



## AIRCRAFT MAINTENANCE MANUAL

### DIMENSIONS AND AREAS - COMPONENT LOCATION

EFFECTIVITY: ACFT MODEL(S) EMB-135

#### 1. General

- A. This section gives the aircraft primary dimensions, the reference planes shown by the station diagrams, the external access doors and panels, and the aircraft zoning.



EMB145 - EMB135

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2. Reference Planes and Lines

A. For an easy and fast identification and location of the aircraft components, the primary lines and reference planes are given here ([Figure 101](#)).

B. Definitions and Abbreviations

(1) Fuselage

- (a) STA X - Fuselage station. A plane perpendicular to the fuselage centerline where "X" shows the distance in millimeters from the plane to the aircraft nose, where X = 0.
- (b) STA Y - Station Y. A vertical plane parallel to the fuselage centerline where "Y" shows the distance in millimeters from the plane to the fuselage centerline, where Y = 0.
- (c) STA Z - Station Z. A horizontal plane parallel to the fuselage centerline, where "Z" shows the distance in millimeters from the plane to the fuselage centerline, where Z = 0.
- (d) BHD, FR - Bulkhead or frame. A fuselage structural element perpendicular to the centerline. The identification numbers start from the nose, where FR 0 is found.

(2) Vertical Stabilizer

- (a) STA ZV - Vertical stabilizer station. A horizontal plane parallel to the fuselage centerline where ZV = 0.
- (b) STA  $\overline{ZV}$  - Rudder I station. A plane perpendicular to the rudder I hinge line measured from the intersection of the hinge line and the fuselage centerline, where ZV = 0.
- (c) STA  $\overline{\overline{ZV}}$  - Rudder II station. A plane perpendicular to the rudder II hinge line measured from the intersection of the hinge line and the fuselage centerline, where ZV = 0.
- (d) AUX SPAR - Auxiliary spar.

(3) Horizontal Stabilizer

- (a) YH STA - Horizontal stabilizer station. A vertical plane parallel to the fuselage centerline measured from YH = 0.
- (b)  $\overline{YH}$  STA - Elevator station. A plane perpendicular to the elevator hinge line measured from the intersection of the hinge line and STA YH = 0, where STA  $\overline{YH}$  = 0.

(4) Wing

- (a) STA YA - Wing Station. A vertical plane parallel to the fuselage centerline, measured from STA YA = 0.0 through YA = 9905.0.
- (b) RIB - Wing rib. A wing structural element. The identification numbers go from rib 1 to rib 25.

