

MILITARY AEROSPACE		MINNESOTA
SCALE 1/48	MASTER ARRANGEMENT	MODEL SM-27S/T
ENGINEER C.R. Beskar		DRAWING NUMBER SM-27-001109
APPROVED 		DATE 12/08/2009

	WING	CANARD	HORIZ TAIL	VERT TAIL
AREA SQ FT.	243.39	36.37	88.52	58.32
SPAN FEET	47.00	12.10	20.58	12.96
ASPECT RATIO	9.08	4.03	2.39	2.88
TAPER RATIO	0.44	0.44	0.47/0.25	0.35
SWEEP AT 25%C	2.6°	32.2°	29.4°/19.4°	32.7°
ROOT CHORD FEET	7.19	4.19	6.18	6.67
TIP CHORD FEET	3.17	1.83	2.89/1.55	2.33
MAC FEET	5.44	3.16	4.73/4.33	4.85

WING

DIHEDRAL AT 0.25C	1.00°
INCIDENCE	ROOT 0.00° TIP -0.40°
AIRFOIL SECTION-ROOT	MODIFIED NACA 65-415
AIRFOIL SECTION-TIP	MODIFIED NACA 65-415
AVERAGE AIRFOIL SECTION	MODIFIED NACA 65-415

FLAPS

AREA SQ FT TOTAL	26.77
DEFLECTION TAKE-OFF	10°
DEFLECTION LANDING	30°
MAX DEFLECTION	40°
PERCENT OF WING CHORD	31%
PERCENT WING AREA AFFECTED	38%
TYPE	DOUBLE SLOTTED FOWLER

AILERON

AREA SQ FT TOTAL	15.88
DEFLECTION DEGREES	DN 30°-UP 30°
TYPE	SEMI-AERODYNAMICALLY MASS BALANCED

VERTICAL TAIL

RUDDER AREA SQ FT	32.68
RUDDER DEFLECTION DEGREES	+/- 30°
TYPE	SEMI-AERODYNAMICALLY MASS BALANCED
AIRFOIL SECTION	NACA 0009

CANARD

ELEVATOR AREA SQ FT	9.98
ELEVATOR DEFLECTION DEGREES	DN 25°-UP 25°
TYPE	SEMI-AERODYNAMICALLY MASS BALANCED
AIRFOIL SECTION	NACA 63-209
DIHEDRAL	3.00°

HORIZONTAL TAIL

ELEVATOR AREA SQ FT	71.79
ELEVATOR DEFLECTION DEGREES	DN 28°-UP 28°
TYPE	SEMI-AERODYNAMICALLY MASS BALANCED
AIRFOIL SECTION	NACA 0012
DIHEDRAL	-5.00°

POWERPLANT

NUMBER	1
TYPE	TURBOPROP
MODEL	P&WC PW127G
MAXIMUM TAKEOFF POWER, SHP	2,920
MAXIMUM TAKEOFF POWER, RPM	1,200
MAXIMUM TAKEOFF POWER, SFC	0.453
MAXIMUM CRUISE POWER, SHP	2,132
MAXIMUM CRUISE POWER, RPM	1,200
MAXIMUM CRUISE POWER, SFC	0.491
ENGINE LENGTH, INCHES	84.00
ENGINE WIDTH, INCHES	26.00
ENGINE HEIGHT, INCHES	33.00
ENGINE DRY WEIGHT, LBS	1,060
ENGINE BASIC TBO, HOURS	6,000

PROPELLER

NUMBER	2
TYPE	CONTRA-ROTATING CONSTANT SPEED SCIMITAR
MODEL	STAVATTI-AEROSILA
DIAMETER INCHES	120.00
NUMBER OF BLADES	8 x 6

NOSE GEAR

NUMBER OF STRUTS	1
NUMBER OF WHEELS PER STRUT	1
TIRE SIZE	19.5 x 6.75-8
PLY RATING	10TL
INFLATION PRESSURE, PSI	110

MAIN GEAR

NUMBER OF STRUTS	2
NUMBER OF WHEELS PER STRUT	1
TIRE SIZE	24 x 8.0-13
PLY RATING	18
INFLATION PRESSURE, PSI	285

WEIGHTS (SM-27T)

AIRCRAFT EMPTY WEIGHT (LBS)	11,200
DESIGN USEFUL LOAD (LBS)	12,904
FLIGHT CREW & FIXED AMMUNITION (LBS)	1,404
FUEL-STANDARD INTERNAL (LBS)	5,000
WARLOAD WITH STANDARD INTERNAL FUEL (LBS)	6,500
CLEAN TAKEOFF GROSS WEIGHT (LBS)	17,604
MAXIMUM GROSS TAKEOFF WEIGHT (LBS)	24,104

