Design, Analysis and Research Corporation (DARcorporation)

# ERRATA: Airplane Design Part VI


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(Errata Revised June 19, 2018)

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

*page 205, Line 9* Should read

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

*page 269, Equation (8.37)* Should read:

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

*page 269, Line 23* Should read

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

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

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

*page 269, Equation (8.39)* Should read: $\varepsilon_h = \varepsilon_{h_o} + \left( \frac{d\varepsilon_h}{d\alpha} \right)_{p.off} \alpha$

*page 269, Equation (8.40)* Should read: $\Delta z_{wake} = 0.68\bar{c} \sqrt{C_{D_{o_w}} \left( \frac{x_{h_{wake}}}{\bar{c}} + 0.15 \right)}$

*page 398, Equation (10.44)* Should read:

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

*page 435, Equation (10.89)* Should read: $C_{D_{i_h}} = \frac{2C_{L_o}}{\pi Ae} C_{L_{\alpha_h}} \eta_h \frac{S_h}{S}$

*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:

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

*page 436, Line 3-7* Remove Line 3-7

*page 439, Equation (10.97)* Should read: $C_{D_{i_c}} = \frac{2C_{L_o}}{\pi Ae} C_{L_{\alpha_c}} \eta_c \frac{S_c}{S}$

*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:

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

*page 439, Line 8-12* Remove Line 8-12