

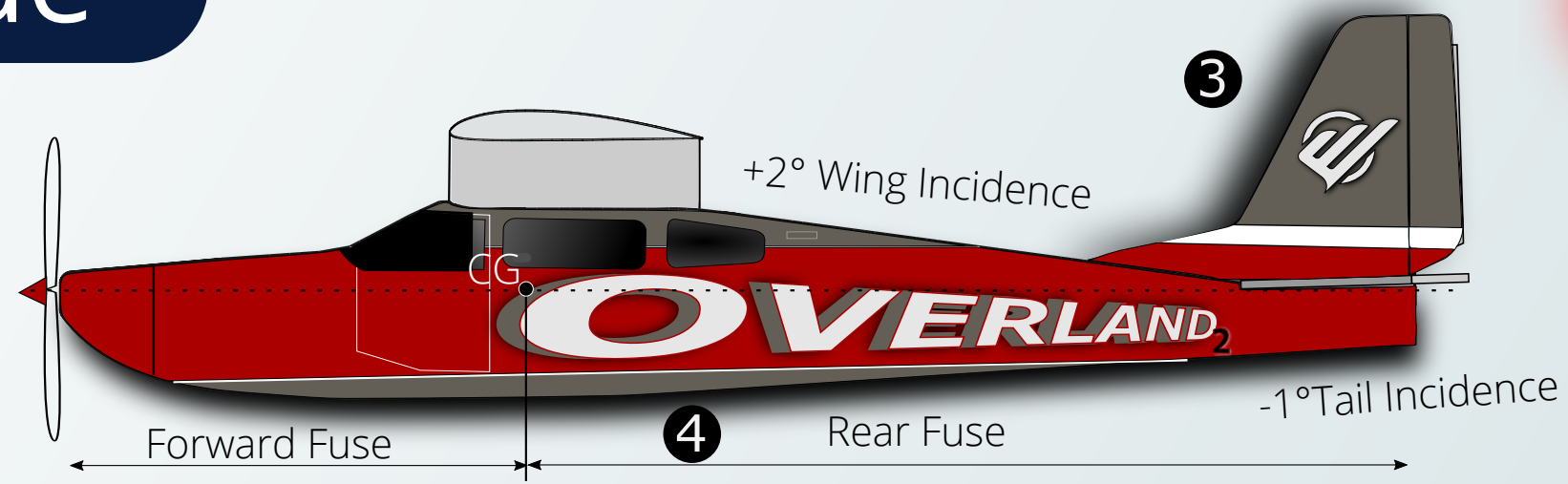
FIRST R/C AIRPLANE

Design Guide



STEP 1

Select a Wing Span
900mm to 1300mm
35in to 50in
1016 mm Wing Span



STEP 2

Select an Aspect Ratio
AR 5 to 7 **7** AR
Calculate the Chord
145mm Chord
Calculate the Wing Area
14.7dm² Wing Area

STEP 3

Size the Vertical Tail
8% Wing Area - Rudder Only
1.2 dm² Vert Tail Area

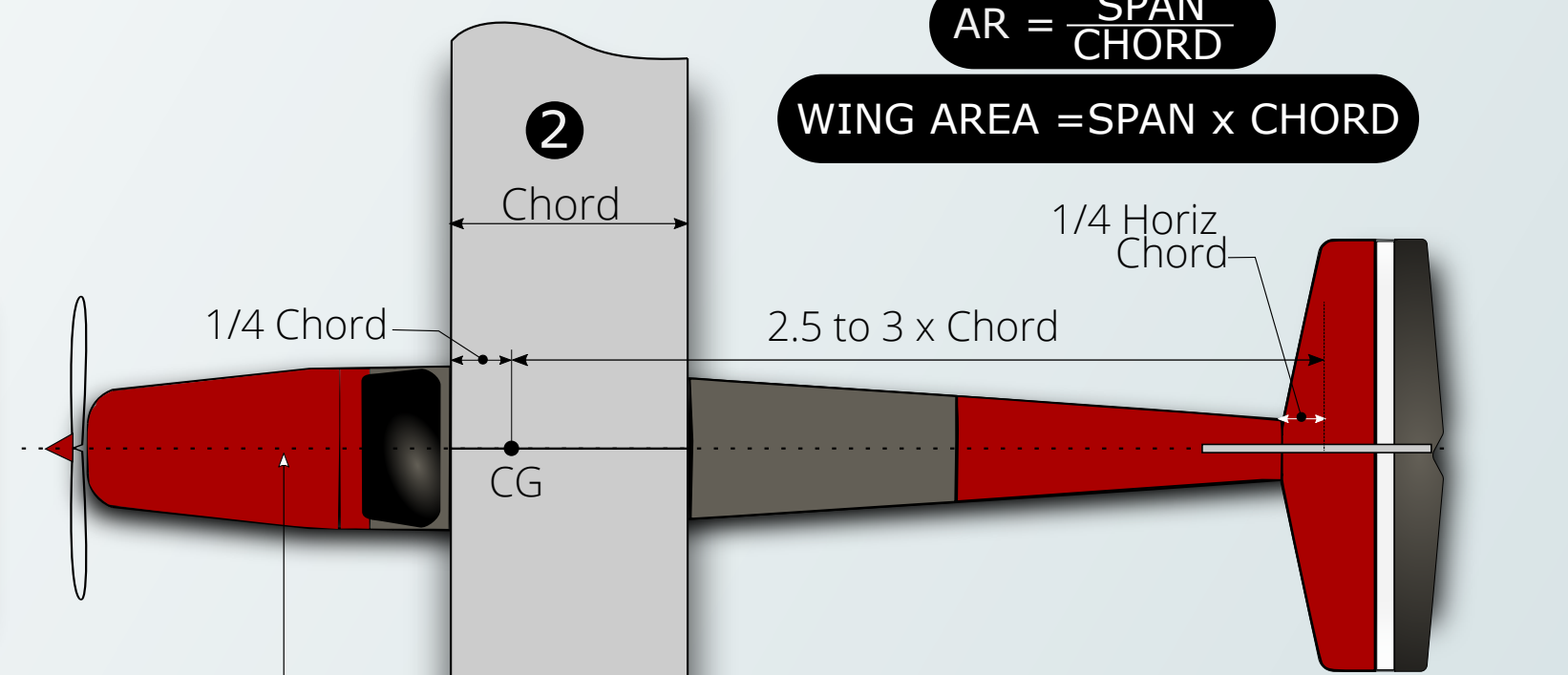
Size the Rudder
35% Vert Tail Area
0.42 dm² Rudder Area

