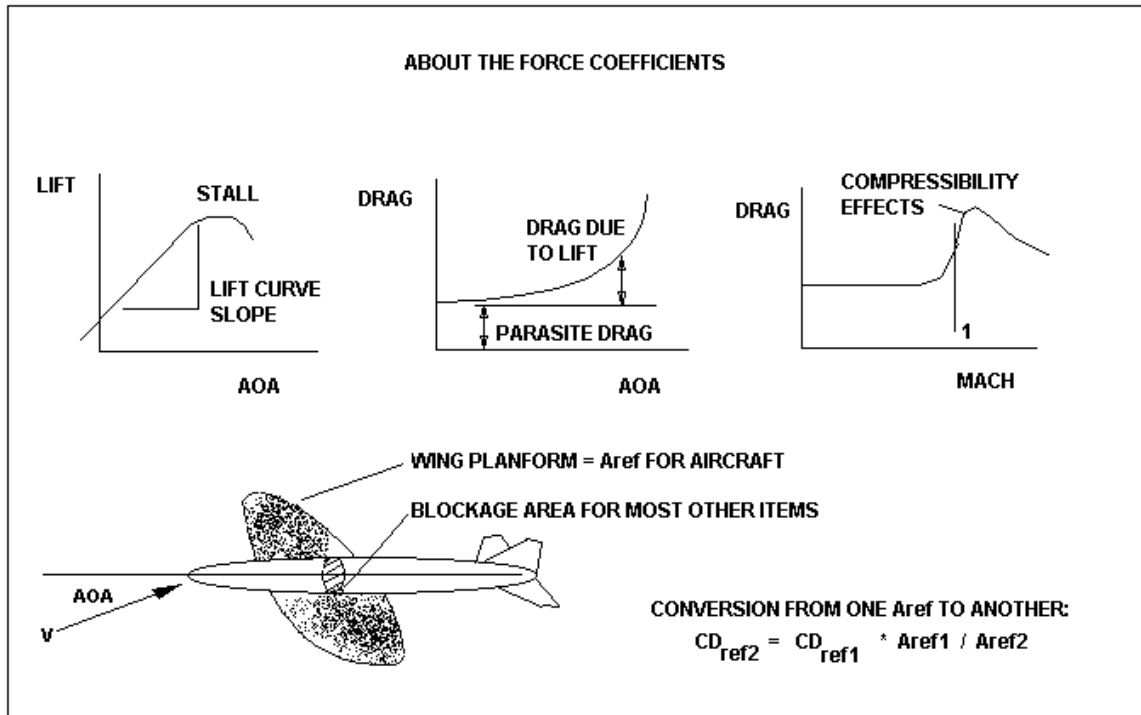


THE COEFFICIENTS AND WHAT THEY DEPEND UPON



Lift curves –

Typically, the slope for a straight wing is about 0.1 unit of CL per degree

Cambered airfoils have a slightly negative AOA for zero lift

Realistic simple airfoils tend to stall at about 10-12 degrees AOA

Drag Curves –

Drag due to lift (a.k.a. induced drag) is unavoidable: if you produce lift, you produce this drag, and you shed wake turbulence (vortices) from your wingtips

Parasite drag is all the other non-lifting drags combined

The increase in drag coefficient around Mach 1 is the “transonic drag rise”

Reference Areas –

Most aircraft forces are referred to the wing planform area

For some parasite components, drag is reported referenced to blockage area (or some other reference); these data must be converted before being combined