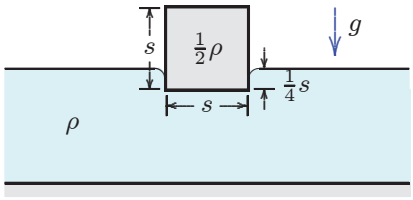
Known Typographical Errors in the Fourth Edition, First Printing of Basic Fluid Mechanics by D. C. Wilcox

These are all of the known typographical errors as of December 30, 2011.

1. Page 45, Problem 1.73, figure: The curvature of the free surface near the cube is incorrect. The correct figure is as follows.



2. Page 82, Problem 2.42, lines 4-5: Replace "specific gravity" with "specific weight".

3. Page 87, Problems 2.78 and 2.80, first line: Replace "thrust force, T" with "thrust force, $\mathcal{T}$" to avoid confusion with "(dimensions of $1/T$)" on the third line.

4. Page 101, Table 3.1, third row: Replace "216.15 K" with "216.65 K".

5. Page 135, Problem 3.70, first line: Replace "$h = \frac{1}{5}h$" with "$h = \frac{1}{5}H$".

6. Page 207, Problem 5.27: Replace "constant of dimensions $1/L$" with "constant of dimensions $1/T$".

7. Page 255, Problem 6.15: Replace "10° C" with "20° C".

8. Page 264, Problem 6.57, fourth line: Replace "Also, the pressure" with "Also, the pressures".

9. Page 272, Problem 6.84, figure: Replace "$p + \Delta p$" with "$p_a + \Delta p$".

10. Page 278, Problem 6.106, last line: Replace "$\eta = 1 - 4r/D$" with "$\eta = 1 - r/R$".

11. Page 301, Example 7.5, last equation: Replace "[1.59)" with "[1.59".

12. Page 321, line just below Equation (7.115): Replace "suppose the ratio of length to diameter ratio" with "suppose the length to diameter ratio".

13. Page 358, Problem 7.76: Replace "If the head loss between the inlet and the outlet pipe with diameter $D/2$ is $h_L = 0.2U^2/g$, where g is gravitational acceleration. The kinetic-energy correction factor is $\alpha = 1$ throughout," with "The head loss between the inlet and the outlet pipe with diameter $D/2$ is $h_L = 0.2U^2/g$, where g is gravitational acceleration. If the kinetic-energy correction factor is $\alpha = 1$ throughout,".

14. Page 389, Problem 8.11(d): Add "Assume $p = 1$ atm."

15. Page 391, Problem 8.30, figure: Replace "$M = 2$" with "$M = 1.5$".

16. Page 448, first line: Replace "Equation (10.30)" with "Equation (10.29)".

17. Page 457, Problem 10.24: Add "Neglect the rolling friction force."

18. Page 538, Problem 11.62(c): Replace "$p(R,\pi) = p_\infty + \frac{1}{2}\rho\Omega^2$" with "$p(R,\pi) = p_\infty + \frac{1}{2}\rho U^2$".

19. Page 570, Equation (12.81): Replace "$-$" with "$+$" before the third and fifth terms on the right-hand side.

20. Page 570, Equation (12.86): Replace "$f_y^{(v)}$" and "$f_z^{(v)}$" with "$F_y^{(v)}$" and "$F_z^{(v)}$", respectively.

21. Page 540, Problem 11.73: Replace "$2T_{max}/c = 0.09V$" with "$2T_{max}/c = 0.09$".

22. Page 653, Problem 13.23(c), next to last line: Replace "equal to be zero" with "equal to zero".

23. Page 741, Problem 14.52, first line: Replace "A flat plate" with "A rectangular flat plate".

24. Page 741, Problem 14.54, figure: Move the coordinate axes so that the origin lies at the leading edge of the plate.

25. Page 823, Problem 15.82, equation: In the first term, replace "$\frac{1}{2}\left(u_{i+1}^n - u_{i-1}^n\right)$" with "$\frac{1}{2}\left(u_{i+1}^n + u_{i-1}^n\right)$". The correct equation is

$$\frac{u_i^{n+1} - \frac{1}{2}\left(u_{i+1}^n + u_{i-1}^n\right)}{\Delta t} + a\,\frac{u_{i+1}^n - u_{i-1}^n}{2\Delta x} = 0$$

26. Page 868, next to last line in right column: Replace "Hydrostatic relation for pressure" with "Hydrostatic relation for pressure (*defined*)".