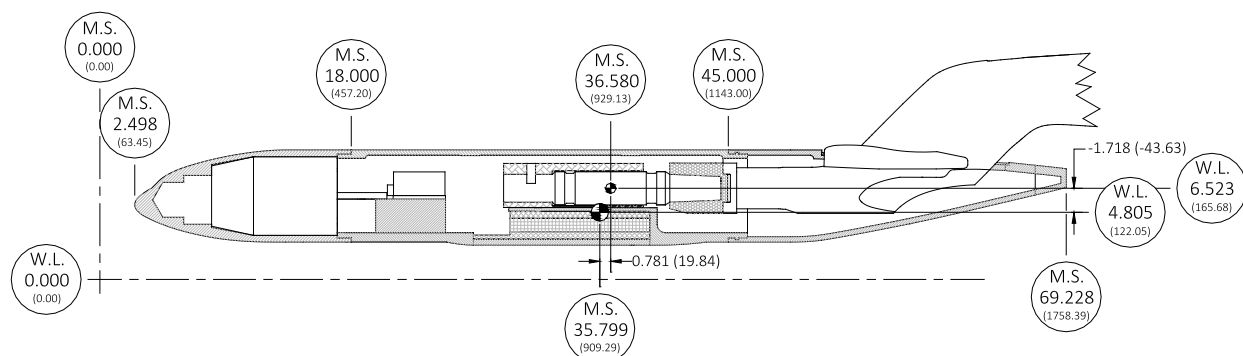


MODEL REFERENCE LOCATIONS & CONSTANTS

The sketch below serves to show the locations of various points on the Common Research Model (CRM) body. The model moment center (MMC) is shown as well as the balance moment center (BMC) when the NTF-118A balance is used. The locations are shown in terms of model station (MS), butt line (BL), and water line (WL) in the typical X, Y, and Z coordinate system, respectively (where positive X is aft, positive Y is out the right wing, and positive Z is up through the top of the fuselage). All dimensions and units are shown in English units and Metric units.



<u>Model Constants</u>	<u>English Units</u>	<u>Metric Units</u>
Aspect Ratio	9.0	9.0
Model Span (b)	62.47 inches	1586.60 millimeters
Reference Area (S)	3.011 square feet	0.28 square meters
Reference Length (cbar)	7.447 inches	189.14 millimeters
Full-Span Model Volume	1.23 cubic feet	0.035 cubic meters
Full-Span Fuselage Volume	1.09 cubic feet	0.031 cubic meters
Full-Span Wing Volume	0.125 cubic feet	0.004 cubic meters
Full-Span Horizontal Tail Volume	0.015 cubic feet	0.0004 cubic meters
Fuselage Maximum Diameter	6.588 inches	167.34 millimeters
Fuselage Length	66.732 inches	1694.99 millimeters
Wing Maximum Thickness Ratio	0.1542	0.1542
Wing Taper Ratio	0.275	0.275
Quarter-Chord Sweep Angle	35.0°	35.0°
Lift Curve Slope	0.13333 per degree	0.13333 per degree

Moment Reference Locations

(X) Model Station of BMC	36.580 inches	929.13 millimeters
(Y) Butt Line of BMC	0.000 inches	0.00 millimeters
(Z) Water Line of BMC	6.523 inches	165.68 millimeters

(X) Model Station of MMC	35.799 inches	909.29 millimeters
(Y) Butt Line of MMC	0.000 inches	0.00 millimeters
(Z) Water Line of MMC	4.805 inches	122.05 millimeters

X Transfer Distance (XBAR)	0.781 inches	19.84 millimeters (in front of BMC)
Y Transfer Distance (YBAR)	0.000 inches	0.00 millimeters (same as BMC)
Z Transfer Distance (ZBAR)	-1.718 inches	-43.63 millimeters (below BMC)

FULL SCALE REFERENCE LOCATIONS & CONSTANTS

All dimensions and units are shown in English units and Metric units.

<u>Full Scale Constants</u>	<u>English Units</u>	<u>Metric Units</u>
Aspect Ratio	9.0.....	9.0
Model Span (b).....	2313.50 inches	58762.90 millimeters
Reference Area (S)	4130.00 square feet	383.65 square meters
Reference Length (cbar)	275.8 inches	7005.32 millimeters
Fuselage Maximum Diameter.....	244.0 inches	6197.6 millimeters
Fuselage Length.....	2471.56 inches	62777.51 millimeters
Wing Maximum Thickness Ratio	0.1542.....	0.1542
Wing Taper Ratio	0.275.....	0.275
Quarter-Chord Sweep Angle	35.0°	35.0°
Lift Curve Slope	0.13333 per degree	0.13333 per degree

Moment Reference Locations

(X) Model Station of MMC	1325.89 inches	33677.58 millimeters
(Y) Butt Line of MMC	0.000 inches	0.00 millimeters
(Z) Water Line of MMC	177.96 inches	4520.26 millimeters