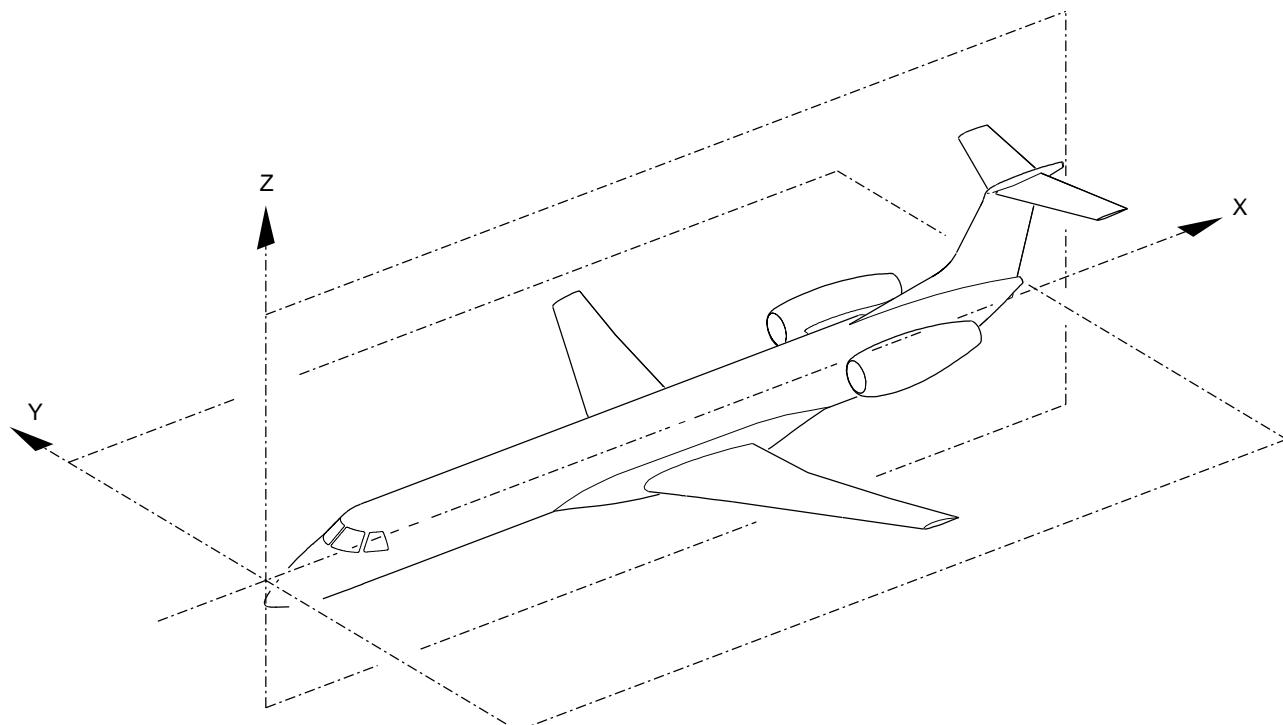
(5) Nacelle



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- (a) STA XN - Nacelle Station. A plane perpendicular to the engine centerline, measured from STA XN = 0.0 through XN = 4524.03.
- (6) Pylon
  - (a) STA YP - Pylon Station. A plane perpendicular to the pylon reference plane (PRP), measured from YP = 0.0 through YP = 976.0.