CENTER OF GRAVITY LOCATIONS

AIRCRAFT AERODYNAMIC CENTER FROM DATUM (FT)	23.24
AIRCRAFT AERODYNAMIC CENTER MAC (FT)	5.14
MAC LE DISTANCE FROM DATUM (FT)	21.97

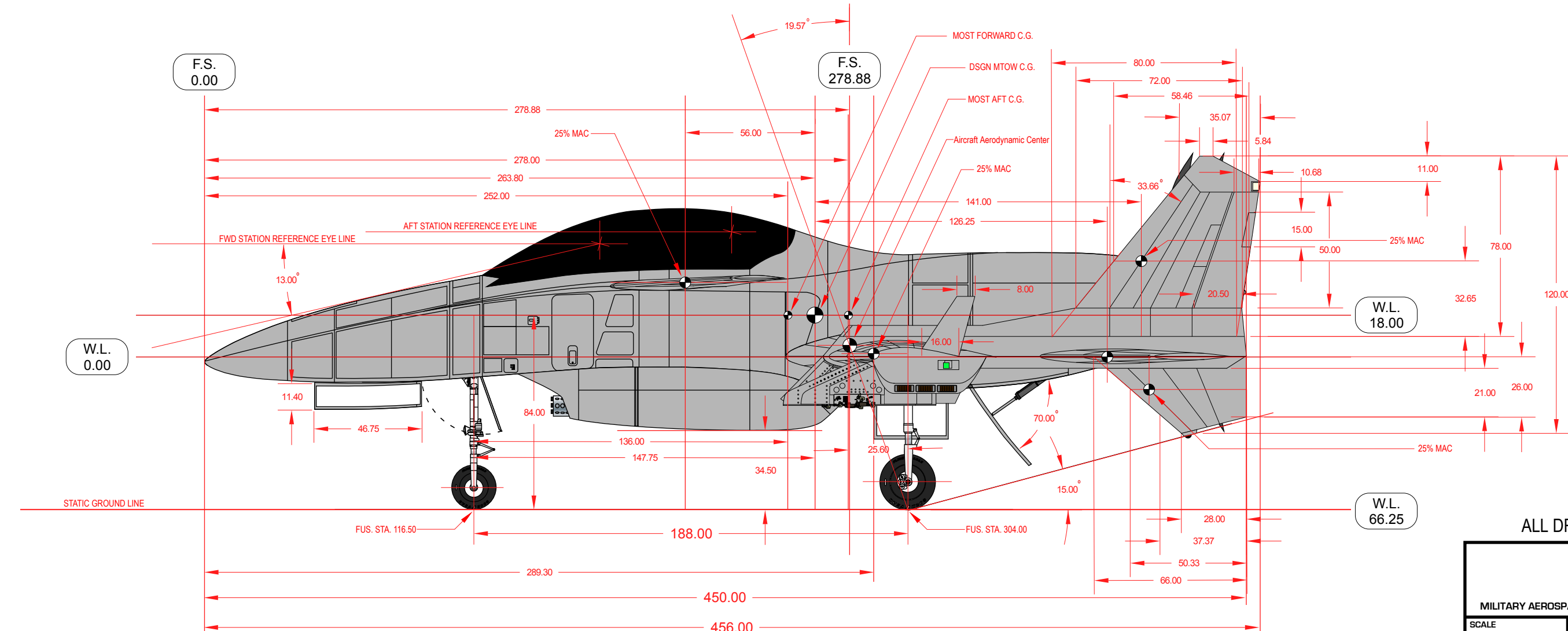
