

ERRATA: Airplane Design Part VI

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Please check the website www.darcorp.com for updated errata

page 200, Figure 6.38

Vertical axis units should be in 1,000 lb

page 205, Line 9

Should read

‘ SHP_{av}	285	248	206	172	140
$(SHP_{av}\eta_{inl/inc} - P_{extr})$	275	239	198	165	133
P_{av}	242	210	174	145	117’

page 212, Figure 7.5

Vertical axis units should be in 1,000 lb

page 269, Equation (8.37)

Should read:

$$\eta_h = 1 - \left[\left\{ \cos^2 \left(\frac{\pi z_{h_{wake}}}{2 \Delta z_{wake}} \right) \right\} \left\{ 2.42 \sqrt{C_{D_{ow}}} \right\} / \frac{x_{h_{wake}}}{\bar{c}} + 0.30 \right]$$

page 269, Line 23

Should read

$$\text{‘where: } z_{h_{wake}} = a \sin(\gamma_h - \alpha - i_w + \varepsilon_h) \quad (8.38a)$$

$$x_{h_{wake}} = a \cos(\gamma_h - \alpha - i_w + \varepsilon_h) \quad (8.38b)$$

with $a, \gamma_h, \varepsilon_h, i_w$ and α shown in Fig. 8.63.’

page 269, Equation (8.39)

Should read: $\varepsilon_h = \varepsilon_{h_0} + \left(\frac{d\varepsilon_h}{d\alpha} \right)_{p.off} \alpha$

page 269, Equation (8.40)

$$\Delta z_{wake} = 0.68\bar{c} \sqrt{C_{D_{ow}} \left(\frac{x_{h_{wake}}}{\bar{c}} + 0.15 \right)}$$

page 273, Figure 8.65c

$$‘K_H = \frac{1 - \left| \frac{h_h}{b} \right|}{\sqrt[3]{\frac{2l_h}{b}}}, \text{ should be } ‘K_h = \frac{1 - \left| \frac{h_h}{b} \right|}{\sqrt[3]{\frac{2l_h}{b}}},$$

page 398, Equation (10.44)

Should read:

$$C_{nT\beta} = - \text{Sum}_{i=1}^{i=n} \left[\frac{\left\{ \left(\frac{dC_N}{d\alpha} \right)_{p_i} \left(\frac{\pi}{4} \right) (D_{p_i})^2 (l_{p_i}) \right\}}{Sb} \right]$$

page 400, Equation (10.45)

Should read: $C_{nT\beta} = - \text{Sum}_{i=1}^{i=n} \frac{0.035 m_{a_i} l_{n_i}}{Sb \rho U_1}$

page 435, Equation (10.89)

Should read: $C_{D_{i_h}} = \frac{2C_{L_o}}{\pi A e} C_{L_{\alpha_h}} \eta_h \frac{S_h}{S}$

page 435, Line 36

Should read ‘where: C_{L_o} is the airplane zero-angle-of-attack lift coefficient follows from Eqn. (10.90).’

page 436, Equation (10.90)

Should read:

$$C_{L_o} = C_{L_{o_{wf}}} + C_{L_{\alpha_h}} \eta_h (S_h/S) (-\alpha_{o_{L_h}} - \varepsilon_{o_h}) + C_{L_{\alpha_c}} \eta_c (S_c/S) (-\alpha_{o_{L_c}} - \varepsilon_{o_c})$$

page 436, Line 3-7

Remove Line 3-7

page 439, Equation (10.97)

Should read: $C_{D_{i_c}} = \frac{2C_{L_o}}{\pi A e} C_{L_{\alpha_c}} \eta_c \frac{S_c}{S}$

page 439, Line 5

Should read ‘where: C_{L_o} is the airplane zero-angle-of-attack lift coefficient follows from Eqn. (10.98).’

page 439, Equation (10.98)

Should read:

$$C_{L_o} = C_{L_{o_{wf}}} + C_{L_{\alpha_h}} \eta_h (S_h/S) (-\alpha_{o_{L_h}} - \varepsilon_{o_h}) + C_{L_{\alpha_c}} \eta_c (S_c/S) (-\alpha_{o_{L_c}} - \varepsilon_{o_c})$$

page 439, Line 8-12

Remove Line 8-12