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Drag increment due to rear fuselage upsweep

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THE PREPARATION OF THIS DATA ITEM

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DRAG INCREMENT DUE TO REAR FUSELAGE UPSWEEP

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DRAG INCREMENT DUE TO REAR FUSELAGE UPSWEEP

1. NOTATION AND UNITS

		SI	*British*
A	aspect ratio of wing		
a	lift-curve slope of wing	radian^{-1}	radian^{-1}
C_D	drag coefficient based on maximum cross-sectional area of fuselage		
ΔC_D	drag coefficient increment due to rear fuselage upsweep at constant body incidence		
$\bar{c}_d$	empirical mean value of local cross-flow drag coefficient over rear fuselage, $k\bar{c}_{ds}$		
$\bar{c}_{ds}$	empirical mean value of local cross-flow drag coefficient for fuselage cross-sections with smooth perimeters		
d	fuselage maximum depth	m	ft
G	function defined by Equation (3.2)		
H	downwash parameter, see Equation (3.3)	radian	radian
k	factor on $\bar{c}_{ds}$ allowing for effect of perimeter of fuselage cross-section not being smooth		
l	overall length of fuselage	m	ft
l_r	length of upswept part of fuselage	m	ft
R_l	Reynolds number based on fuselage length		
R_w	Reynolds number based on fuselage maximum width		
r	corner radius of fuselage (see Figure 3)	m	ft
S_p	planform area of upswept part of fuselage	m^2	ft^2
S_{ref}	maximum cross-sectional area of fuselage	m^2	ft^2
S_s	area of side-elevation of upswept part of fuselage	m^2	ft^2
s	wing semi-span	m	ft
w	fuselage maximum width	m	ft

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