Size the Horizontal Tail
18 to 22% Wing Area
2.65 dm² Horiz Tail Area
AR 3 to 5 **3.8** AR Horiz

Size the Elevator
35% Horiz Tail Area
0.93 dm² Elevator Area

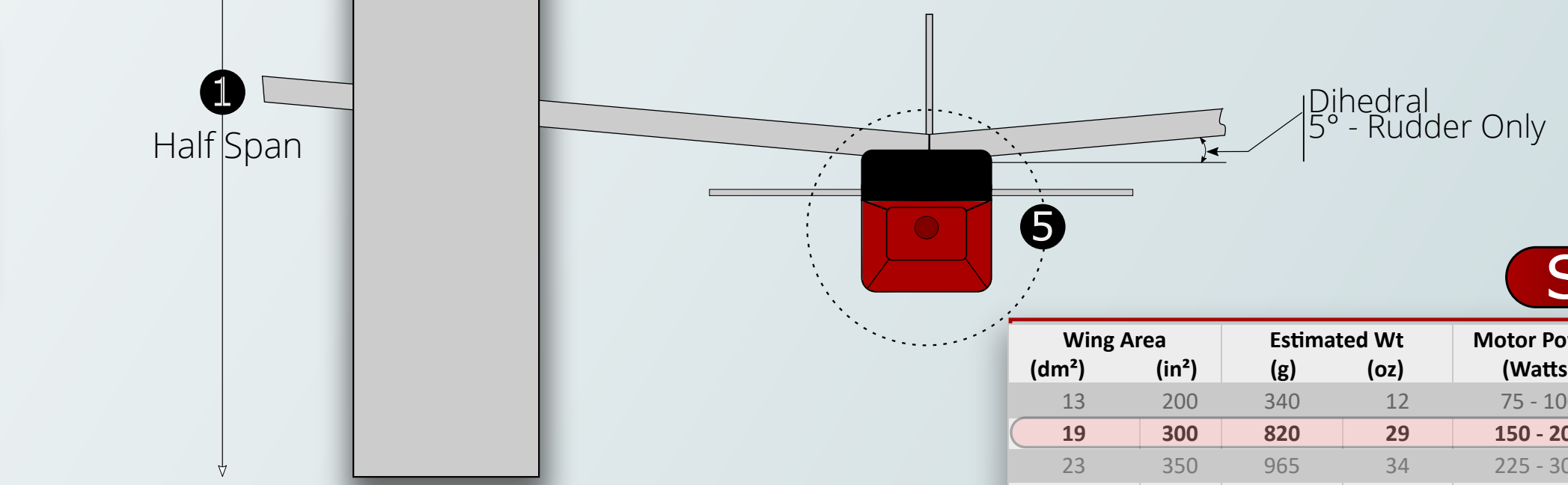
$$AR = \frac{SPAN}{CHORD}$$

$$WING AREA = SPAN \times CHORD$$



STEP 4

Size the Fuselage
Fwd Fuse 1.5 to 2 Chord
1.75 Fwd Fuse
Rear Fuse 2.5 to 3 Chord
3 Rear Fuse



STEP 5

Wing Area (dm ²)	Wing Area (in ²)	Estimated Wt (g)	Estimated Wt (oz)	Motor Power (Watts)	Prop Size
13	200	340	12	75 - 100	7x4
19	300	820	29	150 - 200	8x4
23	350	965	34	225 - 300	9x5
29	450	1500	53	375 - 550	10x5
39	600	2070	73	550 - 700	11x6