**EFFECTIVITY: ALL**  
Reference Planes and Lines  
Figure 101 - Sheet 1



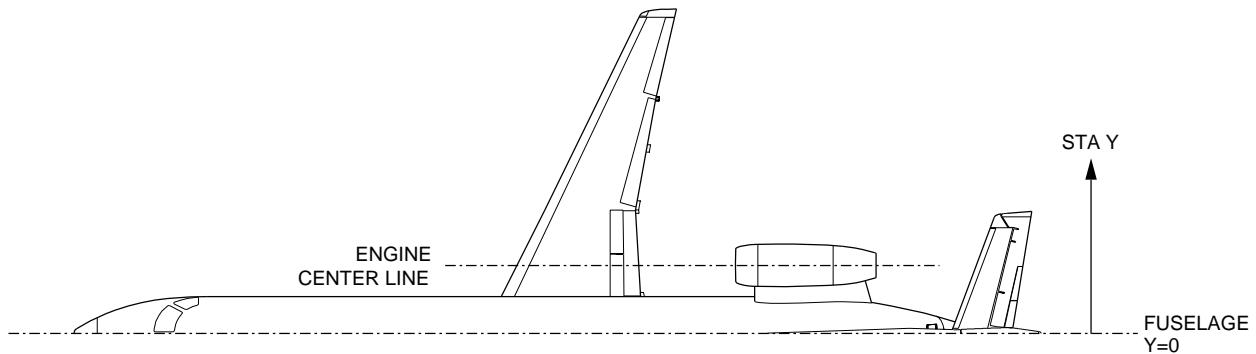
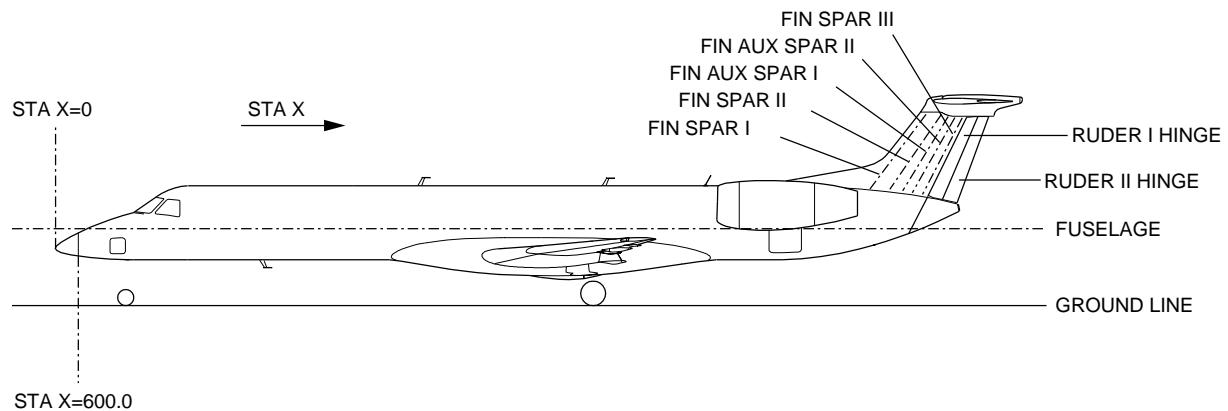
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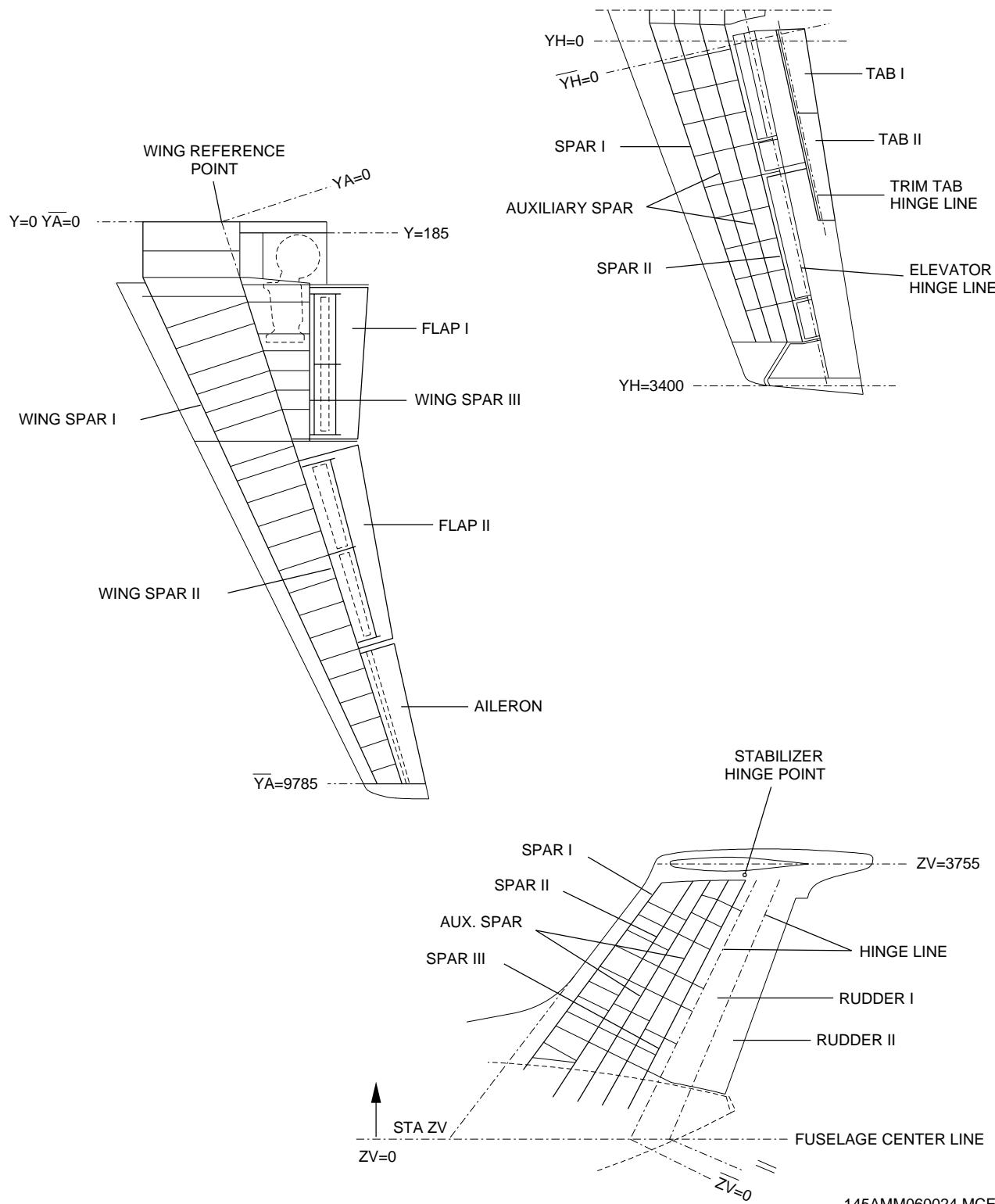
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**EFFECTIVITY: ALL**  
 Reference Planes and Lines  
 Figure 101 - Sheet 2



