CHAPTER

06

DIMENSIONS AND AREAS

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CHAPTER 06 - DIMENSIONS AND AREAS
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CHAPTER 06 - DIMENSIONS AND AREAS
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DIMENSIONS AND AREAS - DESCRIPTION AND OPERATION

1. Description

A. This chapter gives the airplane major dimensions and areas, and the dimensions and reference details necessary to enable easy location of components and parts throughout the airplane.

NOTE: The dimensions given on this illustration are with tip fairings removed.

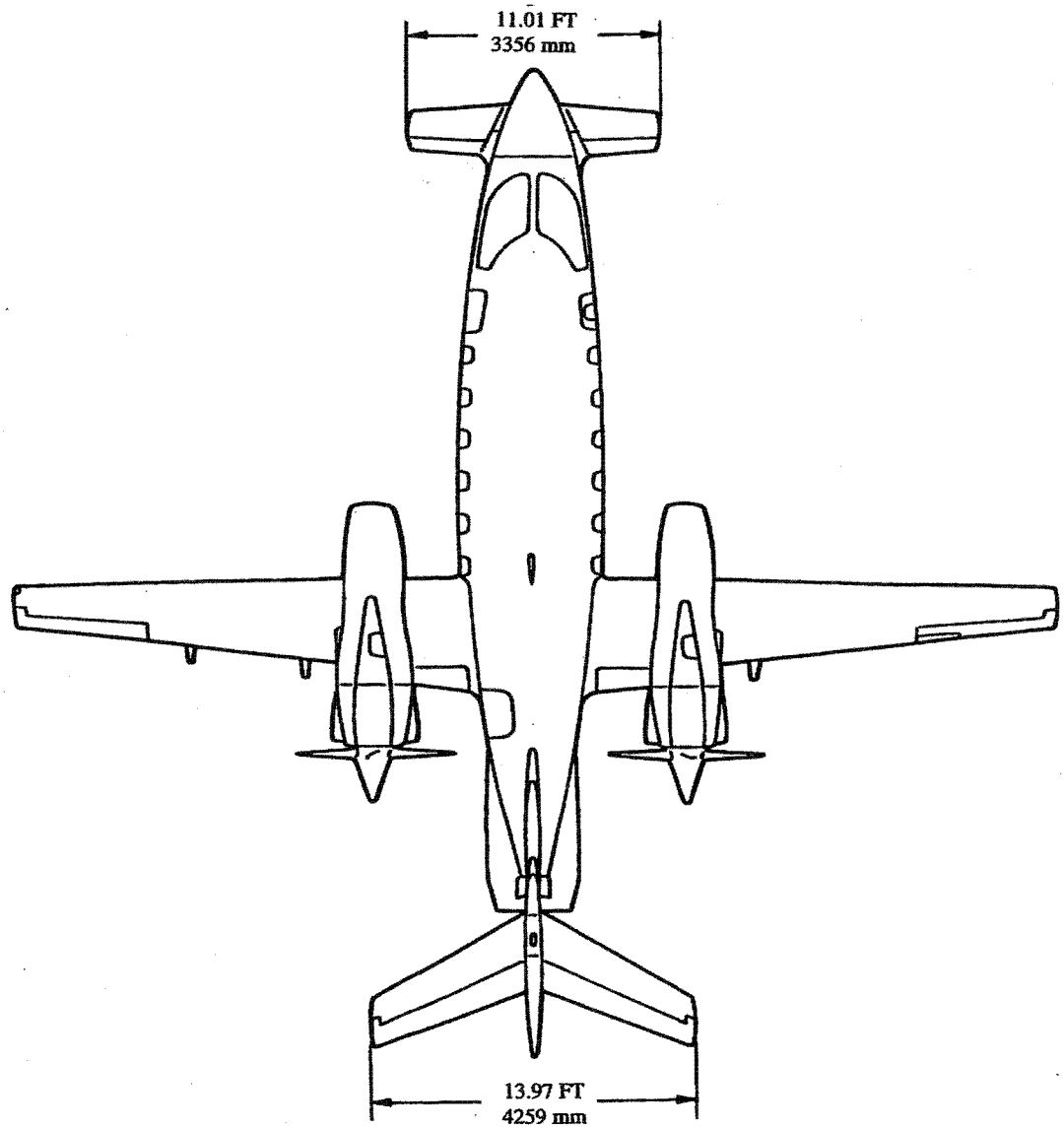

Fig. 1 - Airplane Major Dimensions (Sheet 1 of 2)

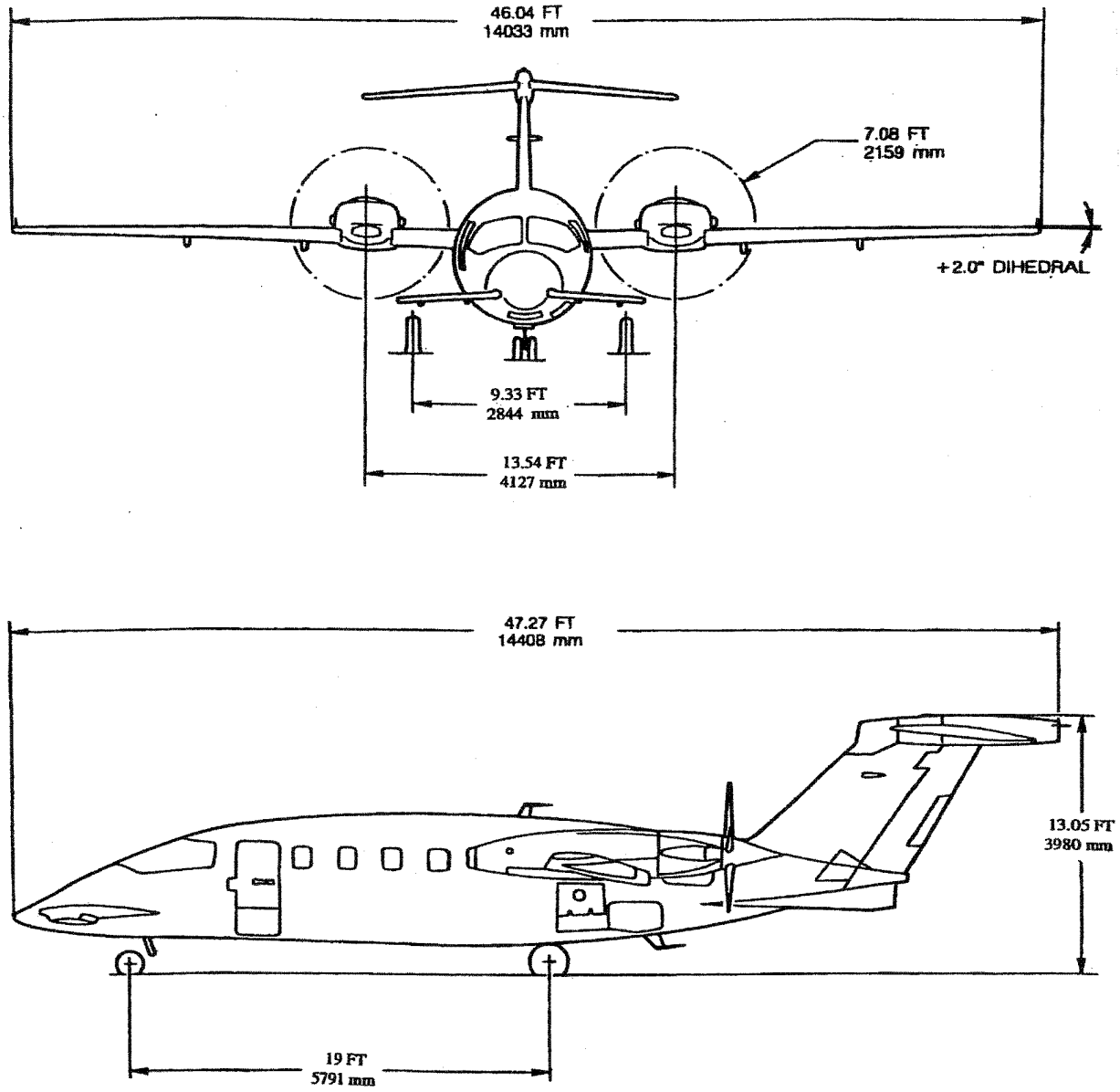

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Fig. 1 - Airplane Major Dimensions (Sheet 2 of 2)

2. Airplane Major Dimensions and Areas

A. The following charts and figures give the major dimensions of the airplane and the areas of the control surfaces. Dimensions and areas are given in feet (to two decimal places) and millimeters. These dimensions are for reference only and are not for inspection purposes.

B. Dimensions

Span (overall)	46.04 ft.	(14033 mm)
Length (overall)	47.27 ft.	(14408 mm)
Height (overall)	13.05 ft.	(3980 mm)

Forward Wing

Span (excluding tip fairings)	11.01 ft.	(3356 mm)
Root Chord (FWS 0)	2.58 ft.	(786 mm)
Tip Chord (FWS 1647)	1.80 ft.	(550 mm)
Dihedral		-5°
Geometric Twist from FWS 0 to FWS 1647		0°±5'
Forward Wing Reference Plane Incidence		3°±5'
Sweep Angle (50% chord line)		0°

Main Wing

Inboard Wing Root Chord (WS 0)	5.99 ft.	(1826 mm)
Inboard Wing Tip Chord (WS 1825)	5.03 ft.	(1533 mm)
Outboard Wing Root Chord (WS 1825)	4.34 ft.	(1322 mm)
Outboard Wing Tip Chord (WS 6925)	2.03 ft.	(618 mm)
Geometric Twist (From WS 0 to WS 6925)		-1°51±5’
WS 0 Chord Plane Incidence		-0°12±5’
Dihedral		+2°00'
Leading Edge Sweep Angle		1°11’24"
Outboard Sweep Angle (15% chord line)		0°

Outboard Wing Flaps (Each)

Type		130% Fowler
Root Chord (WS 2560)	1.20 ft.	(366 mm)
Tip Chord (WS 5120)	0.85 ft.	(260 mm)
Span	8.39 ft.	(2558 mm)

Inboard Wing Flaps (Each)

Type (WS 880)		27% Single Slotted
Type (WS 1570)		23.3% Single Slotted
Root Chord (WS 880)	1.49 ft.	(454 mm)
Tip Chord (WS 1570)	1.20 ft.	(367 mm)
Span	2.26 ft.	(690 mm)

Forward Wing Flap (Each)

Type		45% Single Slotted
Chord (WS 603.5)	1.03 ft.	(315 mm)
Chord (WS 1647)	0.81 ft.	(248 mm)
Semispan	3.41 ft.	(1040 mm)

Aileron (Each)

Span from WS 5125 to 6925	5.90 ft.	(1797 mm)
Chord Rear Hinge Line at WS 5125	0.71 ft.	(216 mm)
Chord Rear Hinge Line at WS 6925	0.51 ft.	(154 mm)
Balance Horn Chord (Fwd hinge line, WS 6830)	0.45 ft.	(136 mm)
Balance Horn Chord (Fwd hinge line, WS 6925)	0.44 ft.	(133 mm)
Horn Span from WS 6830 to 6925	0.31 ft.	(95 mm)
Trim Tab Span (RH aileron) from WS 5125 to 5720	1.95 ft.	(595 mm)

Horizontal Tail

Span (excluding tip fairings)	13.97 ft.	(4259 mm)
Root Chord (BL 0)	3.76 ft.	(1145 mm)
Tip Chord (BL 2100)	2.25 ft.	(687 mm)
Dihedral		-5°
Sweep Angle(25% chord line)		+29.8°

Elevator (Each)

Span from BL 125 to 2100	6.45 ft.	(1967 mm)
Chord Rear Hinge Line at BL 125	1.28 ft.	(391 mm)
Chord Rear Hinge Line at BL 2100	0.79 ft.	(240 mm)
Balance Horn Chord (Fwd hinge line, BL 2007)	0.74 ft.	(225 mm)
Balance Horn Chord (Fwd hinge line, BL 2100)	0.72 ft.	(220 mm)
Horn Span from BL 2007 to 2100	0.31 ft.	(93 mm)

Vertical Tail

Span	7.70 ft.	(2346 mm)
Root Chord (FS 814)	8.22 ft.	(2507 mm)
Tip Chord (FS 3160)	5.01 ft.	(1526 mm)
Sweep Angle (25% chord line)		40°

Rudder

Span from WS 930 to 2830	6.23 ft.	(1900 mm)
Chord at WL 930 (Rear hinge line)	2.22 ft.	(677 mm)
Chord at WL 2830 (Rear hinge line)	1.50 ft.	(458 mm)
Balance Horn Chord (Fwd hinge line, WL 2490)	0.74 ft.	(214 mm)
Balance Horn Chord (Fwd hinge line, WL 2714)	0.74 ft.	(226 mm)
Horn Span from WL 2490 to 2714	0.73 ft.	(224 mm)
Trim Tab Span from WL 1300 to 2075	2.54 ft.	(775 mm)

C. Areas

Wing (Total)	172.212 sq.ft	(16.000 sq.m)
Outboard Wing Flap (Each)	8.62 sq.ft	(0.800 sq.m)
Inboard Wing Flap (Each)	3.07 sq.ft	(0.285 sq.m)
Aileron (Each, Rear Hinge Line)	3.55 sq.ft	(0.330 sq.m)
Right Aileron Trim (Rear Hinge Line)	0.42 sq.ft	(0.039 sq.m)
Horizontal Tail (Total)	41.27 sq.ft	(3.834 sq.m)
Elevetor (Rear Hinge Line)	6.68 sq.ft	(0.621 sq.m)
Vertical Tail (Total)	50.92 sq.ft	(4.731 sq.m)
Rudder (Rear Hinge Line)	11.30 sq.ft	(1.050 sq.m)
Rudder Trim (Rear Hinge Line)	1.43 sq.ft	(0.133 sq.m)
Forward Wing (Exposed)	13.99 sq.ft	(1.300 sq.m)
Forward Wing Flap (Each)	3.15 sq.ft	(0.292 sq.m)

