

## DIMENSIONS AND AREAS

### 1. GENERAL

This section describes those diagrams and text which shows the area, dimensions, stations, access doors, and physical locations of the structural members of the airplane. Also included is the cardinal rigging dimensions.

### 2. AIRPLANE DIMENSIONS AND AREAS

The airplane is divided into reference points in inches. These reference points provide a means of quickly identifying the locations of components. Three axes are used as reference points.

The following terms are used for the reference points:

FS - Fuselage Station is a horizontal reference designation starting in front of the nose of the airplane

WS - Wing Station is measured outboard from the centerline of the fuselage to the wing tip.

WL - Water Line is a vertical reference designation measured parallel to the ground.

BL - Buttock Line is a horizontal reference designation starting at the airplane centerline. Right or left is added to indicate direction from airplane centerline.

#### A. General

Length (Overall).....	25.92 ft .....	7.90 m
Height (Maximum) .....	8.80 ft .....	2.70 m
Wing Span (Overall) .....	38.25 ft .....	11.65 m
Propeller Diameter (Maximum) .....	6.50 ft .....	1.98 m

#### B. Cabin

Cabin Width.....	49.00 in. ....	124.00 cm
Cabin Height.....	50.00 in. ....	127.00 cm
Cabin Length .....	122.00 in. ....	309.00 cm
Cabin Volume .....	137.00 ft <sup>3</sup> .....	3.83 m <sup>3</sup>
Baggage Compartment Height.....	39.00 in. ....	99.00 cm
Baggage Compartment Width.....	40.00 in. ....	101.00 cm
Baggage Compartment Length .....	36.00 in. ....	91.00 cm
Baggage Compartment Volume .....	32.00 ft <sup>3</sup> .....	0.90 m <sup>3</sup>

#### C. Wings

Span .....	38.25 ft .....	11.65 m
Area .....	144.90 ft <sup>2</sup> .....	13.46 m <sup>2</sup>
Wing Loading .....	23.46 lb/ft <sup>2</sup> .....	114.45 kg/m <sup>2</sup>
Aspect Ratio .....	10.00 .....	10.00
Wing Dihedral - <i>Serials 0002 thru 2437</i> .....	4.50° .....	4.50°
Wing Dihedral - <i>Serials 2438 &amp; subs.</i> .....	5.50° .....	5.50°

#### D. Flaps

Span .....	8.80 ft .....	2.68 m
Area .....	10.80 ft <sup>2</sup> .....	1.00 m <sup>2</sup>

#### E. Ailerons

Span .....	4.70 ft .....	1.43 m
Area .....	4.37 ft <sup>2</sup> .....	0.41 m <sup>2</sup>

F. Horizontal Stabilizer

Span .....	13.17 ft .....	4.01 m
Area .....	25.75 ft² .....	2.39 m²
Aspect Ratio .....	5.59 .....	5.59

G. Elevator

Span .....	12.00 ft .....	3.66 m
Area .....	7.73 ft² .....	0.72 m²

H. Vertical Stabilizer

Span .....	5.52 ft .....	1.65 m
Area .....	15.93 ft² .....	1.48 m²
Aspect Ratio .....	1.84 .....	1.84

I. Rudder

Span .....	5.42 ft .....	1.65 m
Area .....	5.26 ft² .....	0.49 m²

J. Landing Gear

Wheel Track (Main To Main) - <i>Serials 0002 thru 2437</i> .....	10.83 ft .....	3.30 m
Wheel Track (Main To Main) - <i>Serials 2438 &amp; subs.</i> .....	9.10 ft .....	2.77 m
Wheel Base (Main To Nose) .....	7.26 ft .....	2.21 m

3. ACCESS PANELS

A. Cabin Floor (See Figure 06-005)

Maintenance practices pertinent to the cabin floor access panels are found in Chapter 53, Fuselage. (Refer to 53-20)

B. Wing (See Figure 06-006)

Maintenance practices pertinent to the wing access panels are found in Chapter 57, Wings. (Refer to 57-30)

C. Empennage (See Figure 06-007)

Maintenance practices pertinent to the empennage access panels are found in Chapter 53, Fuselage. (Refer to 53-30)

**4. CONTROL SURFACE TRAVELS AND CABLE TENSION SETTINGS****A. Aileron**

Aileron Up Travel:  $12.5^{\circ} \pm 1.0^{\circ}$

Aileron Down Travel:  $12.5^{\circ} \pm 1.0^{\circ}$

Aileron Trim Deflection:  $6.0^{\circ} \pm 1.0^{\circ}$

Aileron Cable Tension: 30-40 lb

**B. Elevator**

Elevator Up Travel:  $25.0^{\circ} +0^{\circ} / -1.0^{\circ}$

Elevator Down Travel:  $15.0^{\circ} \pm 1.0^{\circ}$

Elevator Trim Deflection:  $-10.5^{\circ} \pm 1.0^{\circ}$ ,  $+17^{\circ}$  Minimum

