A330

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

AC

AIRBUS S.A.S.
Customer Services
Technical Data Support and Services
31707 Blagnac Cedex
FRANCE

HIGHLIGHTS

Revision No. 19 - Jan 01/11

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FIGURE Aircraft Classification Number – Flexible Pavement - MTOW 220 000 kg	R	TEXT OF ILLUSTRATION REVISED
FIGURE Aircraft Classification Number – Flexible Pavement - MTOW 230 000 kg	R	TEXT OF ILLUSTRATION REVISED

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FIGURE Aircraft Classification Number – Flexible Pavement - MTOW 184 000 kg	R	TEXT OF ILLUSTRATION REVISED
FIGURE Aircraft Classification Number – Flexible Pavement - MTOW 205 000 kg	R	TEXT OF ILLUSTRATION REVISED
FIGURE Aircraft Classification Number – Flexible Pavement - MTOW 212 000 kg	R	TEXT OF ILLUSTRATION REVISED
FIGURE Aircraft Classification Number – Flexible Pavement - MTOW 215 000 kg	R	TEXT OF ILLUSTRATION REVISED
FIGURE Aircraft Classification Number – Flexible Pavement - MTOW 217 000 kg	R	TEXT OF ILLUSTRATION REVISED
FIGURE Aircraft Classification Number – Flexible Pavement - MTOW 218 000 kg	R	TEXT OF ILLUSTRATION REVISED
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FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 220 000 kg	R	TEXT OF ILLUSTRATION REVISED
FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 230 000 kg	R	TEXT OF ILLUSTRATION REVISED

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FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 233 000 kg	R	TEXT OF ILLUSTRATION REVISED, GRAPHIC REVISED
FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 184 000 kg	R	TEXT OF ILLUSTRATION REVISED
FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 205 000 kg	R	TEXT OF ILLUSTRATION REVISED
FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 212 000 kg	R	TEXT OF ILLUSTRATION REVISED
FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 215 000 kg	R	TEXT OF ILLUSTRATION REVISED
FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 217 000 kg	R	TEXT OF ILLUSTRATION REVISED
FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 218 000 kg	R	TEXT OF ILLUSTRATION REVISED
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1-1-0 Purpose

****ON A/C A330-200 A330-200F A330-300**

Purpose

1. General
The A330 AIRPLANE CHARACTERISTICS (AC) manual is issued for the A330-200, A330-200F, A330-300 basic versions to provide the necessary data needed by airport operators and airlines for the planning of airport facilities.

This document conforms to NAS 3601.

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1-2-0 Introduction

****ON A/C A330-200 A330-200F A330-300**

Introduction

1. General

This manual comprises 9 chapters with a List of Effective Pages (LEP) and a Table Of Content (TOC) at the beginning of the manual.

Chapter 1 : SCOPE

Chapter 2 : AIRPLANE DESCRIPTION

This chapter contains general dimensional and other basic aircraft data.

It covers :
- aircraft dimensions and ground clearances,
- passenger and cargo compartments arrangement.

Chapter 3 : AIRPLANE PERFORMANCE

This chapter indicates the aircraft performance.

It covers :
- payload range,
- takeoff and landing runway requirements,
- landing approach speed.

Chapter 4 : GROUND MANEUVERING

This chapter provides the aircraft turning capability and maneuvering characteristics on the ground.

It includes :
- turning radii and visibility from the cockpit,
- runway and taxiway turn path.

Chapter 5 : TERMINAL SERVICING

This chapter provides information for the arrangement of ground handling and servicing equipment.

It covers :
- location and connections of ground servicing equipment,

- engines starting pneumatic and preconditioned airflow requirements.

Chapter 6 : OPERATING CONDITIONS

This chapter contains data and safety/environmental precautions related to engine and APU operation on the ground.

It covers :
- contour size and shape of the jet engine exhaust velocities and temperatures,
- noise data.

Chapter 7 : PAVEMENT DATA

This chapter contains the pavement data helpful for airport planning.

It gives :
- landing gear foot print and static load,
- charts for flexible pavements with Load Classification Number (LCN),
- charts for rigid pavements with LCN,
- Aircraft Classification Number (ACN), Pavement Classification Number (PCN), reporting system for flexible and rigid pavements.

Chapter 8 : DERIVATIVE AIRPLANES

This chapter gives relevant data of possible new version with the associated size change.

Chapter 9 : SCALED DRAWINGS

This chapter contains different airplane scaled drawings.

AIRPLANE DESCRIPTION

2-1-0 General Airplane Characteristics

****ON A/C A330-200 A330-200F A330-300**

General Airplane Characteristics

1. General Airplane Characteristics
   The weight terms used throughout this manual are given below together with their respective definitions.

   Maximum Taxi Weight (MTW) :
   Maximum weight for ground maneuver as limited by aircraft strength and airworthiness requirements. (It includes weight of run-up and taxi fuel). It is also called Maximum Ramp Weight (MRW).

   Maximum Landing Weight (MLW) :
   Maximum weight for landing as limited by aircraft strength and airworthiness requirements.

   Maximum Takeoff Weight (MTOW) :
   Maximum weight for takeoff as limited by aircraft strength and airworthiness requirements. (This is the maximum weight at start of the takeoff run).

   Maximum Zero Fuel Weight (MZFW) :
   Maximum operational weight of the aircraft without usable fuel.

   Operational Empty Weight (OEW) :
   Weight of structure, powerplant, furnishings, systems, and other items of equipment that are an integral part of a particular aircraft configuration plus the operator's items. The operator's items are the flight and cabin crew and their baggage, unusable fuel, engine oil, emergency equipment, toilet chemical and fluids, galley structure, catering equipment, passenger seats and life vests, documents, etc.

   Maximum Payload :
   Maximum Zero Fuel Weight (MZFW) minus Operational Empty Weight (OEW).

   Maximum Seating Capacity :
   Maximum number of passengers specifically certified or anticipated for certification.

   Maximum Cargo Volume :
   Maximum usable volume available for cargo.

   Usable Fuel :
   Fuel available for aircraft propulsion.

2-1-1 General Airplane Characteristics Data

****ON A/C A330-200 A330-300**

General Airplane Characteristics Data

****ON A/C A330-300**

1. The following table provides characteristics of A330-300 Models,these data are specific to each Weight Variant:

Aircraft Characteristics						
		WV000	WV001	WV002	WV003	WV004
Maximum Taxi Weight (MTW) Maximum Ramp Weight (MRW)		212 900 kg (469 363 lb)	184 900 kg (407 634 lb)	212 900 kg (469 363 lb)	215 900 kg (475 977 lb)	209 900 kg (462 749 lb)
Maximum Takeoff Weight (MTOW)		212 000 kg (467 379 lb)	184 000 kg (405 650 lb)	212 000 kg (467 379 lb)	215 000 kg (473 993 lb)	209 000 kg (460 765 lb)
Maximum Landing Weight (MLW)		174 000 kg (383 603 lb)	174 000 kg (383 603 lb)	177 000 kg (390 217 lb)	177 000 kg (390 217 lb)	182 000 kg (401 240 lb)
Maximum Zero Fuel Weight (MZFW)		164 000 kg (361 557 lb)	164 000 kg (361 557 lb)	167 000 kg (368 171 lb)	167 000 kg (368 171 lb)	172 000 kg (379 194 lb)
Estimated Operational Empty Weight (OEW)	CF6 Engines	119 831 kg (264 182 lb)				
	PW Engines	120 132 kg (264 845 lb)				
	Trent Engines	119 931 kg (264 402 lb)				
Estimated Maximum Payload CF6-80E1		44 169 kg (97 375 lb)		47 169 kg (103 989 lb)		52 169 kg (115 012 lb)
Estimated Maximum Payload PW 4000		43 868 kg (96 712 lb)		48 868 kg (107 735 lb)		51 868 kg (114 349 lb)
Estimated Maximum Payload TRENT 700		44 069 kg (97 155 lb)		47 069 kg (103 769 lb)		52 069 kg (114 792 lb)

Aircraft Characteristics		WV010	WV011	WV012	WV013	WV014
Maximum Taxi Weight (MTW) Maximum Ramp Weight (MRW)		217 900 kg (480 386 lb)	212 900 kg (469 363 lb)	218 900 kg (482 591 lb)	215 900 kg (475 977 lb)	205 900 kg (453 931 lb)
Maximum Takeoff Weight (MTOW)		217 000 kg (478 402 lb)	212 000 kg (467 379 lb)	218 000 kg (480 607 lb)	215 000 kg (473 993 lb)	205 000 kg (451 947 lb)
Maximum Landing Weight (MLW)		179 000 kg (394 627 lb)	177 000 kg (390 217 lb)	182 000 kg (401 240 lb)	177 000 kg (390 217 lb)	182 000 kg (401 240
Maximum Zero Fuel Weight (MZFW)		169 000 kg (372 580 lb)	167 000 kg (368 171 lb)	172 000 kg (379 194 lb)	167 000 kg (368 171 lb)	172 000 kg (379 194 lb)
Estimated Operational Empty Weight (OEW)	CF6 Engines	119 831 kg (264 182 lb)				
	PW Engines	120 132 kg (264 845 lb)				
	Trent Engines	119 931 kg (264 402 lb)				
Estimated Maximum Payload CF6-80E1		49 169 kg (110 052 lb)	47 169 kg (103 989 lb)	52 169 kg (115 012 lb)	47 169 kg (103 989 lb)	52 169 kg (115 012 lb)
Estimated Maximum Payload PW 4000		48 868 kg (107 735 lb)	46 868 kg (103 326 lb)	51 868 kg (114 349 lb)	46 868 kg (103 326 lb)	51 868 kg (114 349 lb)
Estimated Maximum Payload TRENT 700		49 069 kg (108 178 lb)	47 069 kg (103 769 lb)	52 069 kg (114 792 lb)	47 069 kg (103 769 lb)	52 069 kg (114 792 lb)

Aircraft Characteristics	WV020	WV022	WV024	WV025
Maximum Taxi Weight (MTW) Maximum Ramp Weight (MRW)	230 900 kg (509 046 lb)	233 900 kg (515 660 lb)	205 900 kg (453 931 lb)	217 900 kg (480 386 lb)
Maximum Takeoff Weight (MTOW)	230 000 kg (507 062 lb)	233 000 kg (513 676 lb)	205 000 kg (451 947 lb)	217 000 kg (478 000 lb)
Maximum Landing Weight (MLW)	185 000 kg (407 854 lb)	187 000 kg (412 263 lb)	185 000 kg (407 854 lb)	179 000 kg (394 627 lb)

Aircraft Characteristics					
		WV020	WV022	WV024	WV025
Maximum Zero Fuel Weight (MZFW)		173 000 kg (381 399 lb)	175 000 kg (385 808 lb)	173 000 kg (381 399 lb)	169 000 kg (372 580 lb)
Estimated Operational Empty Weight (OEW)	CF6 Engines	119 831 kg (264 182 lb)			
	PW Engines	120 132 kg (264 845 lb)			
	Trent Engines	119 931 kg (264 402 lb)			
Estimated Maximum Payload CF6-80E1		53 169 kg (117 217 lb)	55 169 kg (121 626 lb)	53 169 kg (117 217 lb)	49 169 kg (110 052 lb)
Estimated Maximum Payload PW 4000		52 868 kg (116 554 lb)	54 868 kg (120 963 lb)	52 868 kg (116 554 lb)	48 868 kg (107 735 lb)
Estimated Maximum Payload TRENT 700		53 069 kg (116 997 lb)	55 069 kg (121 406 lb)	53 069 kg (116 997 lb)	49 069 kg (108 178 lb)

Aircraft Characteristics					
		WV050	WV051	WV052	WV053
Maximum Taxi Weight (MTW) Maximum Ramp Weight (MRW)		230 900 kg (509 046 lb)	212 900 kg (469 363 lb)	233 900 kg (515 660 lb)	205 900 kg (453 931 lb)
Maximum Takeoff Weight (MTOW)		230 000 kg (507 062 lb)	212 000 kg (467 379 lb)	233 000 kg (513 676	205 000 kg (451 947 lb)
Maximum Landing Weight (MLW)		185 000 kg (407 854 lb)	187 000 kg (412 263 lb)	187 000 kg (412 263 lb)	185 000 kg (407 854 lb)
Maximum Zero Fuel Weight (MZFW)		173 000 kg (381 399 lb)	175 000 kg (385 808 lb)	175 000 kg (385 808 lb)	173 000 kg (381 399 lb)
Estimated Operational Empty Weight (OEW)	CF6 Engines	119 831 kg (264 182 lb)			
	PW Engines	120 132 kg (264 845 lb)			
	Trent Engines	119 931 kg (264 402 lb)			
Estimated Maximum Payload CF6-80E1		53 169 kg (117 217 lb)	55 169 kg (121 626 lb)		53 169 kg (117 217 lb)
Estimated Maximum Payload PW 4000		52 868 kg (116 554 lb)	54 868 kg (120 963 lb)		52 868 kg (116 554 lb)
Estimated Maximum Payload TRENT 700		53 069 kg (116 997 lb)	55 069 kg (121 406 lb)		53 069 kg (116 997 lb)

2. The following table provides characteristics of A330-300 Models, these data are common to each Weight Variant:

Aircraft Characteristics	
Standard Seating Capacity (Single-class)	335

Aircraft Characteristics	
Usable Fuel Capacity (density = 0.785 kg/l)	97 530 l (25 765 US gal)
	76 561 kg (168 787 lb)
Pressurized Fuselage Volume (A/C non equipped)	1 056 m^3 (37 292 ft^3)
Passenger Compartment Volume	372 m^3 (13 137 ft^3)
Cockpit Volume	12 m^3 (424 ft^3)
Usable Volume, FWD CC (Based on LD3)	80.5 m^3 (2 844 ft^3)
Usable Volume, AFT CC (Based on LD3)	62.6 m^3 (2 212 ft^3)
Usable Volume, Bulk CC	19.7 m^3 (695 ft^3)
Water Volume, FWD CC	107 m^3 (3 789ft^3)
Water Volume, AFT CC	85.7 m^3 (3 026ft^3)
Water Volume, Bulk CC	22.7 m^3 (802 ft^3)

**ON A/C A330-200

3. The following table provides characteristics of A330-200 Models, these data are specific to each Weight Variant:

Aircraft Characteristics					
	WV020	WV021	WV022	WV023	WV024
Maximum Taxi Weight (MTW) Maximum Ramp Weight (MRW)	230 900 kg (509 046 lb)	230 900 kg (509 046 lb)	233 900 kg (515 660 lb)	233 900 kg (515 660 lb)	202 900 kg (447 317 lb)
Maximum Takeoff Weight (MTOW)	230 000 kg (507 062 lb)	230 000 kg (507 062 lb)	233 000 kg (513 676 lb)	233 000 kg (513 676 lb)	202 000 kg (445 333 lb)
Maximum Landing Weight (MLW)	180 000 kg (396 831 lb)	182 000 kg (401 240 lb)	182 000 kg (401 240 lb)	180 000 kg (396 831 lb)	180 000 kg (396 831 lb)

Aircraft Characteristics						
		WV020	WV021	WV022	WV023	WV024
Maximum Zero Fuel Weight (MZFW)		168 000 kg (370 376 lb)	170 000 kg (374 785 lb)	170 000 kg (374 785 lb)	168 000 kg (370 376 lb)	168 000 kg (370 376 lb)
Estimated Operational Empty Weight (OEW)	CF6 Engines	116 740 kg (257 368 lb)				
	PW Engines	117 041 kg (258 031 lb)				
	Trent Engines	116 840 kg (257 588 lb)				
Estimated Maximum Payload CF6-80E1		51 260 kg (133 009 lb)	53 260 kg (117 418 lb)		51 260 kg (133 009 lb)	
Estimated Maximum Payload PW 4000		50 959 kg (112 345 lb)	52 959 kg (116 754 lb)		50 959 kg (112 345 lb)	
Estimated Maximum Payload TRENT 700		51 160 kg (112 788 lb)	53 160 kg (117 197 lb)		51 160 kg (112 788 lb)	

Aircraft Characteristics						
		WV025	WV026	WV027	WV050	WV051
Maximum Taxi Weight (MTW) Maximum Ramp Weight (MRW)		220 900 kg (487 000 lb)	192 900 kg (425 271 lb)	220 900 kg (487 000 lb)	230 900 kg (509 046 lb)	192 900 kg (425 271 lb)
Maximum Takeoff Weight (MTOW)		220 000 kg (485 016 lb)	192 000 kg (423 287 lb)	220 000 kg (485 016 lb)	230 000 kg (507 062 lb)	192 000 kg (423 287 lb)
Maximum Landing Weight (MLW)		182 000 kg (401 240 lb)	180 000 kg (396 831 lb)	180 000 kg (396 831 lb)	180 000 kg (396 831 lb)	180 000 kg (396 831 lb)
Maximum Zero Fuel Weight (MZFW)		170 000 kg (374 785 lb)	168 000 kg (370 376 lb)	168 000 kg (370 376 lb)	168 000 kg (370 376 lb)	168 000 kg (370 376 lb)
Estimated Operational Empty Weight (OEW)	CF6 Engines	116 740 kg (257 368 lb)				
	PW Engines	117 041 kg (258 031 lb)				
	Trent Engines	116 840 kg (257 588 lb)				
Estimated Maximum Payload CF6-80E1		53 260 kg (117 418 lb)	51 260 kg (133 009 lb)			

Aircraft Characteristics					
	WV025	WV026	WV027	WV050	WV051
Estimated Maximum Payload PW 4000	52 959 kg (116 754 lb)	50 959 kg (112 345 lb)			
Estimated Maximum Payload TRENT 700	53 160 kg (117 197 lb)	51 160 kg (112 788 lb)			

Aircraft Characteristics					
	WV052	WV053	WV054	WV055	WV056
Maximum Taxi Weight (MTW) Maximum Ramp Weight (MRW)	233 900 kg (515 660 lb)	210 900 kg (464 954 lb)	230 900 kg (509 046 lb)	192 900 kg (425 271 lb)	233 900 kg (515 660 lb)
Maximum Takeoff Weight (MTOW)	233 000 kg (513 676 lb)	210 000 kg (462 970 lb)	230 000 kg (507 062 lb)	192 000 kg (423 287 lb)	233 000 kg (513 676 lb)
Maximum Landing Weight (MLW)	182 000 kg (401 240 lb)	180 000 kg (396 831 lb)	182 000 kg (401 240 lb)	182 000 kg (401 240 lb)	180 000 kg (396 831 lb)
Maximum Zero Fuel Weight (MZFW)	170 000 kg (374 785 lb)	168 000 kg (370 376 lb)	170 000 kg (374 785 lb)	170 000 kg (374 785 lb)	168 000 kg (370 376 lb)
Estimated Operational Empty Weight (OEW) — CF6 Engines	116 740 kg (257 368 lb)				
Estimated Operational Empty Weight (OEW) — PW Engines	117 041 kg (258 031 lb)				
Estimated Operational Empty Weight (OEW) — Trent Engines	116 840 kg (257 588 lb)				
Estimated Maximum Payload CF6-80E1	53 260 kg (117 418 lb)	51 260 kg (133 009 lb)	53 260 kg (117 418 lb)		51 260 kg (133 009 lb)
Estimated Maximum Payload PW 4000	52 959 kg (116 754	50 959 kg (112 345 lb)	52 959 kg (116 754		50 959 kg (112 345 lb)
Estimated Maximum Payload TRENT 700	53 160 kg (117 197 lb)	51 160 kg (112 788 lb)	53 160 kg (117 197 lb)		51 160 kg (112 788 lb)

Aircraft Characteristics					
	WV057	WV058	WV059	WV060	WV061
Maximum Taxi Weight (MTW) Maximum Ramp Weight (MRW)	236 900 kg (522 276 lb)	238 900 kg (526 684 lb)	202 900 kg (447 317 lb)	220 900 kg (487 001 lb)	230 900 kg (509 047 lb)
Maximum Takeoff Weight (MTOW)	236 000 kg (520 291 lb)	238 000 kg (524 700 lb)	202 000 kg (445 333 lb)	220 000 kg (485 017 lb)	230 000 kg (507 063 lb)
Maximum Landing Weight (MLW)	182 000 kg (401 240 lb)	182 000 kg (401 240 lb)	182 000 kg (401 240 lb)	182 000 kg (401 240 lb)	182 000 kg (401 240 lb)
Maximum Zero Fuel Weight (MZFW)	170 000 kg (374 785 lb)	168 000 kg (370 376 lb)	170 000 kg (374 785 lb)	170 000 kg (374 785 lb)	168 000 kg (370 376 lb)
Estimated Operational Empty Weight (OEW) – CF6 Engines	116 740 kg (257 368 lb)				
Estimated Operational Empty Weight (OEW) – PW Engines	117 041 kg (258 031 lb)				
Estimated Operational Empty Weight (OEW) – Trent Engines	116 840 kg (257 588 lb)				
Estimated Maximum Payload CF6-80E1	53 260 kg (117 418 lb)	51 260 kg (133 009 lb)	53 260 kg (117 418 lb)		51 260 kg (133 009 lb)
Estimated Maximum Payload PW 4000	52 959 kg (116 754 lb)	50 959 kg (112 345 lb)	52 959 kg (116 754 lb)		50 959 kg (112 345 lb)
Estimated Maximum Payload TRENT 700	53 160 kg (117 197 lb)	51 160 kg (112 788 lb)	53 160 kg (117 197 lb)		51 160 kg (112 788 lb)

4. The following table provides characteristics of A330-200 Models, these data are common to each Weight Variant:

Aircraft Characteristics	
Standard Seating Capacity	303
Usable Fuel Capacity (density = 0.785 kg/l)	139 090 l (36 744 US gal)
	109 185 kg (240 711 lb)
Pressurized Fuselage Volume (A/C non equipped)	950 m^3 (33 548 ft^3)

Aircraft Characteristics	
Passenger Compartment Volume	335 m^3 (11 830 ft^3)
Cockpit Volume	12 m^3 (424 ft^3)
Usable Volume, FWD CC (Based on LD3)	62.6 m^3 (2 212 ft^3)
Usable Volume, AFT CC (Based on LD3)	53.6 m^3 (1 896 ft^3)
Usable Volume, Bulk CC	19.7 m^3 (695 ft^3)
Water Volume, FWD CC	84.6 m^3 (2 988 ft^3)
Water Volume, AFT CC	71.1 m^3 (2 511 ft^3)
Water Volume, Bulk CC	22.7 m^3 (802 ft^3)

****ON A/C A330-200F**

General Airplane Characteristics Data

1. The following table provides characteristics of A330-200F Models, these data are specific to each Weight Variant:

Aircraft Characteristics			
		WV000	WV001
Maximum Taxi Weight (MTW) Maximum Rampi Weight (MRW)		233 900 kg (515 660 lb)	227 900 kg (502 432 lb)
Maximum Takeoff Weight (MTOW)		233 000 kg (513 676 lb)	227 000 kg (500 448 lb)
Maximum Landing Weight (MLW)		182 000 kg (401 240 lb)	187 000 kg (412 263 lb)
Maximum Zero Fuel Weight (MZFW)		173 000 kg (381 399 lb)	178 000 kg (392 422 lb)
Estimated Operational Empty Weight (OEW)	PW Engines	109 358 kg (241 093 lb)	
	Trent Engines	109 100 kg (240 524 lb)	
Estimated Maximum Payload PW 4000		63 642 kg (140 306 lb)	68 642 kg (151 329 lb)
Estimated Maximum Payload TRENT 700		63 900 kg (140 875 lb)	68 900 kg (151 898 lb)