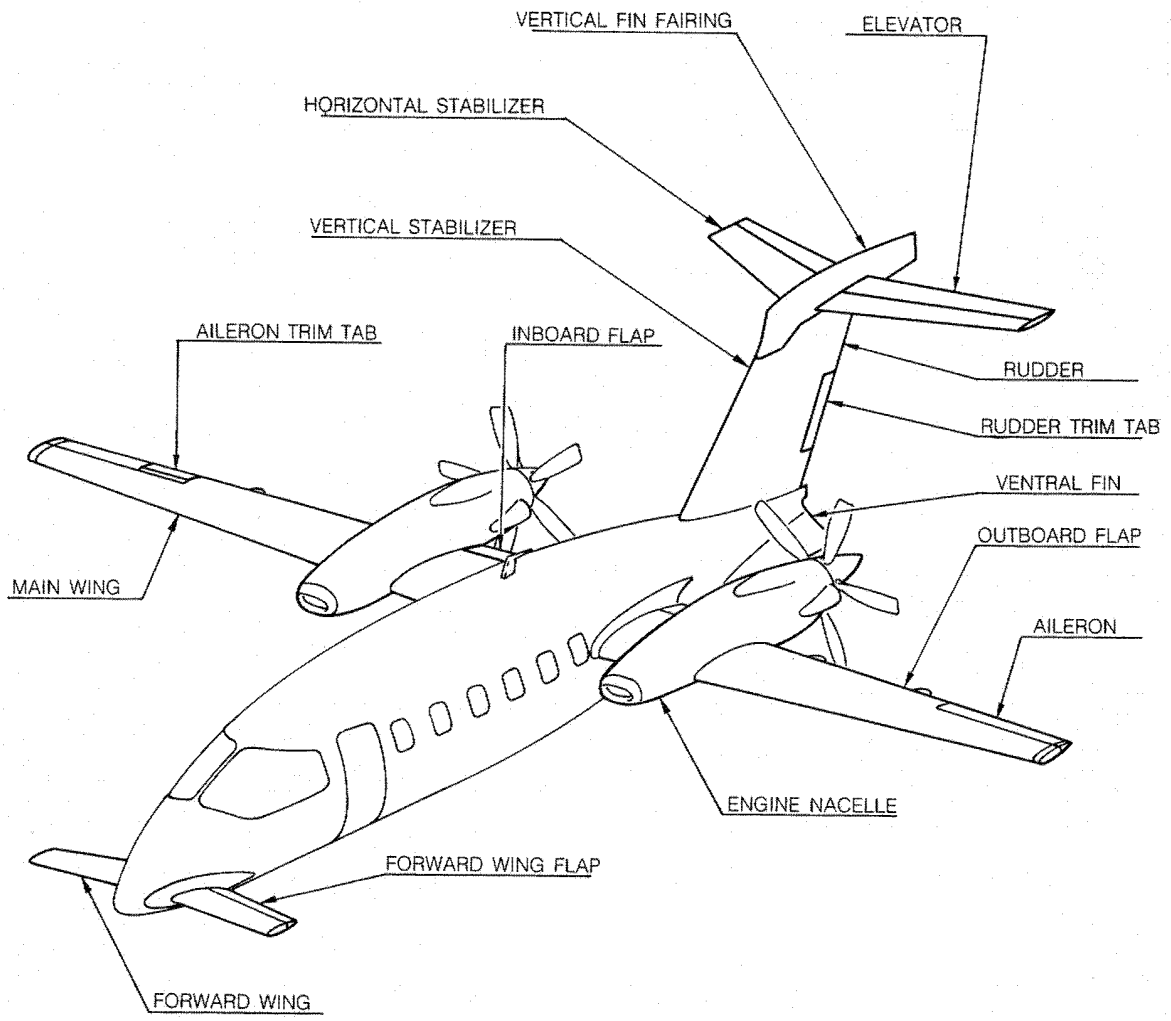

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Fig. 2 - Airplane Areas

3. Stations (Reference Points)

A. The airplane is divided into reference points along three axes. The reference points are measured in millimeters. These reference points provide a means of quickly identifying the location of a bulkhead, component, etc.

B. All reference points may be converted to inches by multiplying the reference point (millimeters) by 0.03937.

C. The following terms are used for reference points:

FS – Fuselage station is a horizontal reference designation. FS 0 is located at the intersection of the forward pressure bulkhead with the cockpit floor. The FS numbers with a minus prefix are forward of FS 0.

WL – Water line is a vertical reference designation measured parallel to the ground. WL 0 is located at the airplane floor. All WL numbers with a minus prefix are below the floor.

BL – Buttock line is a horizontal reference designation at the airplane centerline.

WS – Wing station is a horizontal reference designation. WS 0 is at the wing centerline and wing stations are measured perpendicular along wing datum.

FWS – Forward Wing station is a horizontal reference designation. FWS 0 is at the forward wing centerline and forward wing stations are measured perpendicular along forward wing datum.

NAC S – Nacelle stations is a horizontal reference designation. NAC S 0 is located at the theoretical axis of the propeller. All NAC S numbers are forward of NAC S 0 and therefore have a minus prefix.

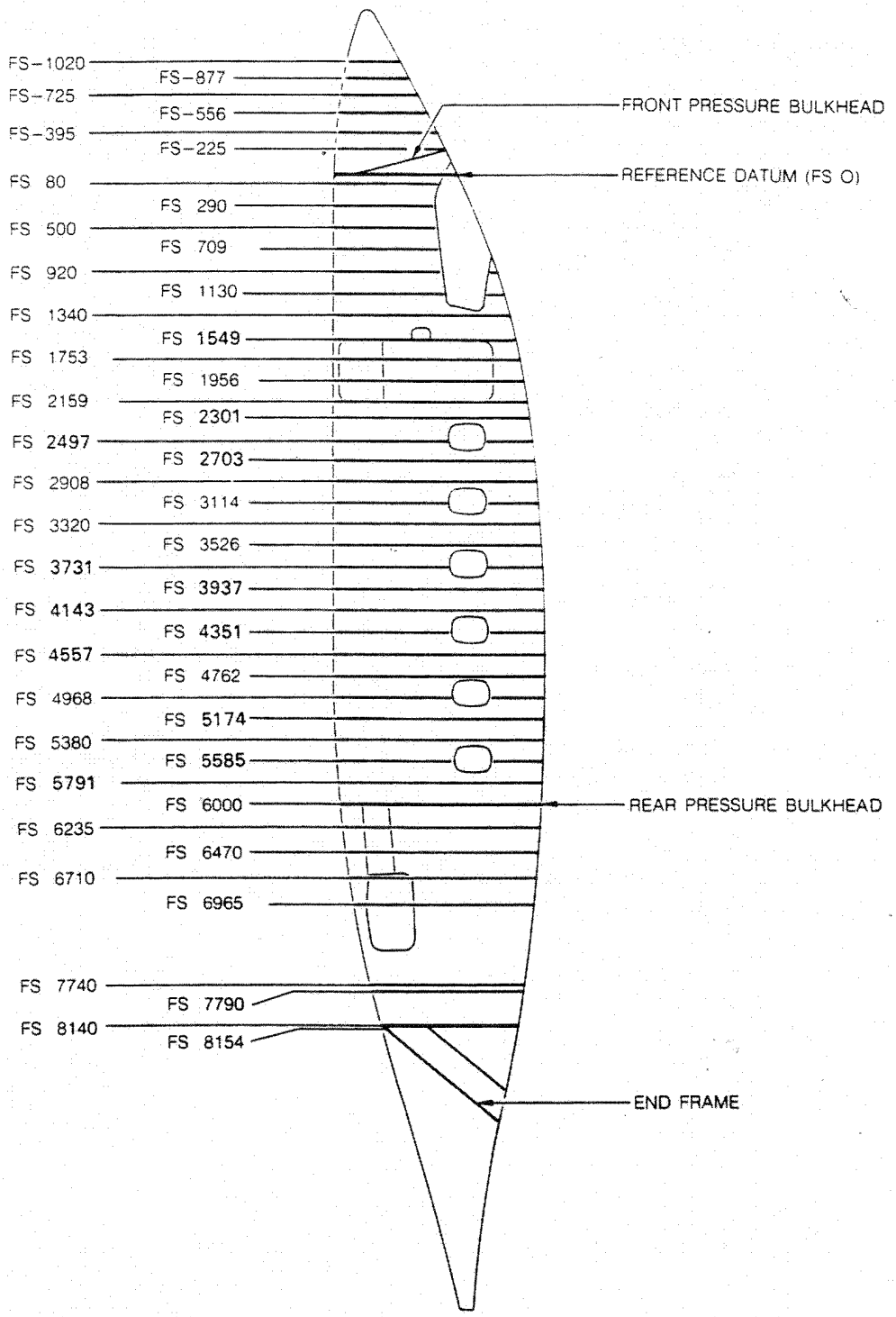

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Fig. 3 - Fuselage Stations Diagram

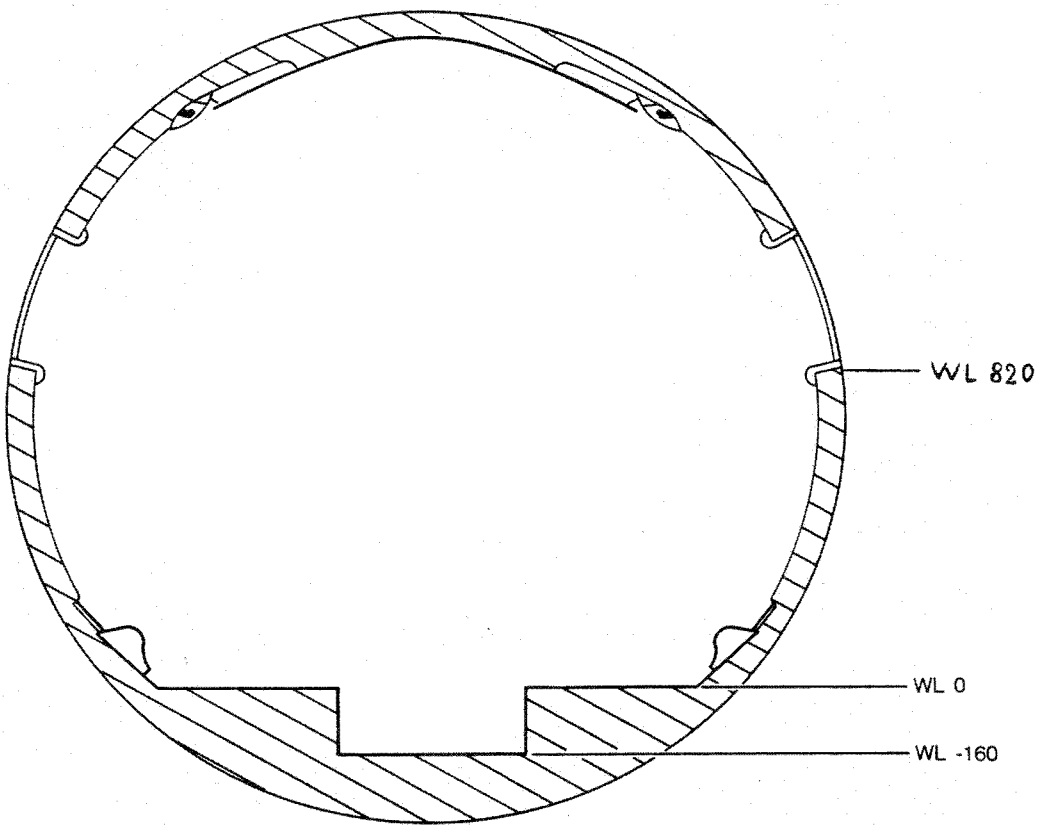

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Fig. 4 - Major Water Line Locations