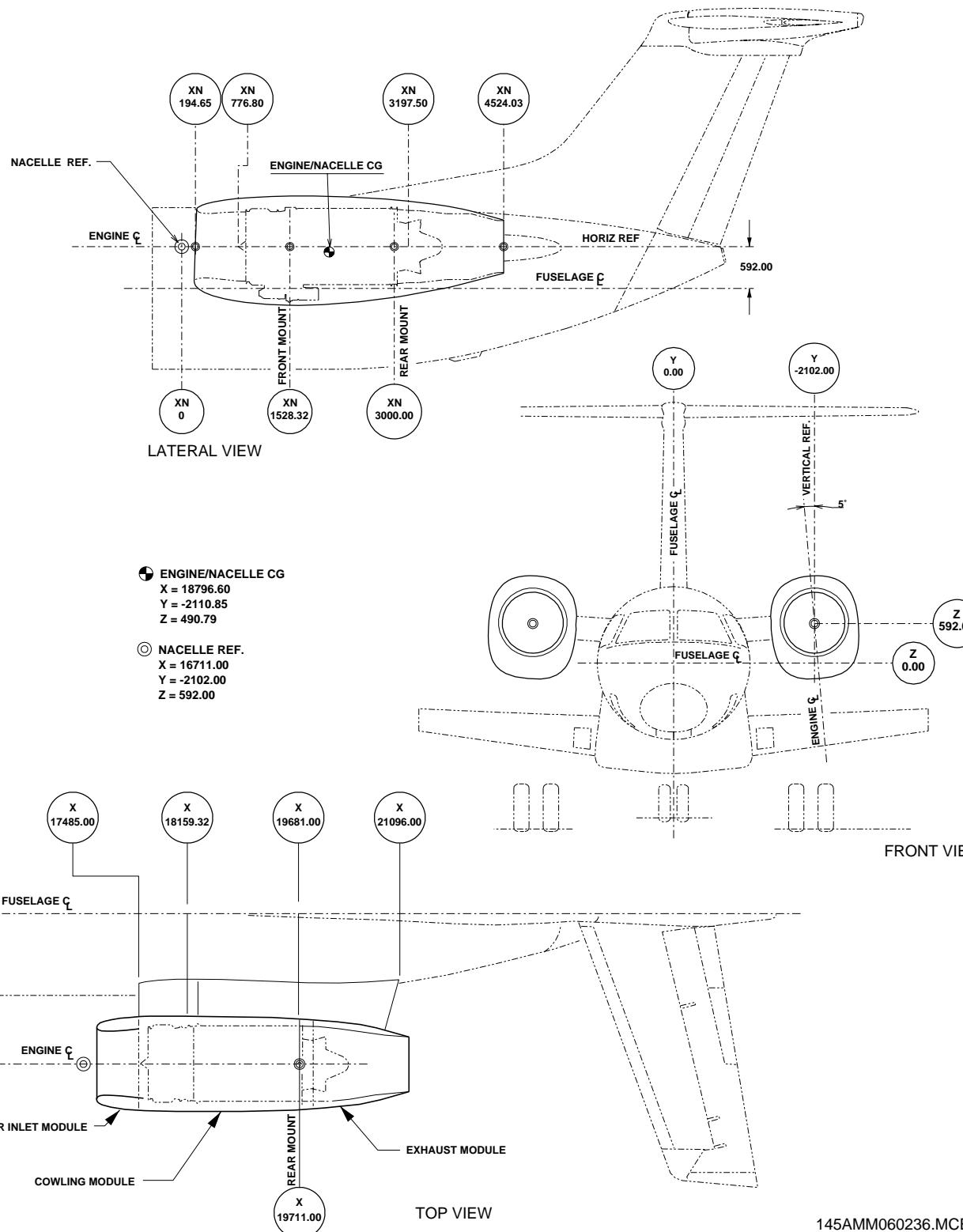
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 Reference Planes and Lines  
 Figure 101 - Sheet 3