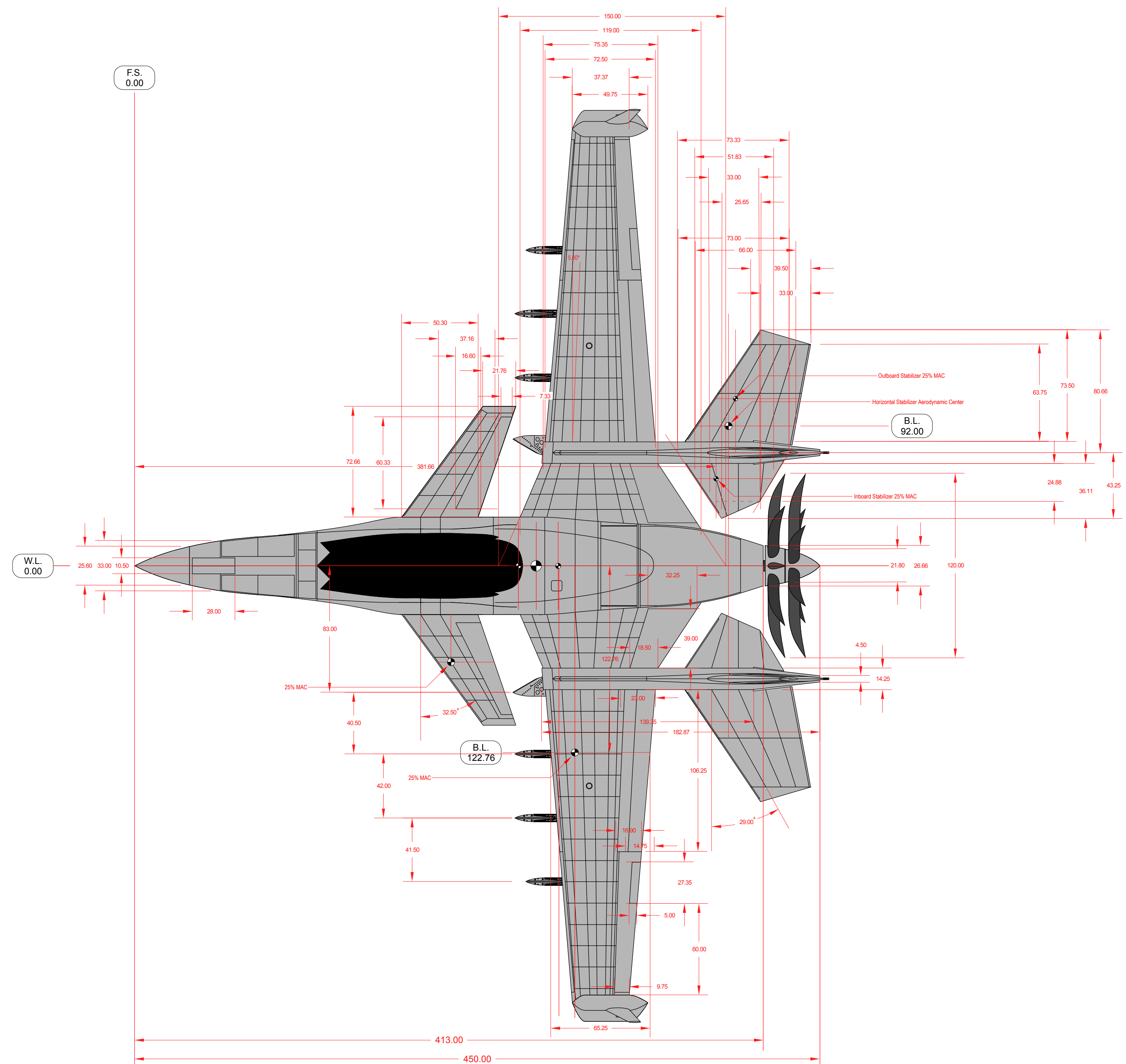
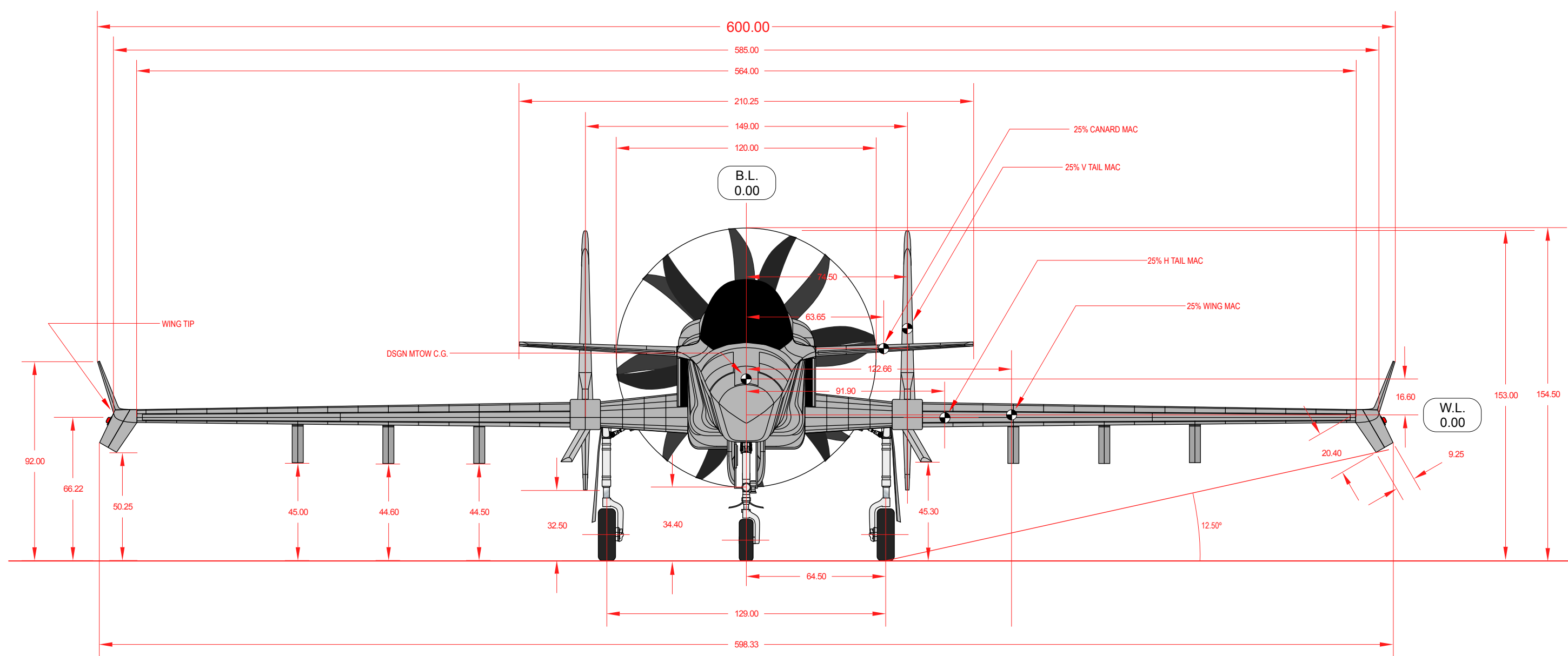
MOST FORWARD CG, % OF MAC	2.0%
MOST FORWARD CG, DISTANCE FROM DATUM (FT)	21.98