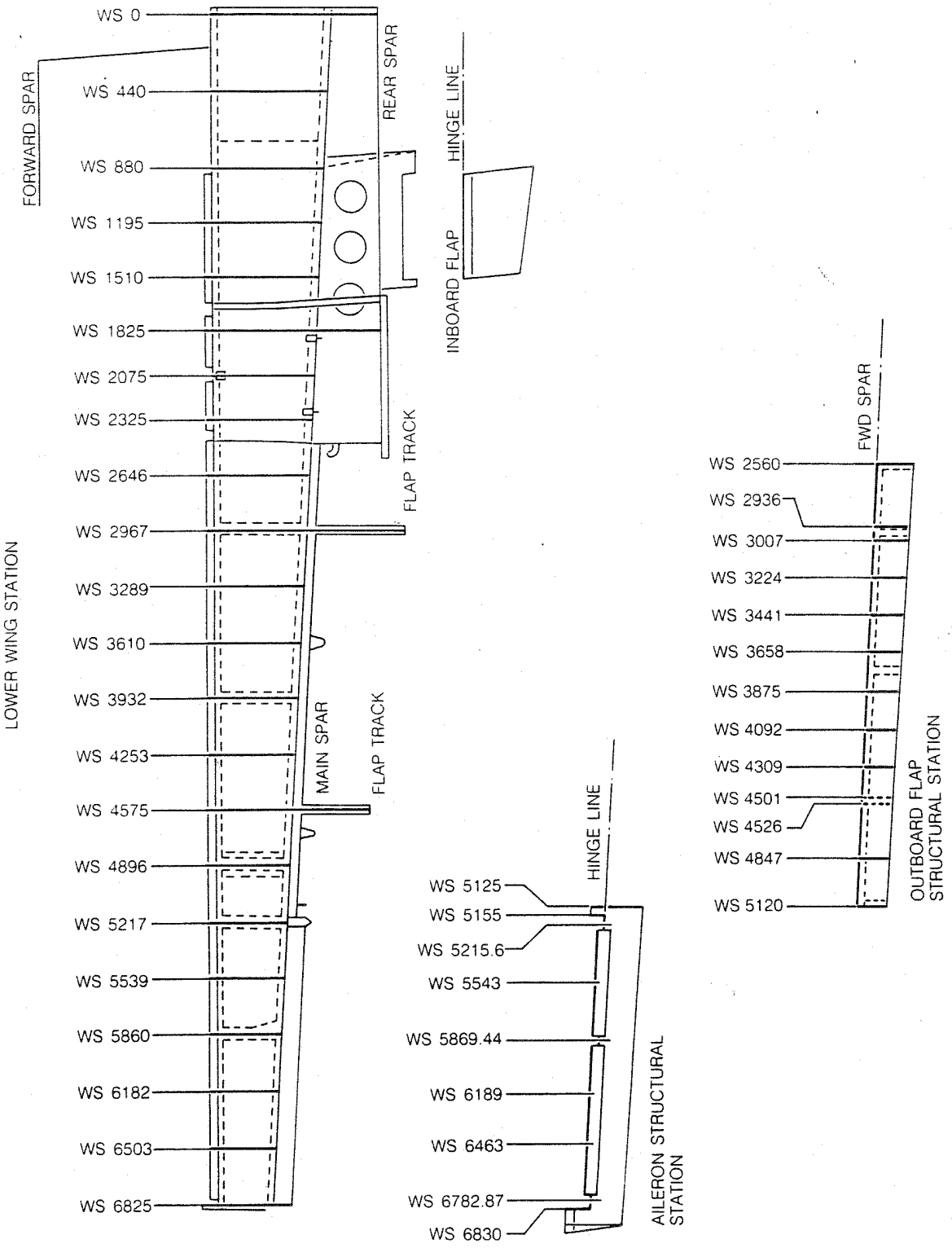

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Fig. 5 - Wing, Aileron and Flap Stations Diagram (Sheet 1 of 2)

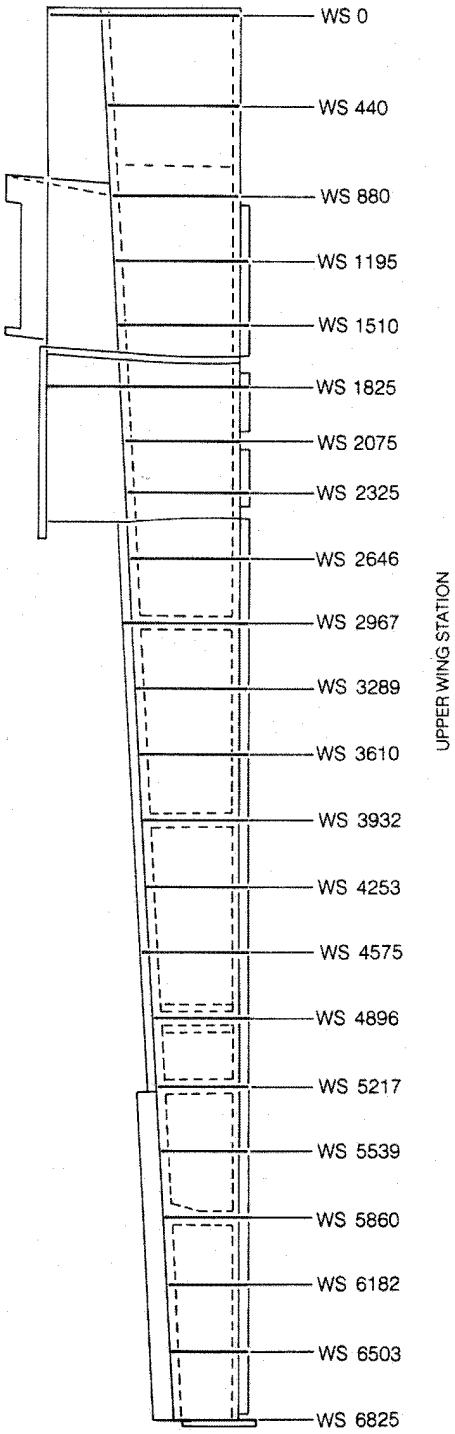

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Fig. 5 - Wing, Aileron and Flap Stations Diagram (Sheet 2 of 2)

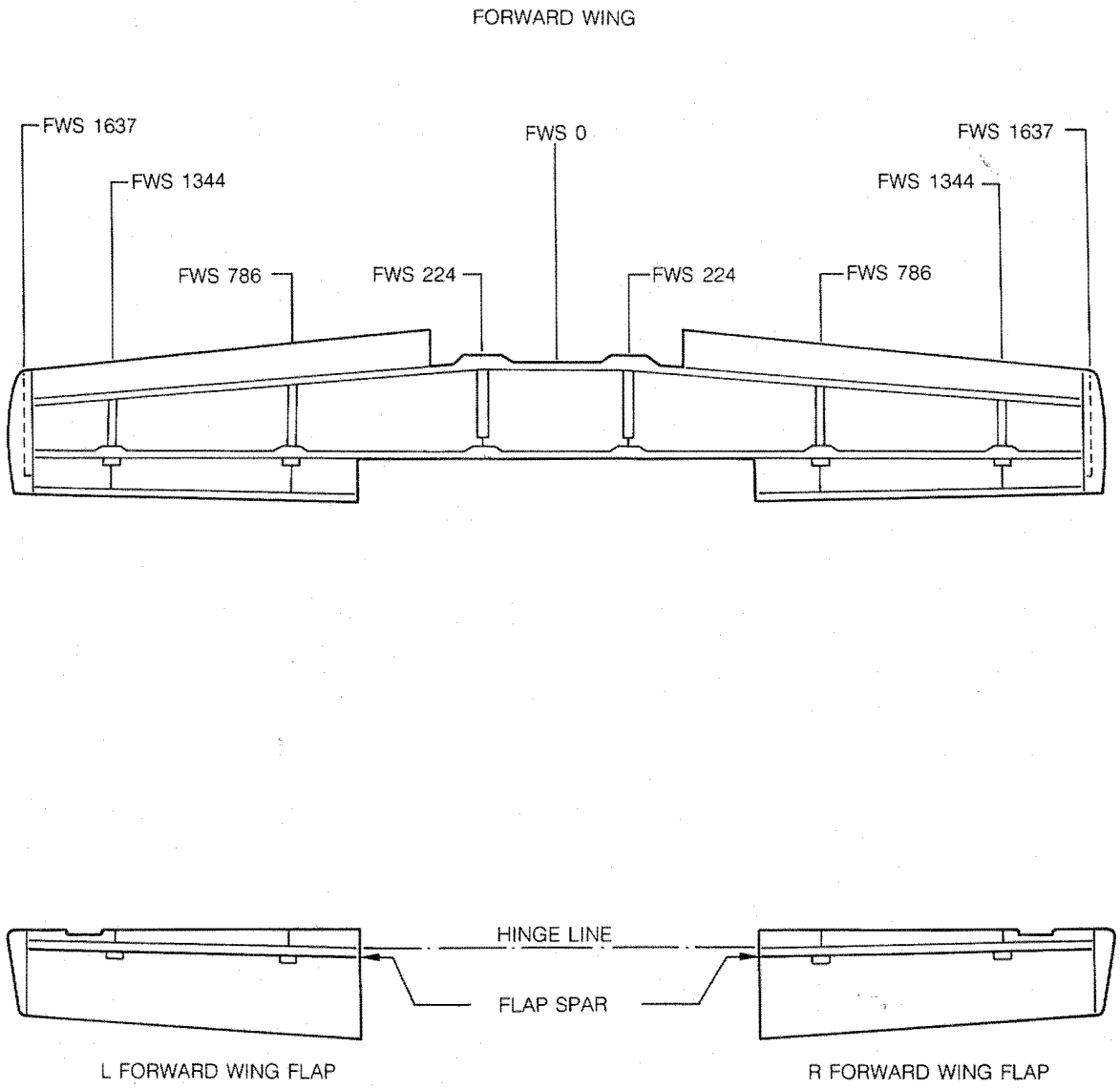

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Fig. 6 - Forward Wing and Flaps Stations Diagram