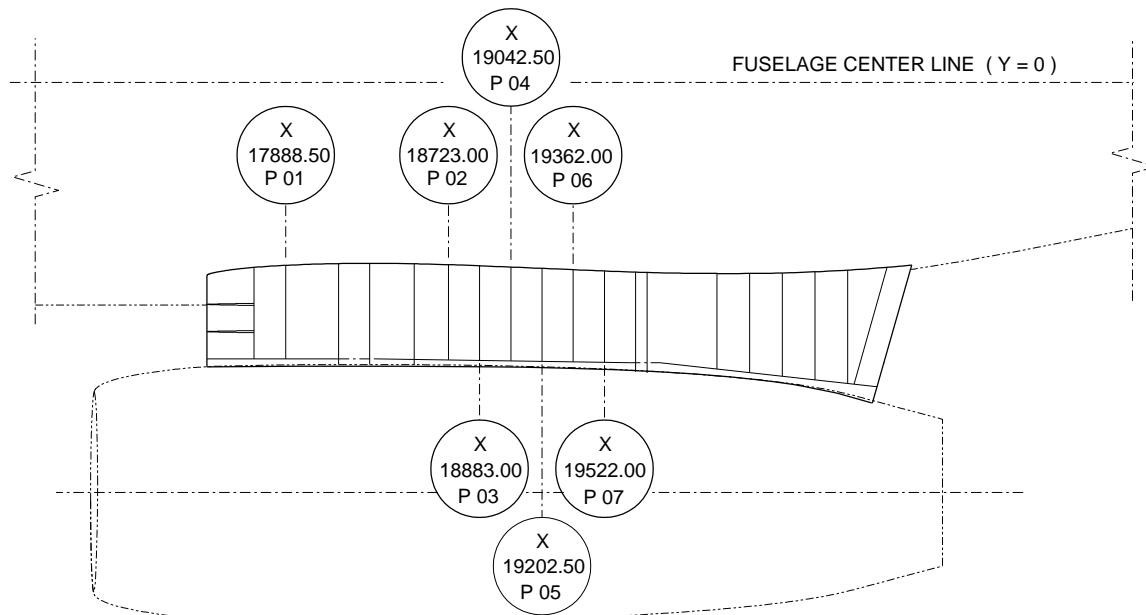
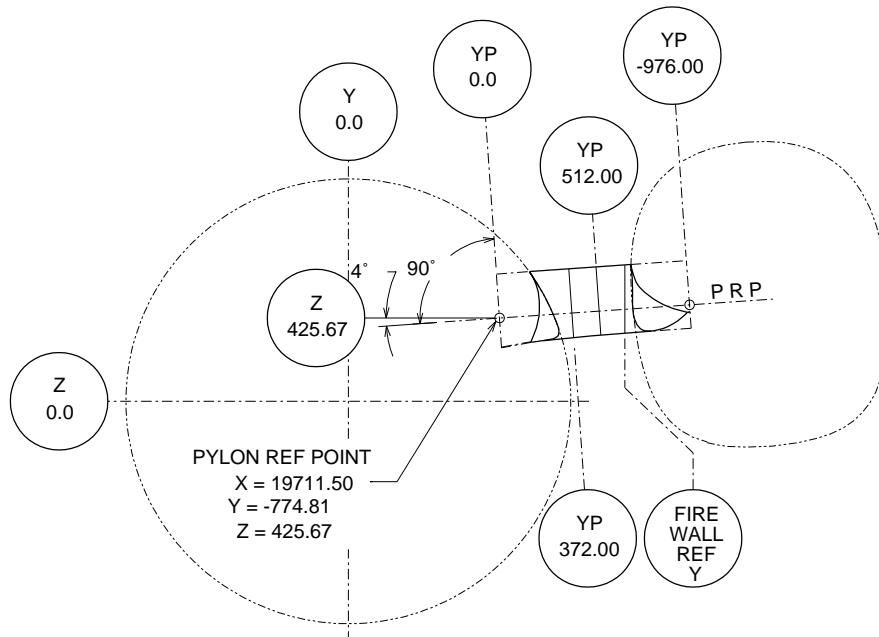
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**EFFECTIVITY: ALL**  
 Reference Planes and Lines  
 Figure 101 - Sheet 4



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**EFFECTIVITY: ALL**  
 Reference Planes and Lines  
 Figure 101 - Sheet 5