MTOW CG, % OF MAC	23.68%
MTOW CG, DISTANCE FROM DATUM (FT)	23.18

MOST AFT CG, % OF MAC	35.00%
MOST AFT CG, DISTANCE FROM DATUM (FT)	23.71

WETTED AREA (SQ FT)

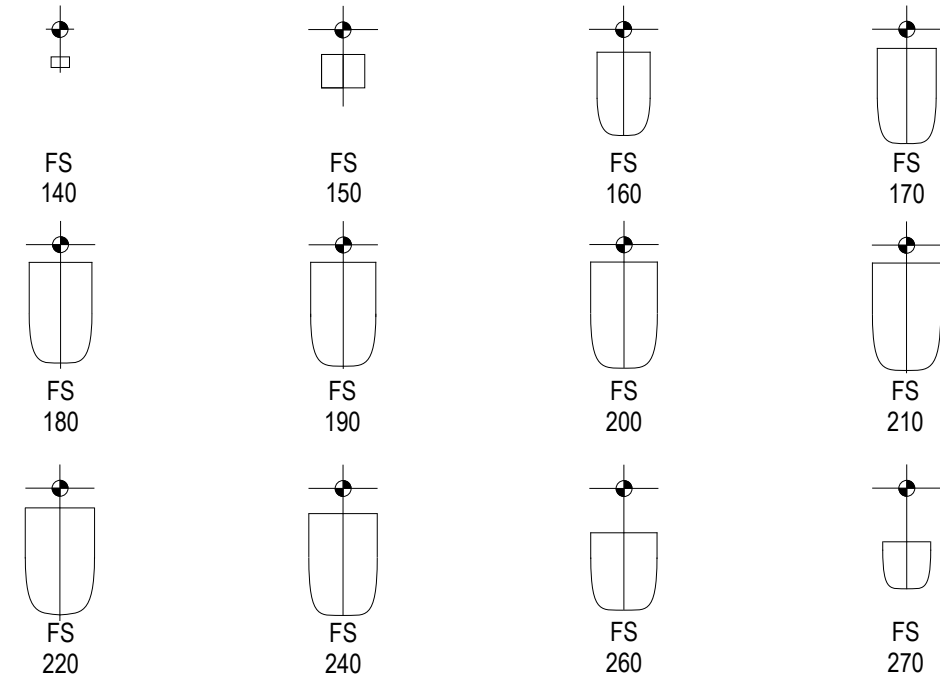
FUSELAGE	485
EMPENNAGE SUPPORT BOOMS	134
VENTRAL CANNON FAIRING	51
PROPELLER SPINNER	14
WINGTIP DISPENSERS	28
STORES PYLONS	116
WING	471
CANARD	75
HORIZONTAL STABILIZER	149
VERTICAL STABILIZER	180
TOTAL	1,703