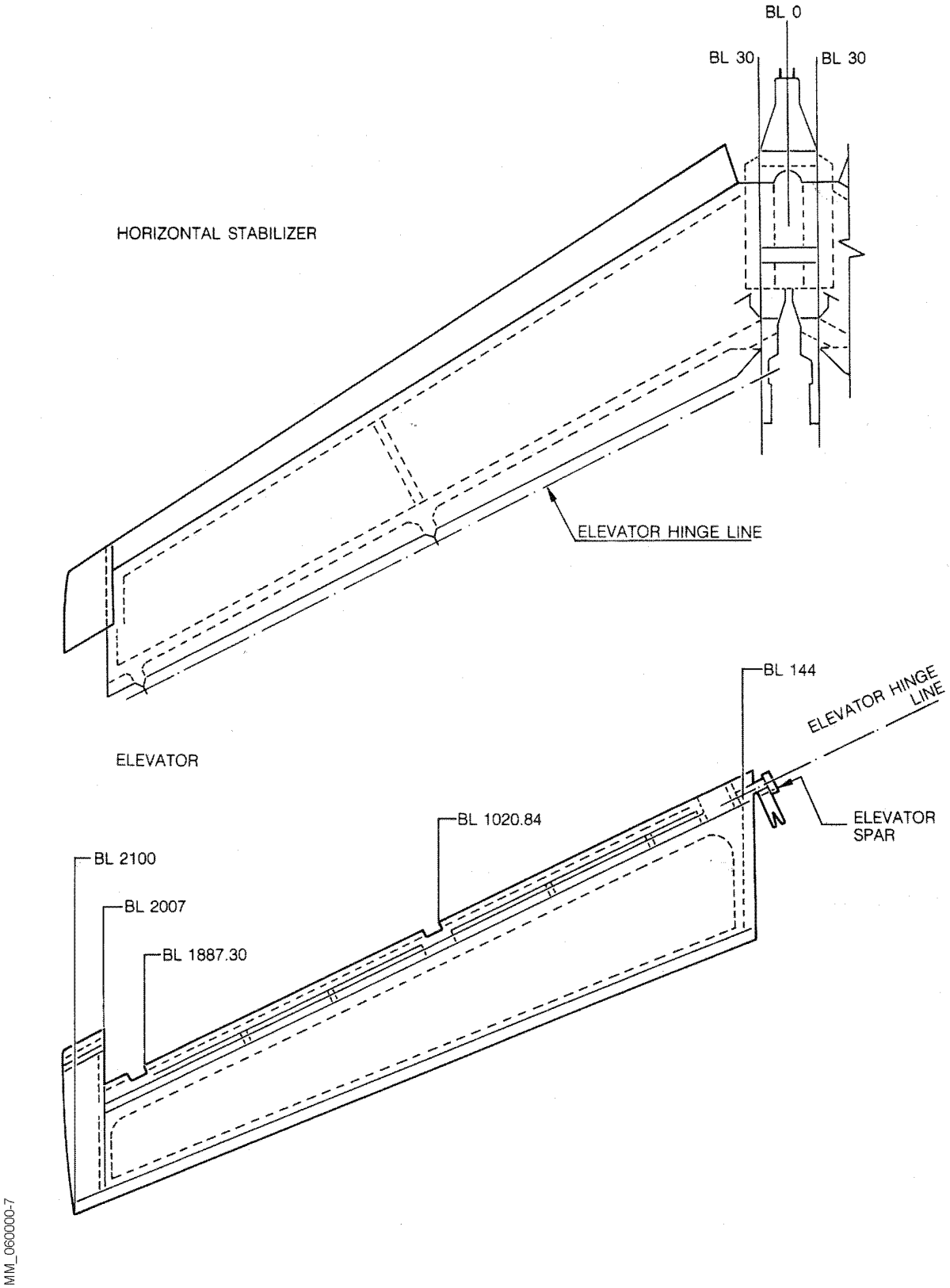

Fig. 7 - Horizontal Stabilizer and Elevator Stations Diagram

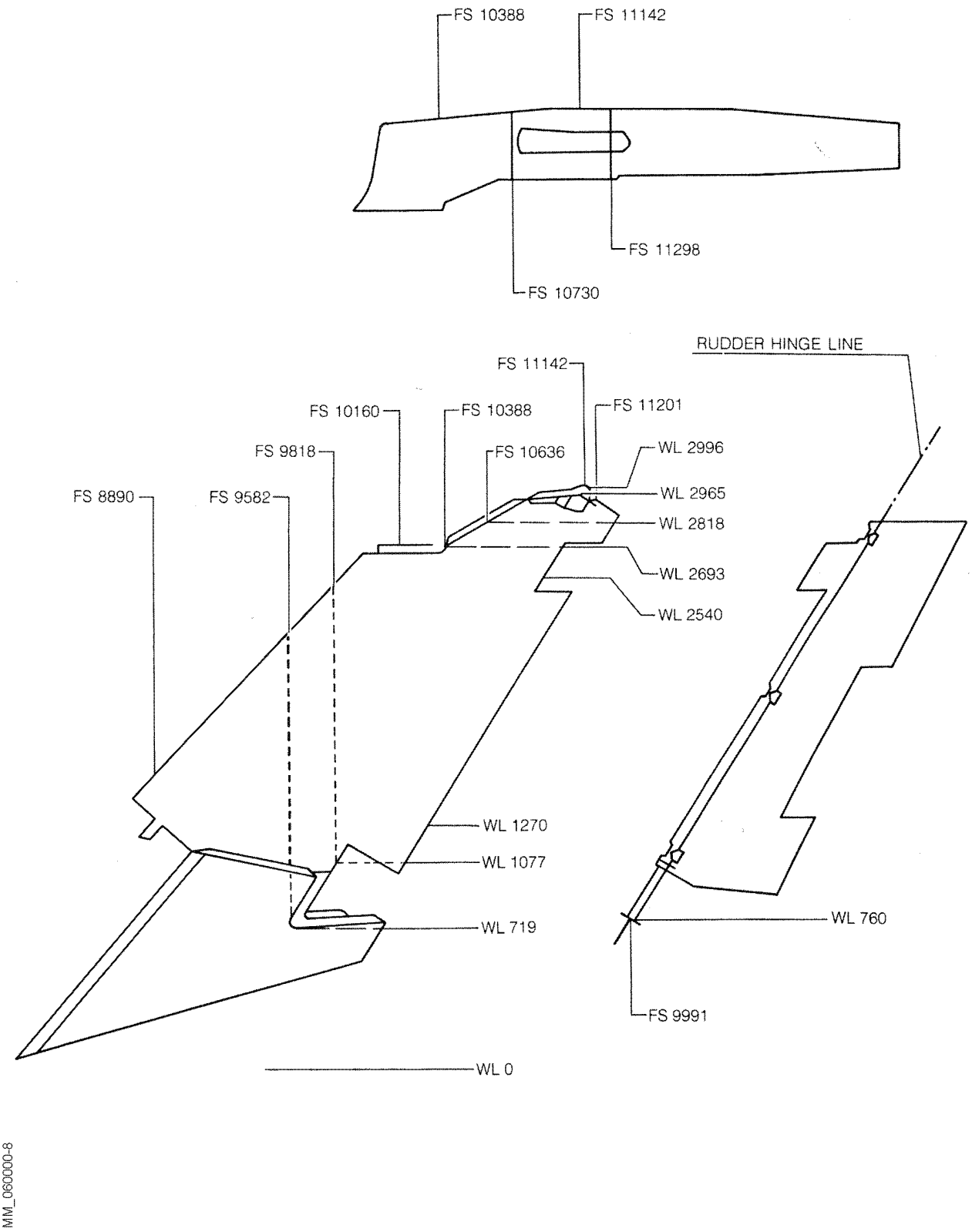

Fig. 8 - Vertical Stabilizer and Rudder Stations Diagram

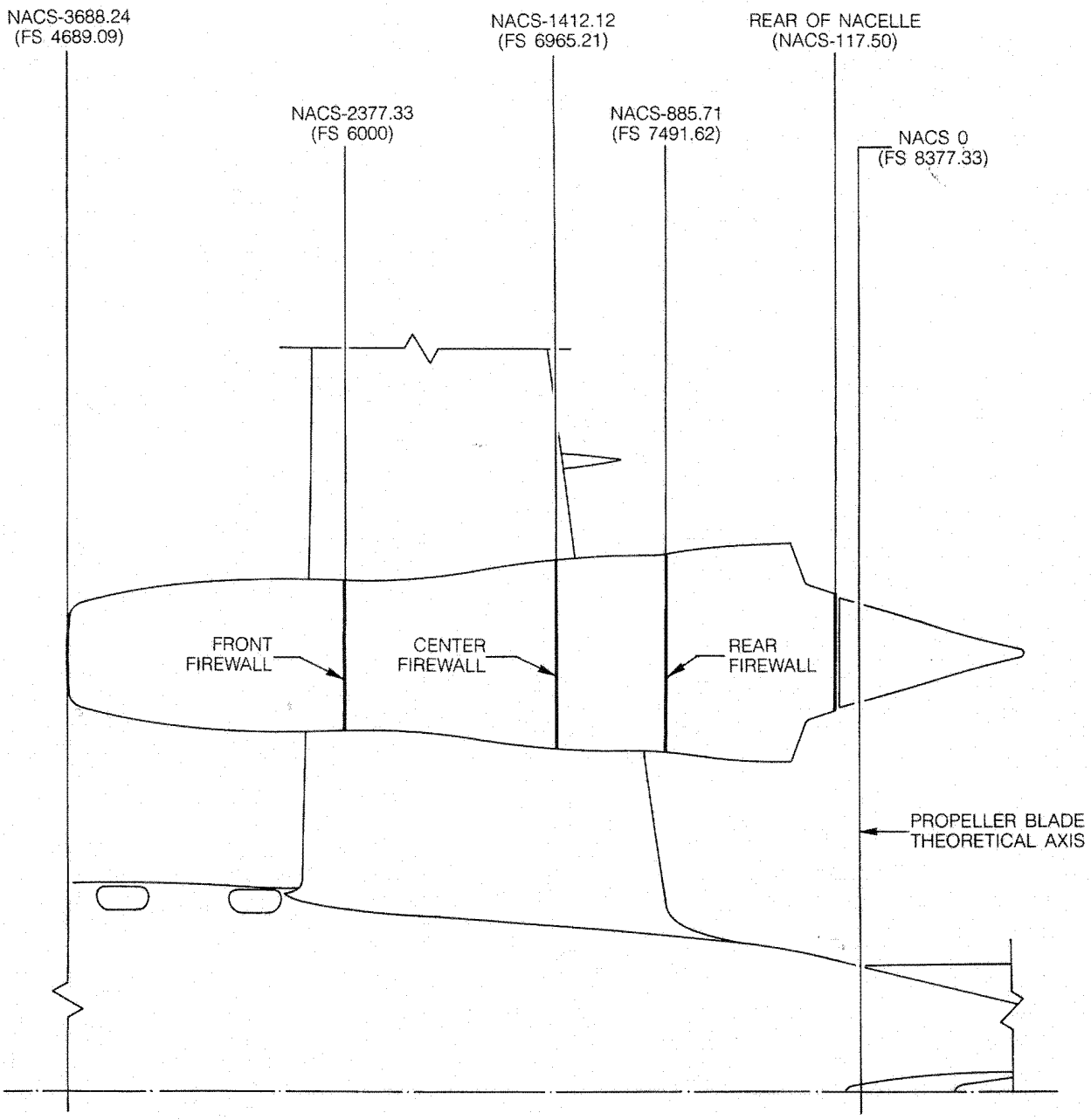

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Fig. 9 - Nacelle Stations Diagram

4. Major Structural Members

A. The location of major structural members are shown in figure 10.

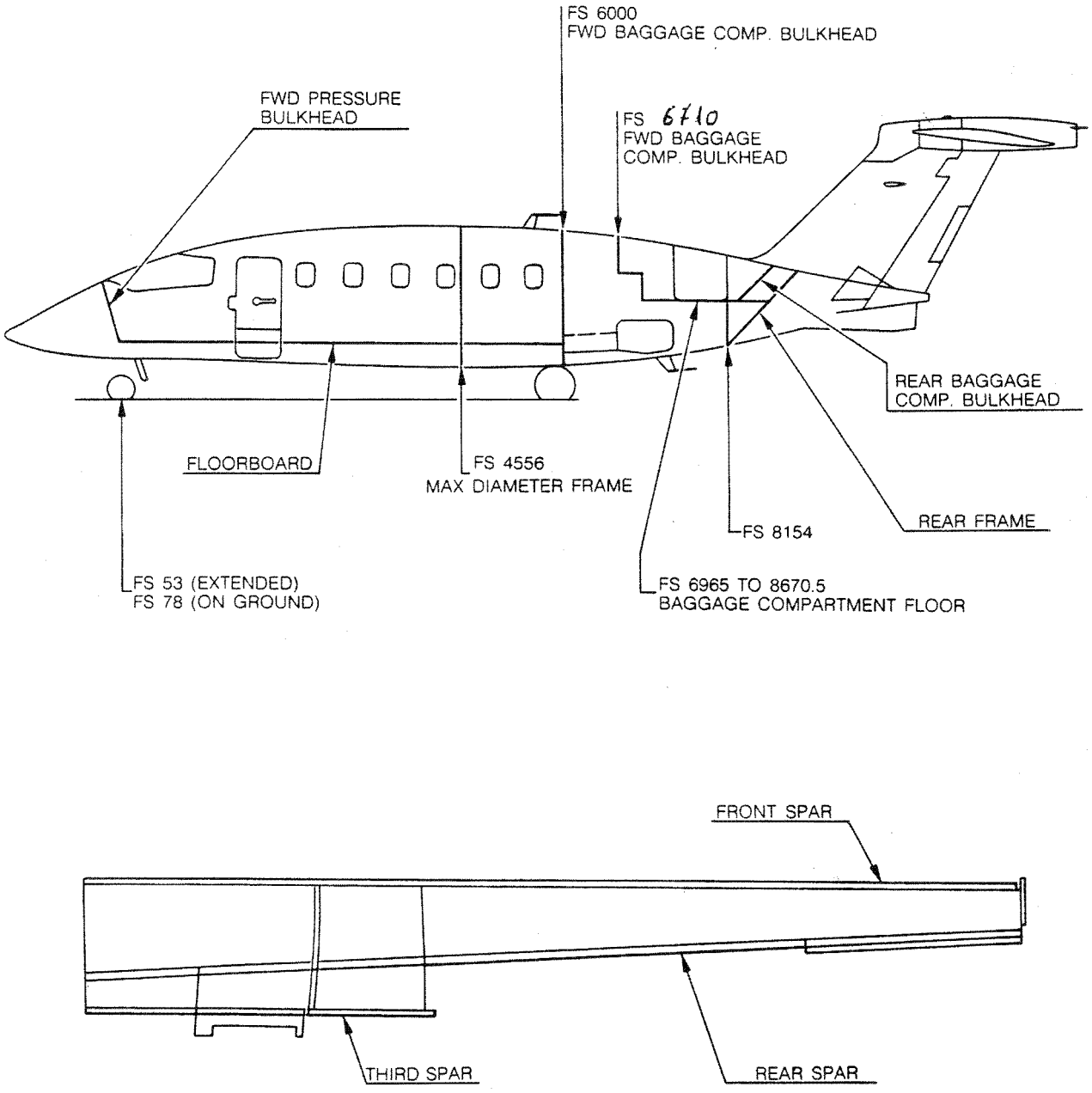

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Fig. 10 - Major Structural Member Locations

5. Zoning

A. To facilitate maintenance, planning, preparation of job instructions, location for areas and components, and a common basis for various maintenance tasks, the airplane is given various zone numbers. Refer to figures 11 thru 14 for zoning details.

Note: Refer to sheet 2 for zone breakdown details.

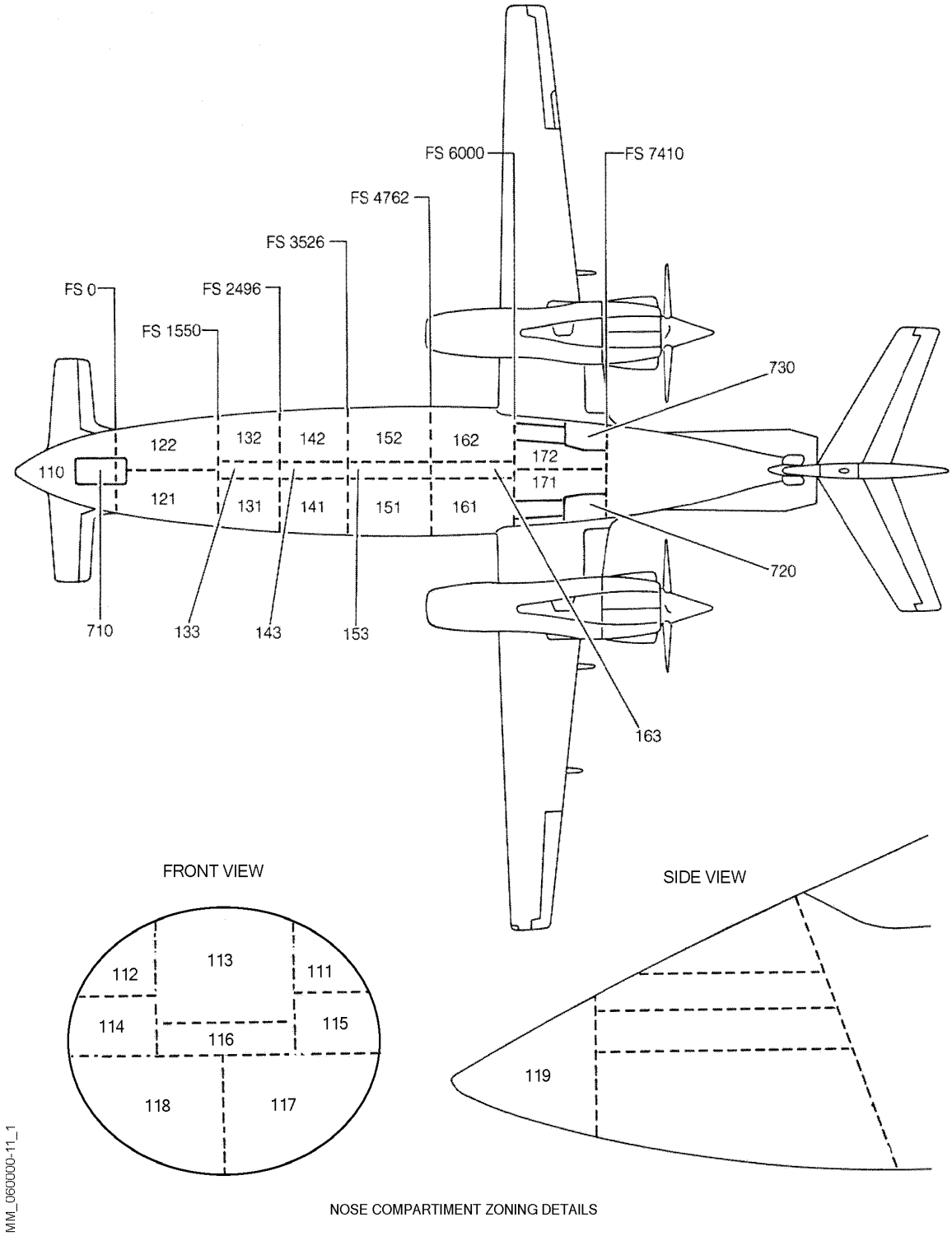

Fig. 11 - Airplane Zoning - Radome and Area Below Fuselage Floor (Sheet 1 of 2)

Zone Breakdown of Radome Fuselage Below the FIoor

100 ZONES
INCLUDES RADOME AND THE AREA BELOW THE FLOOR,
FS 0 TO FS 7410

ZONE 110: RADOME, FORWARD OF FS 0

120: FS 0 TO FS 1550

130: FS 1150 TO FS 2496

140: FS 2496 TO FS 3526

150: FS 3526 TO FS 4762

160: FS 4762 TO FS 6000

170: FS 6000 TO FS 7410

Zone Breakdown of Wheel WeIls

700 ZONES
GEAR DOORS AND WHEEL WELLS

ZONE 710: NOSE LANDING GEAR

720: RIGHT MAIN LANDING GEAR

730: LEFT MAIN LANDING GEAR

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Fig. 11 - Airplane Zoning - Radome and Area Below Fuselage Floor (Sheet 2 of 2).