2. The following table provides characteristics of A330-200F Models, these data are common to each Weight Variant:

Aircraft Characteristics	
Supernumerary area	6
Usable Fuel Capacity (density = 0.785 kg/l)	139 090 l (36 755 US gal)
Pressurized Fuselage Volume (A/C non equipped)	900 m^3 (31 783 ft^3)
Cockpit Volume	12 m^3 (424 ft^3)
Main Deck Cargo Compartment Usable Volume (Based on 96"x125" pallet)	336.8 m^3 (11 894ft^3)
Main Deck Cargo Compartment Water Volume	466.5 m^3 (16 474 ft^3)
Usable Volume, FWD CC (Based on LD3)	62.6 m^3 (2 212 ft^3)
Usable Volume, AFT CC (Based on LD3)	53.6 m^3 (1 896 ft^3)
Usable Volume, Bulk CC	19.7 m^3 (695 ft^3)
Water Volume, FWD CC	84.6 m^3 (2 988 ft^3)
Water Volume, AFT CC	71.1 m^3 (2 511 ft^3)
Water Volume, Bulk CC	22.7 m^3 (802 ft^3)

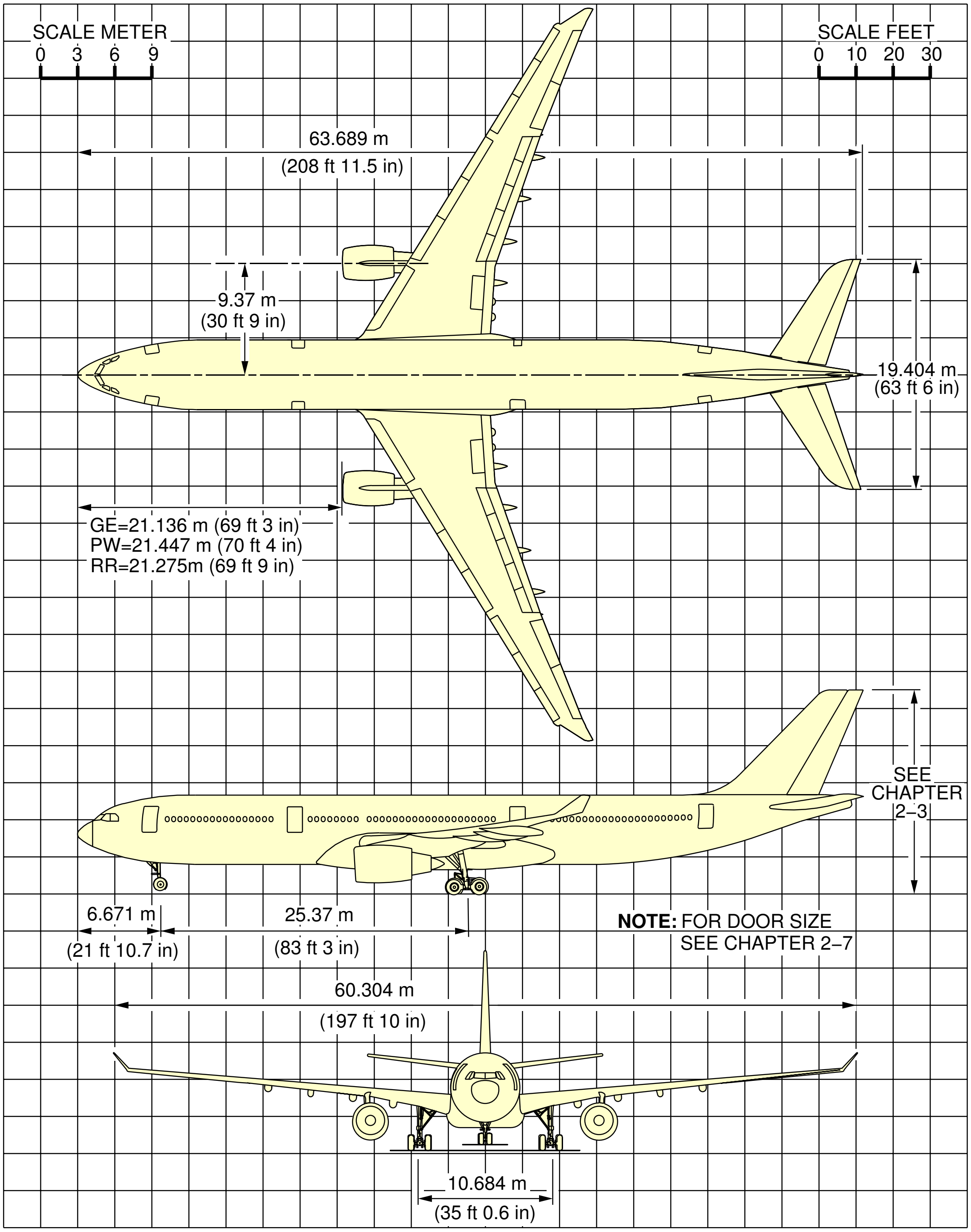
2-2-0 General Airplane Dimensions

****ON A/C A330-200 A330-300**

General Airplane Dimensions

1. This section provides General Airplane Dimensions for pax version.

**ON A/C A330-300



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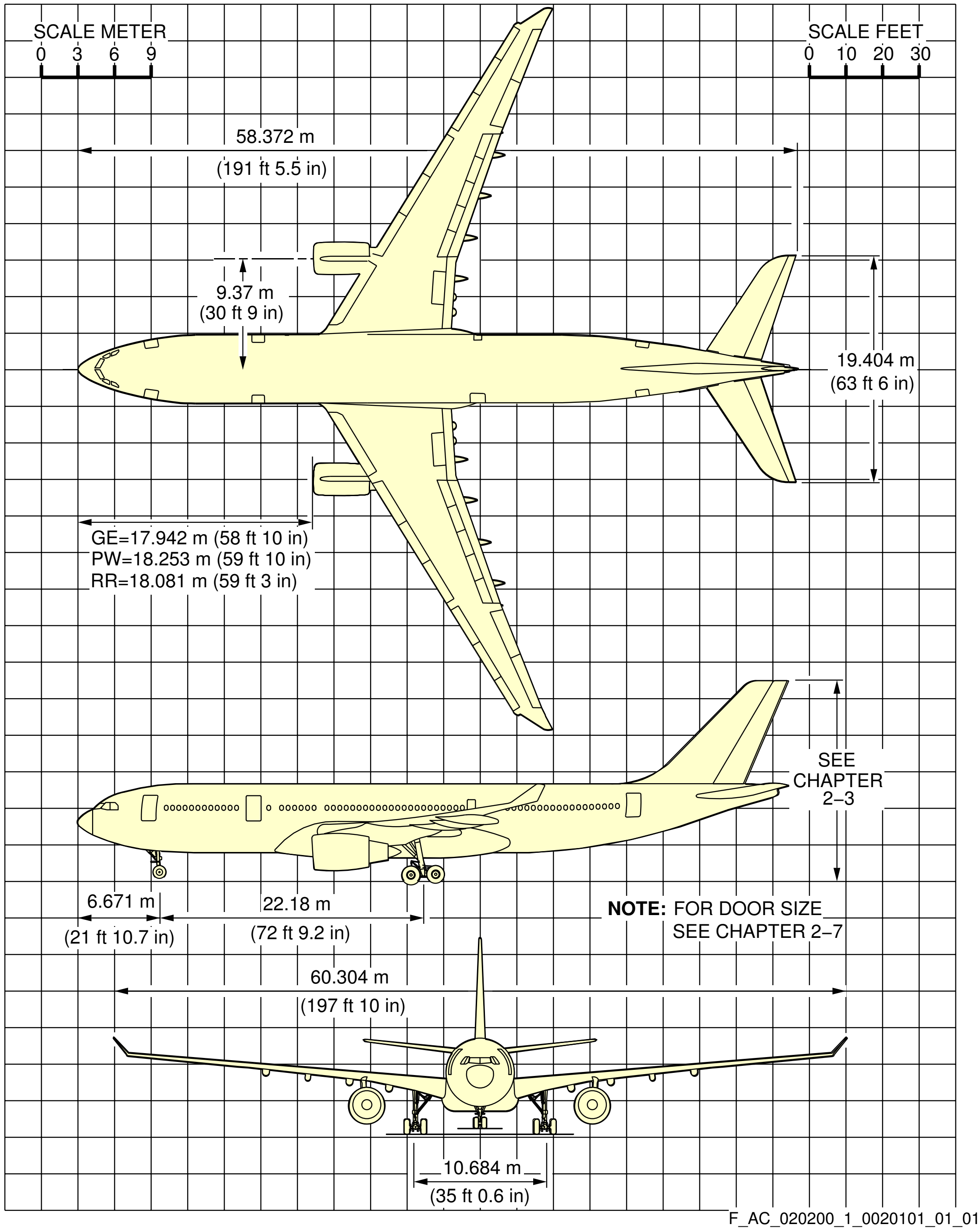
General Airplane Dimensions
FIGURE 1

**ON A/C A330-200



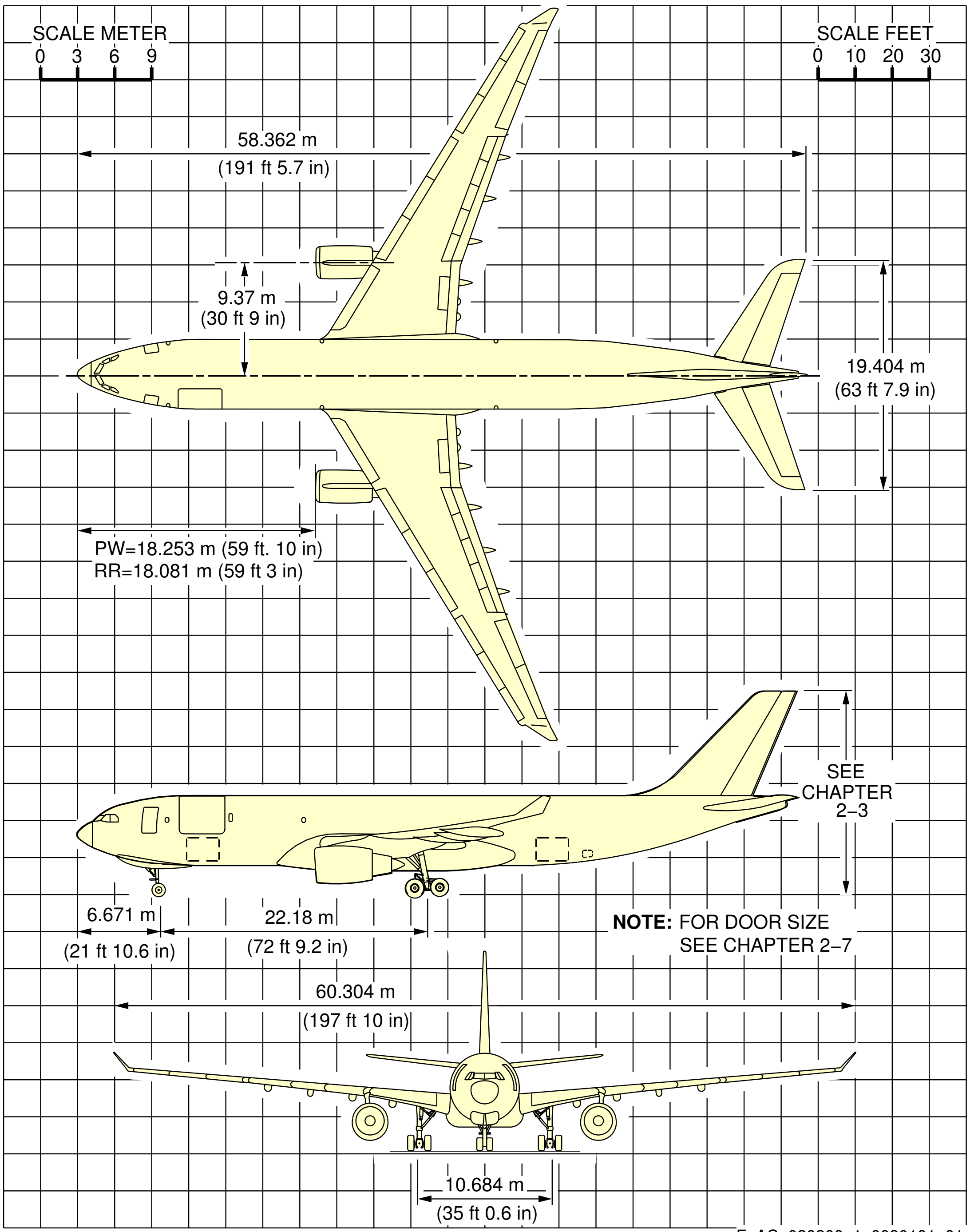
General Airplane Dimensions
FIGURE 2

**ON A/C A330-200F

General Airplane Dimensions

1. This section provides General Airplane Dimensions for cargo version.

**ON A/C A330-200F



General Airplane Dimensions
FIGURE 3

2-3-0 Ground Clearances

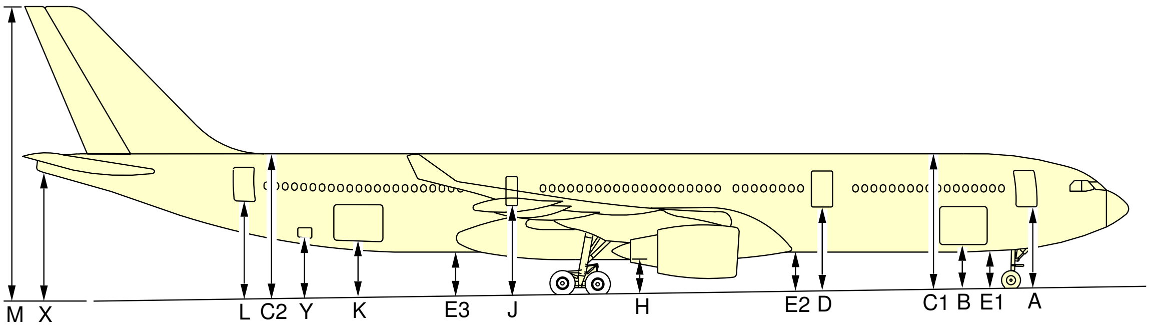
****ON A/C A330-200 A330-300**

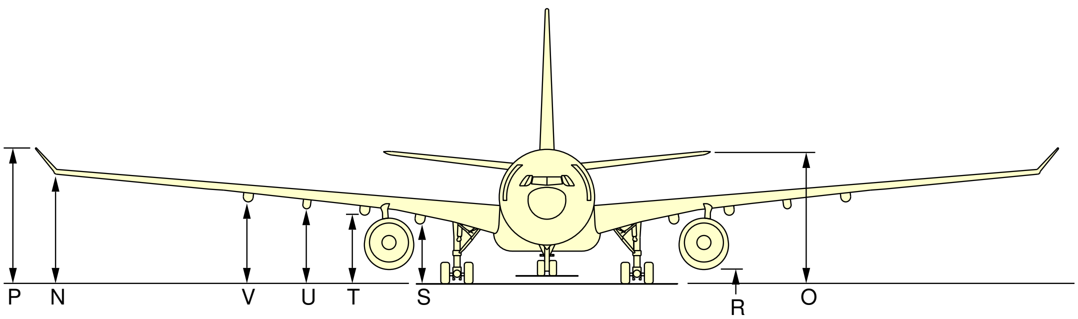
Ground Clearances

1. This section gives the height of various points of the aircraft, above the ground, for different aircraft pax configurations.
   Dimensions in the tables are approximate and will vary with tire type and conditions.

   NOTE : The distances given in the Ground Clearances charts are reference distances calculated for A/C weight and CG conditions.
   The conditions used in the calculations are maximum A/C weight (minimum ground clearances) and a typical A/C maintenance weight (typical ground clearances for maintenance).

**ON A/C A330-300





MRW 212 900 kg 469 360 lb		OPERATING WEIGHT EMPTY CG 26.8%		MAXIMUM RAMP WEIGHT CG 15%		MAXIMUM RAMP WEIGHT CG 36.5%		AIRCRAFT ON JACKS *	
		m	ft	m	ft	m	ft	m	ft
	A	4.55	14.92	4.41	14.46	4.55	14.92	6.32	20.7
	B	2.70	8.85	2.55	8.36	2.66	8.72	4.14	13.5
FR 26	C1	7.74	25.4	7.58	24.86	7.67	25.16	9.32	30.5
FR 72	C2	8.53	28	8.31	27.26	8.19	26.87	9.32	30.5
	D	4.83	15.84	4.67	15.32	4.73	15.51	6.32	20.7
FR 20	E1	2.10	6.89	1.95	6.39	2.03	6.66	3.68	12
FR 37	E2	2.28	7.48	2.10	6.88	2.14	7.02	3.68	12
FR 56	E3	2.74	8.99	2.54	8.33	2.45	8.03	3.68	12
FR 45	H	2.04	6.7	1.86	6.10	1.85	6.07	3.26	10.7
	J	5.34	17.5	5.31	17.4	5.20	17.06	6.43	21.1
	K	3.43	11.25	3.22	10.56	3.13	10.27	4.24	13.9
	L	5.77	18.93	5.55	18.20	5.41	17.75	6.53	21.4
	M	17.18	56.36	16.94	55.58	16.72	54.85	17.62	57.8
	N	6.46	21.20	6.13	20.11	6.06	19.88	7.55	24.7
	O	8.33	27.32	8.09	26.54	7.88	25.85	9.23	30.2
	P	8.05	26.41	7.70	25.26	7.61	24.96	8.96	29.4
GE = R		0.94	3.08	0.76	2.49	0.79	2.59	2.34	7.67
PW = R		0.90	2.95	0.72	2.36	0.75	2.46	2.29	7.51
RR = R		0.87	2.85	0.69	2.26	0.72	2.36	2.21	7.25
	S	3.87	12.70	3.68	12.07	3.64	11.94	5.25	17.2
	T	4.33	14.20	4.13	13.55	4.11	13.48	5.70	18.7
	U	4.64	15.22	4.41	14.46	4.37	14.33	6.00	19.6
	V	4.97	16.30	4.72	15.48	4.67	15.32	6.30	20.6
	X	7.48	24.54	7.24	23.76	7.03	23.06	8.10	26.5
	Y	3.68	12.07	3.46	11.35	3.35	11	4.39	14.4

* **NOTE:** THESE FIGURES WILL GIVE AN AIRCRAFT FUSELAGE DATUM (FD) AT 6500 MM.

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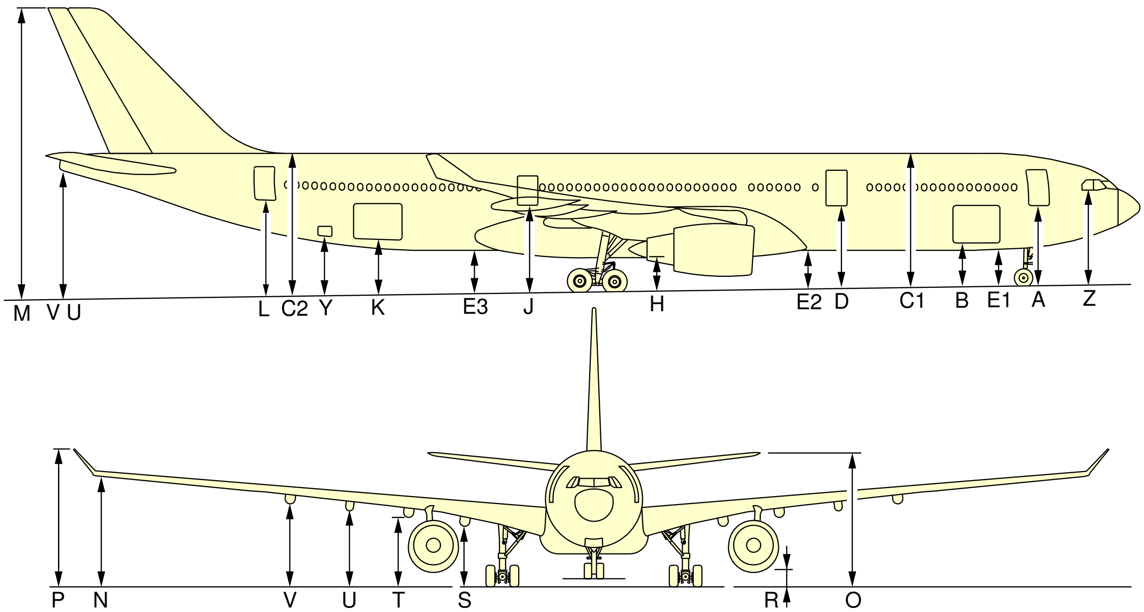
Ground Clearances
FIGURE 1

**ON A/C A330-200



MRW 230 900 kg 509 042 lb		OPERATING WEIGHT EMPTY CG 27.9%		MAXIMUM RAMP WEIGHT CG 21%		MAXIMUM RAMP WEIGHT CG 37.5%		AIRCRAFT ON JACKS *	
		m	ft	m	ft	m	ft	m	ft
	A	4.63	15.19	4.44	14.56	4.63	15.19	6.32	20.7
	B	2.78	9.12	2.58	8.46	2.74	8.99	4.14	13.5
FR 26	C1	7.75	25.42	7.56	24.80	7.69	25.23	9.32	30.5
FR 72	C2	8.54	28.02	8.31	27.26	8.16	26.77	9.32	30.5
	D	4.86	15.9	4.66	15.3	4.78	15.7	6.36	20.7
FR 20	E1	2.04	6.7	1.84	6.03	2.01	6.59	3.68	12.
FR 37	E2	2.23	7.31	2.03	6.66	2.12	6.95	3.68	12.
FR 56	E3	2.70	8.86	2.48	8.13	2.40	7.87	3.68	12.
FR 45	H	2.02	6.63	1.81	5.93	1.83	6.00	3.26	10.7
	J	5.36	17.6	5.15	16.9	5.10	16.7	6.46	21.2
	K	3.50	11.48	3.27	10.73	3.16	10.36	4.24	13.9
	L	5.74	18.83	5.51	18.07	5.35	17.55	6.53	21.4
	M	18.23	59.8	17.98	58.99	17.71	58.1	18.62	61.09
	M1	17.73	58.17	17.48	57.35	17.21	56.46	18.12	59.45
	N	6.48	21.26	6.14	20.14	6.05	19.85	7.55	24.7
	O	8.30	27.23	8.05	26.41	7.77	25.49	9.23	30.2
	P	8.08	26.51	7.71	25.29	7.61	24.96	8.96	29.4
GE =	R	0.94	3.08	0.74	2.42	0.79	2.59	2.34	7.67
PW =	R	0.90	2.95	0.70	2.29	0.75	2.46	2.29	7.51
RR =	R	0.87	2.85	0.67	2.19	0.72	2.36	2.21	7.25
	S	3.89	12.76	3.67	12.04	3.64	11.94	5.25	17.2
	T	4.35	14.27	4.13	13.55	4.11	13.48	5.70	18.7
	U	4.63	15.19	4.42	14.50	4.37	14.33	6.00	19.6
	V	4.95	16.24	4.73	15.52	4.67	15.32	6.30	20.6
	V U	7.47	24.51	7.23	23.72	6.97	22.86	8.10	25.5
	Y	3.66	12.01	3.43	11.25	3.30	10.82	4.39	14.4
	Z	5.41	17.75	5.22	17.12	5.43	17.81	7.10	23.30

M1 = POST MOD 48979 (SHORTER FIN INSTALLATION)

* **NOTE:** THESE FIGURES WILL GIVE AN AIRCRAFT FUSELAGE DATUM (FD) AT 6500 MM.