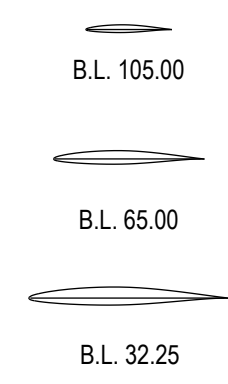
ALL DRAWING DIMENSIONS ARE IN INCHES (IN)

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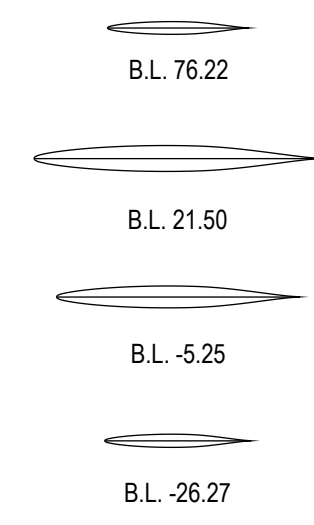
VENTRAL CANNON FAIRING CROSS SECTIONS



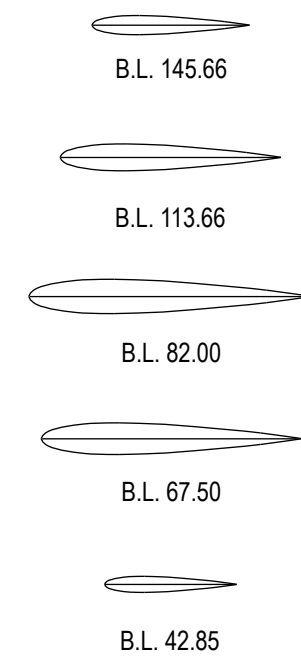
CANARD SECTIONS



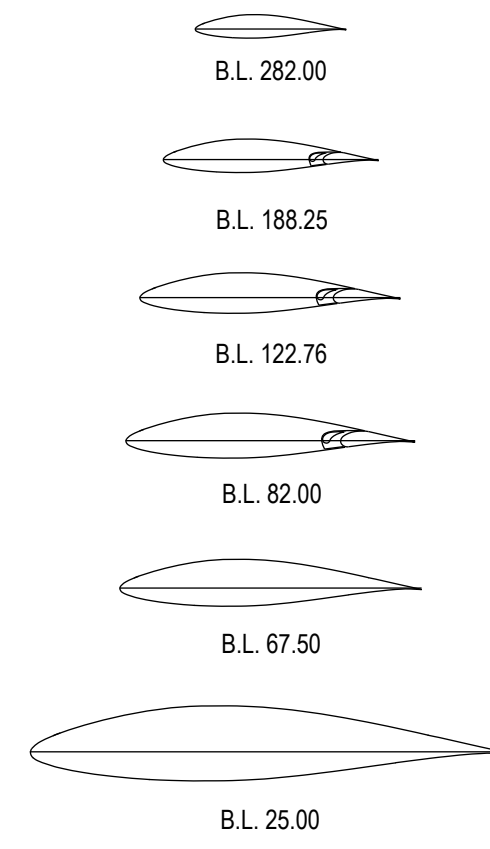
V TAIL SECTIONS



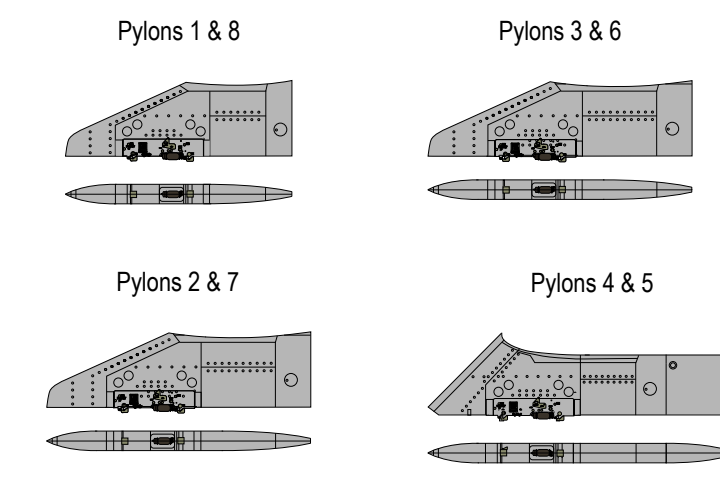