Elevator Cable Tension: 30-40 lb

**C. Rudder**

Maximum Right Rudder Deflection:  $20.0^{\circ} \pm 1.0^{\circ}$

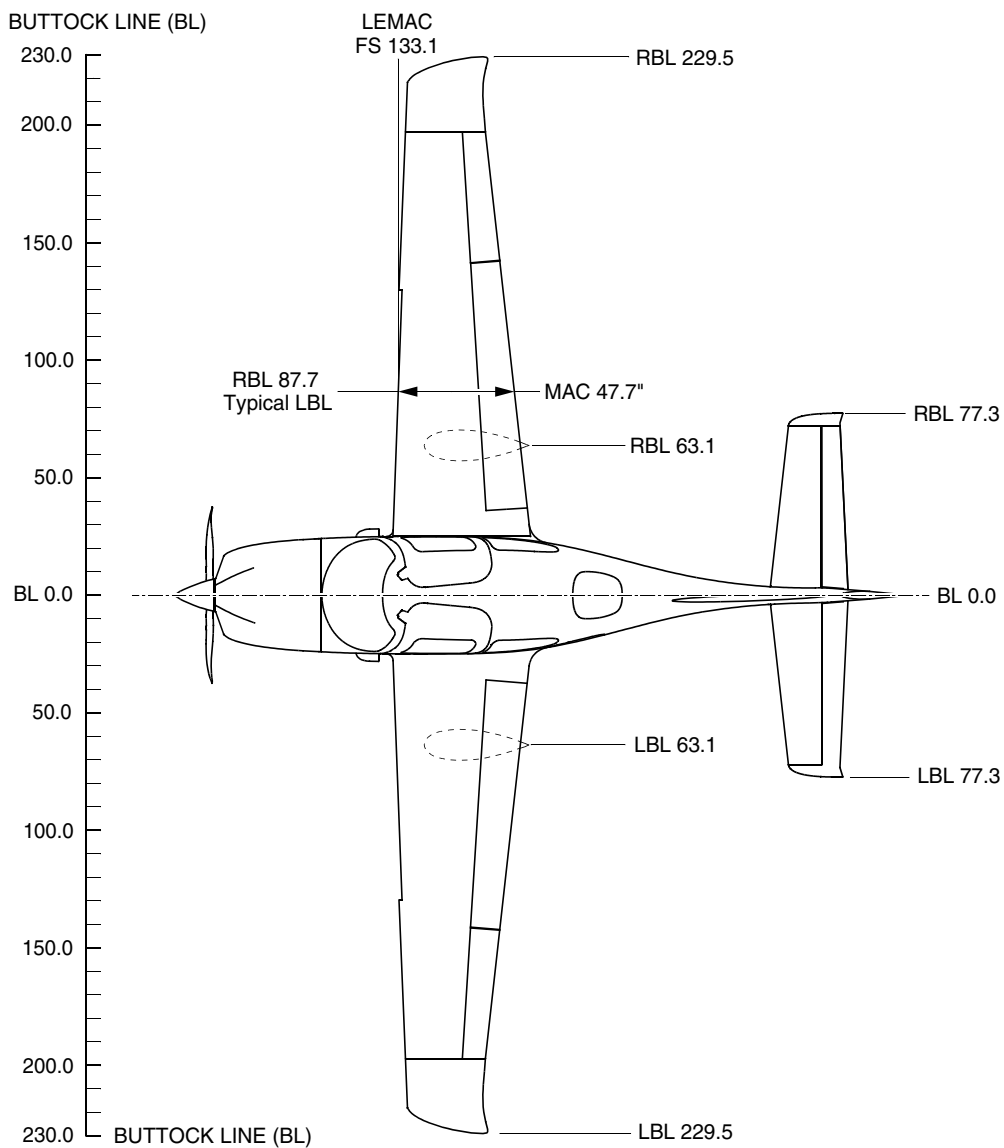
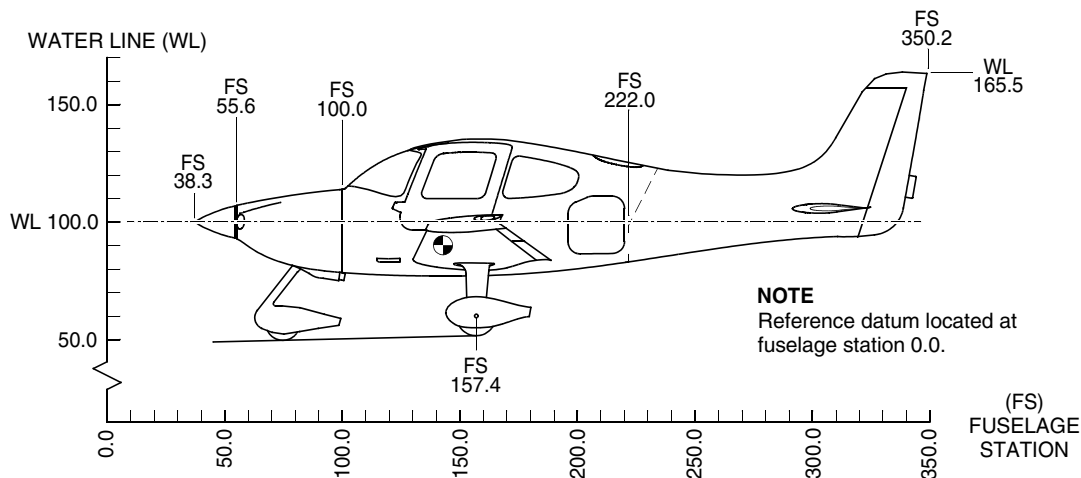
Maximum Left Rudder Deflection:  $20.0^{\circ} \pm 1.0^{\circ}$

