, line 5b: Replace “which would depend on Ja” by “which would account for the sub-cooling of the liquid film through a dependence on Ja”

Page 434, Eq. (8.59): Replace “constant” by “1”.

Page 436, line 3: Insert “(For $\text{Pr} \rightarrow \infty$, this matches Rohsenow’s result [8.35].) In many cases, the difference between h_{fg} and h'_{fg} is quite small.”

Page 436, line 8b: Replace “mass rate of condensation” by “condensate mass flow rate”.

Page 447, Prob. 8.28: “ Q_{saved} ” should be “ $Q_{\text{insulated}}$ ”.

Page 448, Prob. 8.38: “magnesium” should be “magnesia”.

Page 451, Prob. 8.48: The plate is a 1 m square, held at 95°C.

Page 463, Fig. 9.3: The label “b” should be “c” and vice versa, but the words in both captions are correct.

Page 486, Table 9.3, Situation 1: $L' \geq 30$.

Page 486, Table 9.3, Situation 2: $1.14(\lambda_{d_1}^2 N_j / A_{\text{heater}})$ for $10 < L' < 20$, where N_j is the number of vapor jets on a heater, which may either be estimated on the basis of λ_{d_1} and heater dimensions or be observed experimentally.

Page 487, Example 9.7: L' should be R' in two places.

Page 492, Fig. 9.14, upper frame legend: black circles are “clean, both smooth and rough” and the other two symbols are “unclean, both oxidized and not oxidized”

Page 494, Eqn. (9.36): $r^{0.0125}$ should be $r^{0.125}$.

Page 502, Eqn. (9.45): Remove D , which is carried in h_{10} . From the dimensions four lines below, remove J.

Page 534, line 6b: Replace “flux. from dA .” by “flux from dA .”

Page 541-2: Revise example to make slit planar, rather than curved. On page 541, the slit area decreases to $0.01294 \text{ m}^2/\text{m}$. On page 542, the three view factors change to 0.06067, 0.9393, and 0.8441, respectively; and the heat loss decreases to 611 W/m .

Page 556, line 11b: Replace “ A_l ” by “ A_s ”

Page 560, line 6b: Replace “(10.33a)” by “(10.33b)”

Page 561, line 3: Replace “(10.33b)” by “(10.33a)”

Page 572, line 9: Transpose H_2O and CO_2

Page 574, Fig. 10.23: The label “atm-m” should be “atm-ft”

Page 575, line 10b: Replace “ $p_{\text{H}_2\text{O}}$ ” by “ p_{CO_2} ”

Page 599, Introduction, line 7: Replace “diffuses” by “diffusion”.

Page 604, line 10b: Replace “(11.15)” by “(11.14)”.

Pages 618, line 1; passim: Replace “molecular weight” by “molar mass”.

Pages 645-647, Example 11.10, passim: Replace “naphthalene” by “naphthalene”.

Page 683, Problem 11.40, line 1: Replace “absorbtion” by “absorption”.

Pages 648, Problems 11.42 and 11.43, passim: Replace “naphthalene” by “naphthalene”.

Page 705, Table A.2, first entry: Replace “Pyrolitic” by “Pyrolytic”.

Page 710, Table A.3, Heavy Water: Change the properties as follow: $\rho = 744.5 \text{ kg/m}^3$; $c_p = 6070 \text{ J/kg}\cdot\text{K}$; $k = 0.4484 \text{ W/m}\cdot\text{K}$; $\alpha = 0.9921 \times 10^{-7} \text{ m}^2/\text{s}$; $\nu = 1.163 \times 10^{-7} \text{ m}^2/\text{s}$; and $\text{Pr} = 1.172$.

Page 734, γ : The units of electrical conductivity are $(\Omega\cdot\text{m})^{-1}$.

Péclet number: “Péclét” should be “Péclet” on pages 307 (line 7b), 367 (line 4b), 368 (ordinate label), 385 (line 5b), 737, and 752.