Design, Analysis and Research Corporation (DARcorporation)

ERRATA: Airplane Flight Dynamics and Automatic Flight Controls Part I

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page 28, Line 9	"un" should be in.
page 40, Line 26	Should read, " apply to cambered (un-symmetrical) airfoils."
page 59, Figure 2.20	Flap Chord, c_f , should go from hinge line to trailing edge
page 66, Figure 3.2	β should be β_1 in Note 3.
page 84, Eqn (3.30)	The wing incidence should be removed
page 97, Figure 3.28	Normal velocity vector on left wing should not be present.
page 99, Figure 3.30	Axis labeled as "Z" should be labeled as "X".
page 106, Eqn (3.67)	K_{SW} needs to be defined: is the gearing constant between cockpit control wheel or stick and aileron or spoiler deflection.
page 111, Eqn (3.76)	Should read: $F_{A_{y_v}} = C_{y_{\beta_v}} \beta \bar{q} S = -C_{L_{\alpha_v}} \left(1 - \frac{d\sigma}{d\beta}\right) \beta \bar{q}_v S_v$
page 115, Line 14	"The yawing moment due to the vertical tail me be written as:" should be "The yawing moment due to the vertical tail may be written as:"
page 117, Line 20	Line 20 should be between Lines 13 and 14.
page 118, Figure 3.46	"Positive rolling moment" should be labeled as "Yawing moment".
page 118, Figure 3.46, 1.)	"induces drag" should be "induced drag"
page 122, Eqn 3.92a	The summation should say $i = 1$
page 122, Eqn 3.92b	The summation should say $i = 1$

page 122, Eqn 3.92c — The summation should say $i = 1$

page 124, Eqn 3.95b — The summation should say $i = 1$

page 126, Table 3.4 — "V_1" should be "Q_1"

page 127, Line 4 — Should read, "2) partial derivatives in Table 3.4 indicate the slope by which a particular perturbed force or moment is affected by a particular perturbed variable."

page 133, Figure 3.51 — All "V_{P_1}" in this figure should be "V_p"

page 134, Figure 3.52 — Equation "$\arctan \left.\frac{\partial C_D}{\partial M}\right|_{M=M_2} > 0$" should be "$\arctan \left.\frac{\partial C_D}{\partial M}\right|_{M=M_2} < 0$". Figure should be labeled "Example of Determination of: $\partial C_D / \partial M$ at a constant angle of attack".

page 136, Eqn (3.119) — "C_L" should be "C_{L_1}"

page 136, Eqn (3.122) — Variable M should be "M_A"

page 147, Eqn (3.162) — "$\frac{\alpha \bar{c}}{2U_1}$" should be "$\frac{\dot{\alpha} \bar{c}}{2U_1}$"

page 162, Eqn (3.197) — "Cn_p" and "Cn_r" should be "C_{n_p}" and "C_{n_r}," respectively.

page 195, Line 6 — "Table 5.1" should be "Table 4.1".

page 196, Line 2 — "Table 5.1" should be "Table 4.1".

page 209, Fig 4.11b — The negative tail stall locus as shown in the diagram is wrong. The trim diagram should have a positive tail stall locus at $\alpha = 25^0$ and a negative tail stall locus at $\alpha = -12^0$. Both of these lines are out of the range of the diagram so none of them should be shown.

page 211, 11th line — The sentence that reads, "Figure 4.11b shows only the negative tail stall locus because the positive locus is outside of the diagram" should be removed.

page 225, Eqn (4.86b) — "C_{Y_r}" should be "C_{y_r}".