**D. Flaps**

Flap UP:  $0.0^{\circ} \pm 0.5^{\circ}$

Flap 50%:  $16.0^{\circ} \pm 0.5^{\circ}$

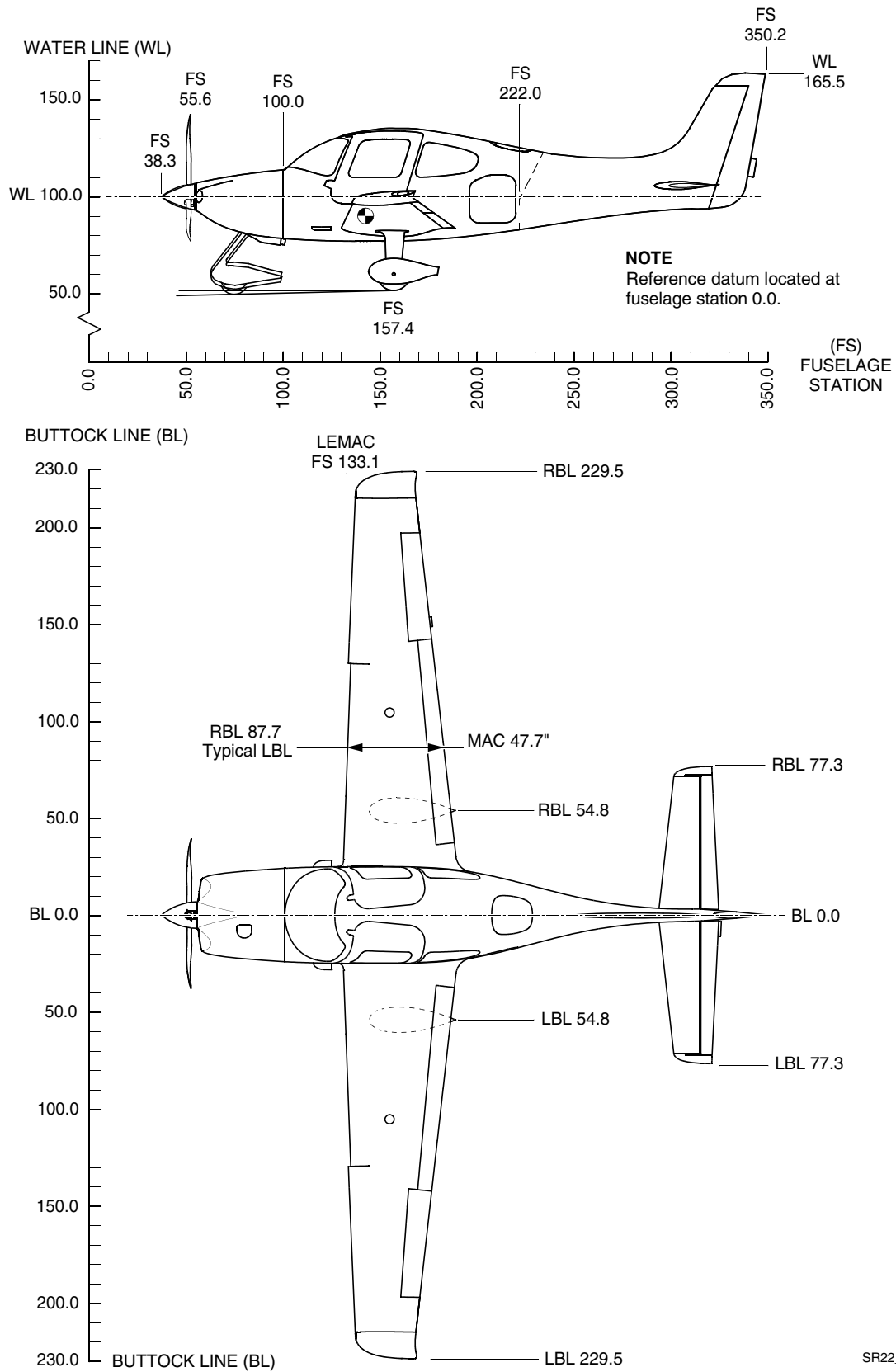
Flap 100%:  $32.0^{\circ} \pm 0.5^{\circ}$



Serials 0002 thru 2333, 2335 thru 2419, 2421 thru 2437.

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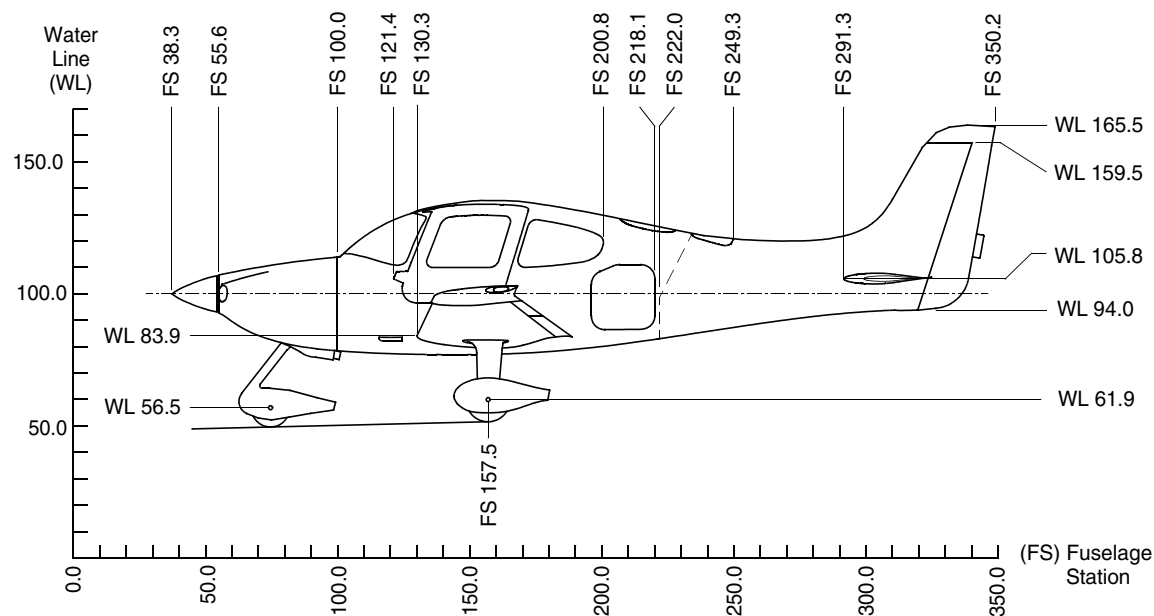
**Figure 06-001**  
**Airplane Principal Dimension - Serials 0002 thru 2437 (Sheet 1 of 2)**