UPPER VIEW

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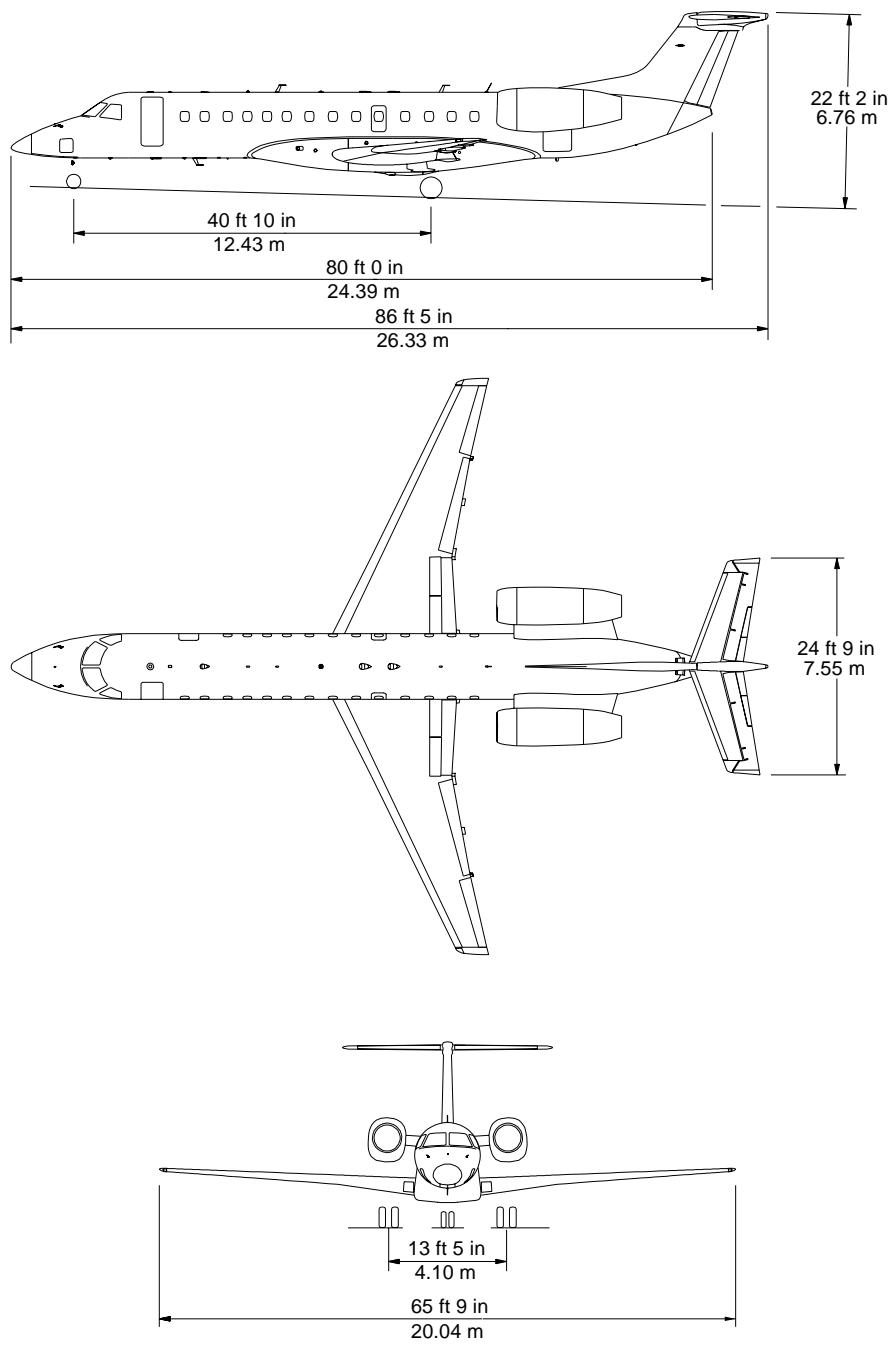
### 3. Major Dimensions

- A. [Figure 102](#) shows the total length, width, height, and the distance between the wheel base and the track.

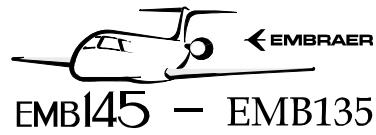
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Aircraft Dimensions

