

MAIN DIMENSIONS AND AREAS - COMPONENT LOCATION

EFFECTIVITY: ACFT MODEL(S) EMB-135

1. General

- A. This section gives the principal dimensions (Figure 101) for the wing surfaces, horizontal stabilizer surfaces, vertical stabilizer surfaces, and fuselage.

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2. Dimensions

A. Total Aircraft

Table 101

| | |
|--------|----------------------|
| Length | 26.33 m (86 ft 5 in) |
| Width | 20.04 m (65 ft 9 in) |
| Height | 6.75 m (22 ft 2 in) |

B. Wing

Table 102

| | |
|-----------------------------------|--|
| Span | 20.04 m (65.75 ft) |
| Area (reference wing) | 51.18 m ² (550.89 ft ²) |
| Chord at root (reference wing) | 4.086 m (13.41 ft) |
| Chord at tip (reference wing) | 1.038 m (3.41 ft) |
| Dihedral at wing reference plane | 3.5° |
| Sweepback at 25% (reference wing) | 22.73° |

C. Aileron

Table 103

| | |
|---|-------------------|
| Span (WRP projection, measured on hinge line) | 2.42 m (7.94 ft) |
| Chord at root (normal to hinge line) | 0.422 m (1.38 ft) |
| Chord at tip (streamwise) | 0.280 m (0.92 ft) |

D. Flaps

Table 104

| | INBOARD FLAP | OUTBOARD FLAP |
|---------------|--|---|
| Span | 2.59 m (8.50 ft) | 3.34 m (10.96 ft) |
| Area | 1.93 m ² (20.77 ft ²) | 2.25 m ² (24.22 ft ²) |
| Chord at root | 0.870 m (2.85 ft) | 0.865 m (2.84 ft) |
| Chord at tip | 0.618 m (2.03 ft) | 0.484 m (1.59 ft) |

E. Speed breaker/ground spoiler

Table 105

| | |
|------|--|
| Span | 1.371 m (4.49 ft) |
| Area | 0.560 m ² (6.03 ft ²) |

F. Ground spoiler

Table 106

| | |
|------|--|
| Span | 1.316 m (4.32 ft) |
| Area | 0.600 m ² (6.46 ft ²) |

G. Horizontal Tail

Table 107

| | |
|-----------------------------|--|
| Area | 11.20 m ² (120.53 ft ²) |
| Span | 7.404 m (24.29 ft) |
| Chord at root | 1.894 m (6.21 ft) |
| Chord at tip | 1.11 m (3.64 ft) |
| Dihedral | 0° |
| Sweepback at 25% chord line | 17.79° |

H. Elevator

Table 108

| | |
|------------------------------------|--|
| Hinge line | 70% chord |
| Area aft of hinge line (two sides) | 3.34 m ² (35.95 ft ²) |

I. Vertical Tail

Table 109

| | |
|--|---|
| Span | 2.78 m (9.12 ft) |
| Chord at root | 3.18 m (10.43 ft) |
| Chord at tip | 2.00 m (6.56 ft) |
| Sweepback at 25% chordline | 34.33° |
| Position of rudder I hinge line | 70% chord |
| Position of rudder II hinge line | 85% chord |
| Rudder area aft of rudder I hinge line | 2.071 m ² (22.29 ft ²) |
| Dorsal fin area | 1.43 m ² (15.39 ft ²) |

J. Pylon

Table 110

| | |
|-----------------------------------|--|
| Area | 1.94 m ² (20.88 ft ²) |
| Chord at root (reference pylon) | 3.611 m (11.85 ft) |
| Chord at tip (reference pylon) | 3.456 m (11.34 ft) |
| Dihedral at pylon reference plane | 4° |

K. Nacelle

Table 111

| | |
|---------------|--------------------|
| Length | 4.329 m (14.20 ft) |
| Maximum width | 1.307 m (4.29 ft) |

Table 111 (Continued)

| | |
|----------------|-------------------|
| Maximum height | 1.539 m (5.05 ft) |
|----------------|-------------------|

