CORRECTIONS

page / Equation, Line, Fig., Table # **Correct form** (correction highlighted in red)

p0/back page

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p19/E1.26

$$W = \left(\frac{\pi a^2}{2}\right)H = \frac{1}{2}H\pi h^2 \tan^2\theta,$$
$$F_p = axH = Hx^2 \tan\theta.$$

p61/E2.21

$$\int_{\Delta v} \rho\left(\frac{d\mathbf{v}}{dt} - \mathbf{f}\right) dv = \oint_{\Delta s} \mathbf{t}\, ds.$$

p69/4th E

$$\frac{\gamma_z}{dt} = \left(\frac{d\alpha}{dt} + \frac{d\beta}{dt}\right).$$

p83/E2.81

$$\mathrm{R}_\varepsilon\left(\frac{\overline{u}(\partial\overline{u})}{\partial\overline{x}} + \frac{\overline{v}(\partial\overline{u})}{\partial y}\right) = -\frac{\partial P}{\partial\overline{x}} + \frac{\partial^2\overline{u}}{\partial\overline{y}^2}, \quad \text{space} \quad \frac{\partial\overline{u}}{\partial\overline{x}} + \frac{\partial\overline{v}}{\partial\overline{y}} = 0.$$

p83/L11

also introduced the change of variables

p133/E3.155

$$h_\eta(x) = h_0(x) + h_1(\xi).$$

p135/E3.163

$$= \Lambda\frac{\partial h_\eta}{\partial\xi_1} - \nabla\cdot\left(h_\eta^3\nabla_\xi\omega_3\right) - \nabla_\xi\left(h_\eta^3\nabla p_1\right).$$

p136/E3.165

$$\nabla\cdot[A(x)\nabla p_0 + B(x)] = 0, \qquad p_0 = 0 \quad \text{on} \quad \partial\Omega,$$

where we consider ∇p_0 a column vector.

p140/Table 3.5

Coefficient of friction (%)

p141/Table 3.6

Coefficient of friction (%)

p142/last L

$(\,)_\eta$ pertaining to roughness η

p146/L3

Zür hydrodynamische (separate words)

p156/E4.26b

$$\overline{C}_{\xi\eta} = \frac{\partial f_T}{\partial \dot{\varepsilon}/\omega}\sin^2\phi \cdots \; etc.$$

(delete negative sign following =)

p158/E4.36

$$\alpha = \frac{2\left(\overline{K}_{xy}\overline{C}_{yx} + \overline{K}_{yx}\overline{C}_{xy} - \overline{K}_{yy}\overline{C}_{xx} - \overline{K}_{xx}\overline{C}_{yy}\right)}{\left(\overline{C}_{xx} + \overline{C}_{yy}\right)}.$$

p179/E4.91 $\bar{Z}_c = \frac{1}{2}\bar{d}(2\bar{\imath} - 1)$.

p188/E5.4a $P = \frac{\rho r^2 \omega^2}{\sinh^2|\alpha_1|} p$

p189/E5.6b $+\frac{2\Delta \sin\hat{\beta}}{h}\frac{\partial u}{\partial \alpha} - \frac{\sinh \hat{\alpha}}{\pi h}\frac{\partial u}{\partial \beta}$

p197/L4 clearance ratio $\left({}^{C}/_{R}\right)$, i.e., $P_{RE} < P_{NS}$

p211/E5.64 $+2(f_{\downarrow}0^{\uparrow\prime\prime} f_{\downarrow}1 + f_{\downarrow}0 f_{\downarrow}1^{\uparrow\prime\prime})] + \cdots = 0.$

p223/L19 Let $\{U(x,t), P(x,t)\}$ and $\{u(x,t), p(x,t)\}$

p237/L22 variables and $\sigma \in \boldsymbol{\Sigma}$ is the vector of parameters $\eta, \vartheta, \mathbf{Re}, \varepsilon$.

p238/E6.29 $\tilde{G}(\mu) = 0, \qquad \mu = (u, \sigma).$

P256/L17 the equations of motion [Eqs. (2.54b)], the equation of continuity [Eq. (2.16c)], and

p263/Fig.7.2 the law of the wall, Eq. (7.32).

p263/E7.35 $\varepsilon_m = A\left(\overline{\frac{q^2}{2}}\right)^{1/2}, \qquad \Lambda$

p269/L6 $0.125\, R_h^{00.7}$.