Figure 102



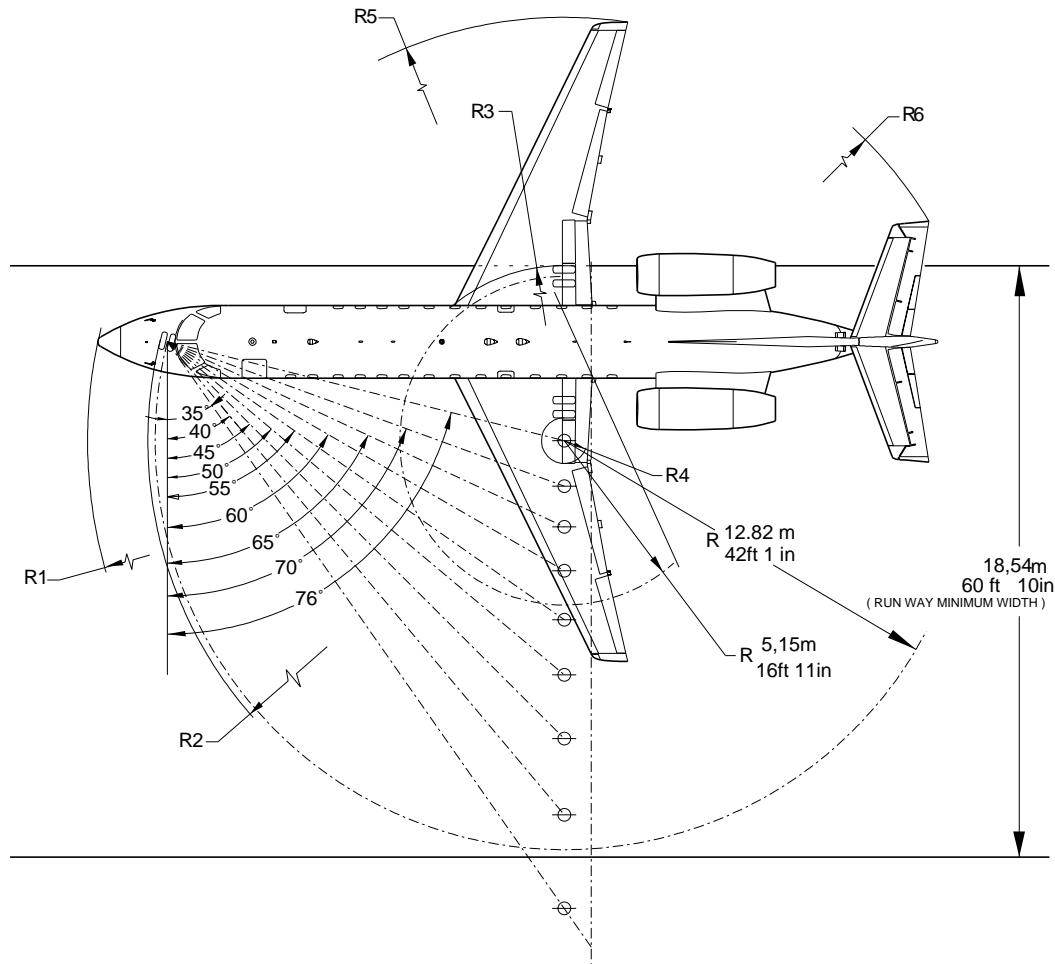
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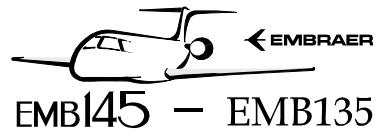
### 4. Towing and Taxiing Radii

- A. [Figure 103](#) shows the maximum turning angle of the nose gear wheel and the clearance necessary for the minimum turning radii on the ground.

**EFFECTIVITY: ALL**
**Turning Radii**
**Figure 103**


STEERING STEEL	NOSE		NOSE GEAR		OUTBOARDGEAR		INBOARD GEAR		RIGHT WINGTIP		RIGHTTAILTIP	
	R1	R2	R3	R4	R5	R6						
35°	23,07 m	75ft 8in	21,91 m	71ft 11in	20,16 m	66ft 2in	15,38 m	50ft 6in	27,86 m	91ft 5in	24,39 m	80ft 0in
40°	20,87 m	68ft 6in	19,58 m	64ft 3in	17,22 m	56ft 6in	12,44 m	40ft 10in	24,93 m	81ft 9in	21,84 m	71ft 8in
45°	19,24 m	63ft 1in	17,82 m	58ft 5in	14,83 m	48ft 8in	10,06 m	33ft 0in	22,55 m	74ft 0in	19,84 m	65ft 1in
50°	17,99 m	59ft 0in	16,46 m	54ft 0in	12,83 m	42ft 1in	8,06 m	26ft 5in	20,56 m	67ft 5in	18,24 m	59ft 10in
55°	17,04 m	55ft 11in	15,41 m	50ft 7in	11,10 m	36ft 5in	6,33 m	20ft 9in	18,84 m	61ft 10in	16,93 m	55ft 7in
60°	16,33 m	53ft 6in	14,59 m	47ft 10in	9,58 m	31ft 5in	4,80 m	15ft 9in	17,32 m	56ft 10in	15,84 m	52ft 0in
65°	15,74 m	51ft 8in	13,95 m	45ft 9in	8,19 m	26ft 11in	3,42 m	11ft 3in	15,95 m	52ft 4in	14,91 m	48ft 11in
70°	15,31 m	50ft 3in	13,46 m	44ft 2in	6,92 m	22ft 8in	2,14 m	7ft 0in	14,69 m	48ft 2in	14,13 m	46ft 4in
76°	14,94 m	49ft 0in	13,05 m	42ft 10in	5,49 m	18ft 0in	0,72 m	2ft 4in	13,27 m	43ft 7in	13,34 m	43ft 9in