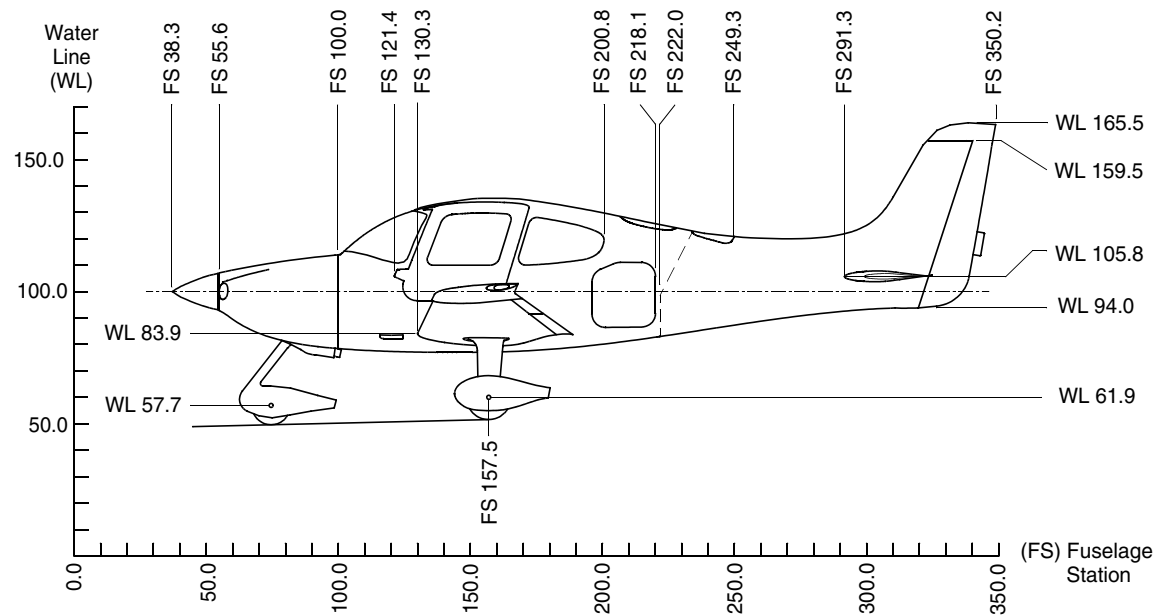
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**Figure 06-001**  
**Airplane Principal Dimension - Serials 2438 & subs (Sheet 2 of 2)**

**EFFECTIVITY:**  
Serials 2438 & subs



Serials 0002 thru 2333, 2335 thru 2419, 2421 thru 2437.



Serials 2334, 2420, 2438 & subs.

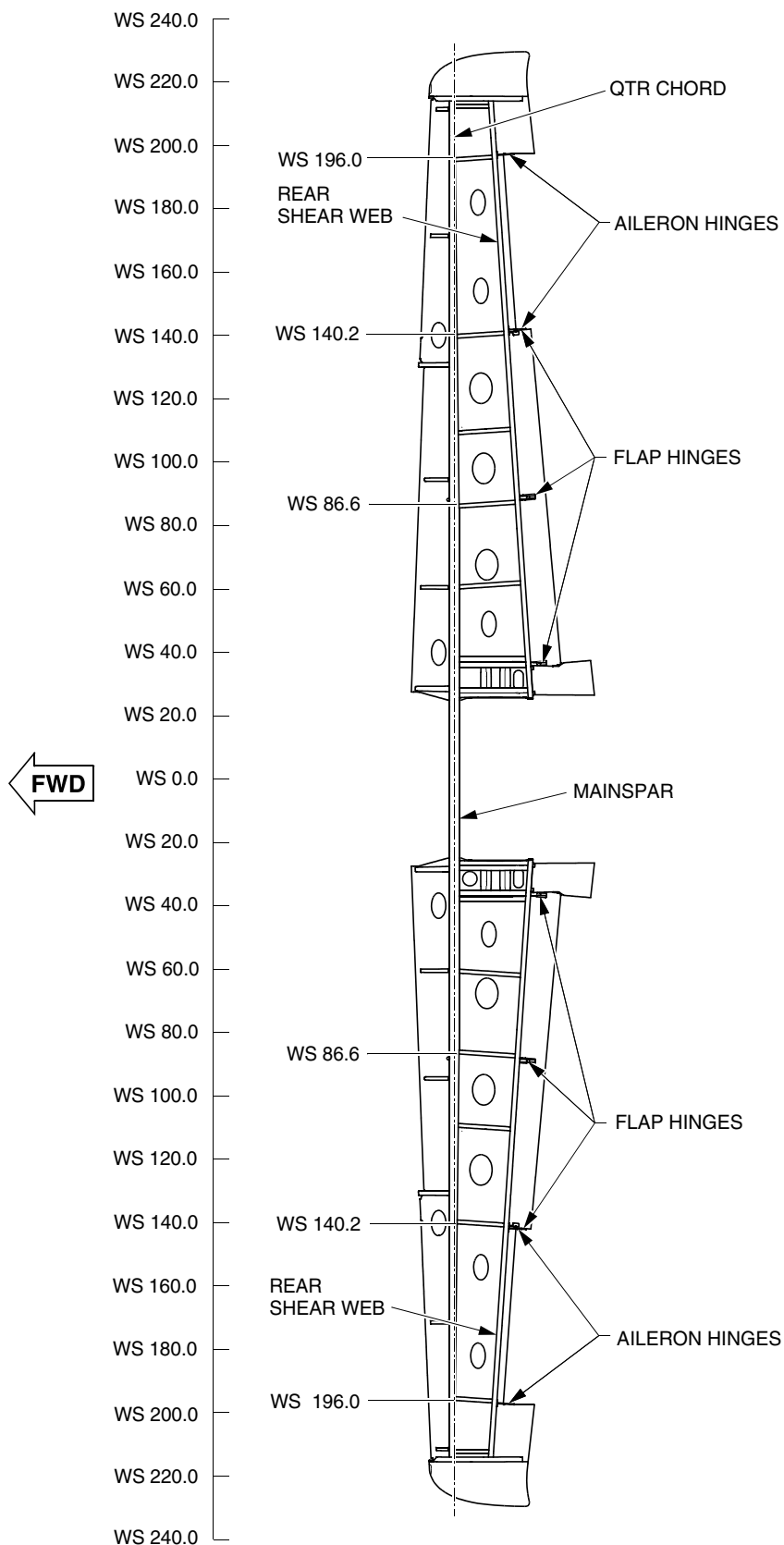
**Note**  
Reference datum located at  
fuselage station 0.0.