p273/L9 $\bar{U}$ and $\overline{W}$ from Eqs. (7.64a) and (7.64b) directly

p273/last E $I(\eta) = \int_{0}^{\eta} \frac{dY'}{1 + \frac{\varepsilon}{\nu}}, \qquad J(\eta) = \int_{0}^{\eta} \frac{Y'\,dY'}{1 + \frac{\varepsilon}{\nu}}.$ (NB.: Greek “nu”, not Latin “vee”)

p275/L18 shows that $m_0 - m_1 =$

p288/L1 assuming that in the neighborhood of contact

p302/Fig. 8.9 for nominal point contact, $\kappa = 1$.

p311/L8 for any $x' \in [x_{j-1} - x_j, x_{j+1} - x_j]$

p322/E8.101 $\hat{\boldsymbol{u}}^{2h} \leftarrow I_h^{2h}\tilde{u}^h + e^{2h}$.
p322/E8.102 $\tilde{\boldsymbol{u}}^{2h} \leftarrow I_h^{2h}\tilde{u}^h$

p330/L16 we may suppose $\boldsymbol{w}^h$, the displacement

p358/E9.11, E9.12 Use lower case, bold, Latin “vee” $\boldsymbol{v}$, not Greek “nu” ν .

p359/L1	multiplying v_k vanishes
p359/E9.20b, E 9.21	Use lower case, bold, Latin "vee" $\boldsymbol{v}$, not Greek "nu" ν .
p359/ last §	the dilatation work $-p\ \mathbf{div}\ \boldsymbol{v} = \mathbf{0}$ by Eq. (2.16c)
p359/footnote 3	$\rho\left({}^{d}/_{dt}\right)(c_v\Theta) + p\ \mathbf{div}\ \boldsymbol{v} = \mathbf{0}$ (p not bold!)
p361/E9.25b	$= \frac{\partial}{\partial x_i}\overline{v_i'\left(p + \rho\frac{q^2}{2}\right)} -$
p361/E9.27	$\rho c\left[\bar{V}_j\frac{\partial\bar{\Theta}}{\partial x_j} + \cdots\right]$
p362/E9.28	$\rho c\bar{V}_j\frac{\partial\bar{\Theta}}{\partial x_j} = \cdots$
p362/E9.29	$\mu = \frac{\bar{\mu}}{\mu_*},\ \xi = \frac{x}{R},\ \eta = \frac{y}{h},\ \zeta = \frac{2z}{L}.$
p363/L19	$R_h =$
p363/E9.36a	$\vartheta = \{$
p392/E10.4	$= -\frac{\partial p}{\partial x_1} + \frac{\partial T_{11}}{\partial x_1}\cdots$ $= -\frac{\partial p}{\partial x_2} + \frac{\partial T_{21}}{\partial x_1}\cdots$
p394/E10.13a	$\nabla\chi\cdot\left(\hat{X} - X\right) + \cdots$
p407/E10.48	$\frac{\partial w}{\partial y} = A\frac{d\tau_{zy}}{dt} + \tau_{zy}F(\tau_e)$
p418/L8	$\frac{\mu(p)}{p} \to 0$ as $p \to \infty$.
p422/3rd E	$\boldsymbol{v}^{(\alpha)}(\boldsymbol{x},t) = \dot{\boldsymbol{x}}_\alpha[\chi_\alpha^{-1}(\boldsymbol{x},t)]$.
P425/L4	quantities in E. (10.90) is now assumed to be a function of the variables of Eq. (10.93),
p440/E10.107	$\cdots\left[\mu_{blood}\sqrt{\frac{c_1^2D^2}{(1-D^2)c_2^2}}\right]^{2.416}\Delta t^{-0.215}$.
p468/L23	the velocity at the point Q and of the wall,
p472/Fig. 12.4	Knudsen number

(···, **Continuum**; —, **Boltzmann** *eq.*; — ·· —, **1st order**; **etc.**)

p480/last §	"*in isothermal conditions* ··· *Boltzmann operator are negligible*"

p519/L3	of motion (10.85) and continuity (10.91), for steady flow
p519/L10	body force (cf., 10.95a) and the mixture
p530/4th E	$M_{ij} = \left[\quad \right]$
	$N_{ij} = \left[\quad \right]$