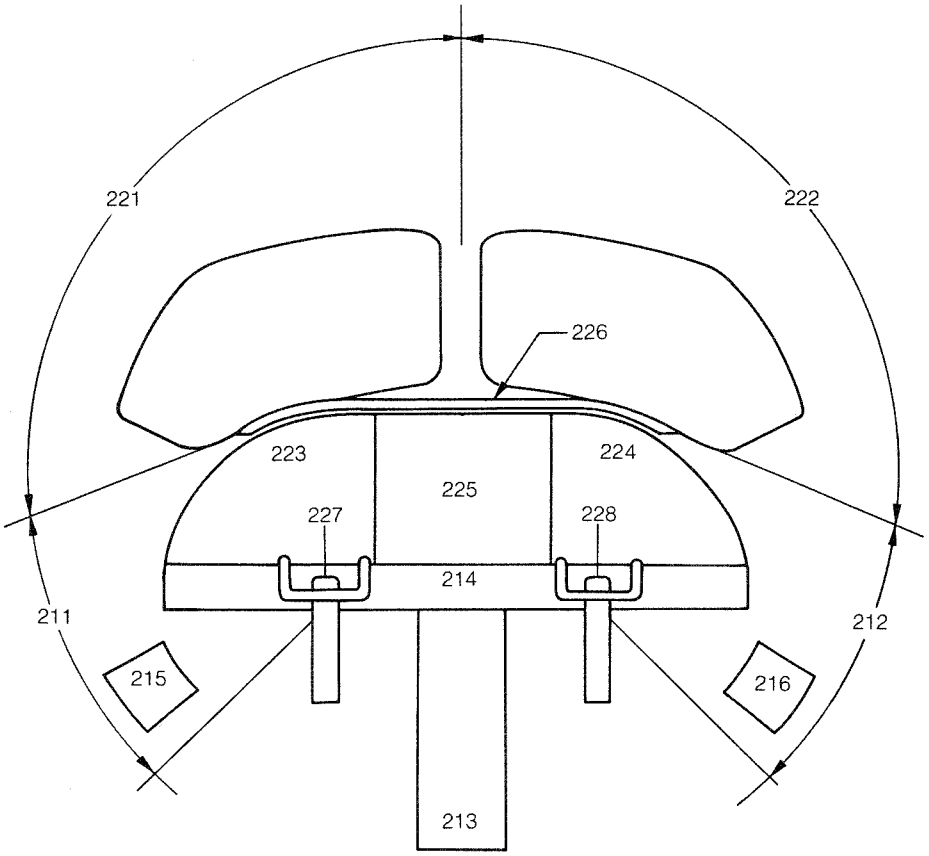

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Fig. 12 - Airplane Zoning - Flight Compartment (Sheet 1 of 2)

Zone Breakdown of Flight Compartment

200 ZONES
FLIGHT COMPARTMENT (ABOVE THE FLOOR) BETWEEN FRONT PRESSURE BULKHEAD AND FS 1551

ZONE 211: LEFT CABIN WALL, LOWER

212: RIGHT CABIN WALL, LOWER

213: CONTROL PEDESTAL

214: SWITCH PANEL

215: PILOT CIRCUIT BREAKER PANEL

216: COPILOT CIRCUIT BREAKER PANEL

217: NOT USED

218: NOT USED

219: NOT USED

220: NOT USED

221: LEFT CABIN WALL, UPPER

222: RIGHT CABIN WALL, UPPER

223: FRONT PRESSURE BULKHEAD TO THE LEFT INSTRUMENT PANEL

224: FRONT PRESSURE BULKHEAD TO THE RIGHT INSTRUMENT PANEL

225: FRONT PRESSURE BULKHEAD TO THE CENTRAL INSTRUMENT PANEL

226: GLARESHIELD

227: PILOT CONTROL COLUMN

228: COPILOT CONTROL COLUMN

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Fig. 12 - Airplane Zoning - Flight Compartment (Sheet 2 of 2)

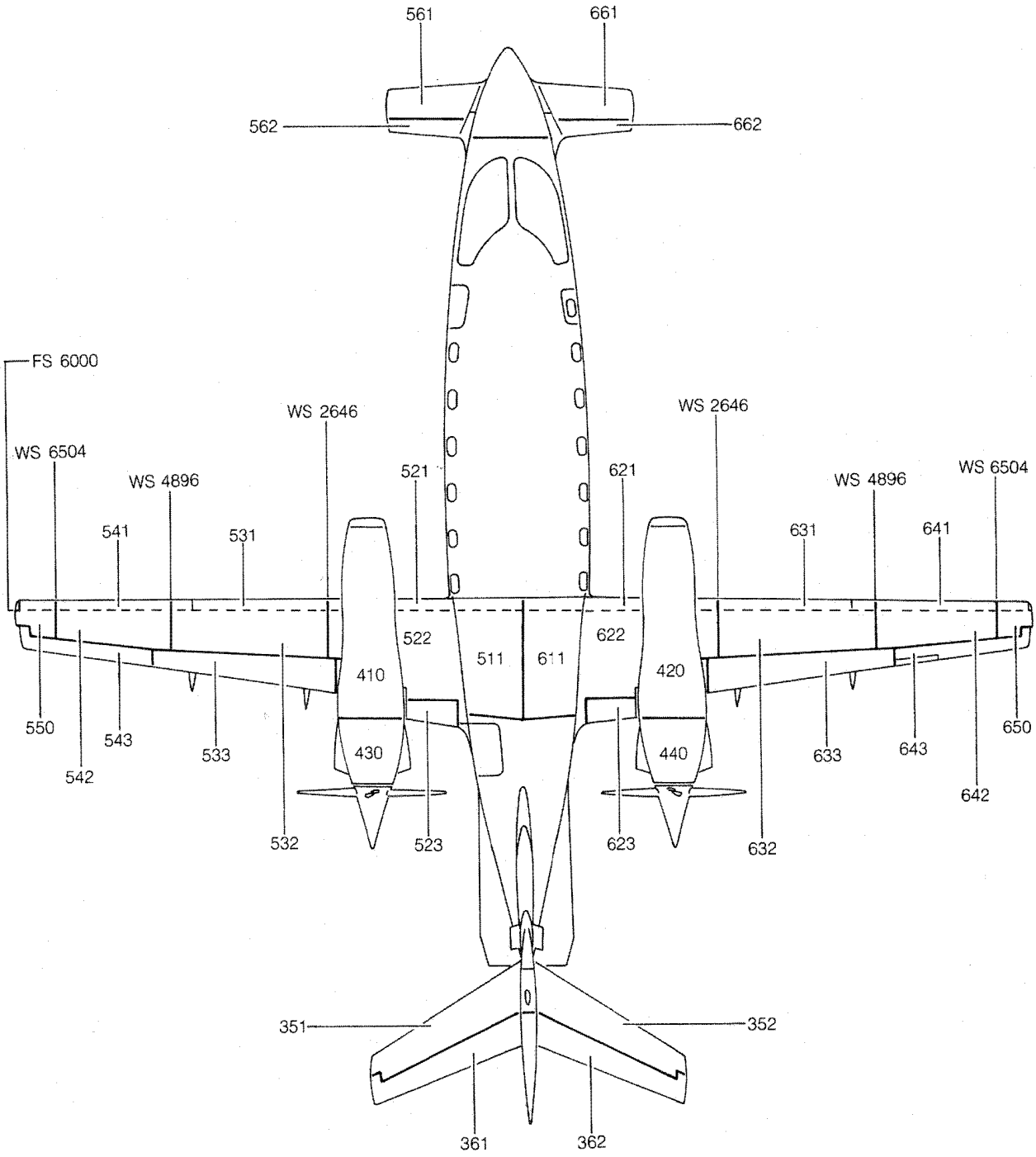

Fig. 13 - Airplane Zoning - Wings and Nacelles (Sheet 1 of 2)

Zone Breakdown of Wings

500 AND 600 ZONES
WINGS

ZONE 500: LEFT WING 600: RIGHT WING

510 (610): CENTERLINE TO FUSELAGE

520 (620): FUSELAGE TO WS 2646

530 (630): WS 2646 TO WS 4896

540 (640): WS 4896 TO WS 6504

550 (650): WING TIP (OUTBOARD OF WS 6504)

560 (660): FORWARD WING AND FLAP

Zone Breakdown of Nacelles

400 ZONES
NACELLES

ZONE 410: LEFT FORWARD COWLING

420: RIGHT FORWARD COWLING

430: LEFT REAR COWLING

440: RIGHT REAR COWLING

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Fig. 13 - Airplane Zoning - Wings and Nacelles (Sheet 2 of 2)

Zone Breakdown of Doors

800 ZONES
DOORS

ZONE 810: CABIN ENTRY UPPER DOOR
820: CABIN ENTRY LOWER DOOR
830: EMERGENCY EXIT
840: BAGGAGE COMPARTMENT DOOR

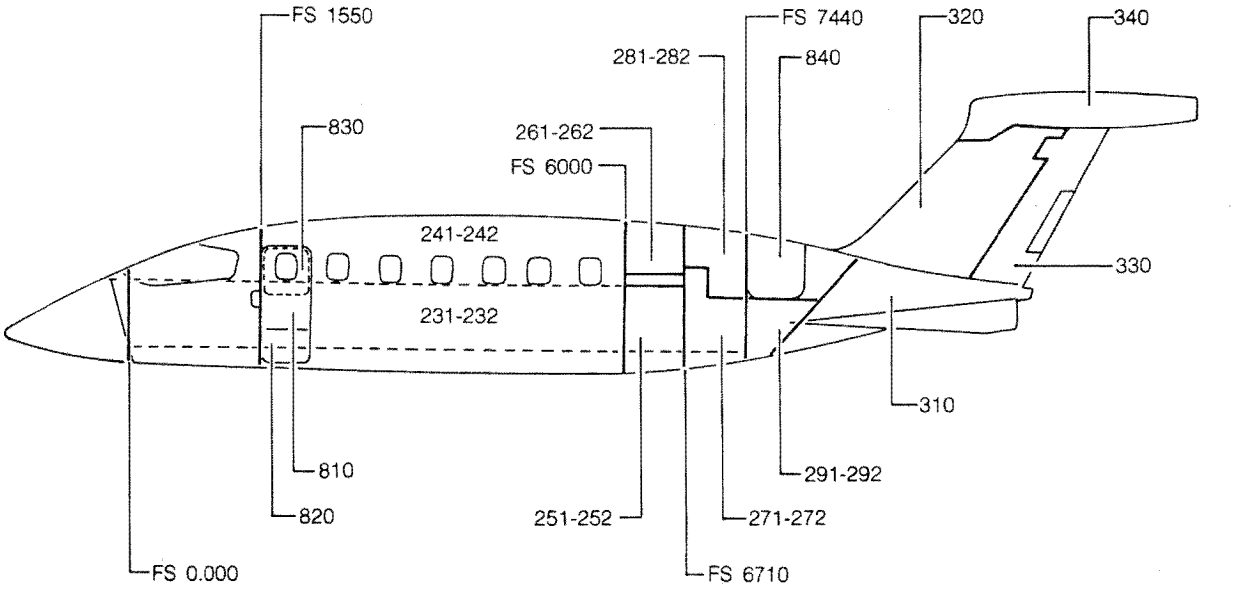

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Fig. 14 - Airplane Zoning - Empennage and Area above Fuselage Floor (Sheet 1 of 2)

Zone Breakdown of the Fuselage Above Floor

200 ZONES
ABOVE FLOOR FS 0 TO END FRAME INCLUSIVE

ZONE 210, 220 SEE FIGURE 12

230: FS 1550 TO 6000 (BELOW THE WINDOWS AND THE W.L. 820)

240: FS 1550 TO 6000 (ABOVE THE WINDOWS AND THE W.L. 820)

250: FS 6000 TO 6710 (BELOW THE WING)

260: FS 6000 TO 6710 (ABOVE THE WING)

270: FS 6000 TO 7440 (BELOW BAGGAGE COMPT)

280: FS 6710 TO END FRAME (BAGGAGE COMPT)

290: FS 7440 TO END FRAME (BELOW BAG. COMPT)

Zone Breakdown of Empennage

300 ZONES
EMPENNAGE

ZONE 310: TAIL CONE

320: VERTICAL FIN

330: RUDDER

340: FIN TIP FAIRING

350: STABILIZER (SEE FIGURE 13)

360: ELEVATOR (SEE FIGURE 13)

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Fig. 14 - Airplane Zoning - Empennage and Area above Fuselage Floor (Sheet 2 of 2)

6. Access and Inspection Locations

A. The access and inspection locations for the airplane are shown in figure 15 thru 26. An index number has been assigned to each opening for identifying the access. All access plates and panels are secured by either metal fasteners or screws.