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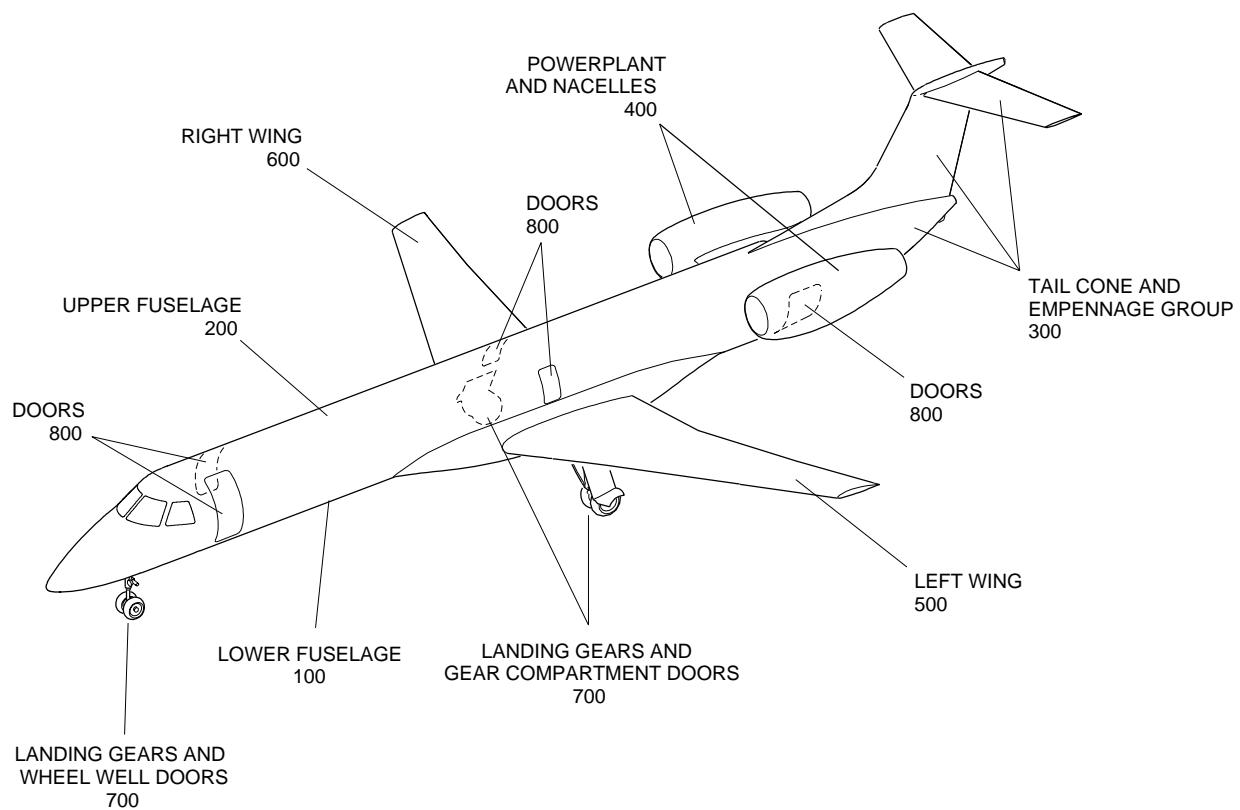
### 5. Zoning

- A. The aircraft is divided into zones for maintenance planning and to make the maintenance easier. [Figure 104](#) identifies the major zones.

**EFFECTIVITY: ALL**

Aircraft Zoning

Figure 104



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