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**Figure 06-002**  
**Fuselage Stations**



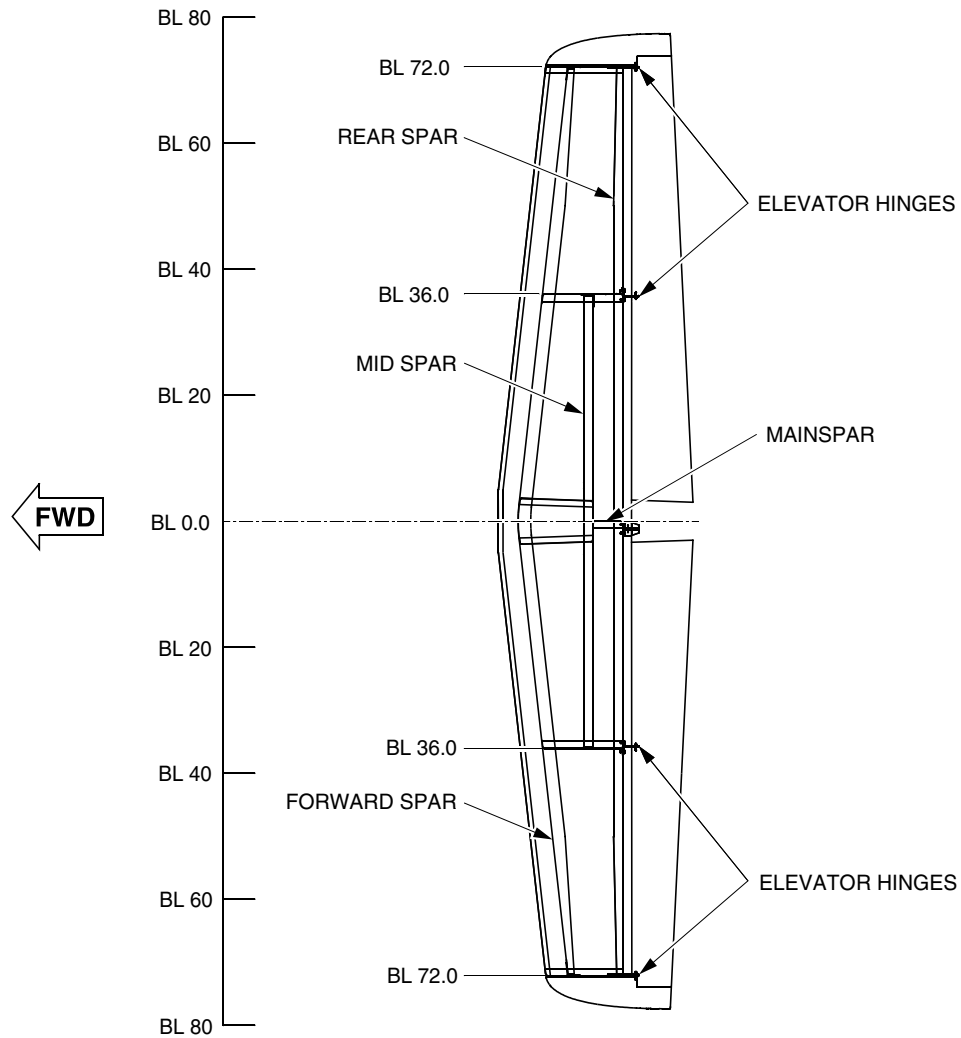
EFFECTIVITY:  
Serials 0002 thru 2437



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**Figure 06-003**  
**Wing Stations - Serials 2438 & subs**





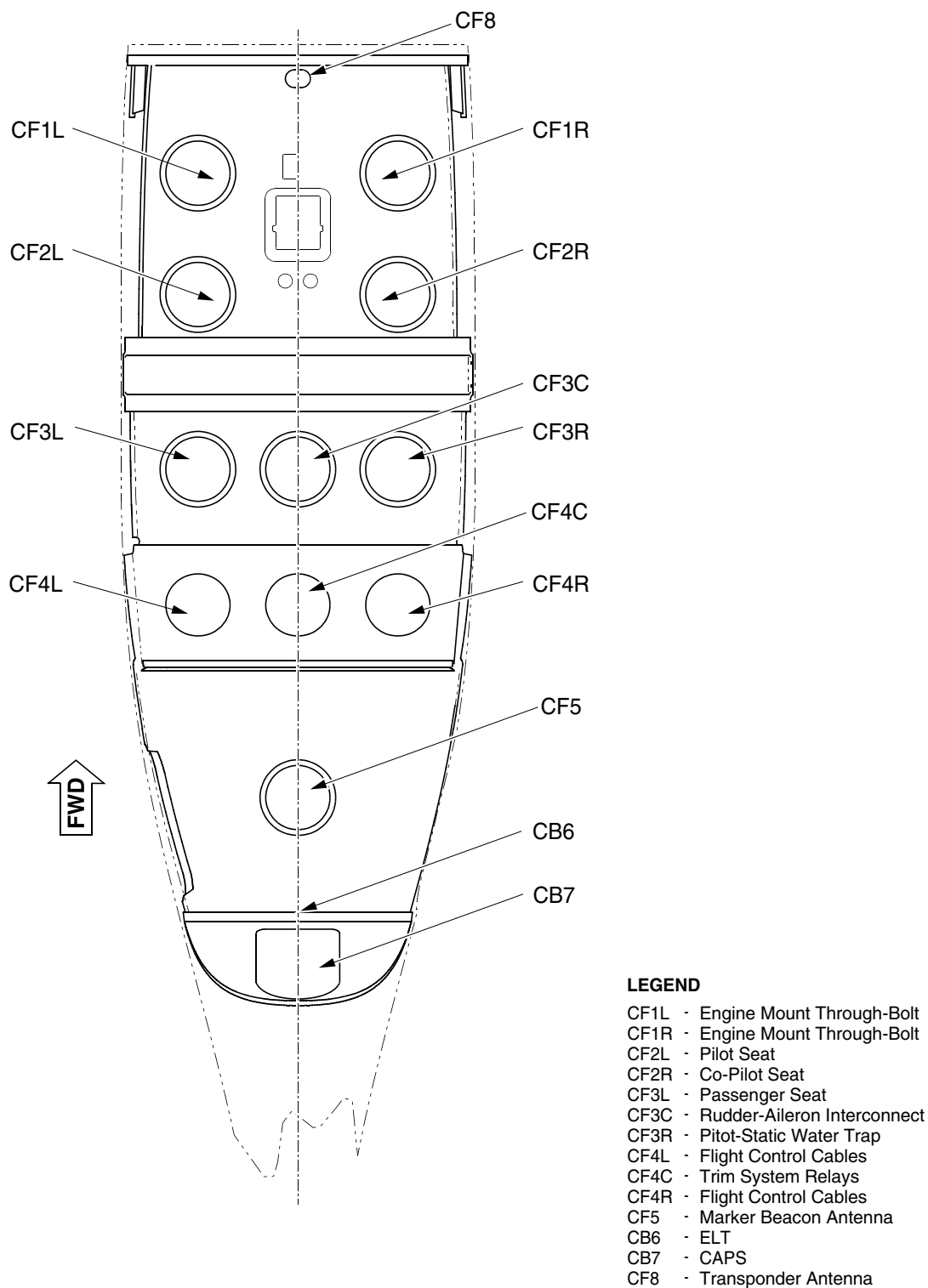
**NOTE**  
Bottom view - lower skin removed for clarity.