H TAIL SECTIONS



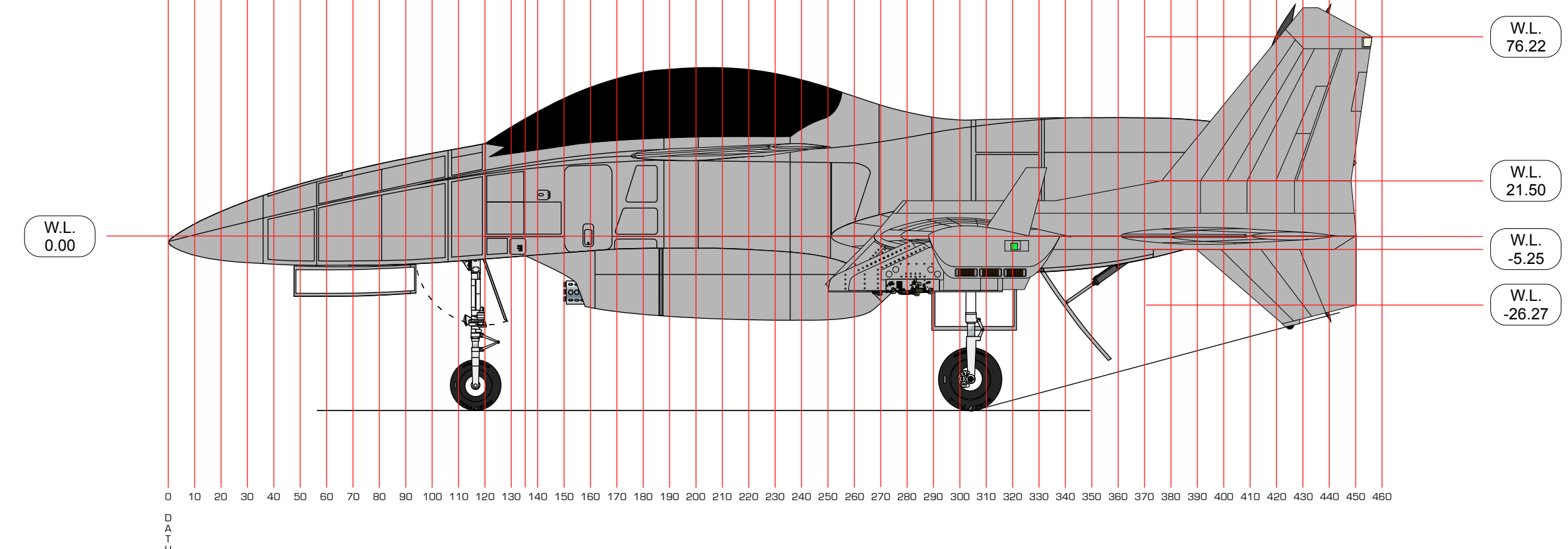
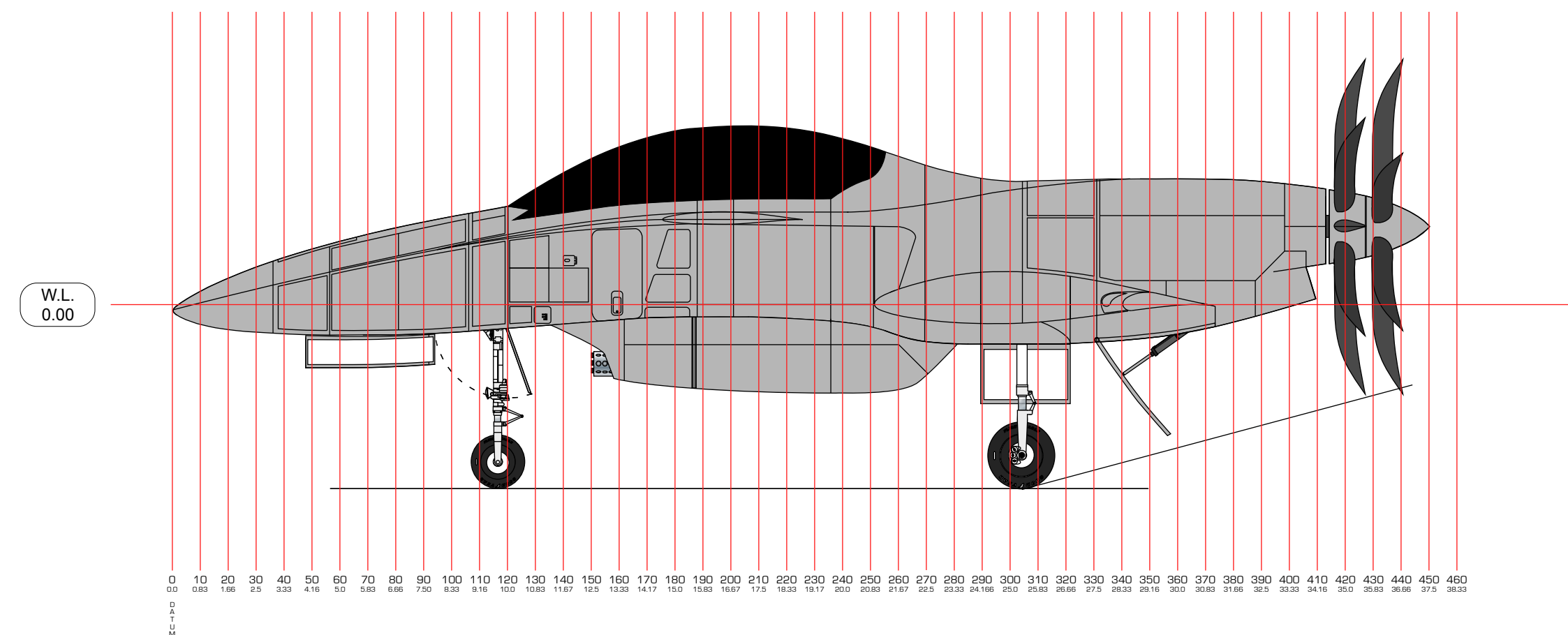
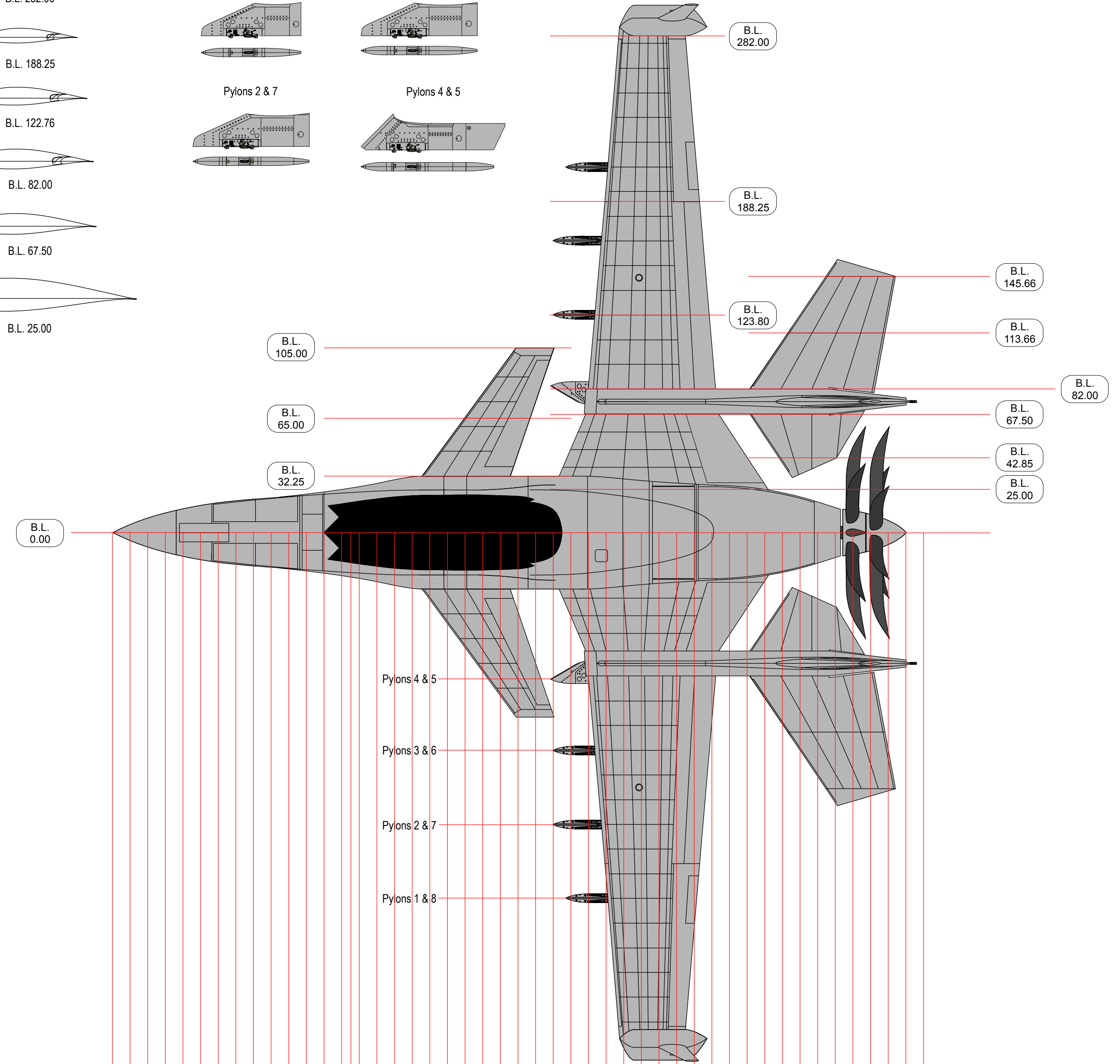
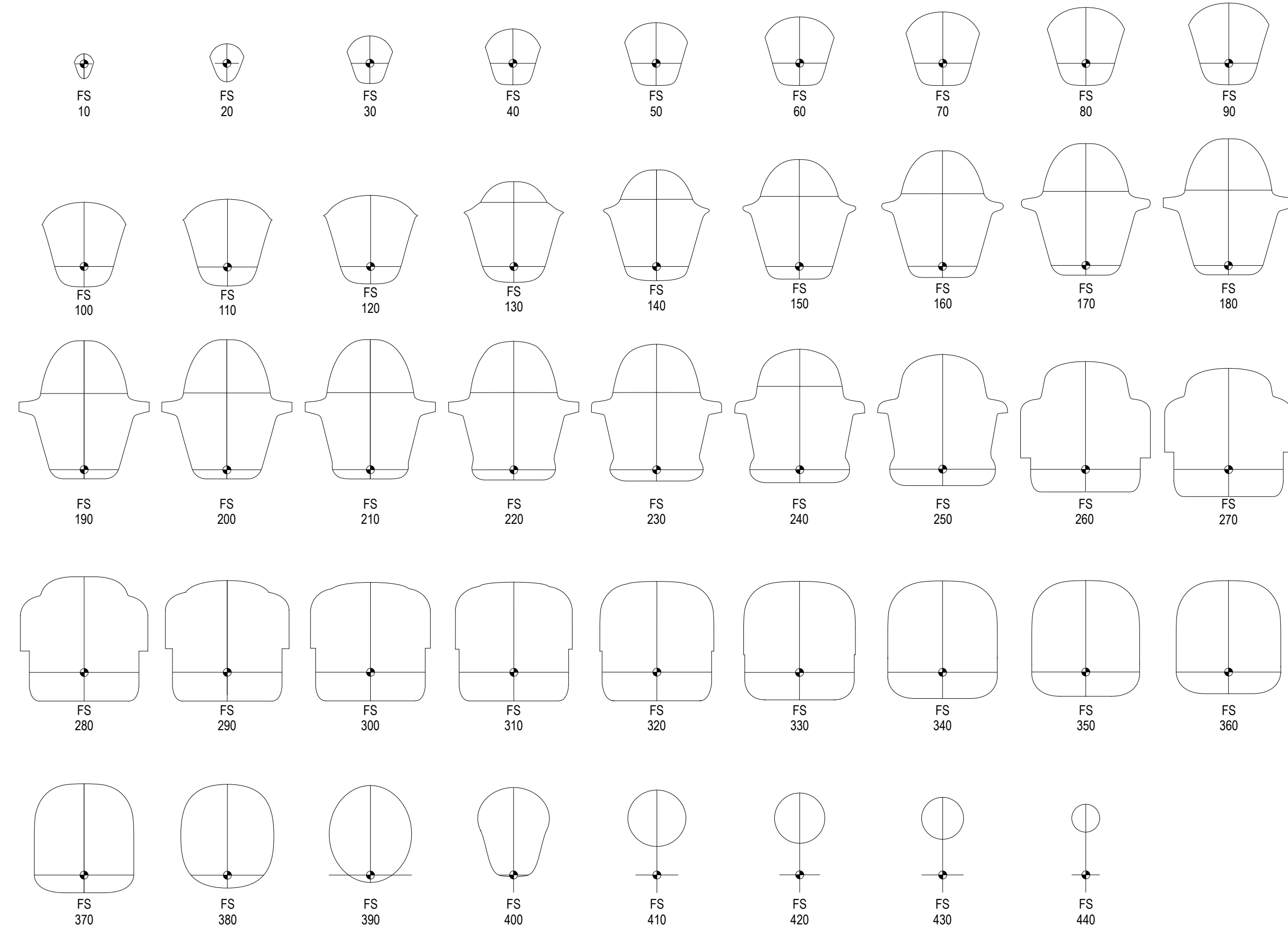
WING SECTIONS



STORES PYLONS



FUSELAGE CROSS SECTIONS



CROSS SECTION STATIONS ARE IN INCHES FROM DATUM (IN)

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