B. All maintenance access doors, service doors, fillets, fairings, removable radio rack access panels, removable floor panels, and removable ceiling panels shall be identified as follows:

(1) The identification shall be prefixed by the three-digit zone number that designates the smallest zone in which the door is located.

(2) Normally, a two letter suffix shall be utilized consisting of a primary identifier and a locator. A third suffix may be used to further identify, floor, wall and ceiling panels.

(3) The first suffix is the primary letter identifying the door in a logical sequence, inboard to outboard or front to rear, starting with A within each zone.

(4) The second suffix, or locator fixes the door in its relation to the airplane, if required.

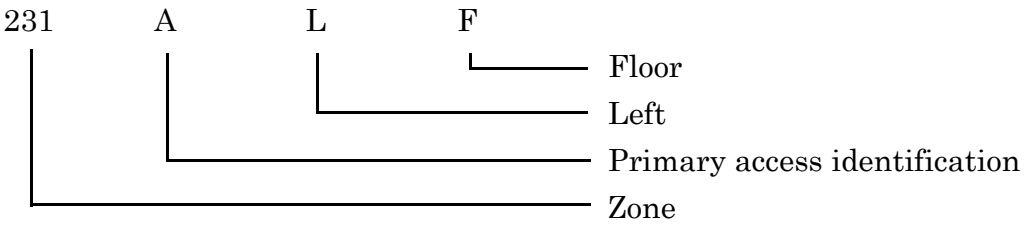
T	-	Top
B	-	Bottom
L	-	Left Hand
R	-	Right Hand
Z	-	Internal

(5) The third suffix consisting of six letters, may be added to further identify floor, wall and ceiling panels as follows:

F	-	G	Floor
W	-	X	Wall (side) panels
C	-	D	Ceiling panels

– Letters G, X, and D would only be used after F, W and C have been used up.

– Example of the code used for a left-hand floor panel in zone 231 using three suffix letters:



– Further examples of access panel identification using two suffix letters:

Panel Number (Zone)	(Suffix)	
522	AT	(Top of Wing)
522	CB	(Bottom of Wing)
320	AR	(Vertical Stabilizer - RH side)
281	AZ	(Interior Baggage Compartment)

(6) Cabin entrance doors, and landing gear doors shall be identified by the zone number only since each is a zone in itself.

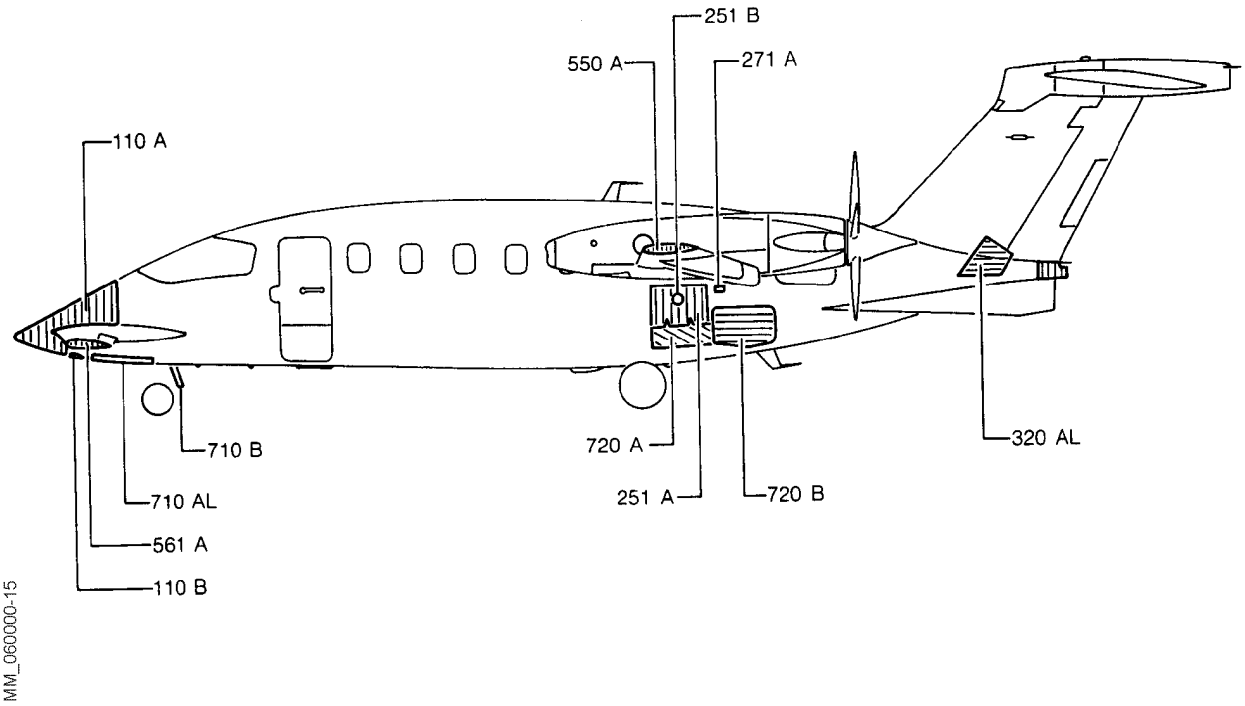


Fig. 15 - Left Fuselage Access and Inspection Locations

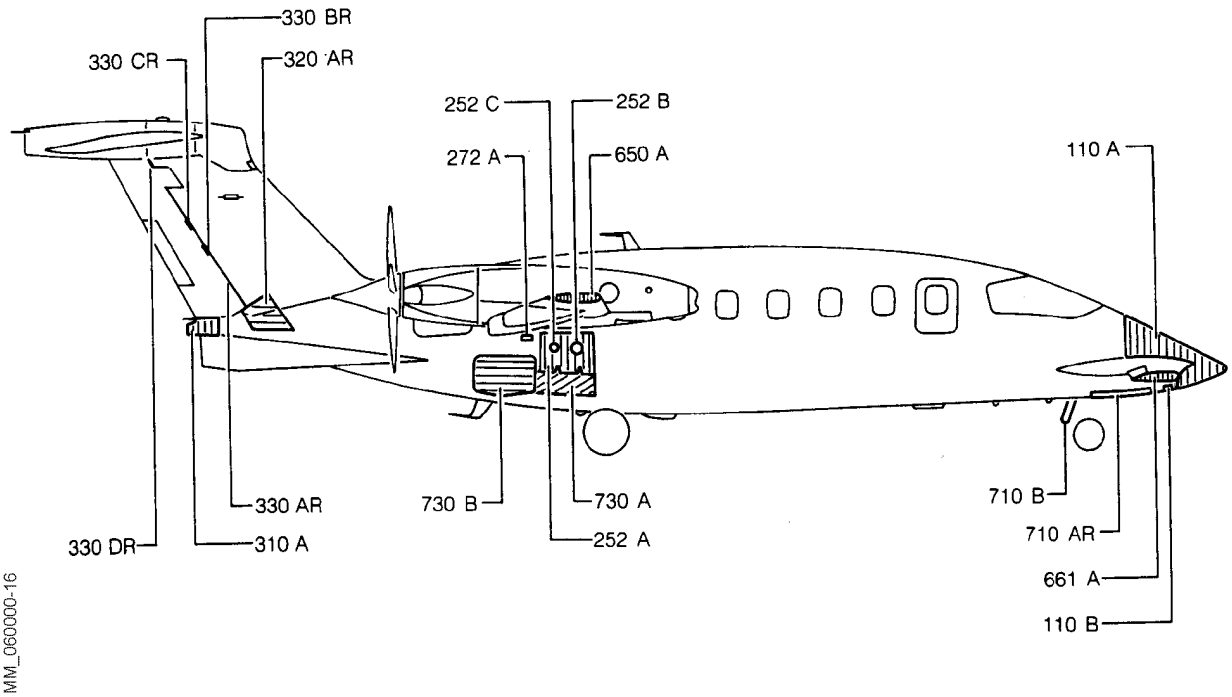


Fig. 16 - Right Fuselage Access and Inspection Locations

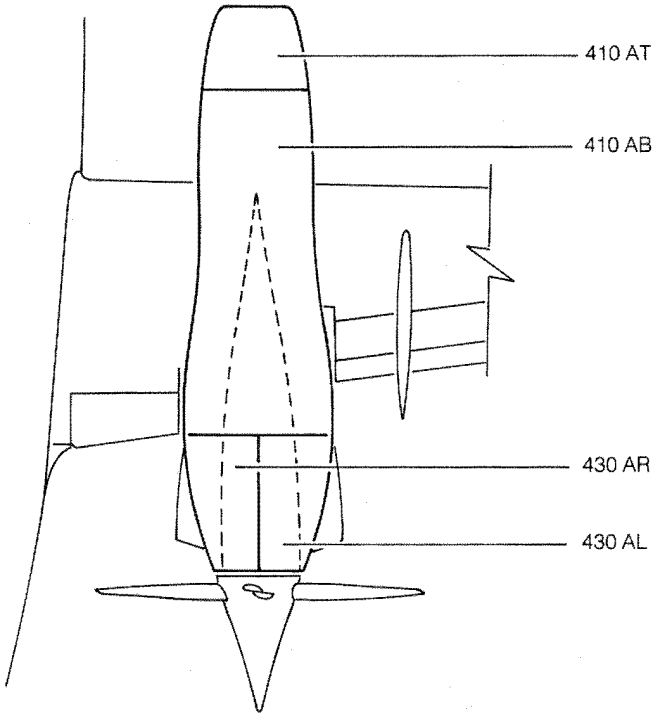


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Fig. 17 - Left Nacelle Access and Inspection Locations (Bottom view)

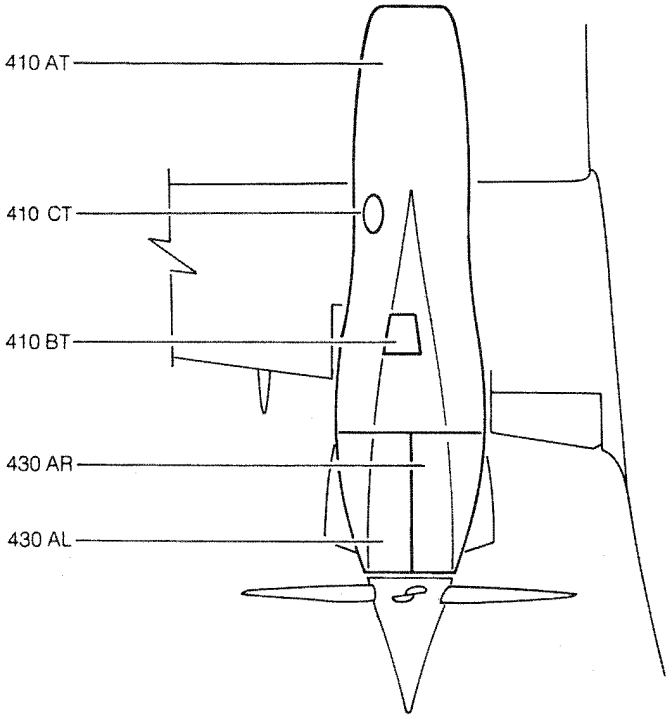

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Fig. 18 - Left Nacelle Access and Inspection Locations (Top View)

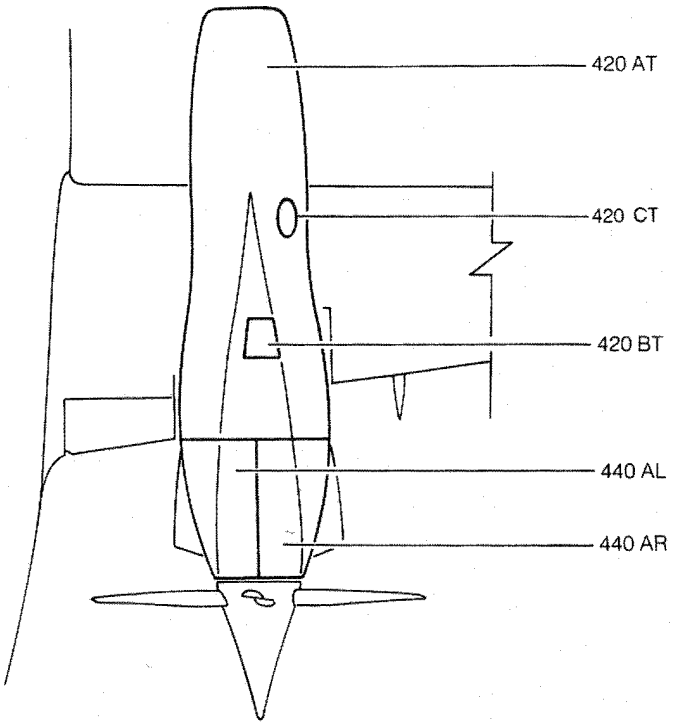

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Fig. 19 - Right Nacelle Access and Inspection Locations (Top View)