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**Figure 06-004**  
**Elevator Stations**

EFFECTIVITY:  
All

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Serials 0002 thru 1601, 1603 thru 1820, 1822 thru 1839, 1841 thru 1862.

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**Figure 06-005**

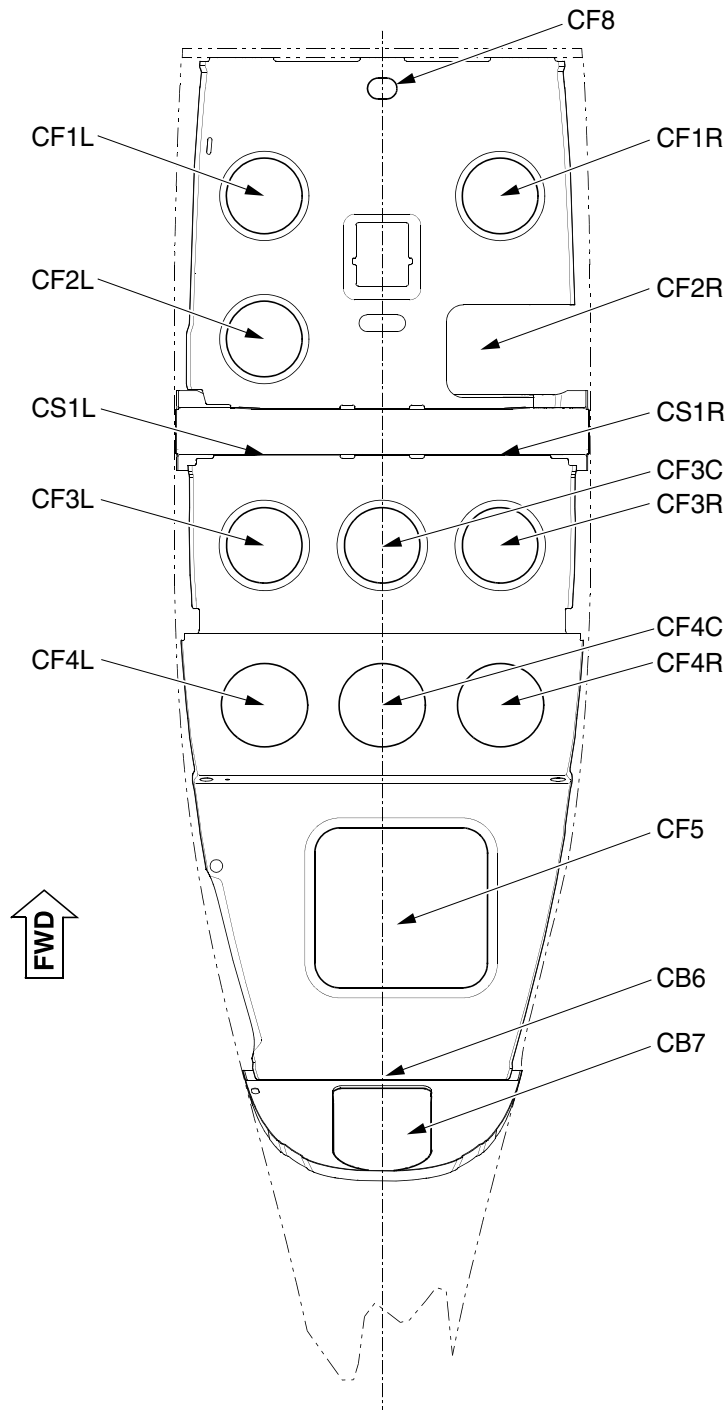
**Floor Access Panels - Serials 0002 thru 1601, 1603 thru 1820, 1822 thru 1839, 1841 thru 1862**

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**EFFECTIVITY:**

Serials 0002 thru 1601, 1603 thru 1820, 1822 thru 1839, 1841 thru 1862



## LEGEND

- CF1L - Engine Mount Through-Bolt
- CF1R - Engine Mount Through-Bolt
- CF2L - Pilot Seat
- CF2R - Co-Pilot Seat
- CF3L - Passenger Seat
- CF3C - Rudder-Aileron Interconnect
- CF3R - Pitot-Static Water Trap
- CF4L - Flight Control Cables
- CF4C - Trim System Relays
- CF4R - Flight Control Cables
- CF5 - Marker Beacon Antenna
- CB6 - ELT
- CB7 - CAPS
- CF8 - Transponder Antenna
- CS1L - Spar Tunnel
- CS1R - Spar Tunnel