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Ground Clearances
FIGURE 2

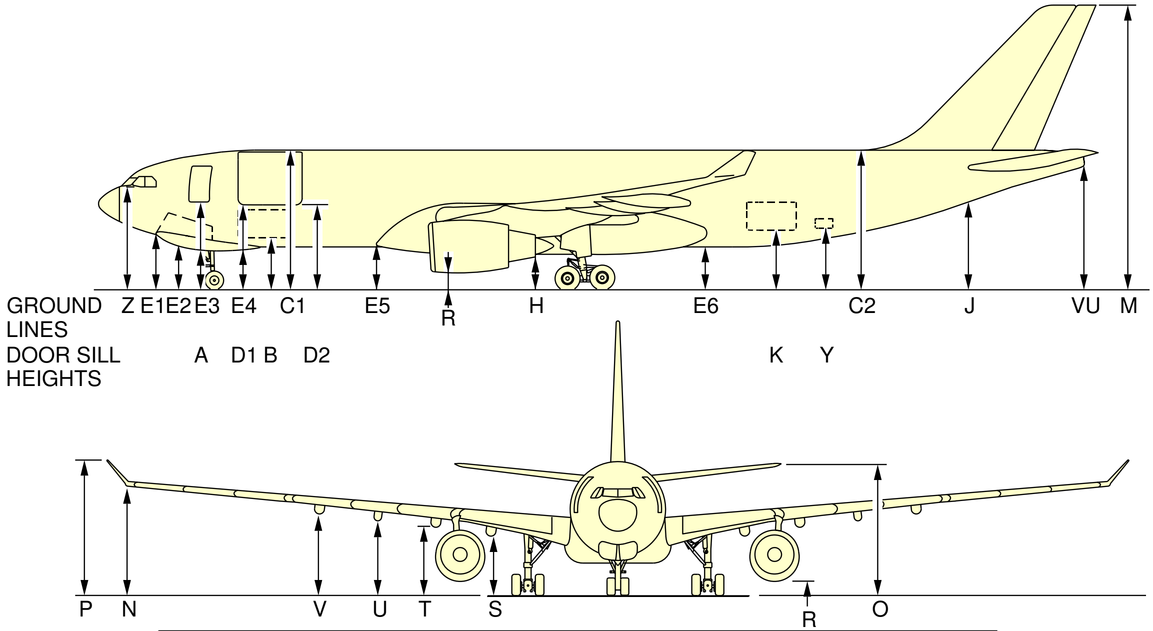
****ON A/C A330-200F**

Ground Clearances

1. This section gives the height of various points of the aircraft, above the ground, for different aircraft cargo configurations.
   Dimensions in the tables are approximate and will vary with tire type and conditions.

   NOTE : The distances given in the Ground Clearances charts are reference distances calculated for A/C weight and CG conditions.
   The conditions used in the calculations are maximum A/C weight (minimum ground clearances) and a typical A/C maintenance weight (typical ground clearances for maintenance).

**ON A/C A330-200F



MRW 227 900 kg 502 433 lb		OWE (109 000) EMPTY CG 18%		MAXIMUM RAMP WEIGHT CG 20.6%		MAXIMUM RAMP WEIGHT CG 37.6%	
		m	ft	m	ft	m	ft
	A	4.98	16.34	4.82	15.81	5.00	16.40
	B	3.11	10.20	2.93	9.61	3.08	10.10
FR 26	C1	8.06	26.44	7.88	25.85	8.01	26.27
FR 72	C2	8.44	27.69	8.08	26.51	7.92	25.98
FR 20	D1	5.04	16.54	4.87	15.98	5.03	16.50
FR 27	D2	5.08	16.67	4.89	16.04	5.02	16.46
FR 10	E1	3.07	10.07	2.93	9.61	3.13	10.27
FR 13	E2	2.39	7.84	2.24	7.35	2.43	7.97
FR 15	E3	2.22	7.28	2.06	6.76	2.25	7.38
FR 20	E4	2.42	7.94	2.26	7.41	2.42	7.94
FR 37	E5	2.47	8.10	2.26	7.41	2.35	7.71
FR 56	E6	2.70	8.86	2.38	7.81	2.30	7.54
FR 45	H	2.16	7.09	1.90	6.23	1.91	6.26
FR 87	J	5.55	18.21	5.15	16.90	4.93	16.17
	K	3.52	11.55	3.16	10.37	3.05	10.00
	M	17.41	57.12	16.97	55.68	16.68	54.71
	N	7.80	25.59	7.47	24.51	7.37	24.17
	O	8.31	27.26	7.87	25.82	7.59	24.89
	P	9.23	30.28	8.90	29.20	8.79	28.83
PW	R	1.13	3.71	0.90	2.95	0.96	3.15
RR	R	1.06	3.48	0.83	2.71	0.88	2.89
	S	2.74	8.99	2.45	8.03	2.41	7.91
	T	2.98	9.79	2.70	8.85	2.67	8.77
	U	2.92	9.59	2.64	8.65	2.61	8.55
	V	3.02	9.91	2.71	8.90	2.65	8.68
	VU	7.92	25.98	7.46	24.48	7.21	23.65
	Y	3.61	11.84	3.25	10.66	3.13	10.27
	Z	6.22	20.41	6.08	19.95	6.29	20.63

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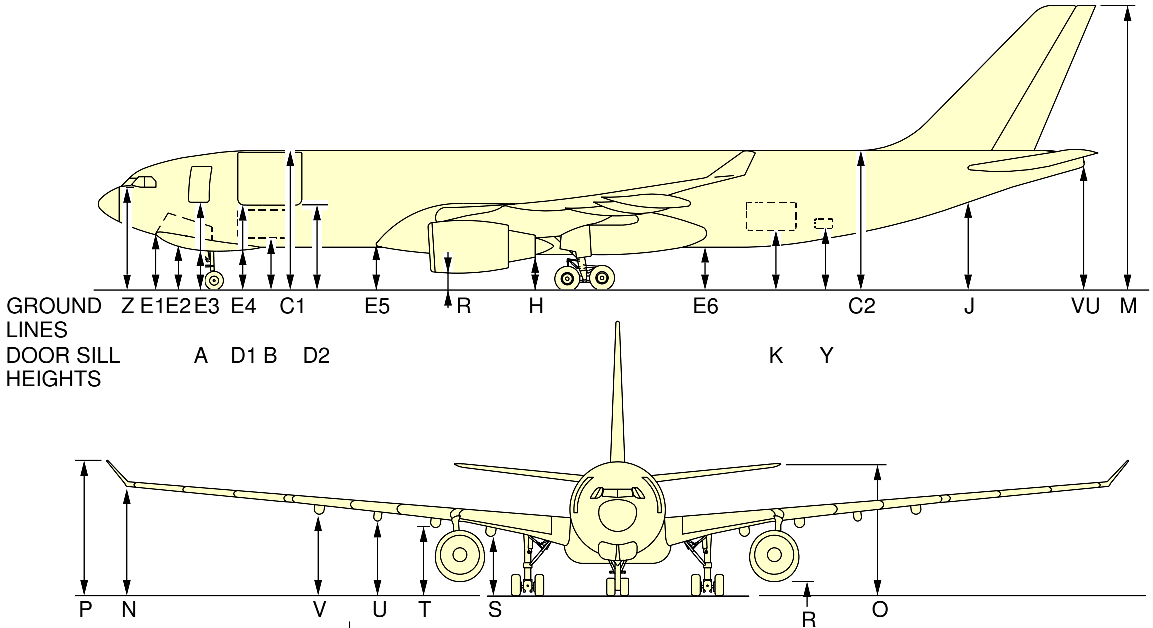
Ground Clearances
Ground Clearances MRW 227 900 kg
FIGURE 3

**ON A/C A330-200F



MRW 233 900 kg 515 660 lb		OWE (109 000) EMPTY CG 18%		MAXIMUM RAMP WEIGHT CG 20.6%		MAXIMUM RAMP WEIGHT CG 37.4%	
		m	ft	m	ft	m	ft
	A	4.98	16.34	4.82	15.81	5.00	16.40
	B	3.11	10.20	2.93	9.61	3.08	10.10
FR 26	C1	8.06	26.44	7.87	25.82	8.01	26.28
FR 72	C2	8.44	27.69	8.06	26.44	7.91	25.95
FR 20	D1	5.04	16.54	4.87	15.98	5.03	16.50
FR 27	D2	5.08	16.67	4.89	16.04	5.02	16.47
FR 10	E1	3.07	10.07	2.93	9.61	3.13	10.27
FR 13	E2	2.39	7.84	2.24	7.35	2.43	7.97
FR 15	E3	2.22	7.28	2.06	6.76	2.24	7.35
FR 20	E4	2.42	7.94	2.25	7.38	2.41	7.91
FR 37	E5	2.47	8.10	2.26	7.41	2.35	7.71
FR 56	E6	2.70	8.86	2.37	7.78	2.29	7.51
FR 45	H	2.16	7.09	1.89	6.20	1.91	6.27
FR 87	J	5.55	18.21	5.13	16.83	4.91	16.11
	K	3.52	11.55	3.15	10.33	3.04	9.97
	M	17.41	57.12	16.95	55.61	16.67	54.69
	N	7.80	25.59	7.46	24.48	7.36	24.15
	O	8.31	27.26	7.85	25.75	7.57	24.84
	P	9.23	30.28	8.88	29.13	8.78	28.81
PW	R	1.13	3.71	0.89	2.92	0.95	3.12
RR	R	1.06	3.48	0.82	2.69	0.87	2.85
	S	2.74	8.99	2.44	8.00	2.41	7.89
	T	2.98	9.79	2.69	8.83	2.67	8.75
	U	2.92	9.59	2.63	8.62	2.60	8.53
	V	3.02	9.91	2.70	8.86	2.64	8.66
	VU	7.92	25.98	7.46	24.48	7.19	23.59
	Y	3.61	11.84	3.25	10.66	3.12	10.24
	Z	6.22	20.41	6.08	19.95	6.29	20.64

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Ground Clearances
Ground Clearances MRW 233 900 kg
FIGURE 4

2-4-0 Interior Arrangements

****ON A/C A330-200 A330-300**

Interior Arrangements

1. This section gives the standard interior arrangements configuration.

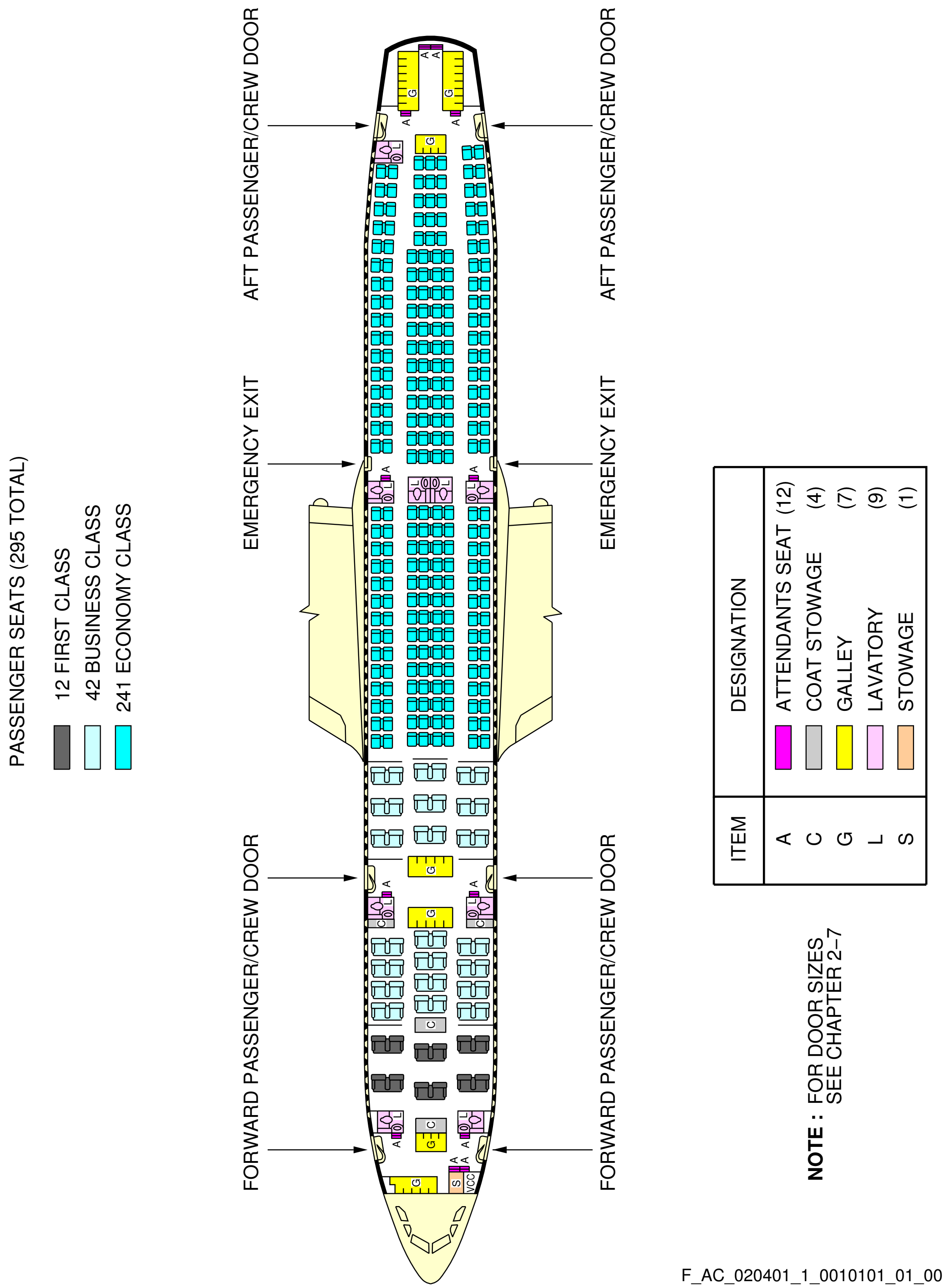
2-4-1 Typical Configuration

****ON A/C A330-200 A330-300**

Typical Configuration

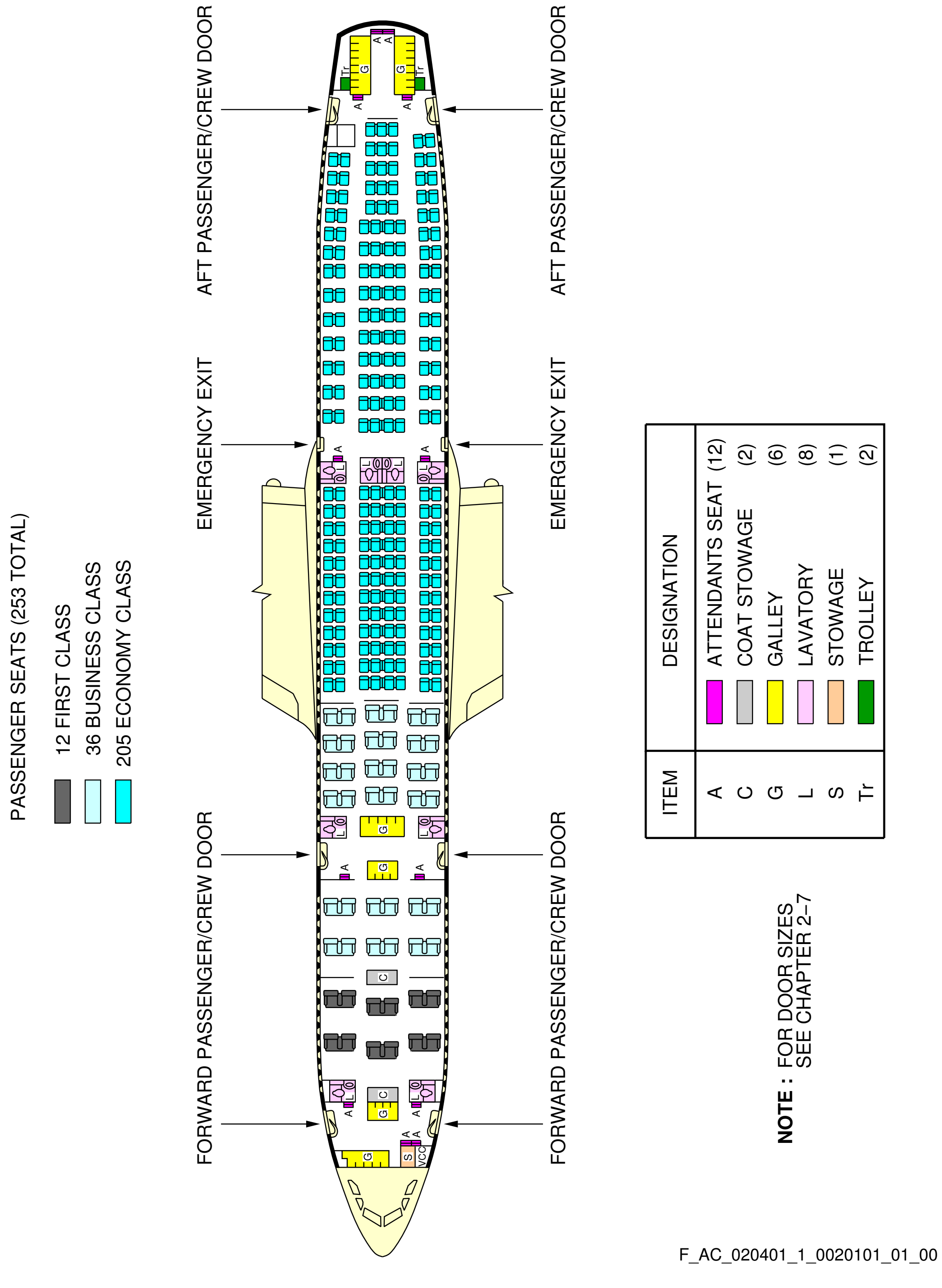
1. This section gives the typical configuration for A330 pax version

**ON A/C A330-300



Typical Configuration
FIGURE 1

**ON A/C A330-200



Typical Configuration
FIGURE 2

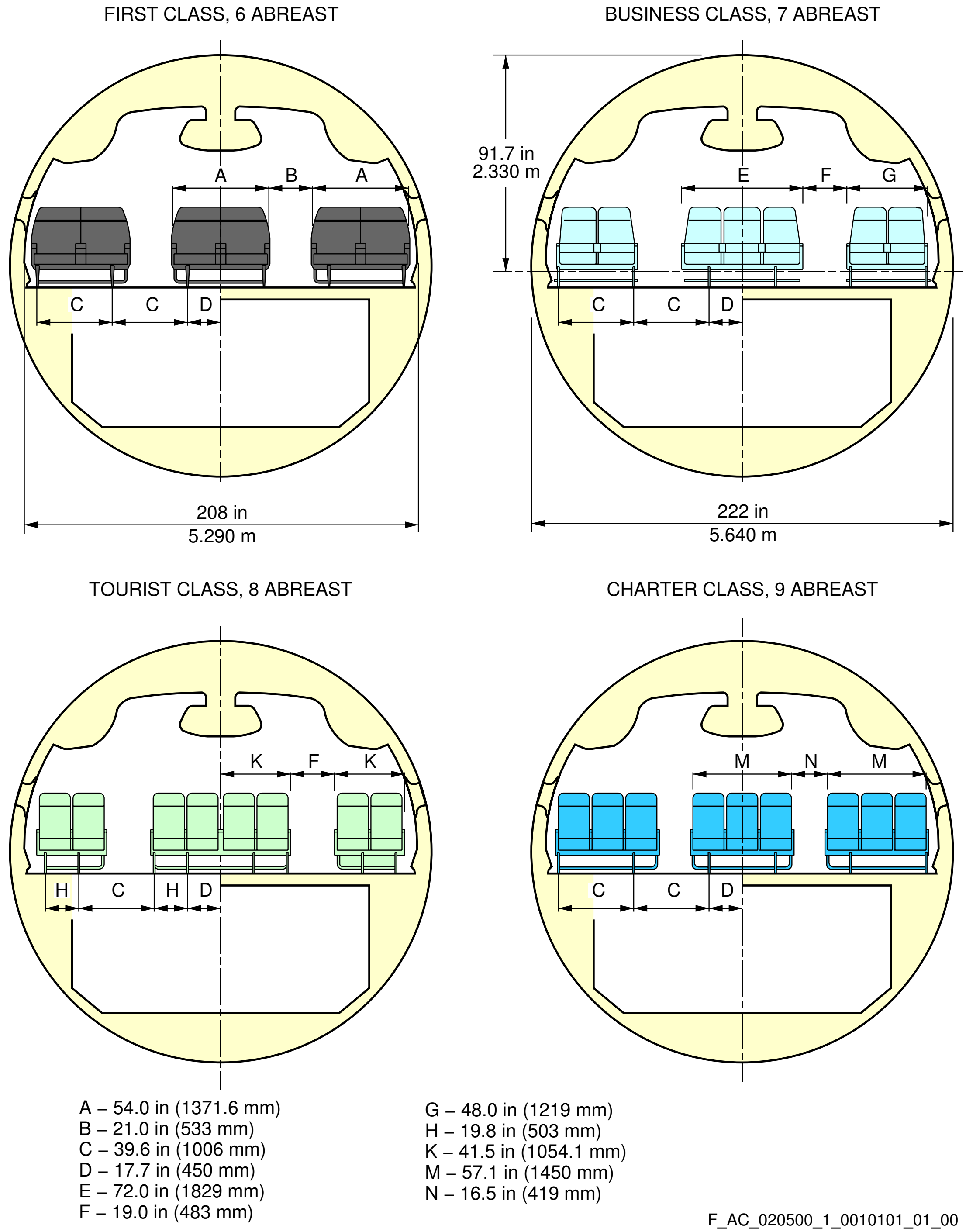
2-5-0 Passenger Compartment Cross Section

****ON A/C A330-200 A330-300**

Passenger Compartment Cross-section

1. This section gives the typical passenger compartment cross-section configuration of A330 models.

**ON A/C A330-200 A330-300



Passenger Compartment Cross-section
FIGURE 1

2-6-0 Cargo Compartments

****ON A/C A330-200 A330-200F A330-300**

Cargo Compartment

1. This section gives the cargo compartments location and dimensions.

2-6-1 Lower Deck Cargo Compartments (Loading combinations)