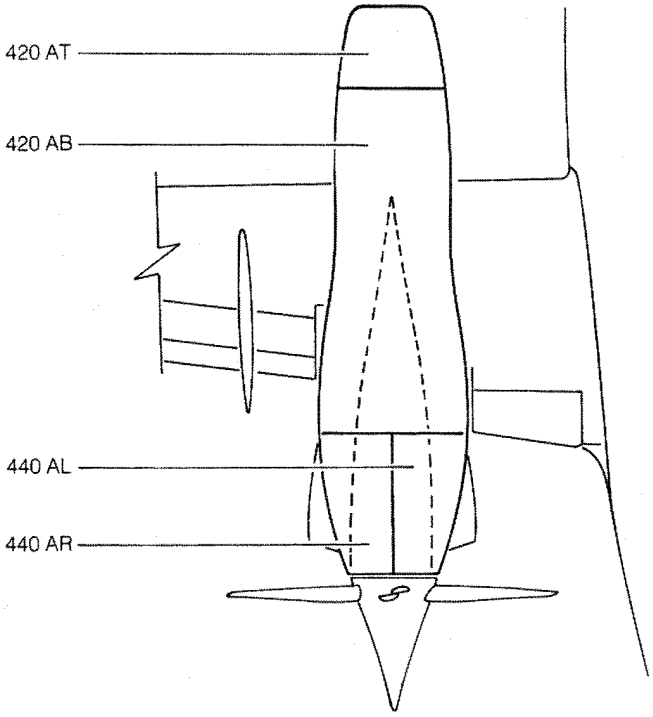

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Fig. 20 - Right Nacelle Access and Inspection Locations (Bottom View)

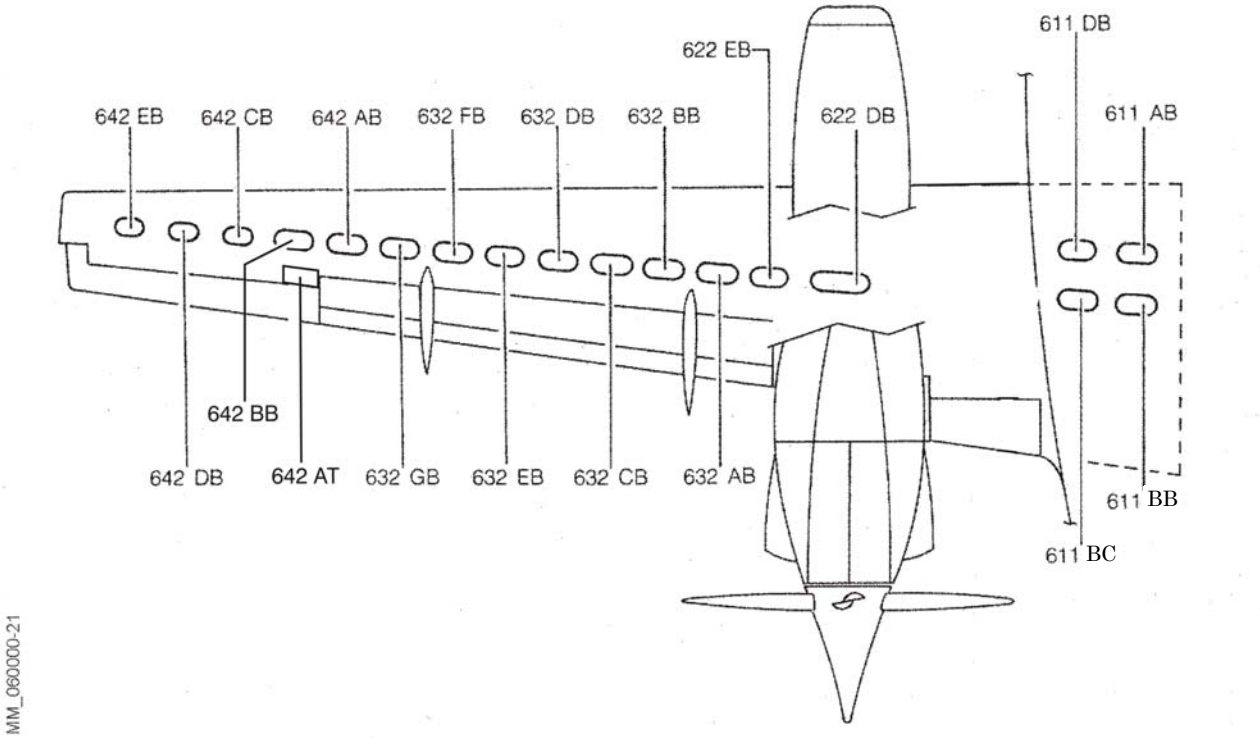

Fig. 21 - Right Wing Access and Inspection Locations (Bottom View)

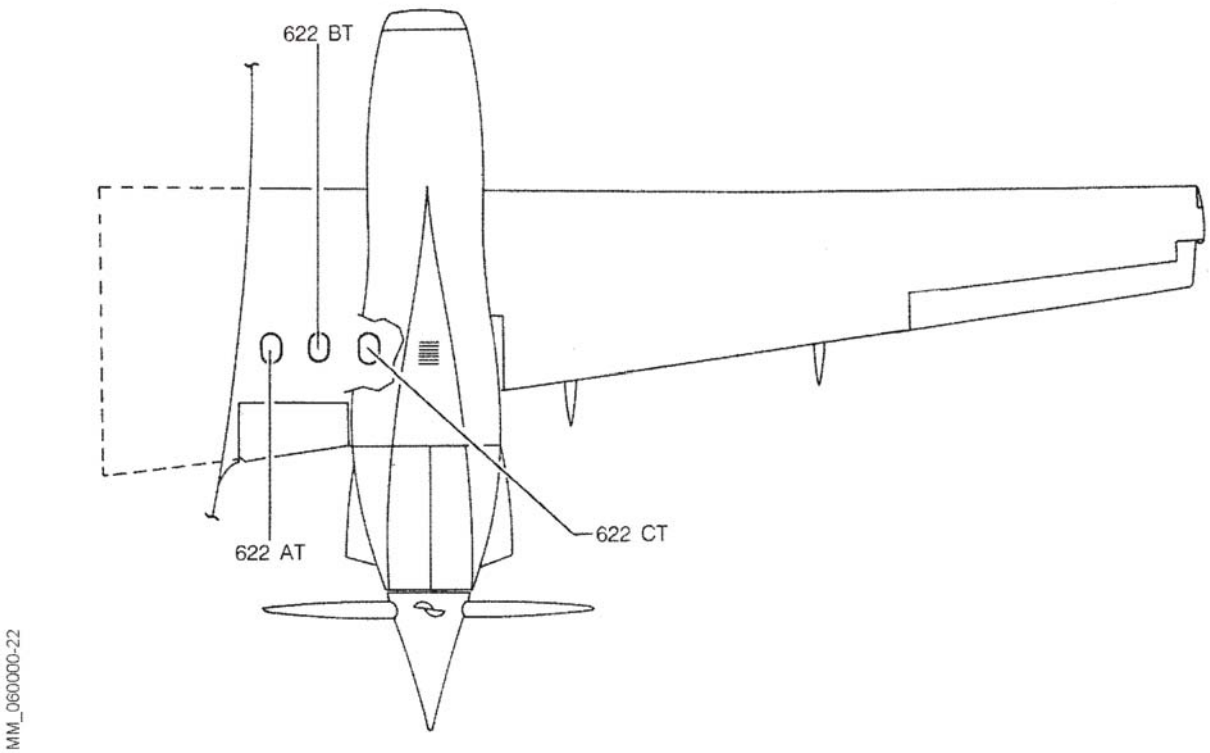

Fig. 22 - Right Wing Access and Inspection Locations (Top View)

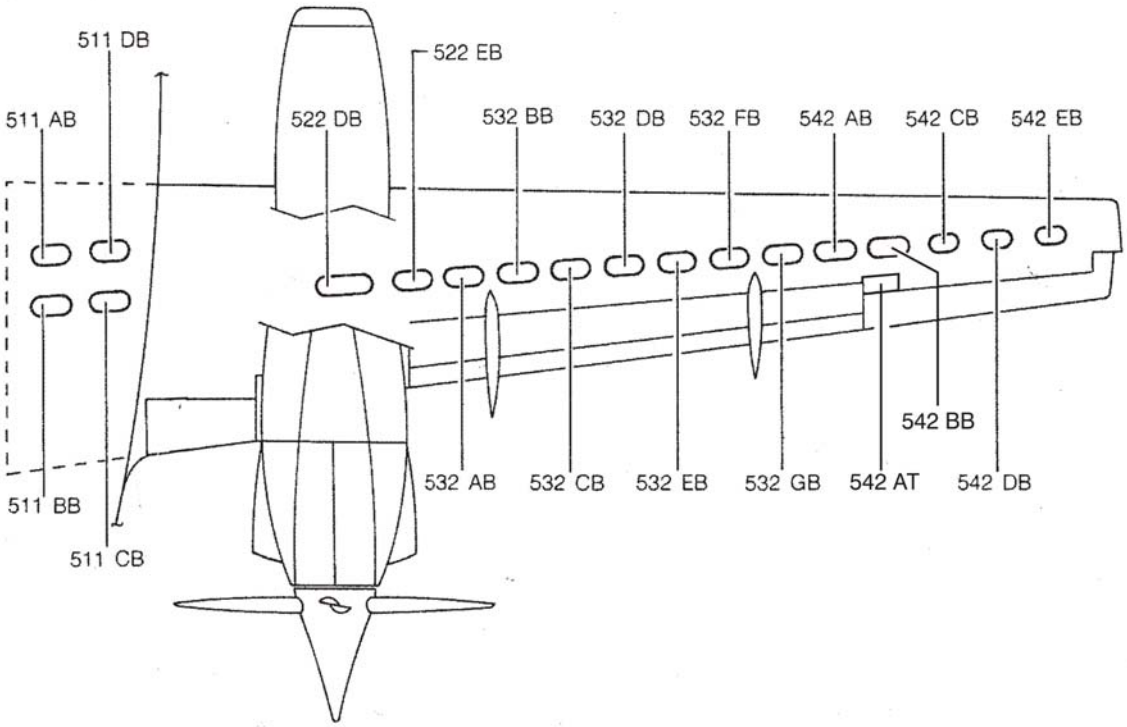

Fig. 23 - Left Wing Access and Inspection Locations (Bottom View)

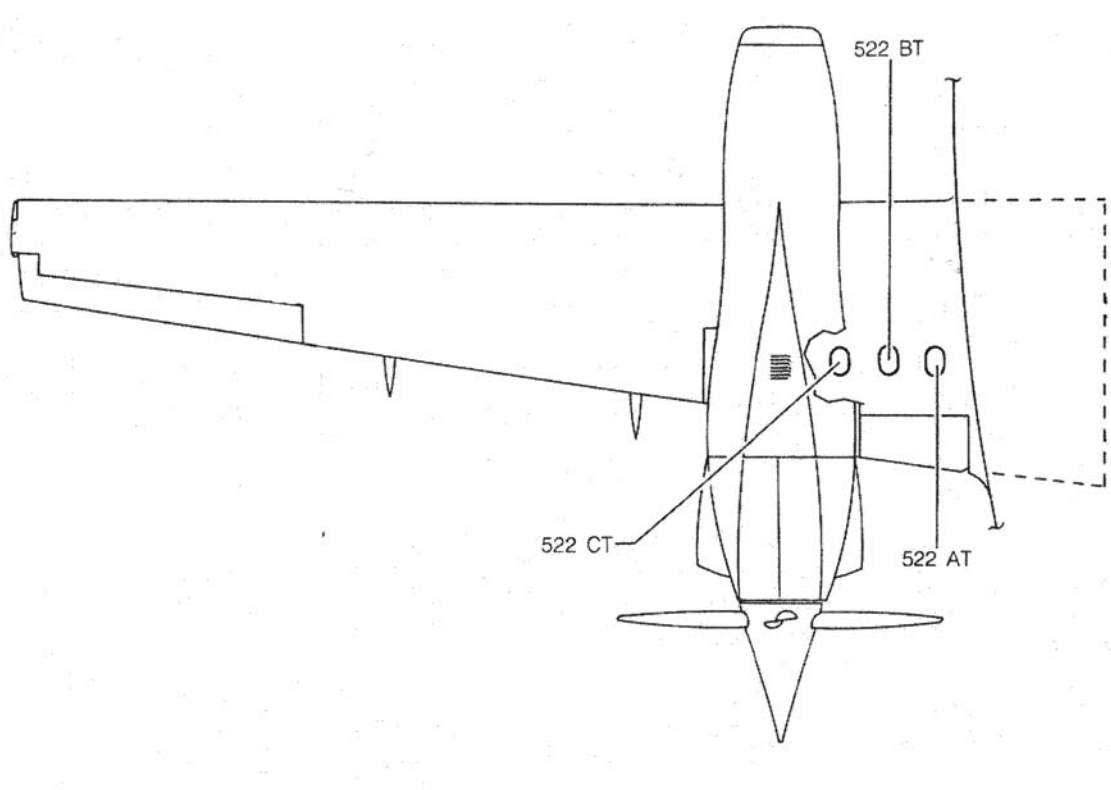

Fig. 24 - Left Wing Access and Inspection Locations (Top View)