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**Figure 06-005**

**Floor Access Panels - Serials 1602, 1821, 1840, 1863 & subs (Sheet 2 of 2)**

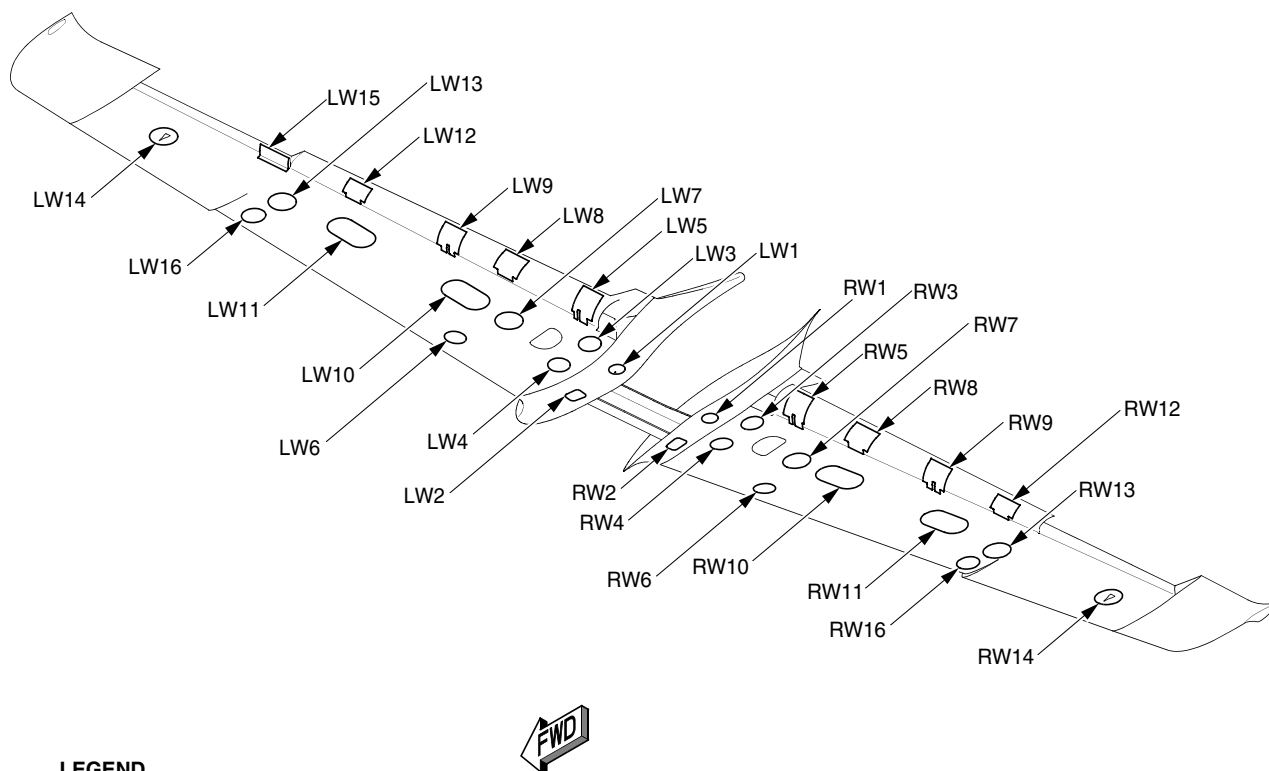
EFFECTIVITY:

Serials 1602, 1821, 1840, 1863 & subs

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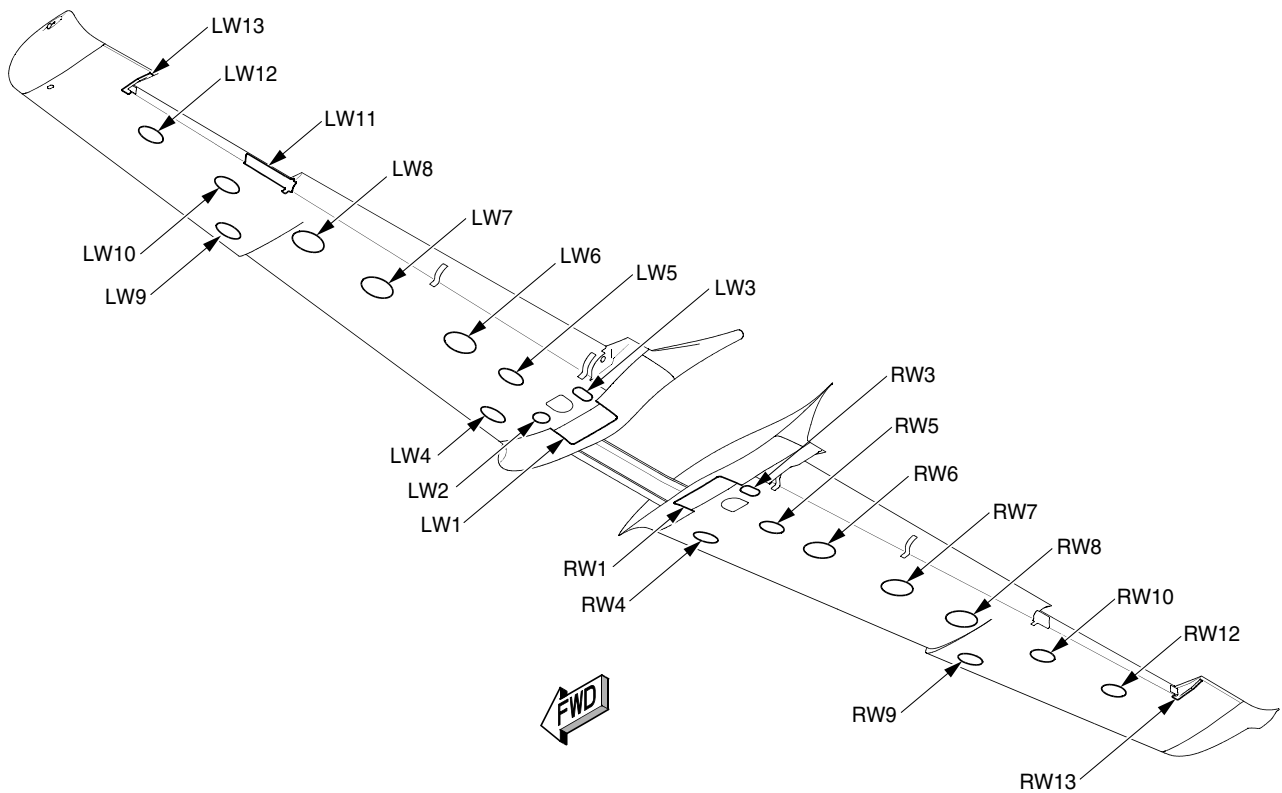
## LEGEND