****ON A/C A330-200 A330-200F A330-300**

Lower Deck Cargo Compartments

****ON A/C A330-300**

1. This table gives cargo compartments loading combinations.

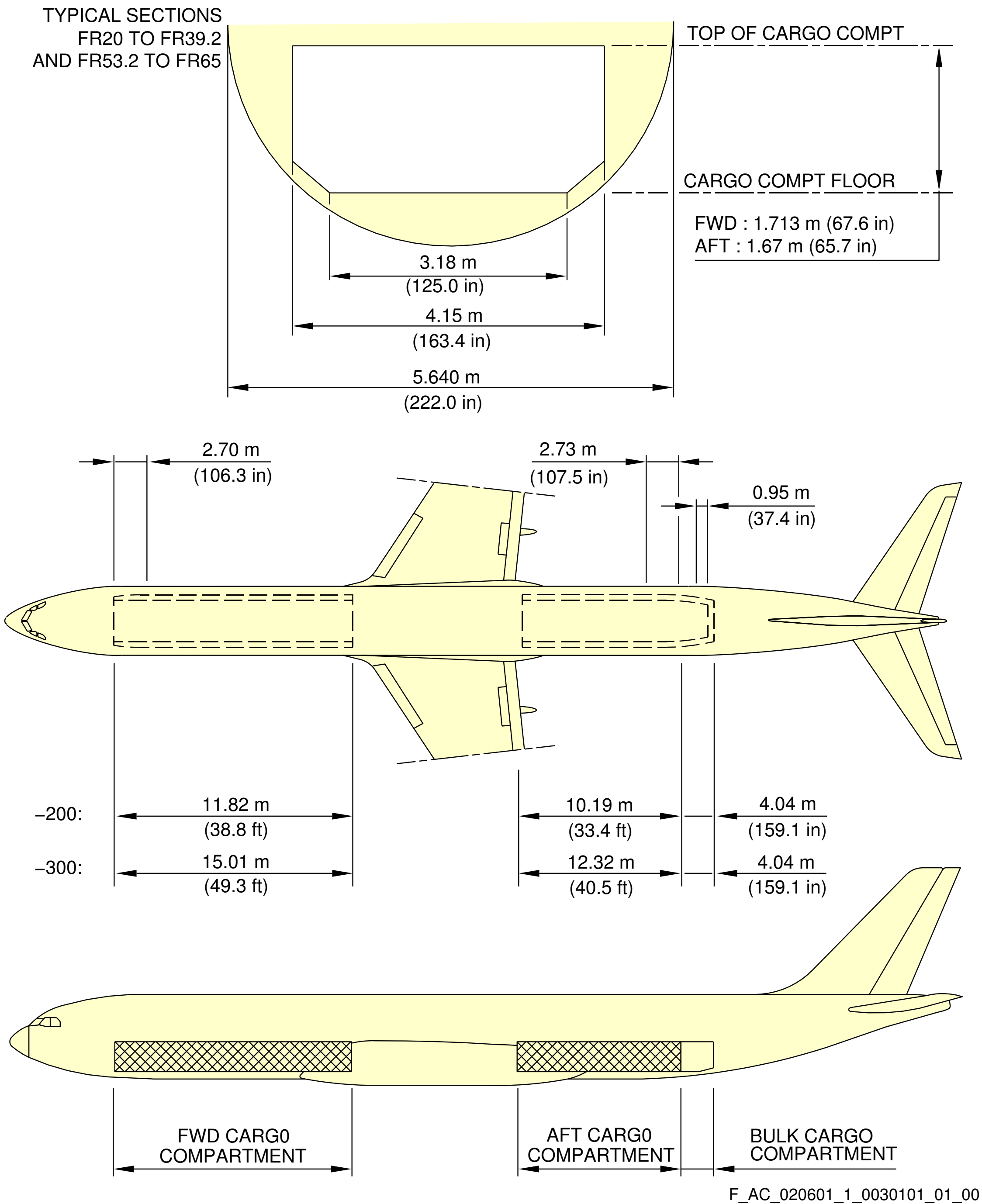
Cargo Hold Volume		
Cargo Compartment	Palletized volume	Containerized volume
Forward Door size (h × w) 66.89 in (1.699 m) x 106.34 in (2.701 m)	2442 ft^3 (69.150 m^3) 66.89 in (1.699 m) x 106.34 in (2.701 m)	2844 ft^3 (80.533 m^3) based on LD3 (IATA E NAS 3610-2K2C) container volume
Aft Door size (h × w) 66.3 in (1.684 m) x 107.1 in (2.720 m)	1628 ft^3 (46.100 m^3) based on 96 in × 125 in pallets loaded to height of 64 in (1.626 m)	2212 ft^3 (62.637 m^3) based on LD3 (IATA E NAS 3610-2K2C) container volume
Bulk Door size (h × w) 37.3 in (0.947 m) x 37.3 in (0.947 m)	695 ft^3 (19.680 m^3)	

****ON A/C A330-200 A330-200F**

2. This table gives cargo compartments loading combinations.

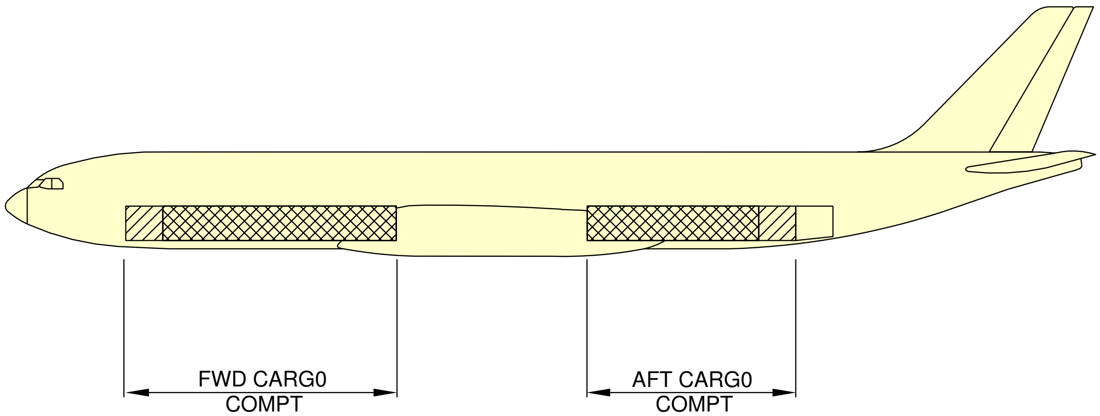
Cargo Hold Volume		
Cargo Compartment	Palletized volume	Containerized volume
Forward Door size (h × w) 66.89 in (1.699 m) x 106.34 in (2.701 m)	1628 ft^3 (46.100 m^3) based on 96 in × 125 in pallets loaded to height of 64 in (1.626 m)	2212 ft^3 (62.637 m^3) based on LD3 (IATA E NAS 3610-2K2C) container volume
Aft Door size (h × w) 66.3 in (1.684 m) x 107.1 in (2.720 m)	1628 ft^3 (46.100 m^3) based on 96 in × 125 in pallets loaded to height of 64 in (1.626 m)	1896 ft^3 (53.689 m^3) based on LD3 (IATA E NAS 3610-2K2C) container volume
Bulk Door size (h × w) 37.3 in (0.947 m) x 37.3 in (0.947 m)	695 ft^3 (19.680 m^3)	

**ON A/C A330-200 A330-200F A330-300



Lower Deck Cargo Compartments
FIGURE 1

**ON A/C A330-200 A330-200F A330-300



CARGO FLEXIBILITY–LOADING COMBINATIONS

TYPICAL LOADING COMBINATIONS–STANDARD AIRCRAFT	A330–300		A330–200	
	FWD	AFT	FWD	AFT
–HALF–SIZE CONTAINERS NAS 3610–2K2C AS PER IATA CONTOUR E OR 60.4 in X 61.5 in PALLETS NAS 3610–2K3P LIMITED TO MAX GROSS WEIGHT 3500 lb (1587 kg) EACH	18	14	14	12
–HALF–SIZE CONTAINERS NAS 3610–2K2C AS PER IATA CONTOUR C LIMITED TO MAX GROSS WEIGHT 3500 lb (1587 kg) EACH	9	7	7	6
–FULL–SIZE CONTAINERS NAS 3610–2L2C AS PER IATA CONTOUR F OR 60.4 in X 61.5 in PALLETS NAS 3610–2K3P,2L4P LIMITED TO MAX GROSS WEIGHT 7000 lb (3174 kg) EACH	9	7	7	6
–96 in X 125 in PALLETS NAS 3610–2M1P,2P,3P LIMITED TO MAX GROSS WEIGHT 10200 lb (4626 kg) EACH (WITH POTENTIAL FOR EXTENSION TO 11250 lb (5103 kg)	6	4	4	4
PLUS–HALF–SIZE CONTAINERS NAS 3610–2K2C AS PER IATA CONTOUR E OR N LIMITED TO MAX GROSS WEIGHT 3500 lb (1587 kg) EACH	–	2	2	
–OR 60.4 IN x 61.5 IN PALLETS NAS 3610–2K3P LIMITED TO MAX GROSS WEIGHT 3500 lb (1587 kg) EACH	–	2	2	
–OR 60.4 in x 125 in PALLETS NAS 3610–2L3P, 2L4P LIMITED TO MAX GROSS WEIGHT 7000 lb (3174 kg) EACH	–	1	1	
–OR FULL–SIZE CONTAINERS NAS 3610–2L2C AS PER IATA CONTOUR P LIMITED TO MAX GROSS WEIGHT 7000 lb (3174 kg) EACH	–	1	1	

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Loading Combinations
FIGURE 2

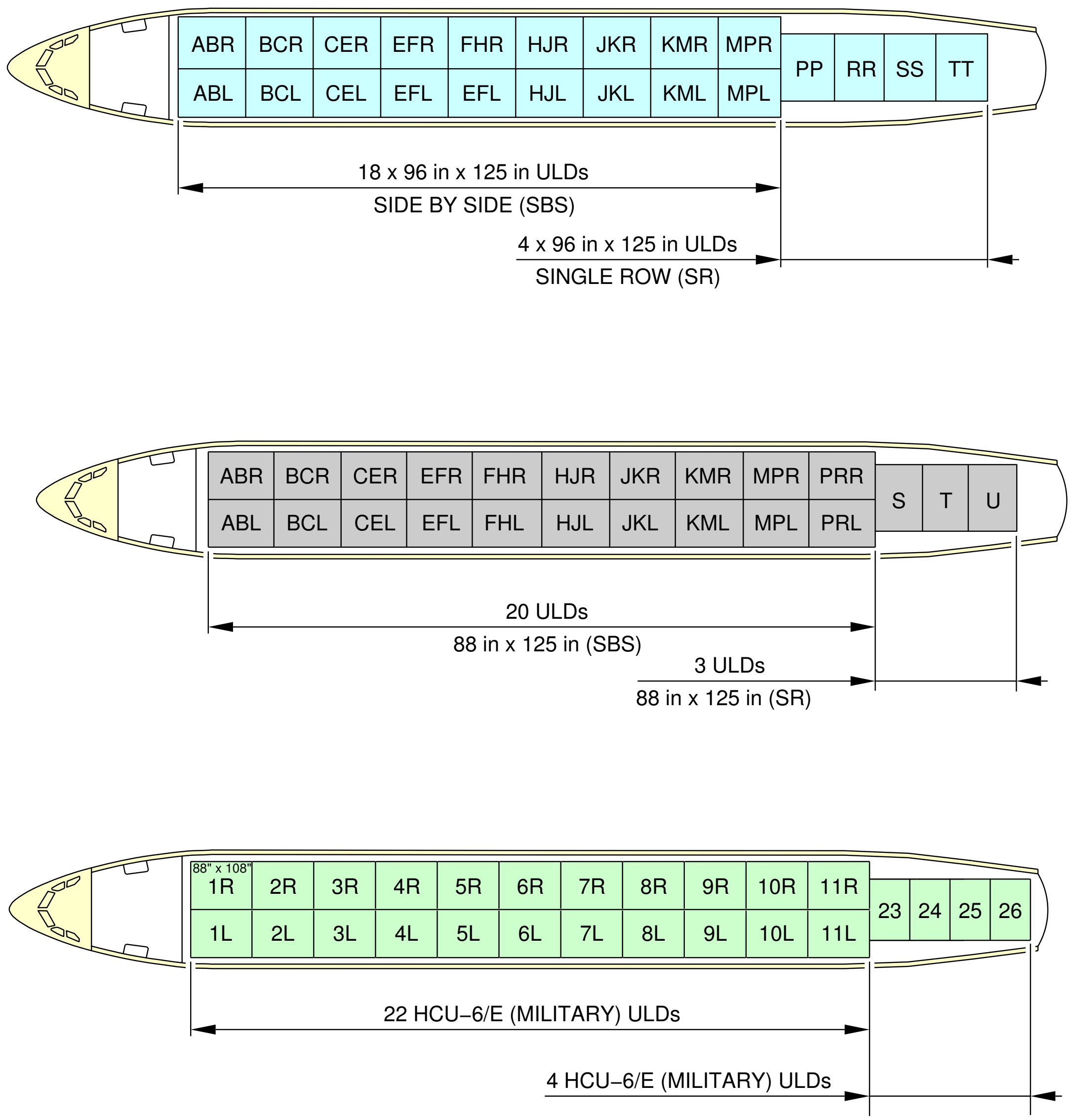
2-6-2 Main Deck Cargo Compartments (Loading combinations)

****ON A/C A330-200F**

Main Deck Cargo Compartments (Loading combinations)

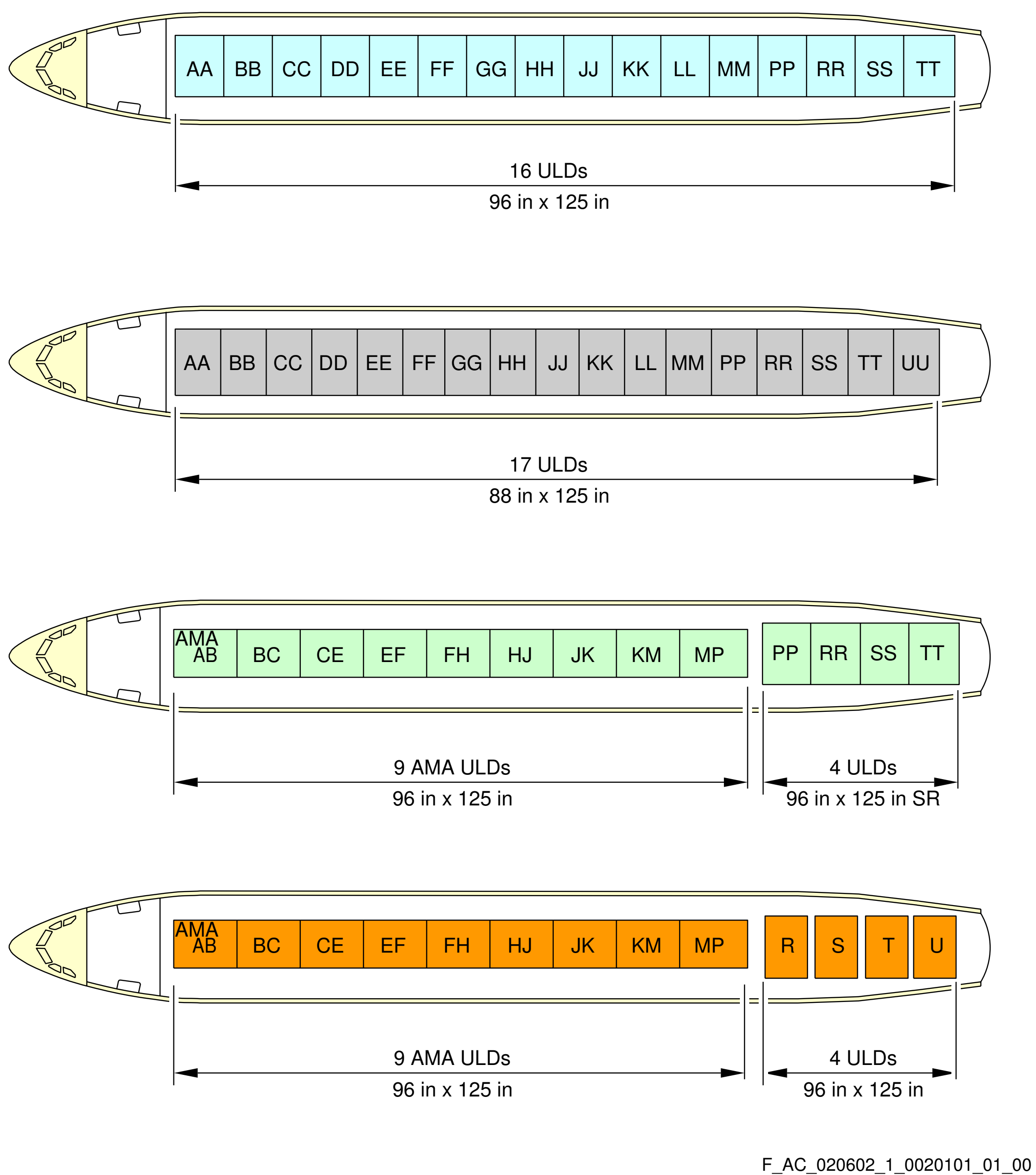
1. This section gives main deck loading combinations.

**ON A/C A330-200F



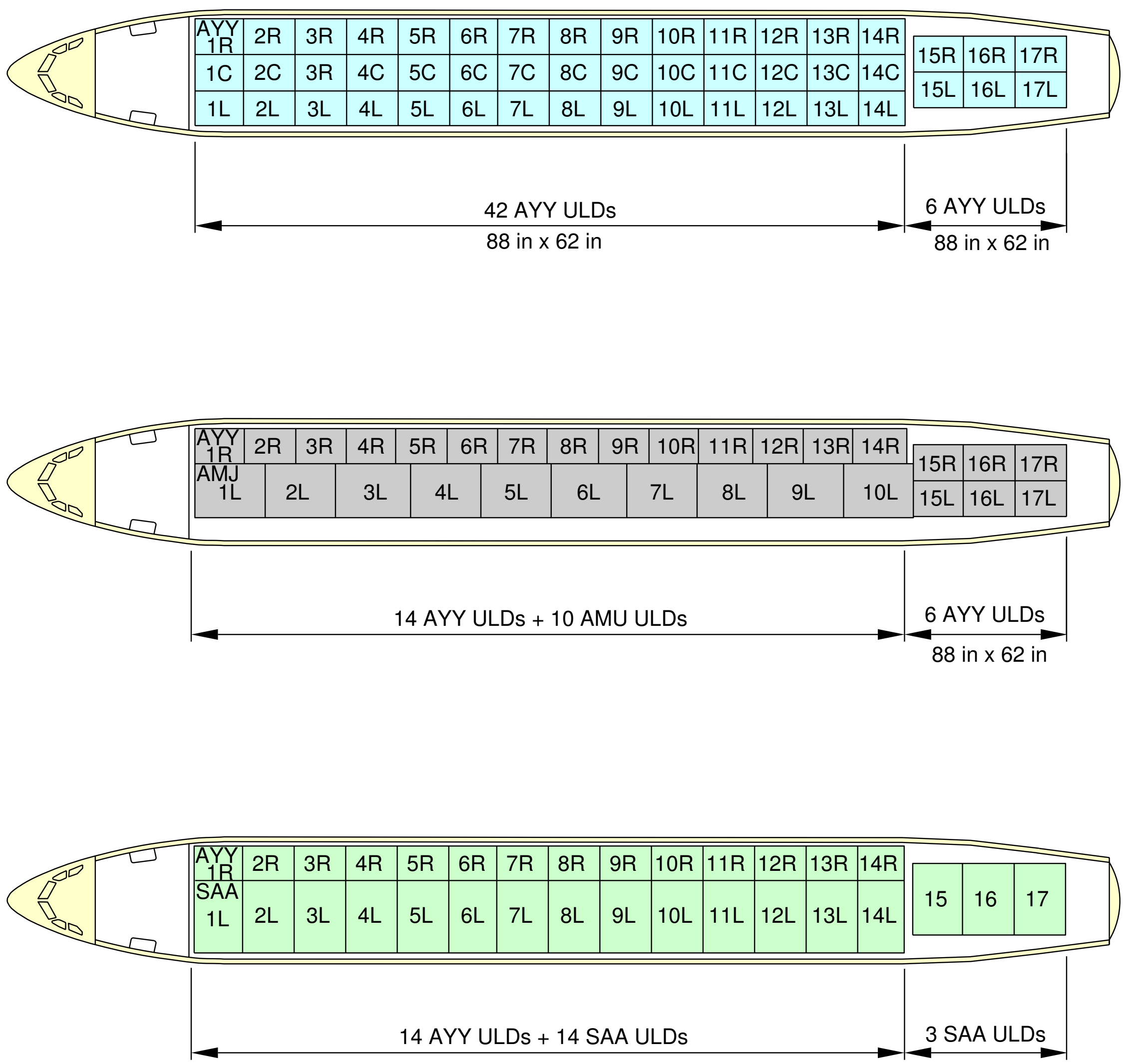
Main Deck Cargo Compartments
Loading combinations
FIGURE 1

**ON A/C A330-200F



Main Deck Cargo Compartments
Loading combinations
FIGURE 2

**ON A/C A330-200F



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Main Deck Cargo Compartments
Loading combinations
FIGURE 3

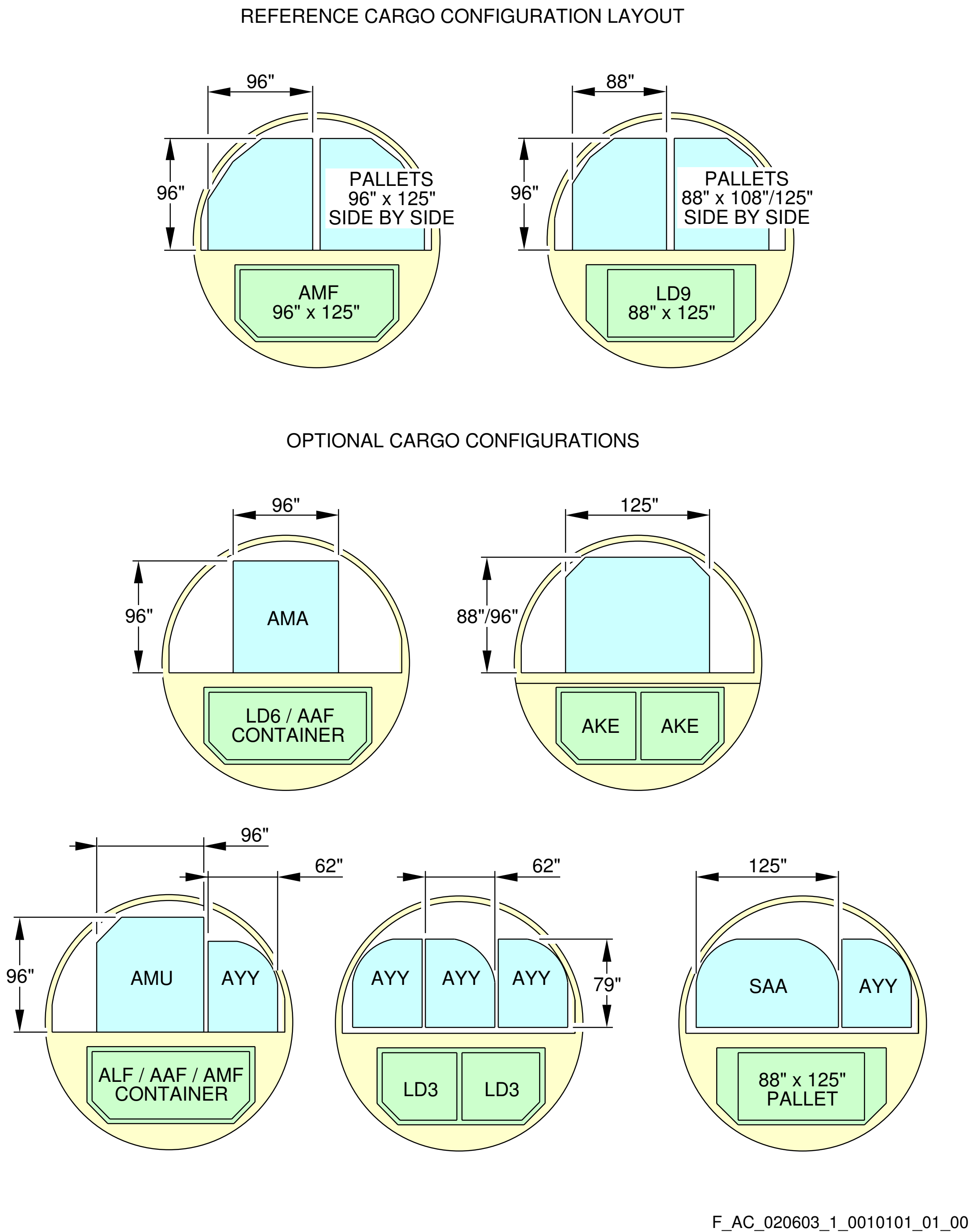
2-6-3 Main and Lower Deck Cross-sections