page 227, Eqn (4.96)	"C_{Y_r}" should be "C_{y_r}".
page 227, Eqn (4.97)(4.103)	"Φ" should be "Φ_1"
page 227, Line 6	The first sentence should be removed
page 228, Eqn (4.98)	Variables a_{11}, b_{11}, and c_{11} should be a, b, and c
page 228, Eqn (4.99)	Variables a_{11}, b_{11}, and c_{11} should be a, b, and c
page 228, Eqn (4.100)	Variables a_{11}, b_{11}, and c_{11} should be a, b, and c
page 228, Eqn (4.102)	"Φ" should be "Φ_1"
page 228, Eqn (4.102a)	Variable a_{11} should be a.
page 228, Eqn (4.102b)	Variable b_{11} should be b.
page 228, Eqn (4.102c)	Variable c_{11} should be c.
page 232, Eqn (4.113b)	"γ_1" should be "Θ_1"
page 232, Eqn (4.114a)	"γ_1" should be "Θ_1"
page 237, Lines 10-11	Should read: "From Eqn (4.133) it may be concluded that as long as L_h is positive (i.e. 'up') and $(x_{ac_{wf}} - x_{cg})$ is positive the canard load to trim, L_c, will also be positive (i.e. 'up').
page 259, Figure 4.36	In graph a) "$\delta_e = 2^o$" should be "$\delta_{t_e} = 2^o$"
page 259, Figure 4.36	In graph b) "dFe/dV" should be "dFs/dV"
page 263, Line 2	Second "the" should be removed.
page 269, Eqn 4.199	"$C_{n_{\beta_{fix}}} - C_{n_{\delta_r}}$" should be $C_{n_{\beta_{fix}}} + C_{n_{\delta_r}}$
page 273, Line 4	"and (4.209)" should be removed.
page 278, Line 6	HM should refer to Eqn (4.136).
page 278, Eqn (4.225)	Equation # 4.225 is repeated for two different equations.

page 278, Line 22	Should read, "The hingemoment coefficient equation…"
page 280, Line 15	"$\frac{\partial \delta_e}{\partial n}$" should be "$\frac{\partial F_s}{\partial n}$"
page 286, Eqn (4.241)	$C_{h_{\beta_r}}$ should be $C_{h_{\beta_v}}$
page 288, Line 2	Sentence should read "Exceptions to this are airplanes like the B-52."
page 288, Line 14	Remove "!" after "nose-gear."
page 288-290	"ground" subscript should be "g"
page 291, Eqn.(4.250)	$\ddot{\theta}$ should be $\ddot{\theta}_{mg}$
page 292, Figure 4.52b	x_{cg_g} labels should be reversed for $x_{cg_g} = 38\ ft$ and $x_{cg_g} = 39\ ft$
page 314, Figure 5.6	Solid black line needs removed.
page 316, Line 9	Line is "the system is zero" should be "the system are zero"
page 324, Line 16	Remove the list number "1)" and align row to far left.
page 328, Eqn (5.48)	">" should be "<"
page 328, Eqn (5.49)	">" should be "<"
page 333, Line 8	$T_1 = -0.35$ and $T_2 = 0.28$
page 342, Eqn (5.82a)	In equation, "$\frac{2\zeta_p s}{\omega_{n_{sp}}}$" should be "$\frac{2\zeta_p s}{\omega_{n_p}}$"
page 342, Eqn (5.82b)	In equation, "$\frac{2\zeta_p s}{\omega_{n_{sp}}}$" should be "$\frac{2\zeta_p s}{\omega_{n_p}}$" and "$\frac{2\zeta_\alpha}{\omega_{n_\alpha}}$" should be "$\frac{2\zeta_\alpha s}{\omega_{n_\alpha}}$"
page 342, Eqn (5.82c)	In equation, "$\frac{2\zeta_p s}{\omega_{n_{sp}}}$" should be "$\frac{2\zeta_p s}{\omega_{n_p}}$"
page 350, Line 5	"$\phi(s)/\delta_e(s)$" should be "$\phi(s)/\delta(s)$"
page 364, Line 28	Eqn (5.120) should be Eqn (5.121)

page 381, Figure 5.24	For Damping Ratio “-1/T” should be “1/T”
page 381, Figure 5.25	For Damping Ratio “-1/T” should be “1/T”
page 396, Line 25	Should read, “…say 10 deg/deg/sec, a 3 deg/s pitch rate…”
page 398, Line 2	“elevator deflection” should be “rudder deflection”
page 401, Figure 5.44	On the Y_B vector, the smaller vector should be labeled “q”
page 405, Lines24-28	Omit paragraph contained by lines 24-28.
page 407, Line 13	$\cos\theta = 1$ for small angles.
page 427, Line 6	Remove the return so “be” and “written” are on the same line.
page 427, Line 7	“time to double” should be “time-to-double.”
page 434, Line 12	Reference 6.5 should be Reference 6.6.
Appendix B	$C_{h_{\beta_r}}$ should be $C_{h_{\beta_v}}$ for all examples.
page 487, B2	C.G. location should be $0.33\,\bar{c}$