LW1/RW1	- Wing Root, Aft
LW2/RW2	- Wing Root, Fwd
LW3/RW3	- Fuel Tank, Root
LW4/RW4	- Wing Inboard
LW5/RW5	- WS 37
LW6/RW6	- Wing Mid, Fwd
LW7/RW7	- Wing Mid, Aft
LW8/RW8	- WS 68
LW9/RW9	- WS 89
LW10/RW10	- Fuel Tank, Mid
LW11/RW11	- Fuel Tank, Outboard
LW12/RW12	- WS 121
LW13/RW13	- Wing Outboard, Aft
LW14/RW14	- NACA Vent
LW15	- Aileron Cove
LW16/RW16	- Wing Outboard, Fwd

Serials 0002 thru 2333, 2335 thru 2419, 2421 thru 2437.

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**Figure 06-006**  
**Wing Access Panels - Serials 0002 thru 2437 (Sheet 1 of 2)**



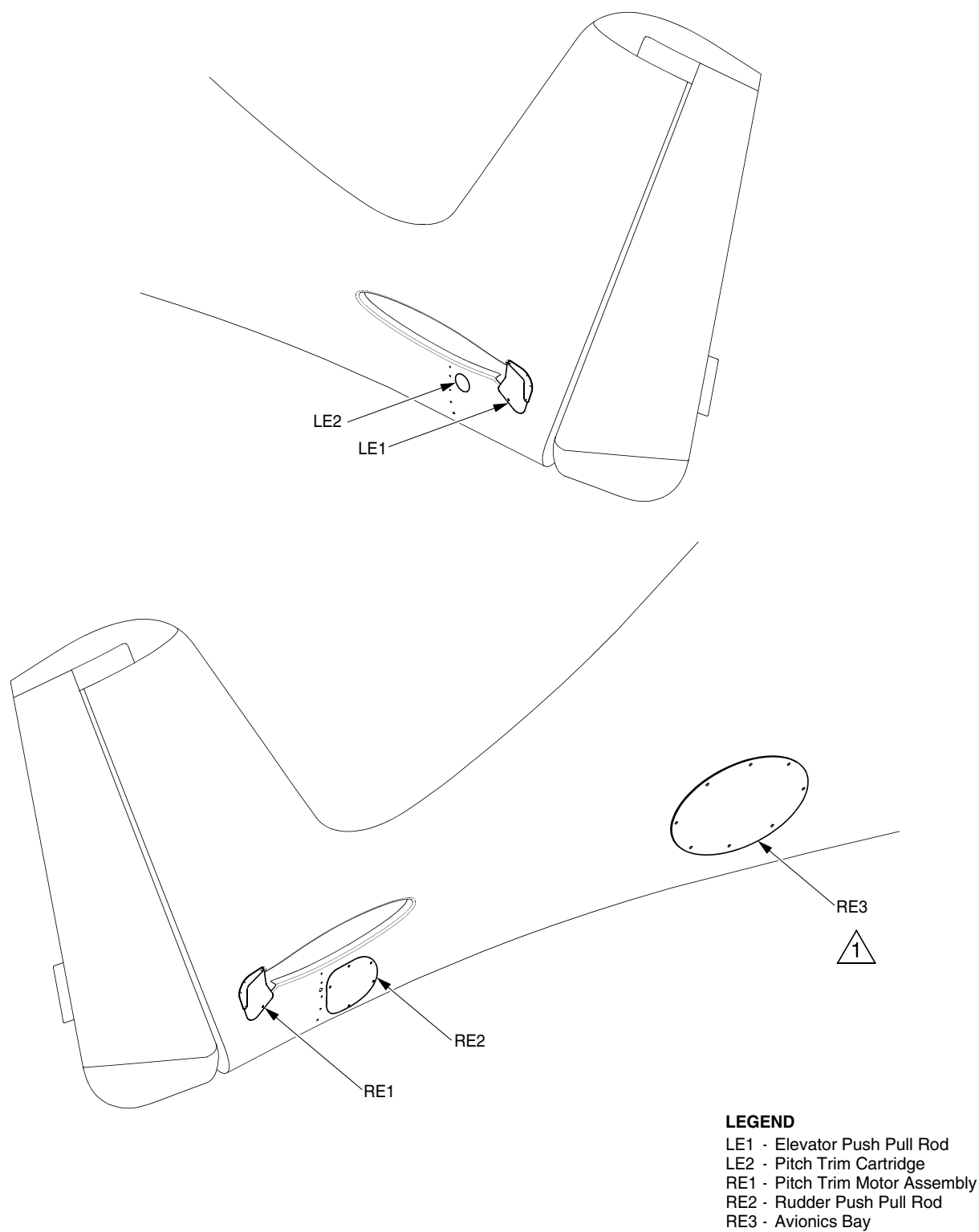
### LEGEND

- LW1/RW1 - Wing Root
- LW2 - De-icing Fluid Tank
- LW3/RW3 - Fuel Tank, Root
- LW4/RW4 - Wing Inboard
- LW5/RW5 - NACA Vent, Inboard
- LW6/RW6 - Fuel Tank, Inboard
- LW7/RW7 - Fuel Tank, Mid
- LW8/RW8 - Fuel Tank, Outboard
- LW9/RW9 - Wing Mid
- LW10/RW10 - NACA Vent, Outboard
- LW11 - Aileron Cove
- LW12/RW12 - Wing Outboard
- LW13/RW13 - Aileron Hinge

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**Figure 06-006**  
**Wing Access Panels - Serials 2438 & subs (Sheet 2 of 2)**

**EFFECTIVITY:**  
Serials 2438 & subs



**NOTE**

1 Serials 0821 & subs.

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**Figure 06-007**  
**Empennage Access Panels**