****ON A/C A330-200F**

Main and Lower Deck Cross-sections

1. This section gives Main and Lower Deck Cross-sections for cargo version.

**ON A/C A330-200F



Main and Lower Deck Cross-sections
FIGURE 1

2-7-0 Door Clearances

****ON A/C A330-200 A330-200F A330-300**

Doors Clearances

1. This section gives doors clearances.

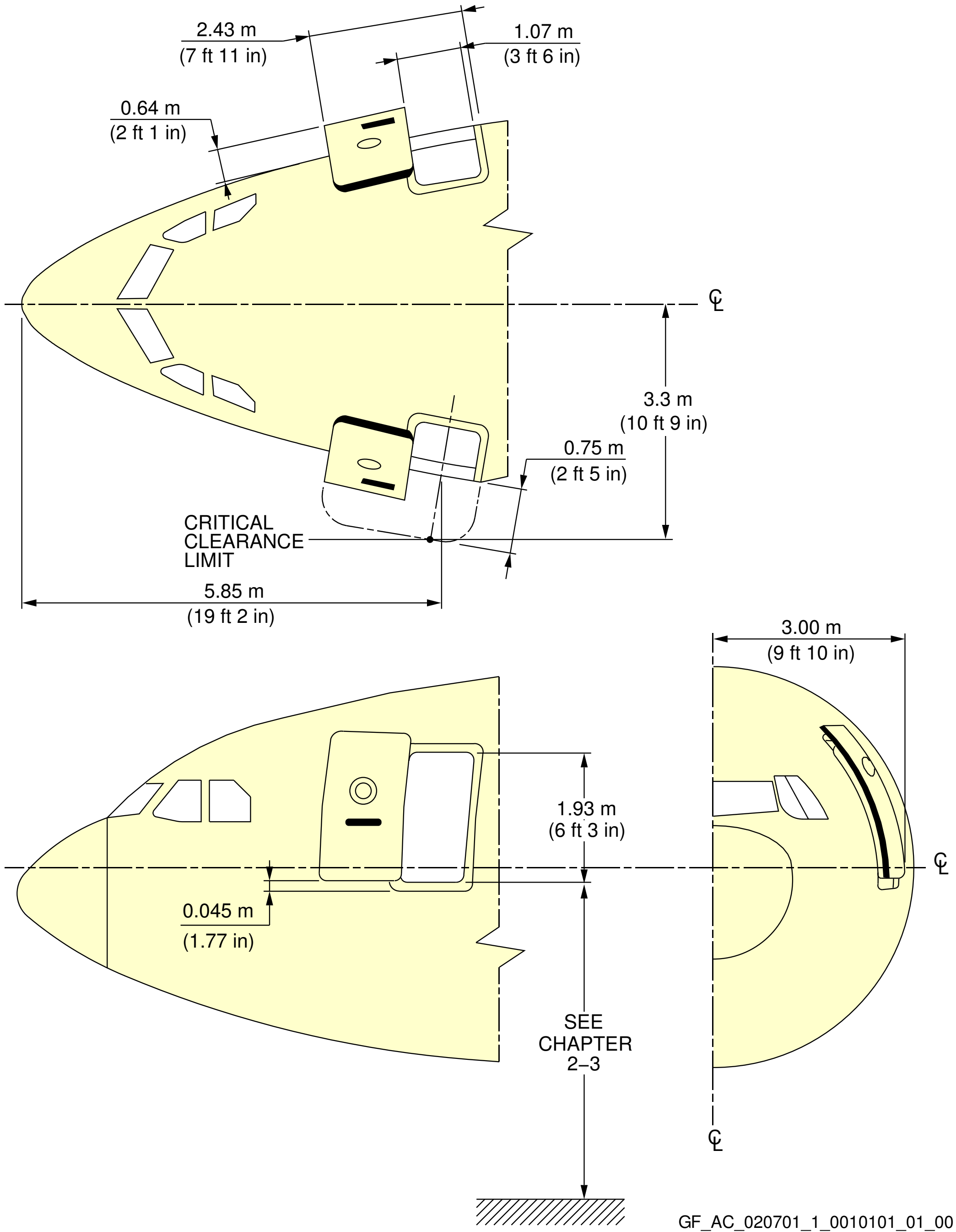
2-7-1 Forward Passenger / Crew Doors

****ON A/C A330-200 A330-200F A330-300**

Forward Passenger / Crew Door

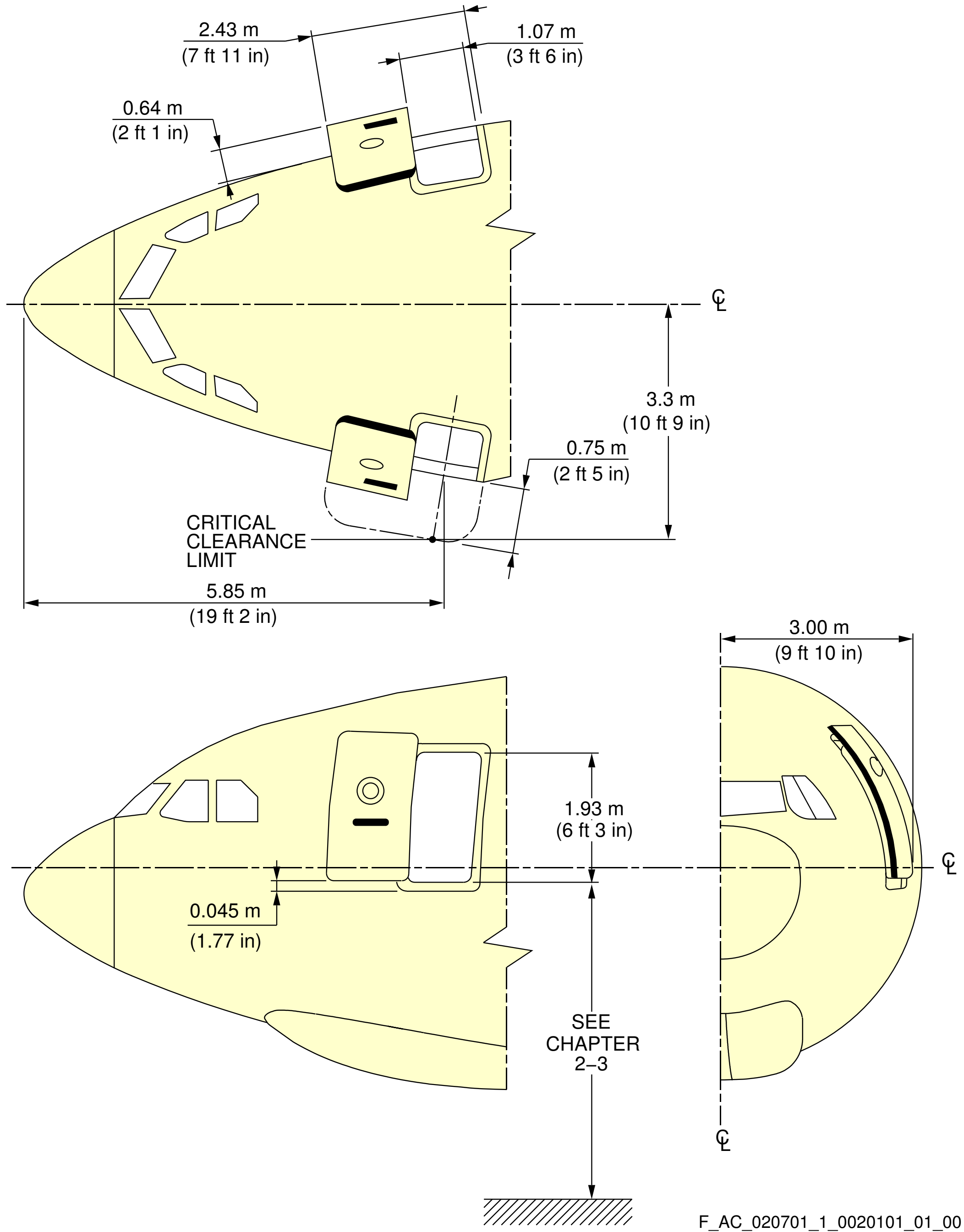
1. This section gives forward passenger / crew doors clearances.