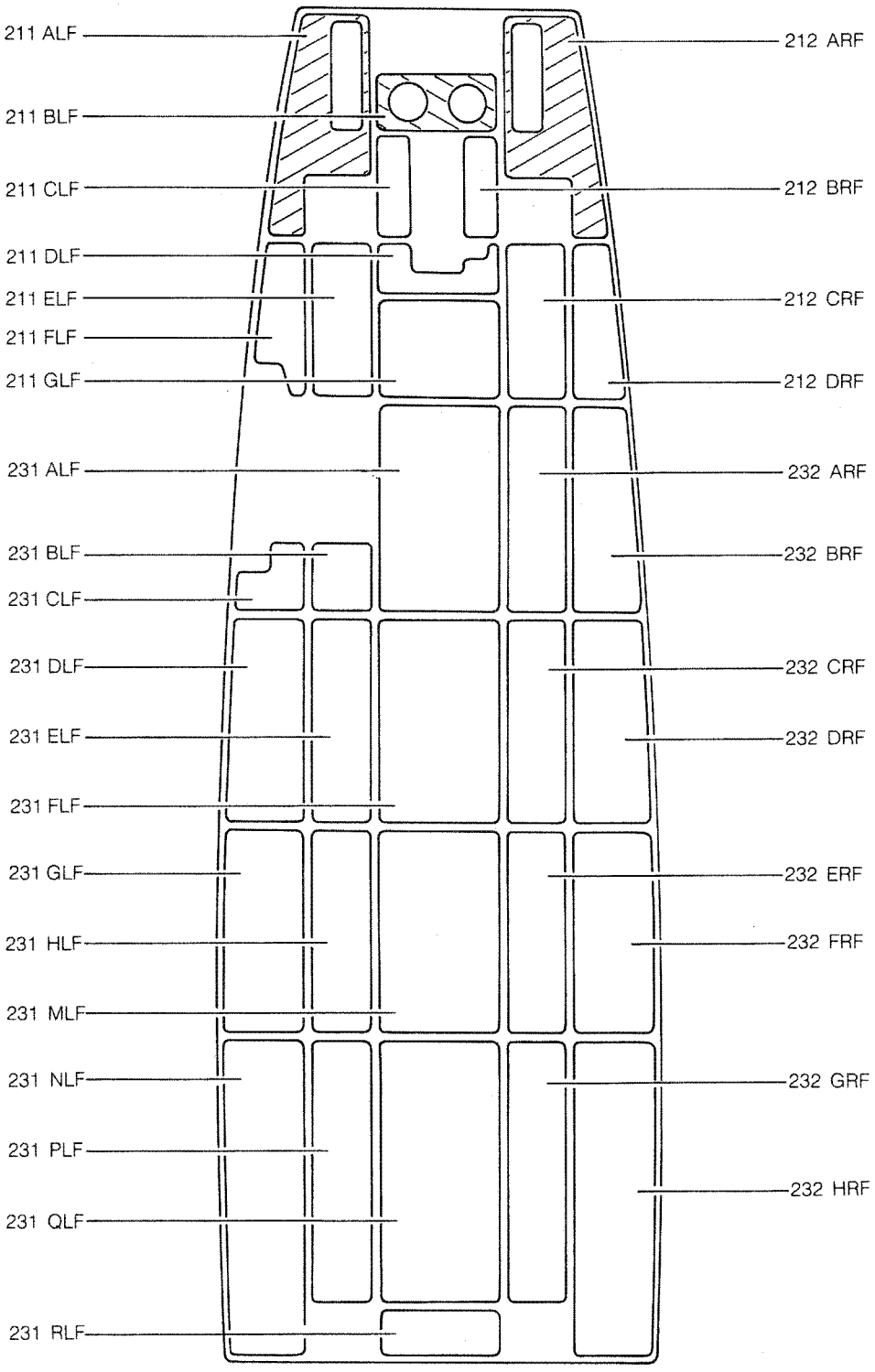

Fig. 25 - Floor Access and Inspection Locations

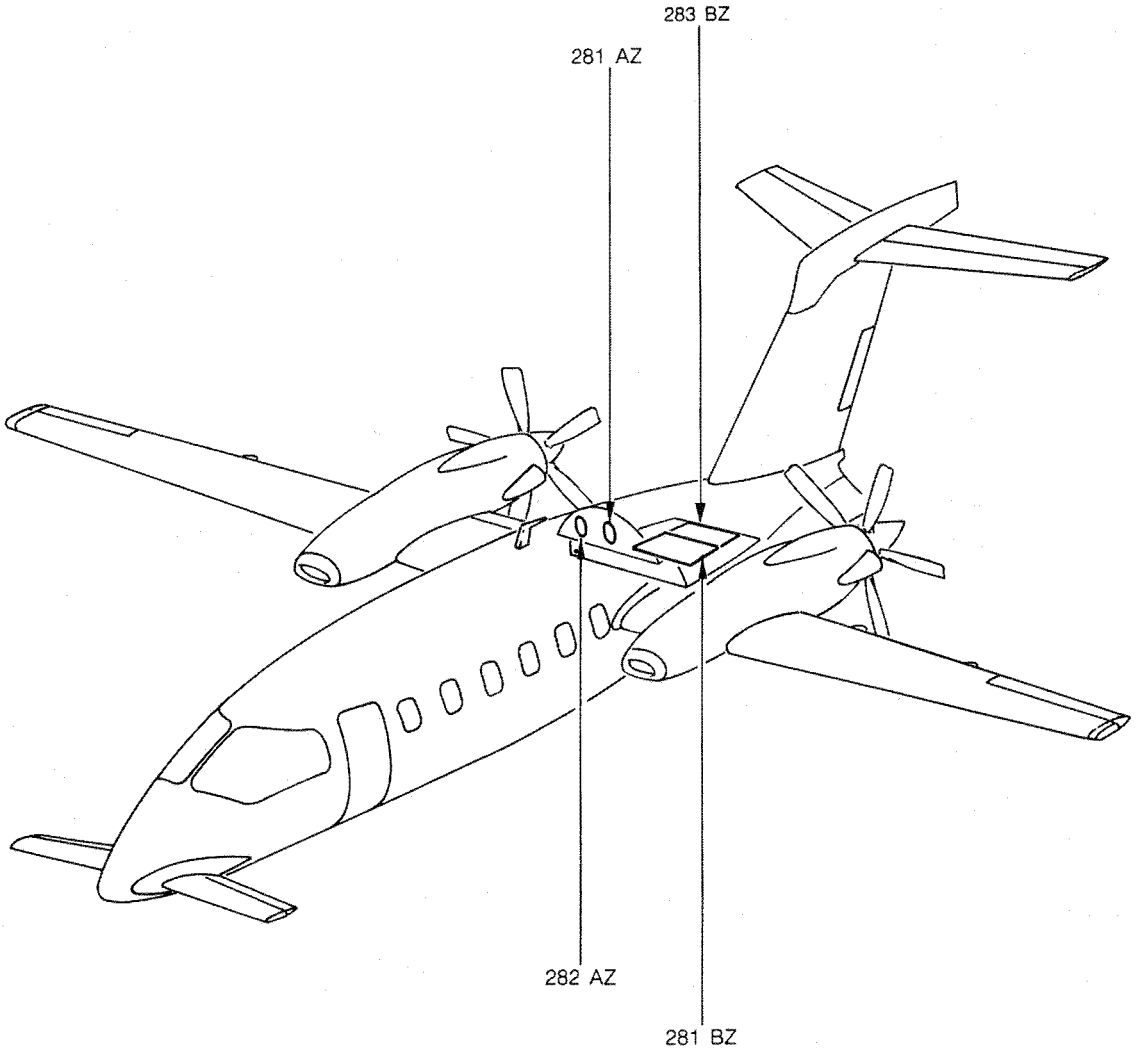

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Fig. 26 - Baggage Compartment and Fuselage Tank Access and Inspection Locations

C. Index of access doors, inspection panels and access panels.

(1) 110 A RADOME / NOSECONE
(2) 110 B TAXI AND LANDING LIGHTS
(3) 211 ALF FLOOR PANEL
(4) 211 BLF FLOOR PANEL
(5) 211 CLF FLOOR PANEL
(6) 211 DLF FLOOR PANEL
(7) 211 ELF FLOOR PANEL
(8) 211 FLF FLOOR PANEL
(9) 211 GLF FLOOR PANEL
(10) 212 ARF FLOOR PANEL
(11) 212 BRF FLOOR PANEL
(12) 212 CRF FLOOR PANEL
(13) 212 DRF FLOOR PANEL
(14) 231 ALF FLOOR PANEL
(15) 231 BLF FLOOR PANEL
(16) 231 CLF FLOOR PANEL
(17) 231 DLF FLOOR PANEL
(18) 231 ELF FLOOR PANEL
(19) 231 FLF FLOOR PANEL
(20) 231 GLF FLOOR PANEL
(21) 231 HLF FLOOR PANEL
(22) 231 MLF FLOOR PANEL
(23) 231 NLF FLOOR PANEL
(24) 231 PLF FLOOR PANEL
(25) 231 QLF FLOOR PANEL
(26) 231 RLF FLOOR PANEL
(27) 232 ARF FLOOR PANEL
(28) 232 BRF FLOOR PANEL
(29) 232 CRF FLOOR PANEL
(30) 232 DRF FLOOR PANEL
(31) 232 ERF FLOOR PANEL
(32) 232 FRF FLOOR PANEL
(33) 232 GLF FLOOR PANEL
(34) 232 HRF FLOOR PANEL
(35) 251 A INSPECTION PANEL
(36) 251 B INSPECTION PANEL
(37) 252 A INSPECTION PANEL
(38) 252 B PRESSURE REFUEL ACCESS DOOR
(39) 252 C INSPECTION PANEL
(40) 271 A GROUND POWER RECEPTACLE ACCESS DOOR
(41) 272 A GROUND TEST PANEL ACCESS DOOR
(42) 281 AZ FUSELAGE TANK ACCESS PANEL

(43) 281 BZ BAGGAGE COMPARTMENT FLOOR PANEL
(44) 282 AZ FUSELAGE TANK ACCESS PANEL
(45) 283 BZ BAGGAGE COMPARTMENT FLOOR PANEL
(46) 310 A TAILCONE ACCESS PANEL
(47) 320 AL INSPECTION PANEL
(48) 320 AR INSPECTION PANEL
(49) 330 AR RUDDER HINGE COVER (1004-1034)
(50) 330 BR RUDDER HINGE COVER
(51) 330 CR RUDDER HINGE COVER (1004-1034)
(52) 330 DR RUDDER HINGE COVER (1004-1034)
(53) 410 AT NACELLE PANEL
(54) 410 AB NACELLE PANEL
(55) 410 BT OIL FILLER ACCESS PANEL
(56) 410 CT ACCESS PANEL
(57) 420 AT NACELLE PANEL
(58) 420 AB NACELLE PANEL
(59) 420 BT OIL FILLER ACCESS PANEL
(60) 420 CT ACCESS PANEL
(61) 430 AR NACELLE PANEL
(62) 430 AL NACELLE PANEL
(63) 440 AL NACELLE PANEL
(64) 440 AR NACELLE PANEL
(65) 511 AB WING TANK ACCESS PANEL
(66) 511 BB WING TANK ACCESS PANEL
(67) 511 CB WING TANK ACCESS PANEL
(68) 511 DB WING TANK ACCESS PANEL
(69) 522 AT WING INSPECTION PANEL
(70) 522 BT WING INSPECTION PANEL
(71) 522 CT WING INSPECTION PANEL
(72) 522 DB WING TANK ACCESS PANEL
(73) 522 EB WING TANK ACCESS PANEL
(74) 532 AB WING TANK ACCESS PANEL
(75) 532 BB WING TANK ACCESS PANEL
(76) 532 CB WING TANK ACCESS PANEL
(77) 532 DB WING TANK ACCESS PANEL
(78) 532 EB WING TANK ACCESS PANEL
(79) 532 FB WING TANK ACCESS PANEL
(80) 532 GB WING TANK ACCESS PANEL
(81) 542 AB WING TANK ACCESS PANEL
(82) 542 AT WING INSPECTION PANEL
(83) 542 BB WING TANK ACCESS PANEL
(84) 542 CB WING TANK ACCESS PANEL
(85) 542 DB WING TANK ACCESS PANEL

(86) 542 EB WING TANK ACCESS PANEL
(87) 550 A LEFT MAIN WING TIP ACCESS PANEL
(88) 561 A LEFT FORWARD WING TIP ACCESS PANEL
(89) 611 AB WING TANK ACCESS PANEL
(90) 611 BB WING TANK ACCESS PANEL
(91) 611 CB WING TANK ACCESS PANEL
(92) 611 DB WING TANK ACCESS PANEL
(93) 622 AT WING INSPECTION PANEL
(94) 622 BT WING INSPECTION PANEL
(95) 622 CT WING INSPECTION PANEL
(96) 622 DB WING TANK ACCESS PANEL
(97) 622 EB WING TANK ACCESS PANEL
(98) 632 AB WING TANK ACCESS PANEL
(99) 632 BB WING TANK ACCESS PANEL
(100) 632 CB WING TANK ACCESS PANEL
(101) 632 DB WING TANK ACCESS PANEL
(102) 632 EB WING TANK ACCESS PANEL
(103) 632 FB WING TANK ACCESS PANEL
(104) 632 GB WING TANK ACCESS PANEL
(105) 642 AB WING TANK ACCESS PANEL
(106) 642 AT WING INSPECTION PANEL
(107) 642 BB WING TANK ACCESS PANEL
(108) 642 CB WING TANK ACCESS PANEL
(109) 642 DB WING TANK ACCESS PANEL
(110) 642 EB WING TANK ACCESS PANEL
(111) 650 A RIGHT MAIN WING TIP ACCESS PANEL
(112) 661 A RIGHT FORWARD WING TIP ACCESS PANEL
(113) 710 AL NOSE LANDING GEAR LEFT DOOR
(114) 710 AR NOSE LANDING GEAR RIGHT DOOR
(115) 710 B NOSE LANDING GEAR REAR DOOR
(116) 720 A LEFT MAIN LANDING GEAR FORWARD DOOR
(117) 720 B LEFT MAIN LANDING GEAR REAR DOOR
(118) 730 A RIGHT MAIN LANDING GEAR FORWARD DOOR
(119) 730 B RIGHT MAIN LANDING GEAR REAR DOOR

INTENTIONALLY LEFT BLANK