L. Fuselage

Table 112

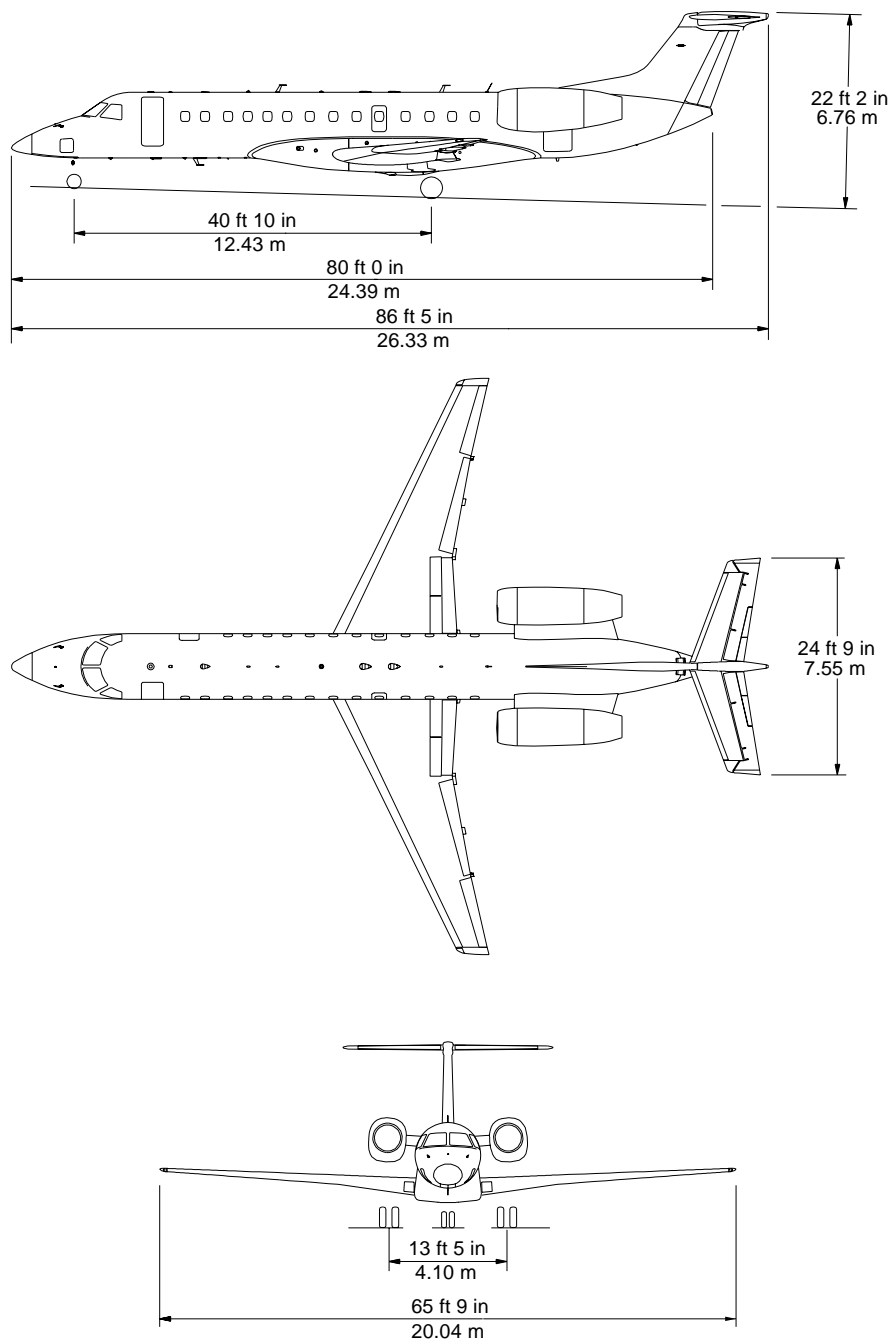
| | |
|-------------------------------|------------------------|
| Total length | 24.39 m (80 ft 0 in) |
| Length of pressurized section | 19.677 m (64 ft 7 in) |
| Outside diameter | 2.280 m (7.48 ft 6 in) |

M. Aircraft Wetted Surface Area

Table 113

| SURFACE | AREA m² (ft²) |
|-----------------------|--|
| Fuselage | 140.1 (1508.0) |
| Wing | 84.6 (910.6) |
| Horizontal Stabilizer | 22.4 (241.1) |
| Vertical Stabilizer | 14.4 (155.0) |
| Nacelles | 32.5 (349.8) |
| Pylon | 7.8 (84.0) |
| TOTAL | 301.8 (3248.5) |

EFFECTIVITY: ALL
Principal Dimensions
Figure 101



EM145AMM060609A.DGN