**ON A/C A330-200 A330-300



Forward Passenger / Crew Doors
FIGURE 1

**ON A/C A330-200F



Forward Passenger / Crew Doors
FIGURE 2

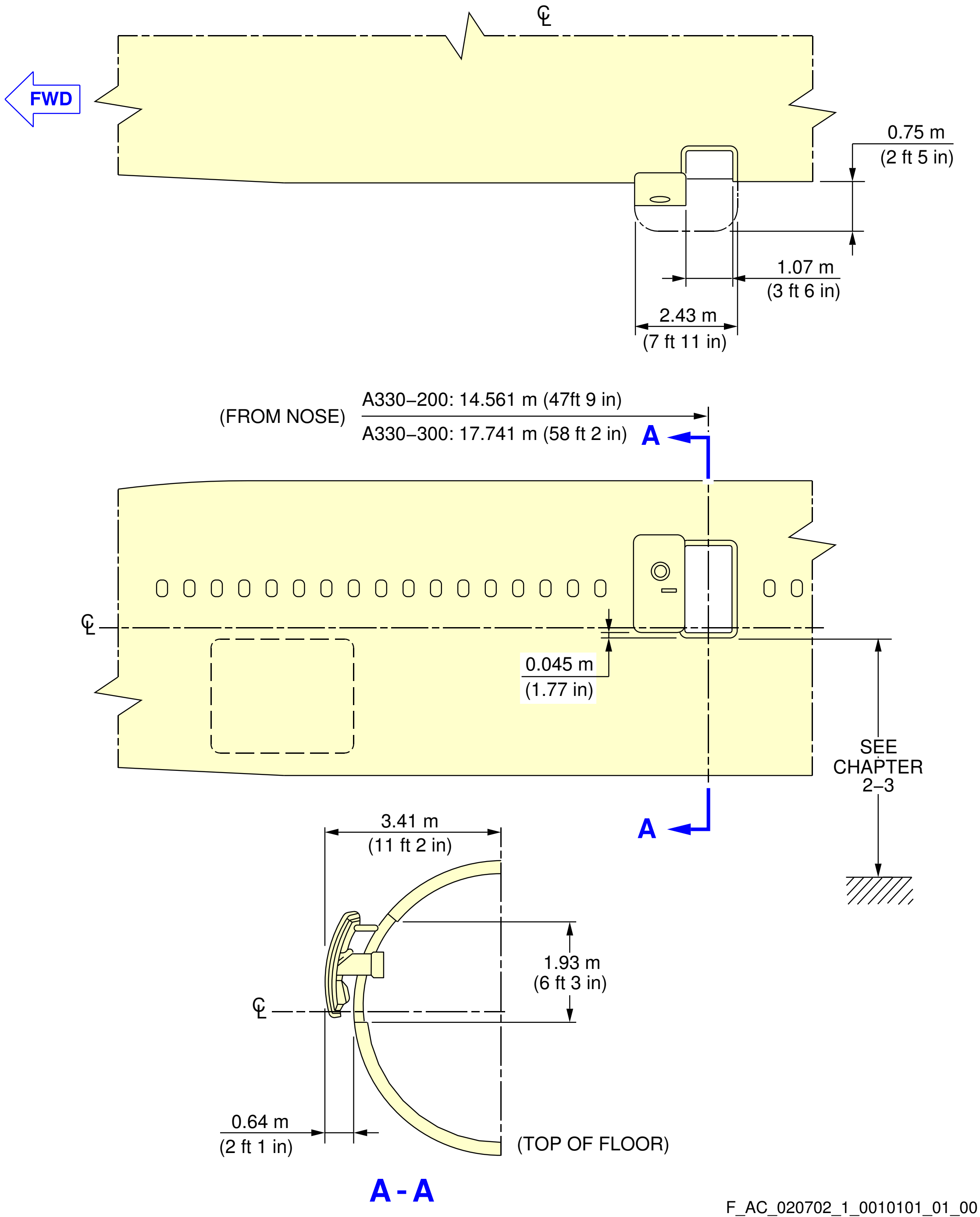
2-7-2 Mid Passenger / Crew Doors

****ON A/C A330-200 A330-300**

Mid Passenger / Crew Door

1. This section gives mid passenger / crew doors clearances.

**ON A/C A330-200 A330-300



Mid Passenger / Crew Door
FIGURE 1

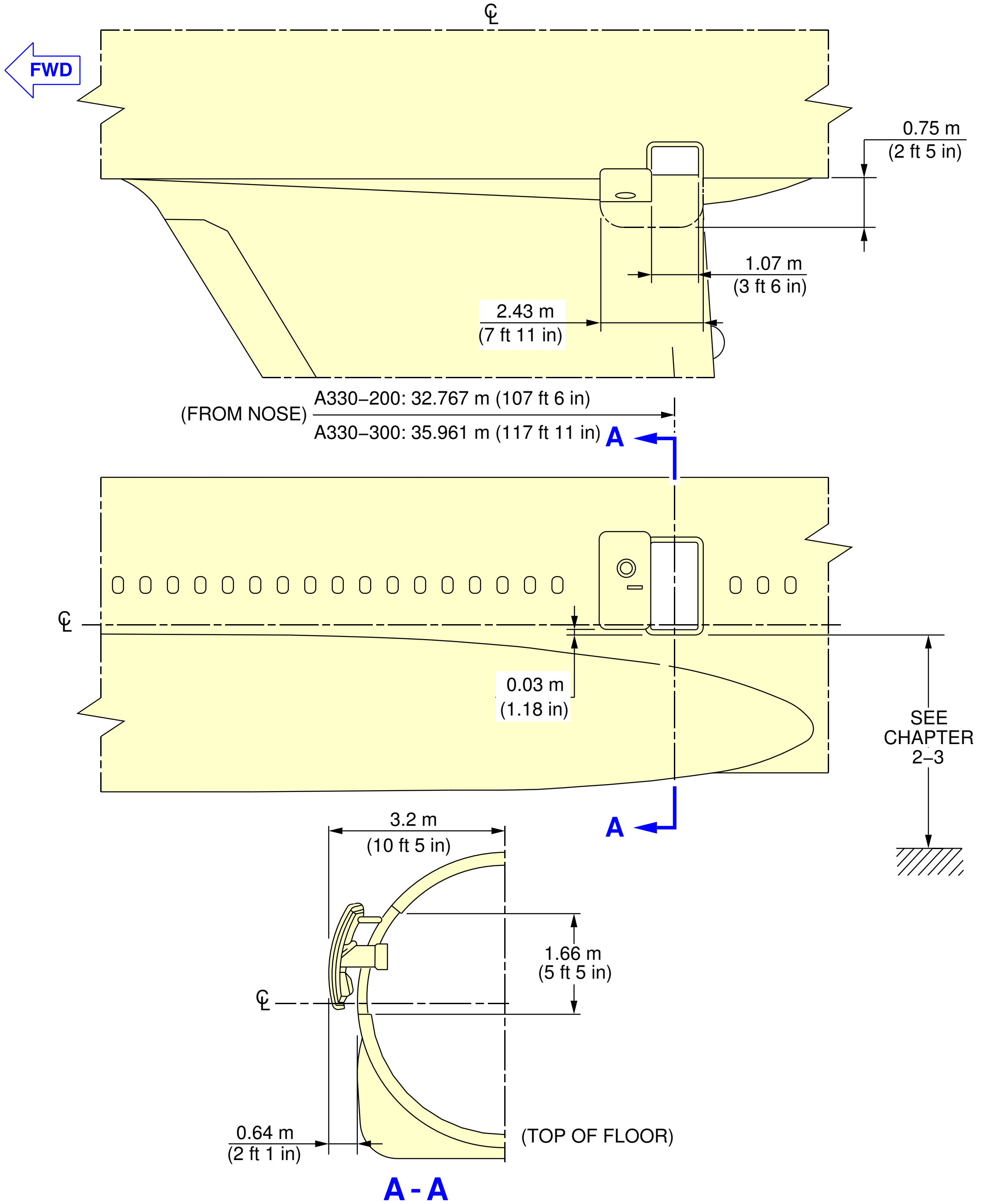
2-7-3 Emergency Exits

****ON A/C A330-200 A330-300**

Emergency Exits

1. This section gives emergency exits doors clearances.

**ON A/C A330-200 A330-300



F_AC_020703_1_0010101_01_00

Emergency Exits
FIGURE 1

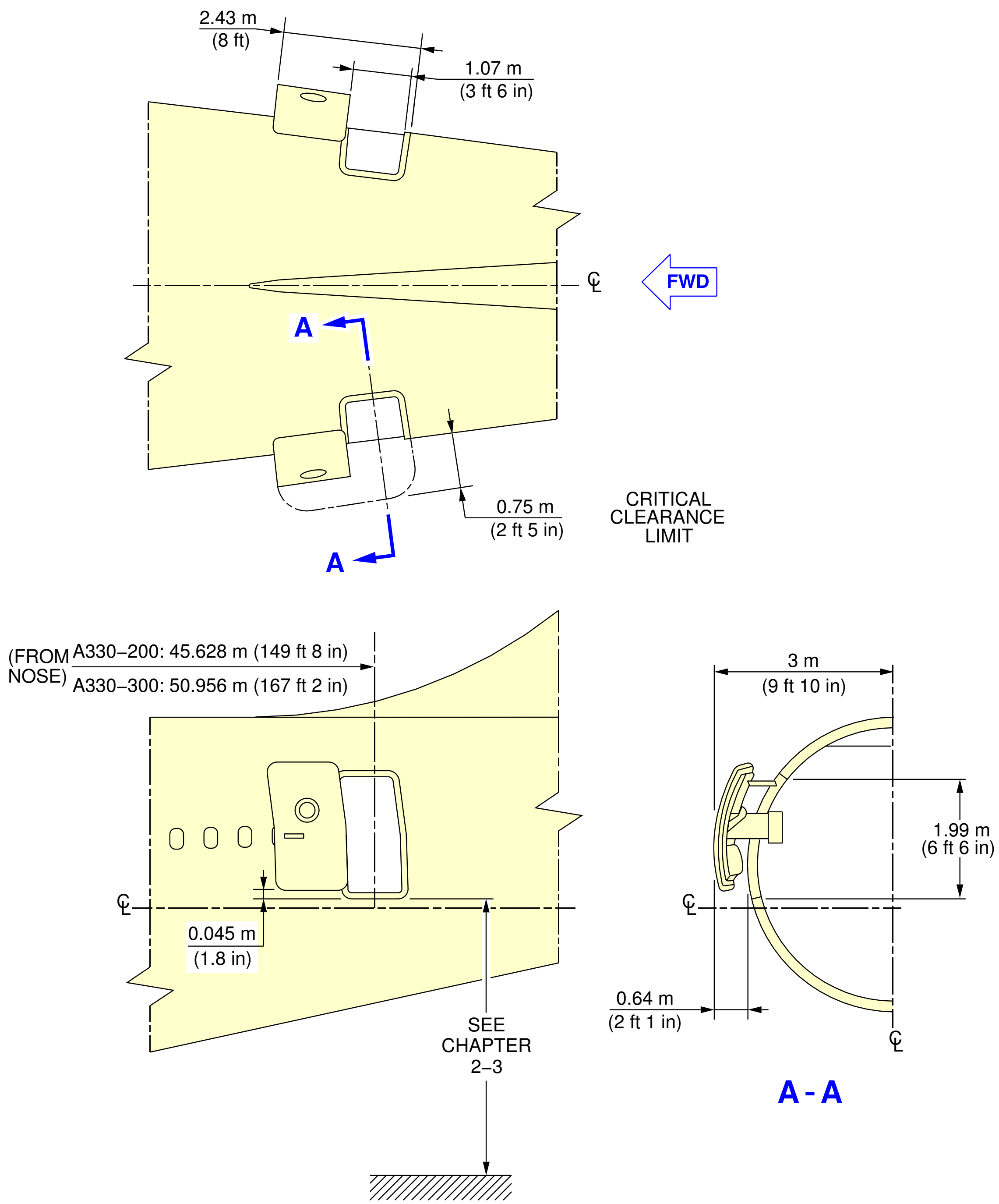
2-7-4 Aft Passenger / Crew Doors

****ON A/C A330-200 A330-300**

Aft Passenger / Crew Doors

1. This section gives Aft passenger / crew doors clearances.

**ON A/C A330-200 A330-300



F_AC_020704_1_0010101_01_00

Aft Passenger / Crew Doors
FIGURE 1

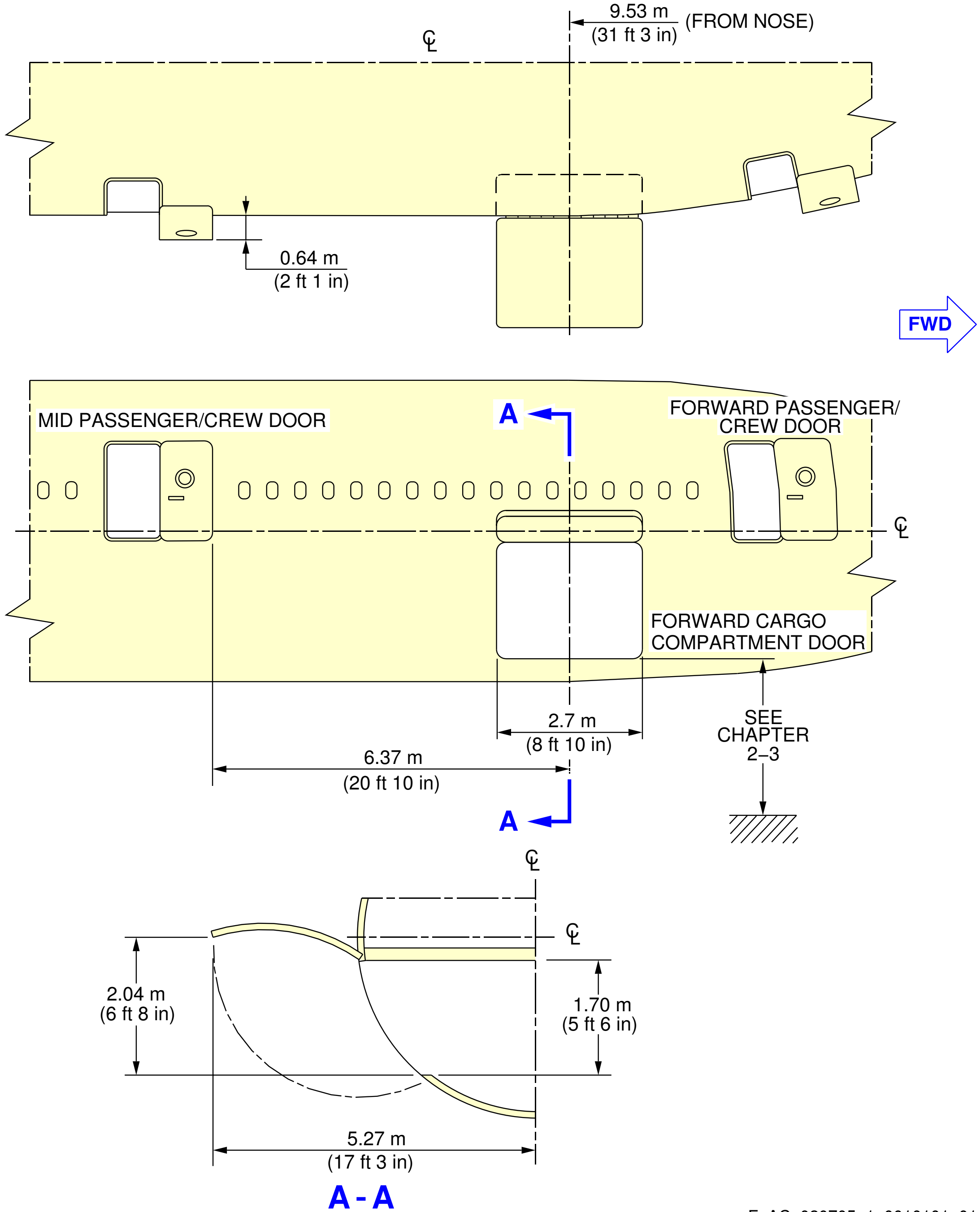
2-7-5 Forward Cargo Compartment Doors

****ON A/C A330-200 A330-300**

Forward Cargo Compartment Doors

1. This section gives forward cargo compartment doors clearances for pax version.

**ON A/C A330-200 A330-300



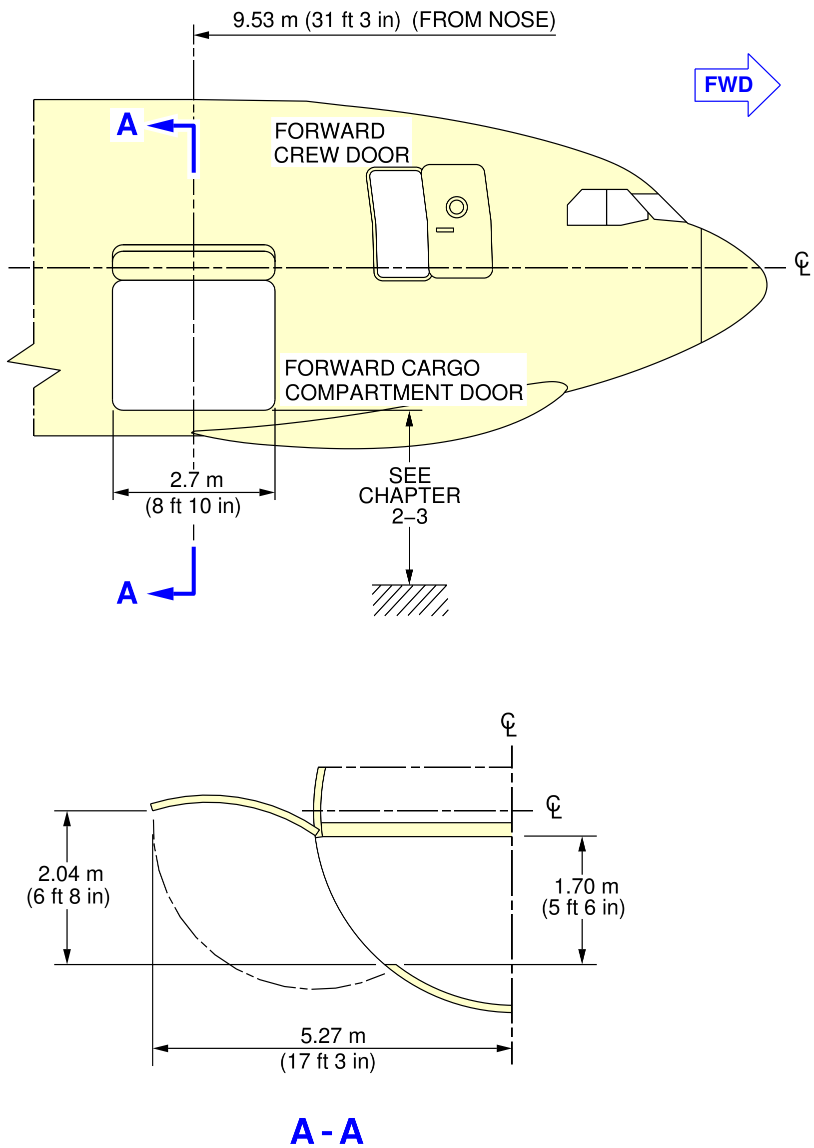
Forward Cargo Compartment Doors
FIGURE 1

****ON A/C A330-200F**

Forward Cargo Compartment Doors

1. This section gives forward cargo compartment doors clearances for cargo version.

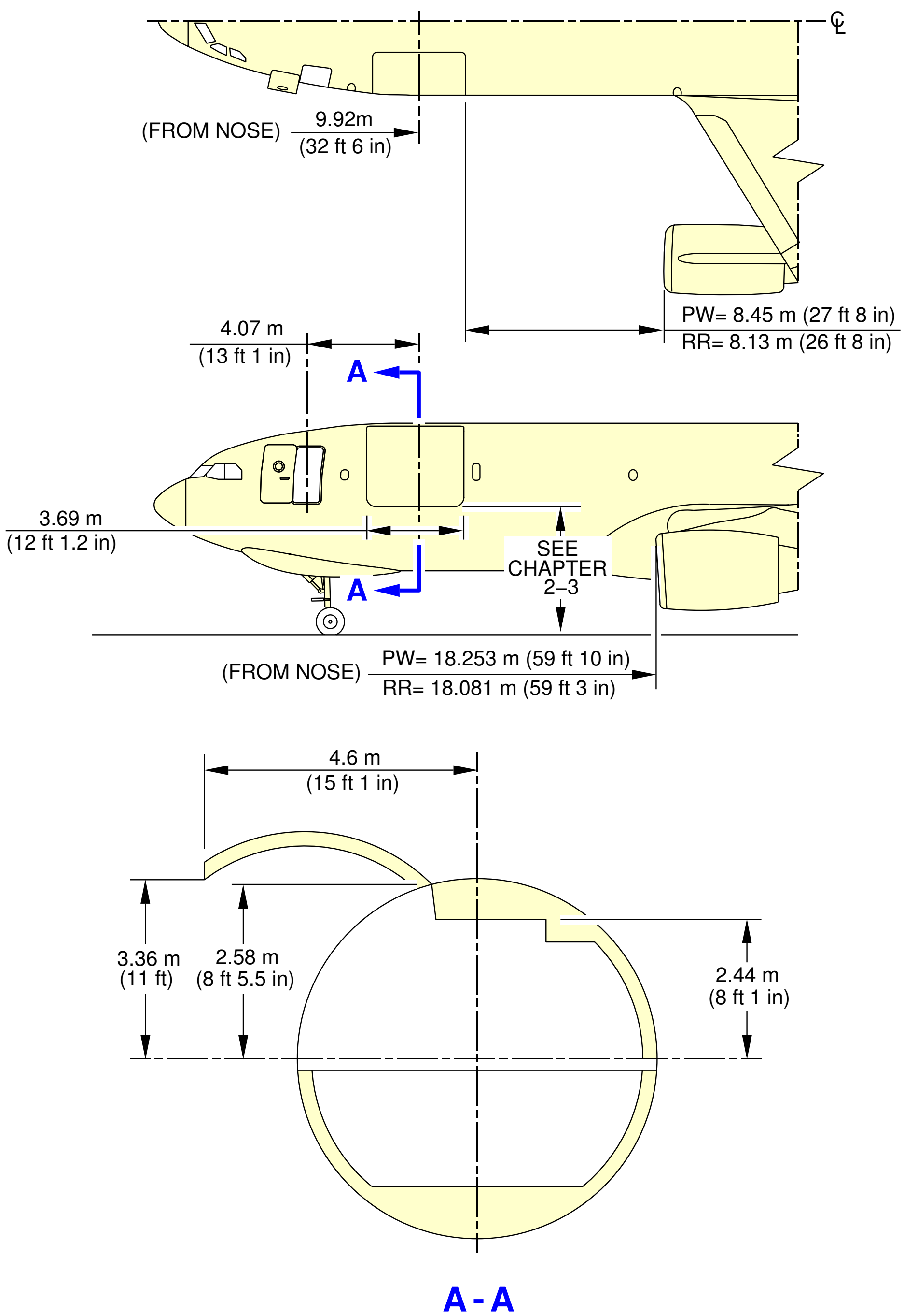
**ON A/C A330-200F



F_AC_020705_1_0020101_01_01

Forward Cargo Compartment Doors
FIGURE 2

**ON A/C A330-200F



F_AC_020705_1_0030101_01_01

Forward Cargo Compartment Doors
FIGURE 3

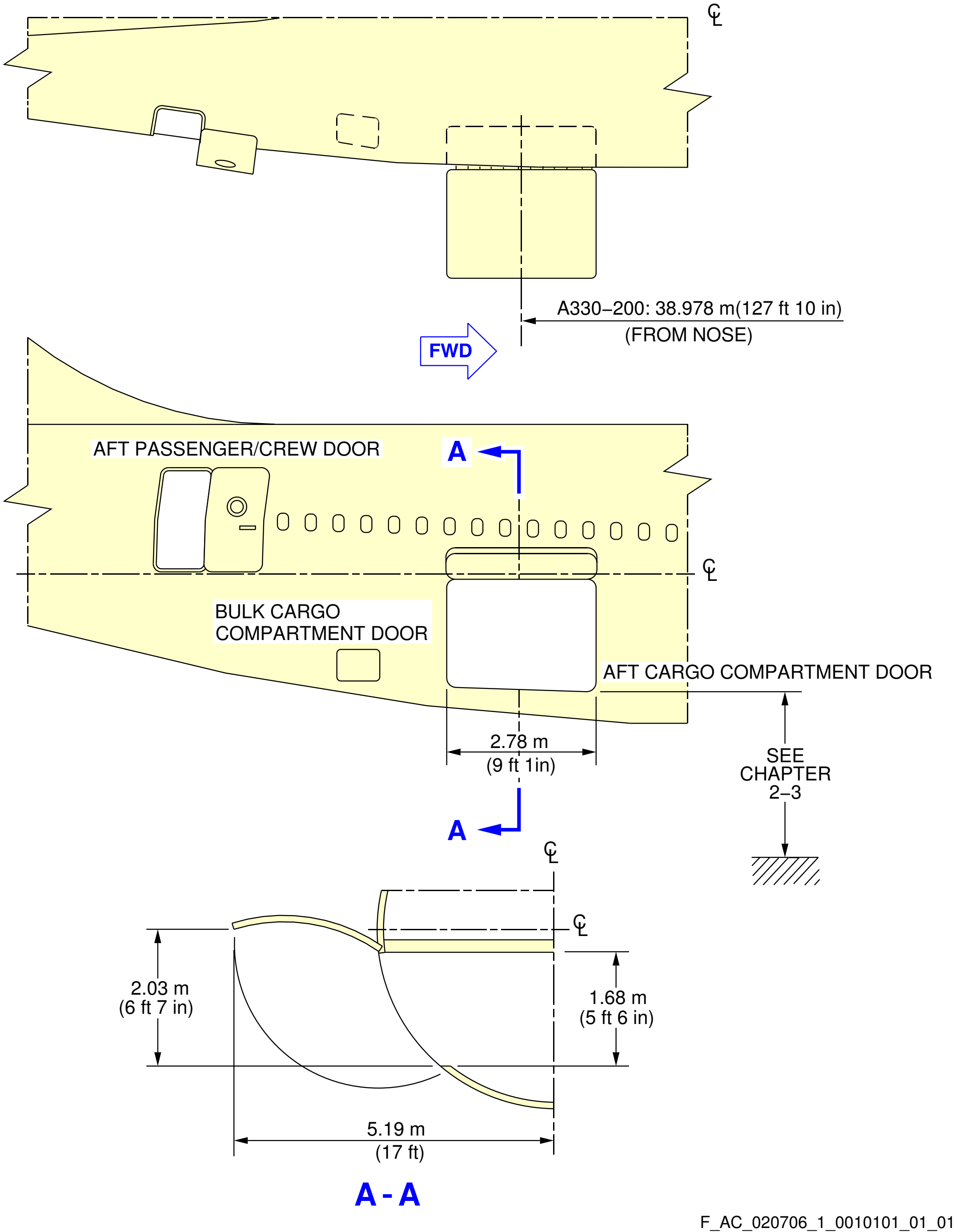
2-7-6 Aft Cargo Compartment Doors

****ON A/C A330-200 A330-200F A330-300**

Aft Cargo Compartment Doors

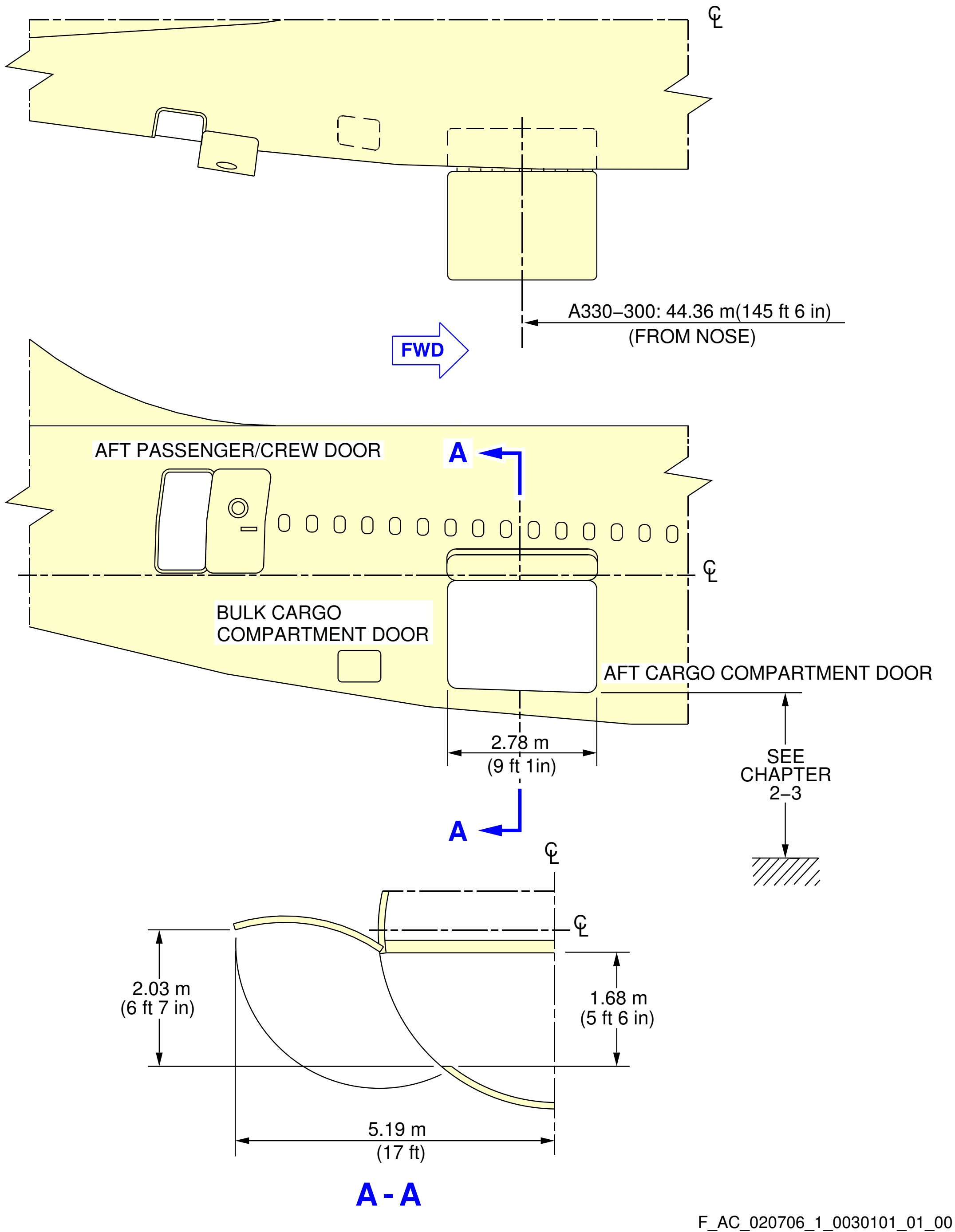
1. This section gives Aft cargo compartment doors clearances.

**ON A/C A330-200



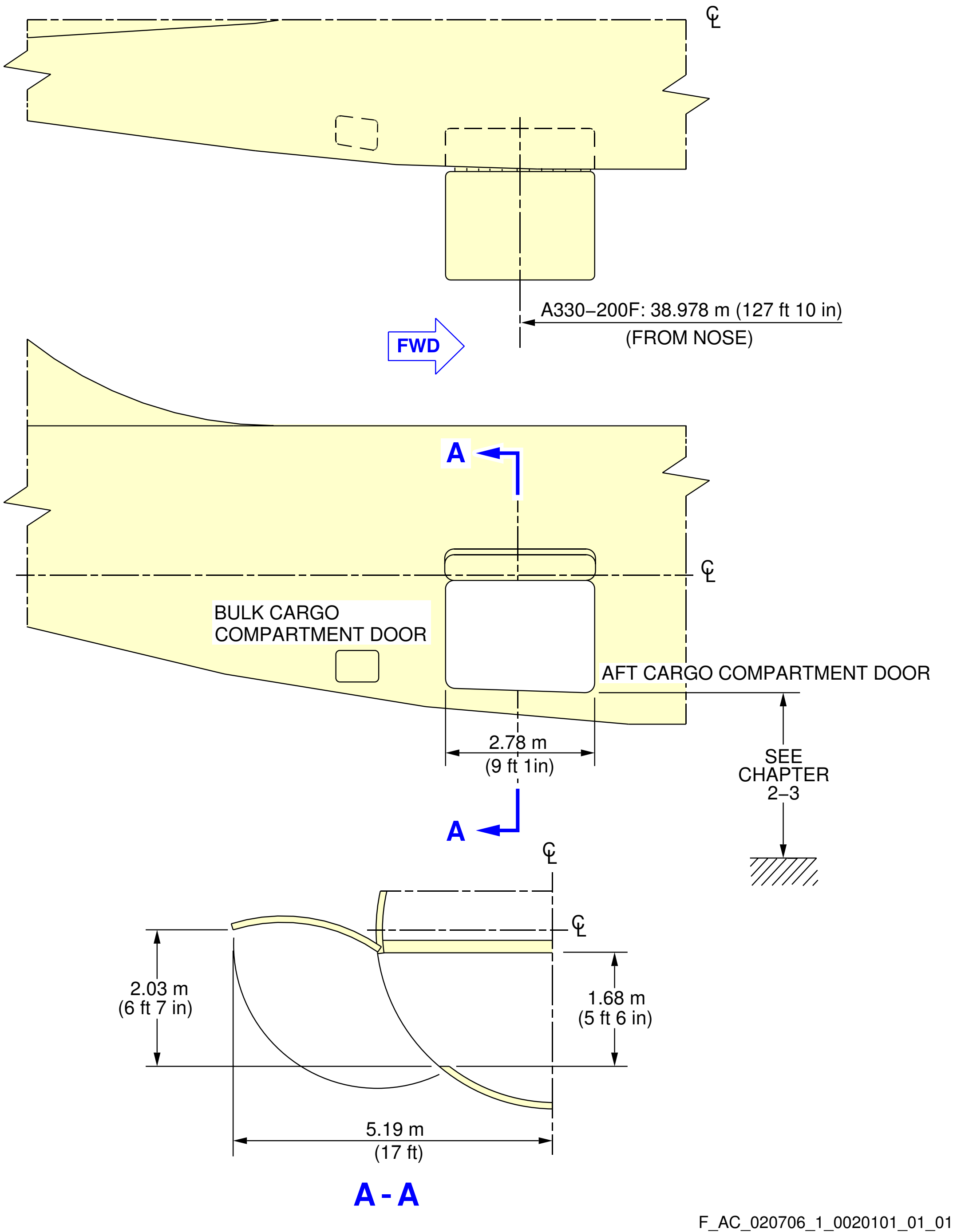
Aft Cargo Compartment Doors
FIGURE 1

**ON A/C A330-300



Aft Cargo Compartment Doors
FIGURE 2

**ON A/C A330-200F



Aft Cargo Compartment Doors
FIGURE 3

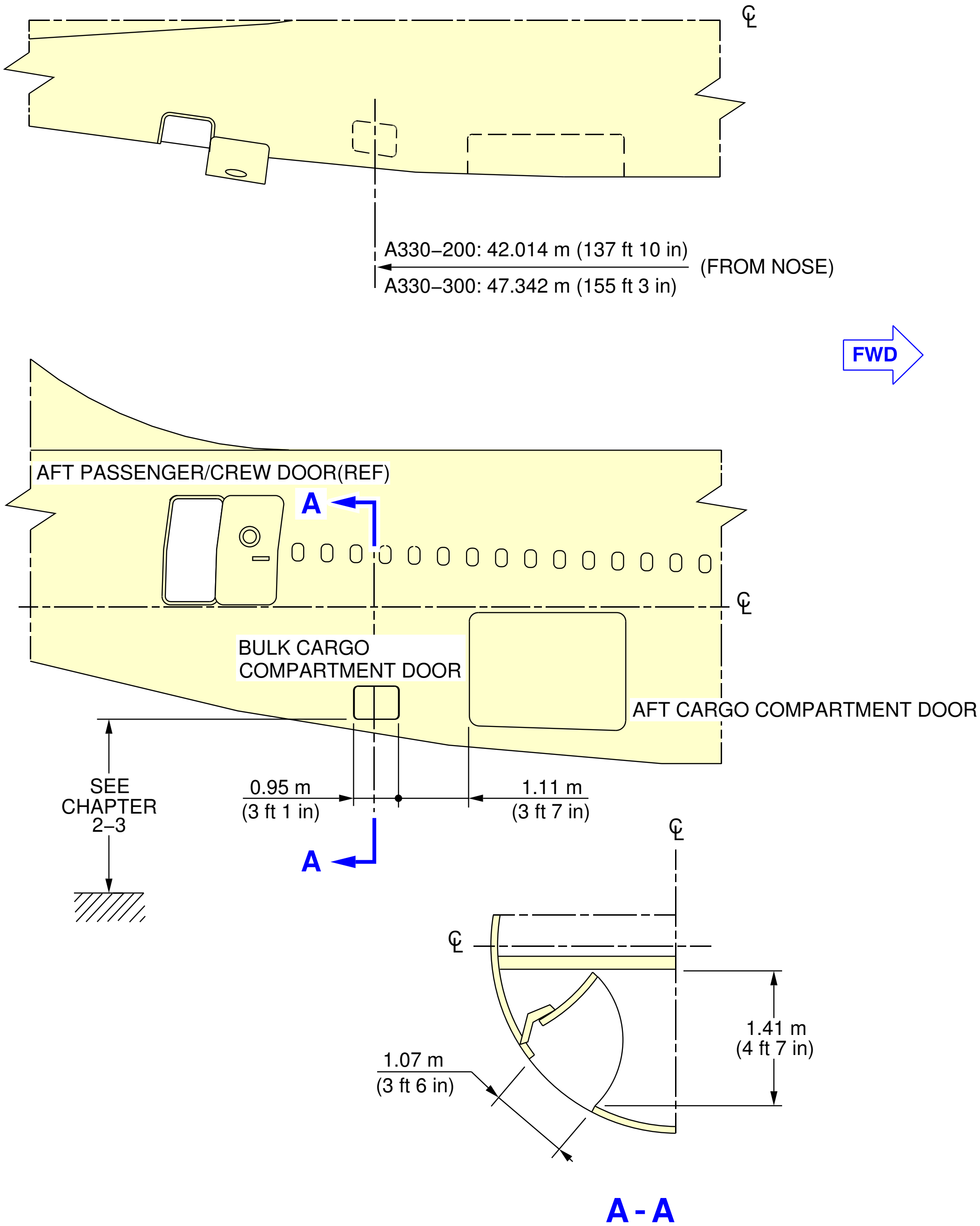
2-7-7 Bulk Cargo Compartment Doors

****ON A/C A330-200 A330-300**

Bulk Cargo Compartment Doors

1. This section gives the bulk cargo compartment doors clearances for pax version.

**ON A/C A330-200 A330-300



F_AC_020707_1_0010101_01_00

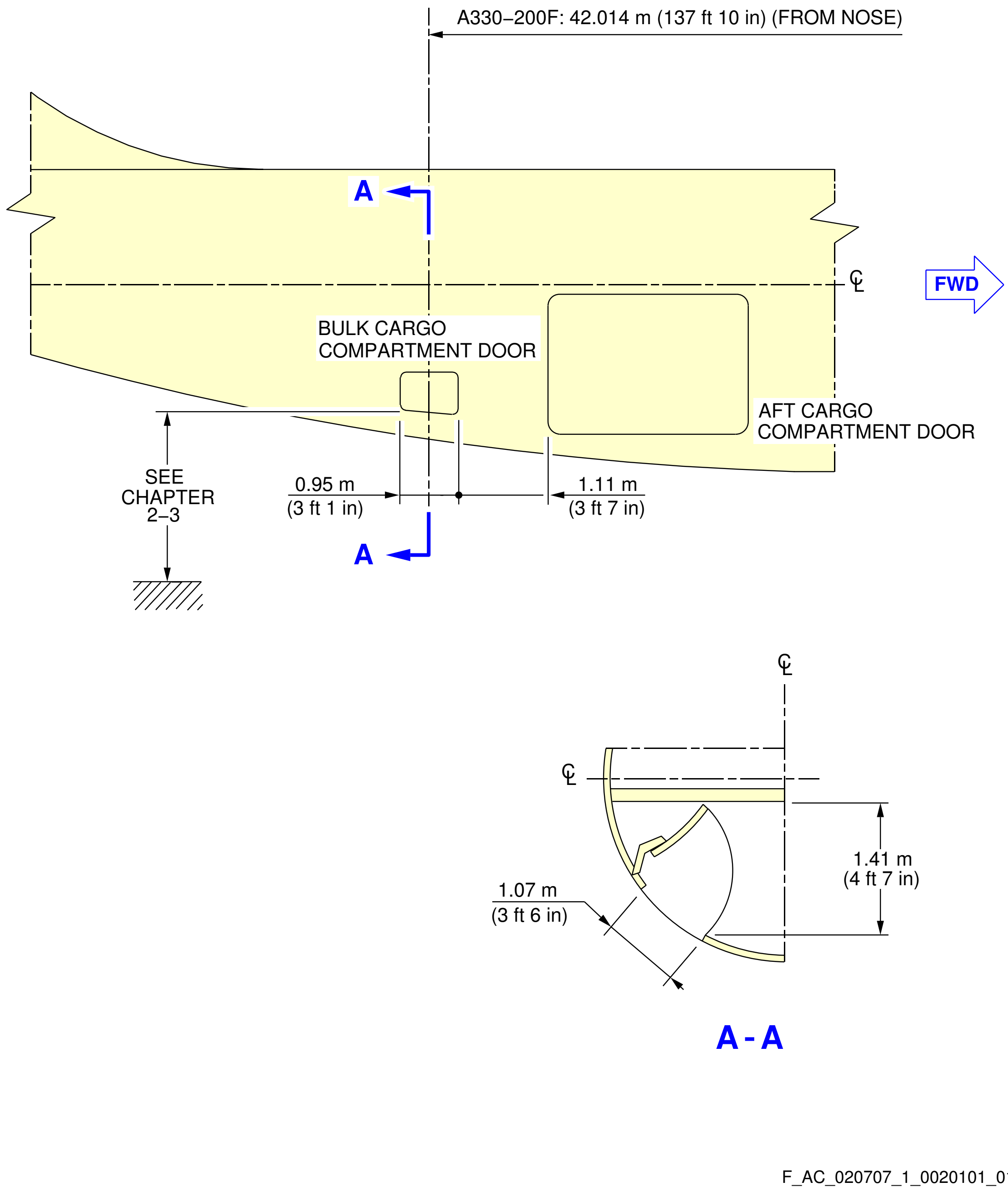
Bulk Cargo Compartment Doors
FIGURE 1

****ON A/C A330-200F**

Bulk Cargo Compartment Doors

1. This section gives the bulk cargo compartment doors clearances for cargo version.

**ON A/C A330-200F



Bulk Cargo Compartment Doors
FIGURE 2

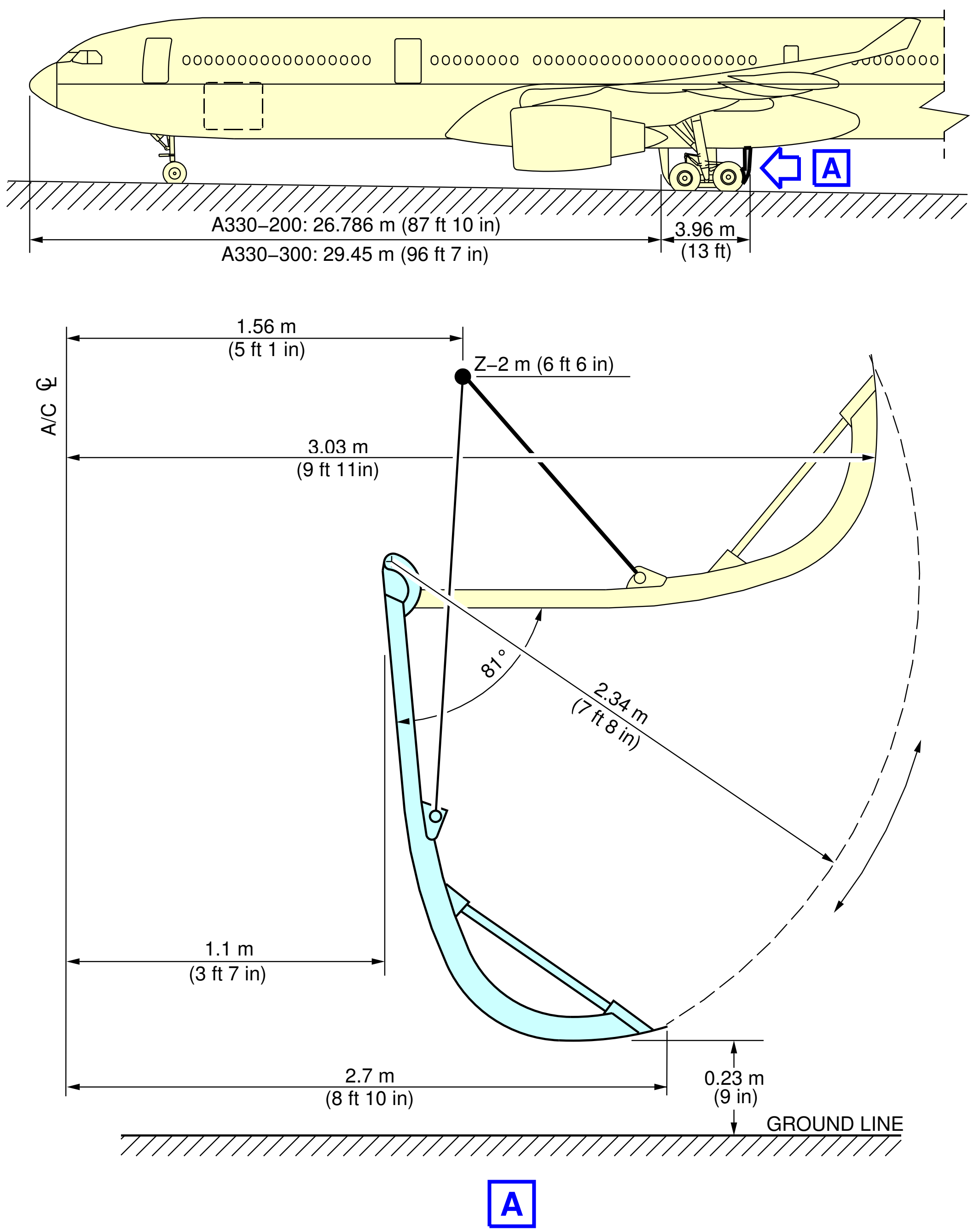
2-7-8 Main and Center Landing Gear Doors

ON A/C A330-200 A330-300

Main Landing Gear Doors

1. This section gives the main landing gear doors clearances for pax version.

**ON A/C A330-200 A330-300



F_AC_020708_1_0010101_01_00

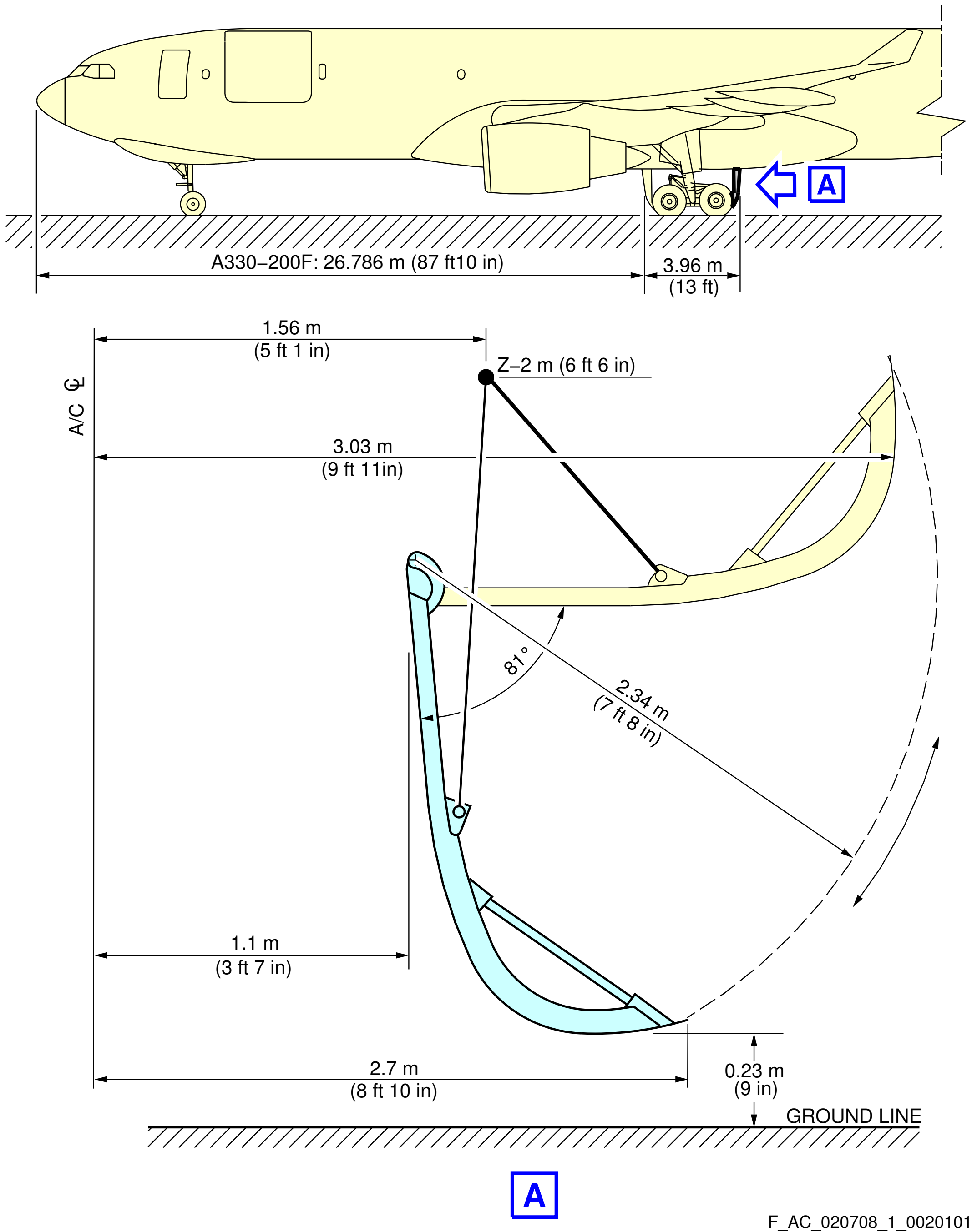
Main Landing Gear Doors
FIGURE 1

**ON A/C A330-200F

Main Landing Gear Doors

1. This section gives the main landing gear doors clearances for cargo version.

**ON A/C A330-200F



Main Landing Gear Doors
FIGURE 2

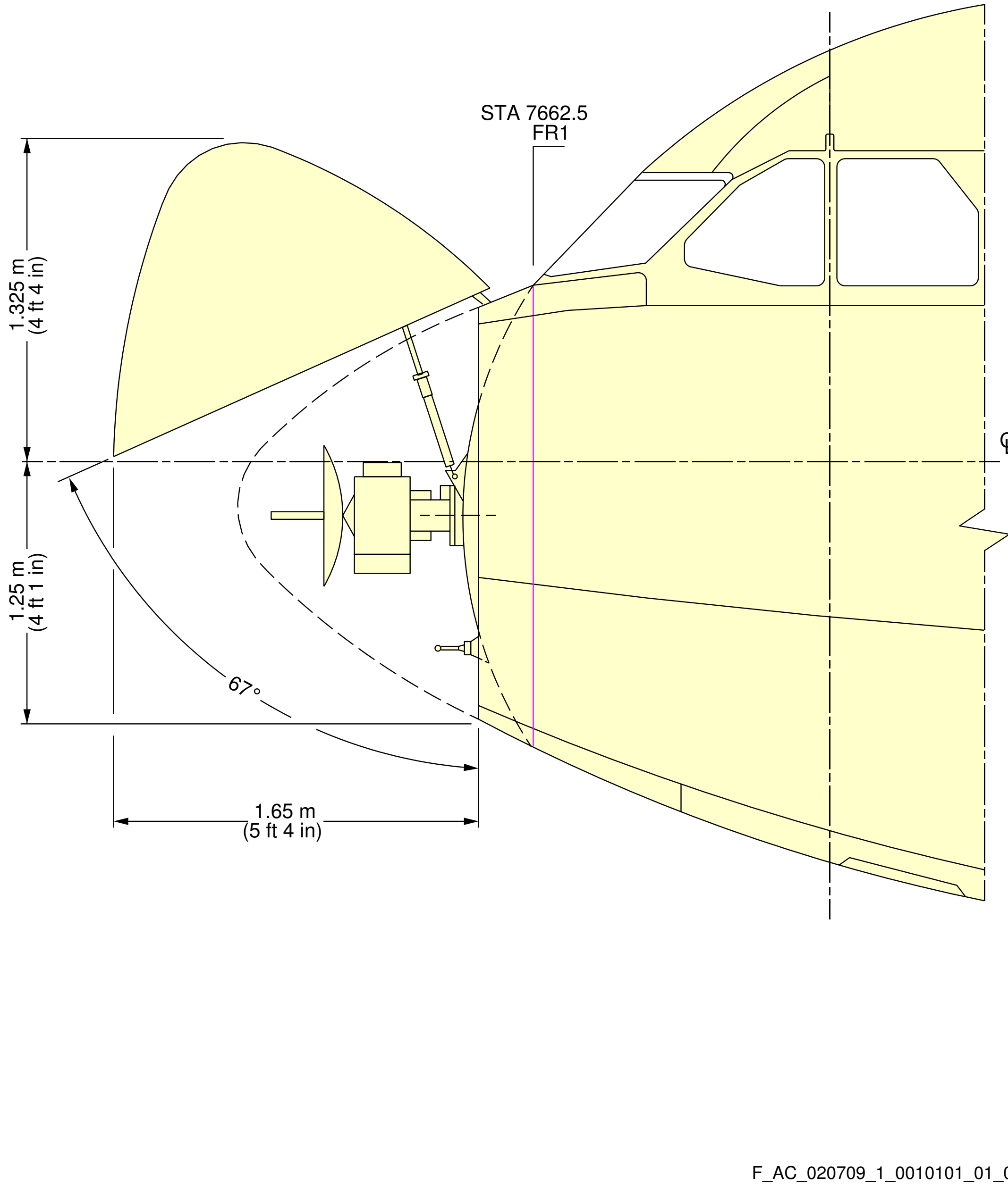
2-7-9 Radome

****ON A/C A330-200 A330-200F A330-300**

Radome

1. This section gives the radome clearances.

**ON A/C A330-200 A330-200F A330-300



Radome
FIGURE 1

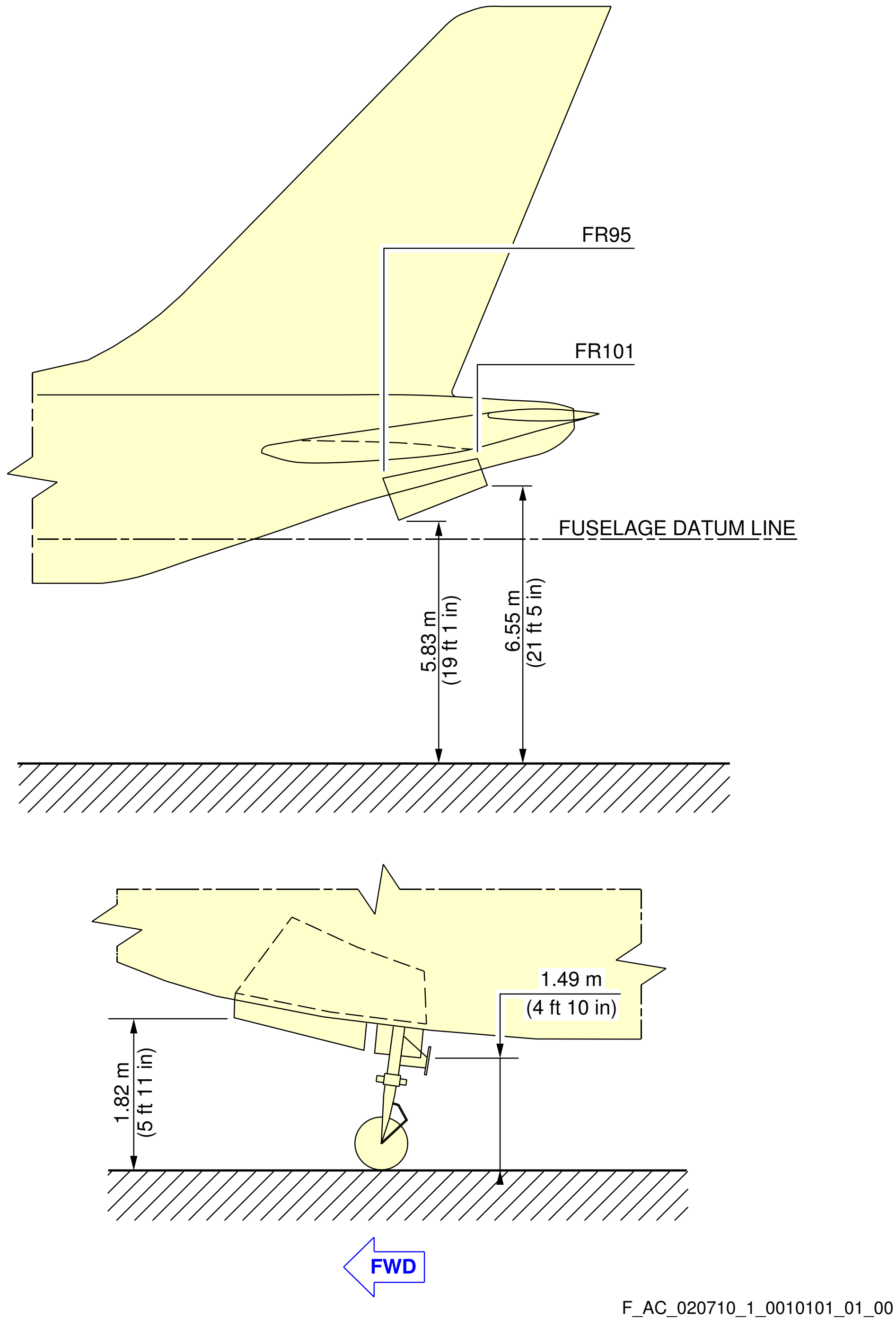
2-7-10 APU and Nose Landing Gear Doors

****ON A/C A330-200 A330-300**

APU and Nose Landing Gear Doors

1. This section gives APU and Nose Landing Gear doors clearances for pax version.

**ON A/C A330-200 A330-300



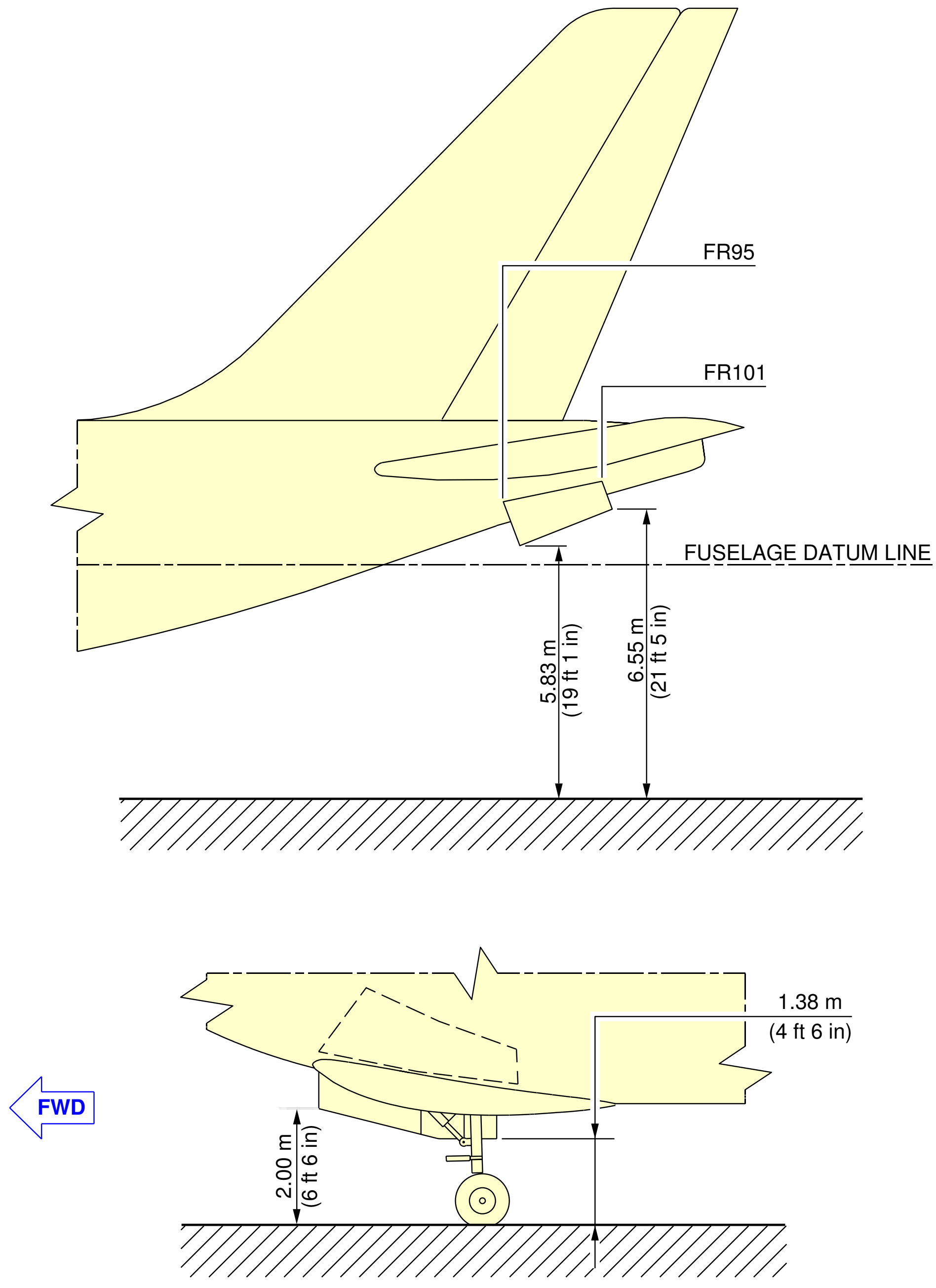
APU and Nose Landing Gear Doors
FIGURE 1

****ON A/C A330-200F**

APU and Nose Landing Gear Doors

1. This section gives APU and Nose Landing Gear doors clearances for cargo version.

**ON A/C A330-200F



APU and Nose Landing Gear Doors
FIGURE 2

AIRPLANE PERFORMANCE

3-1-0 General Information

****ON A/C A330-200 A330-200F A330-300**

General Information

1. This section gives standard day temperatures.

   Section 3-2 indicates payload range information at specific altitudes recommended for long range cruise with a given fuel reserve condition.

   Section 3-3 represents FAR/JAR takeoff runway length requirements at ISA and ISA +15°C (+27°F) for engine conditions for FAA/EASA certification :

   - PRATT & WHITNEY (PW 4000).
   - ROLLS-ROYCE (RR Trent 700).
   - GENERAL ELECTRIC (GE CF6-80E1). (A330-200 and A330-300 only)

   Section 3-4 represents FAR/JAR landing runway length requirements for FAA/EASA certification.

   Section 3-5 indicates final approach speeds.

   Standard day temperatures for the altitude shown are tabulated below :

Standard day temperatures for the altitude			
Altitude		Standard Day Temperature	
FEET	METERS	°F	°C
0	0	59.0	15.0
2000	610	51.9	11.1
4000	1219	44.7	7.1
6000	1829	37.6	3.1
8000	2438	30.5	-0.8

3-2-0 Payload / Range

**ON A/C A330-200 A330-200F A330-300

Payload / Range

1. Payload / Range

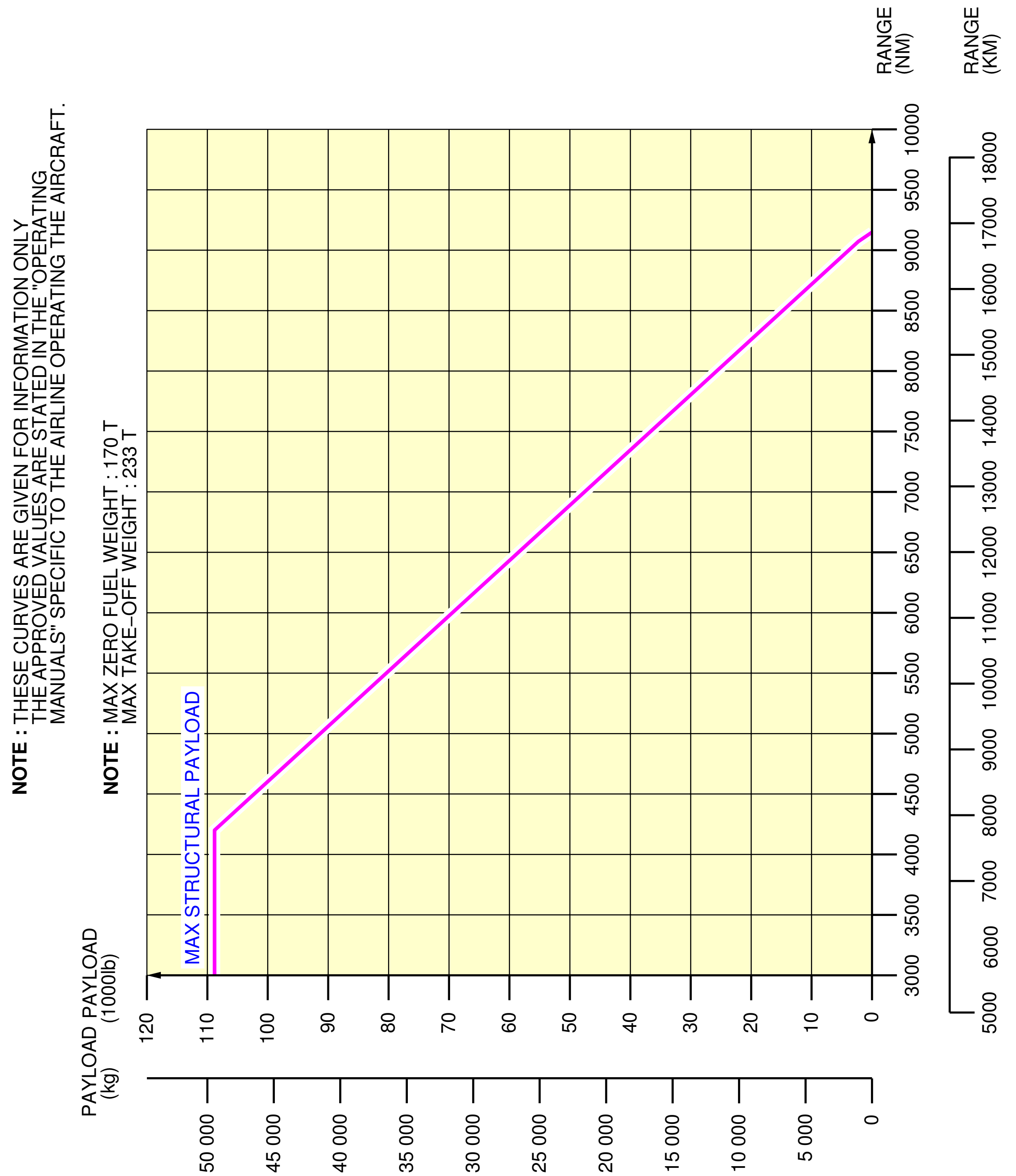
3-2-1 ISA Conditions

****ON A/C A330-200 A330-300**

ISA Conditions

1. This section gives the payload / range at ISA conditions for pax version.

**ON A/C A330-200



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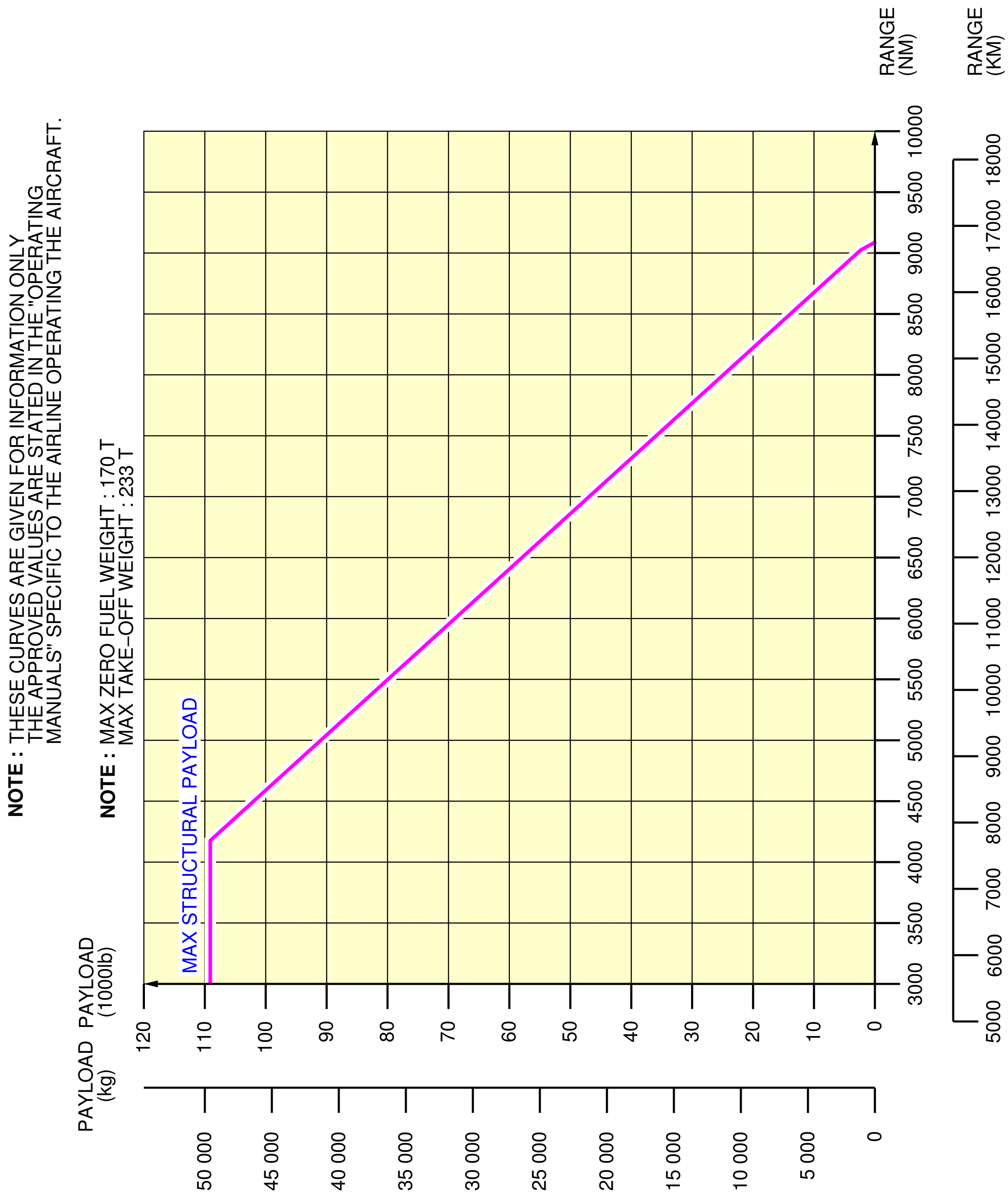
PAYLOAD / RANGE
PW 4000 Series Engine
FIGURE 1

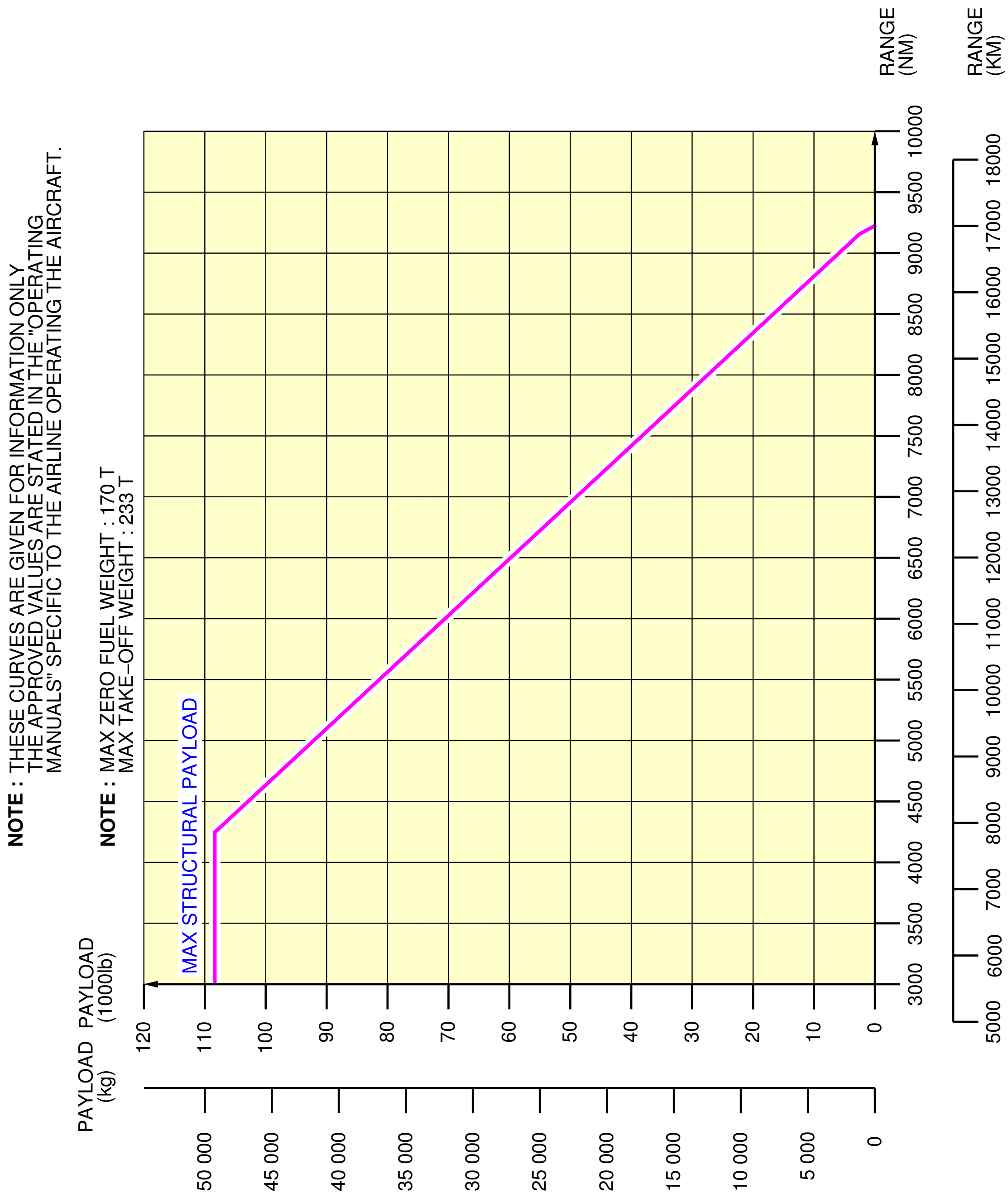
**ON A/C A330-200



F_AC_030201_1_0020101_01_01

PAYLOAD / RANGE
RR TRENT 700 Series Engine
FIGURE 2

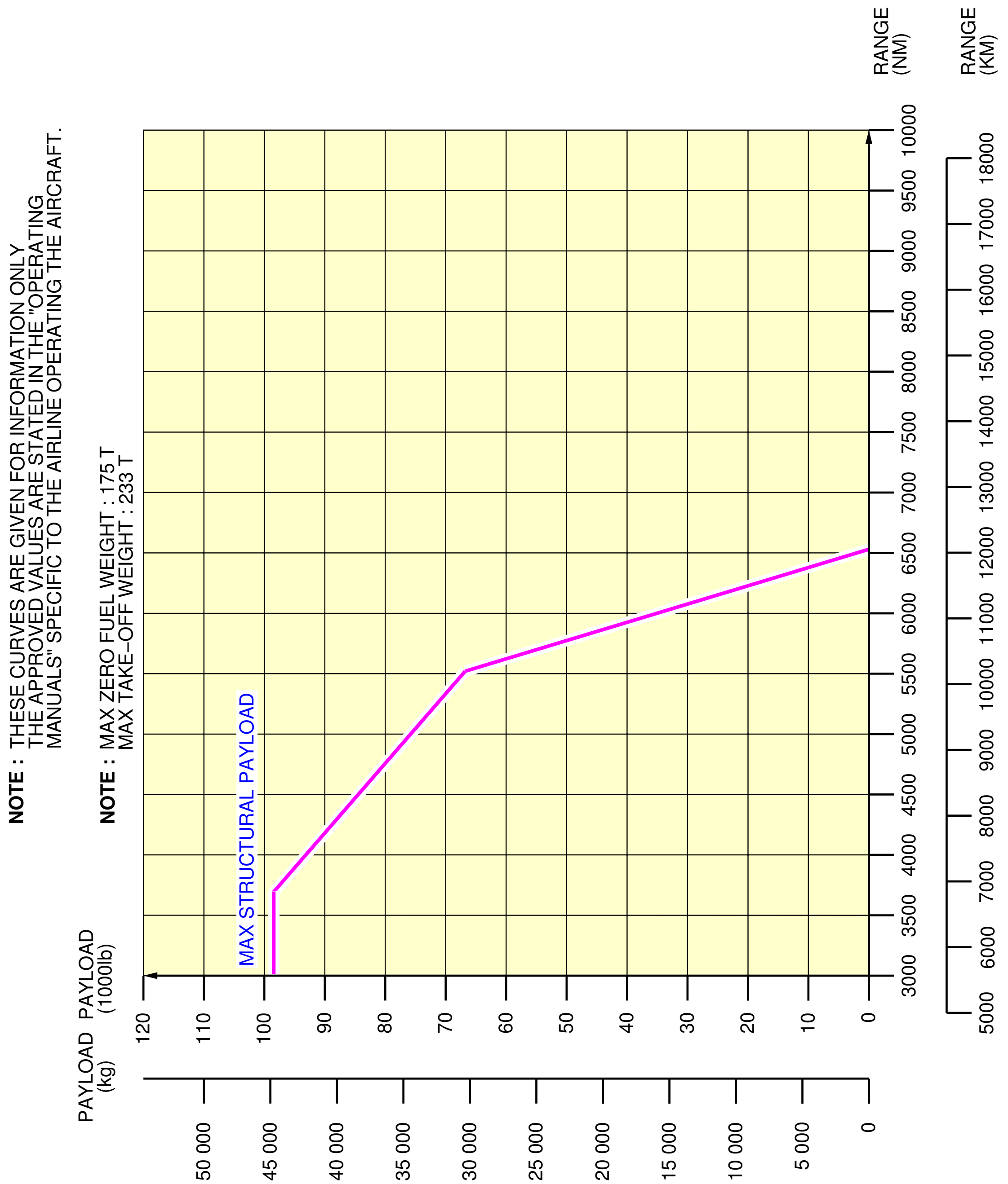
**ON A/C A330-200



F_AC_030201_1_0030101_01_01

PAYLOAD / RANGE
GE CF6-80E1 Series Engine
FIGURE 3

**ON A/C A330-300



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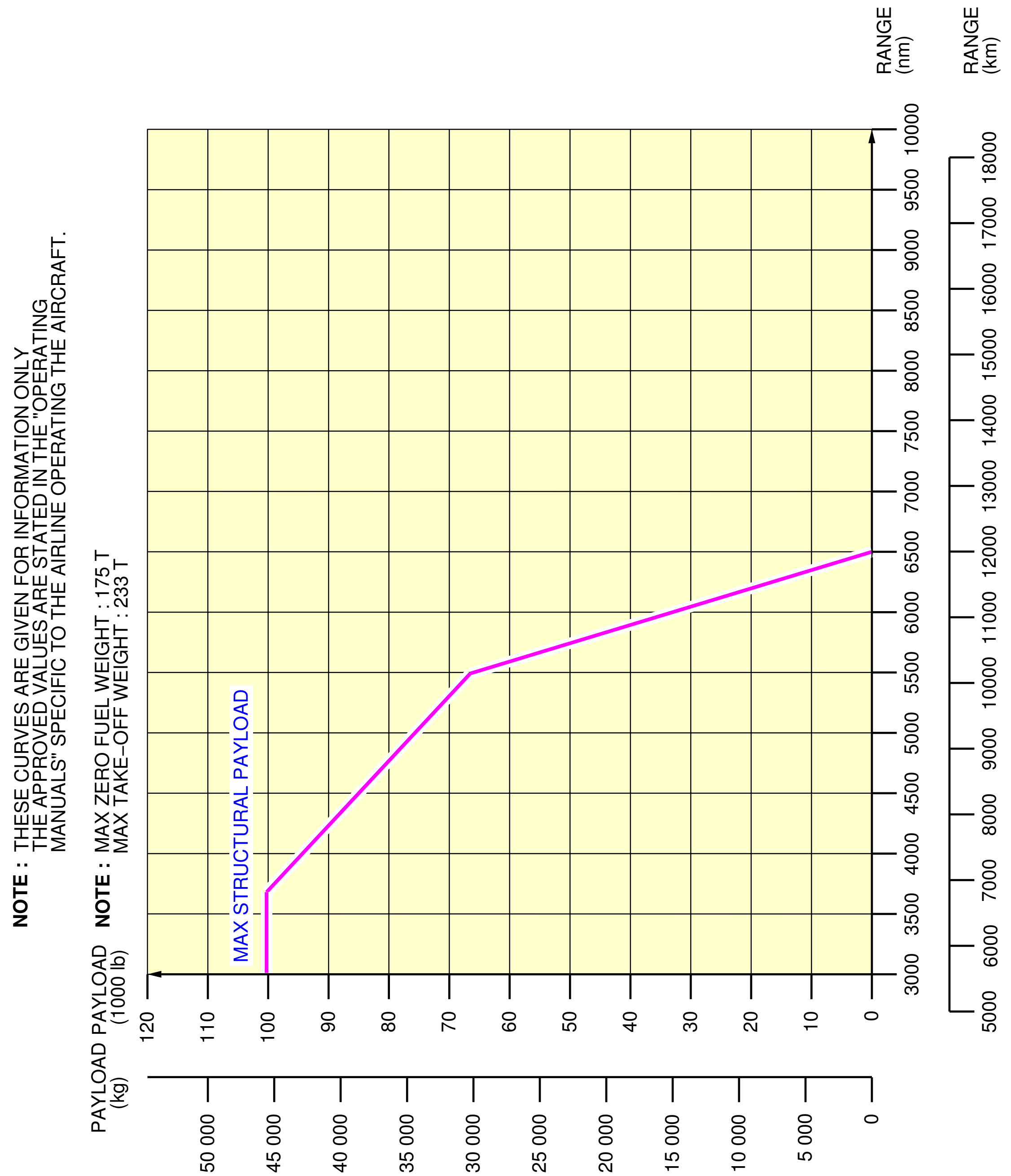
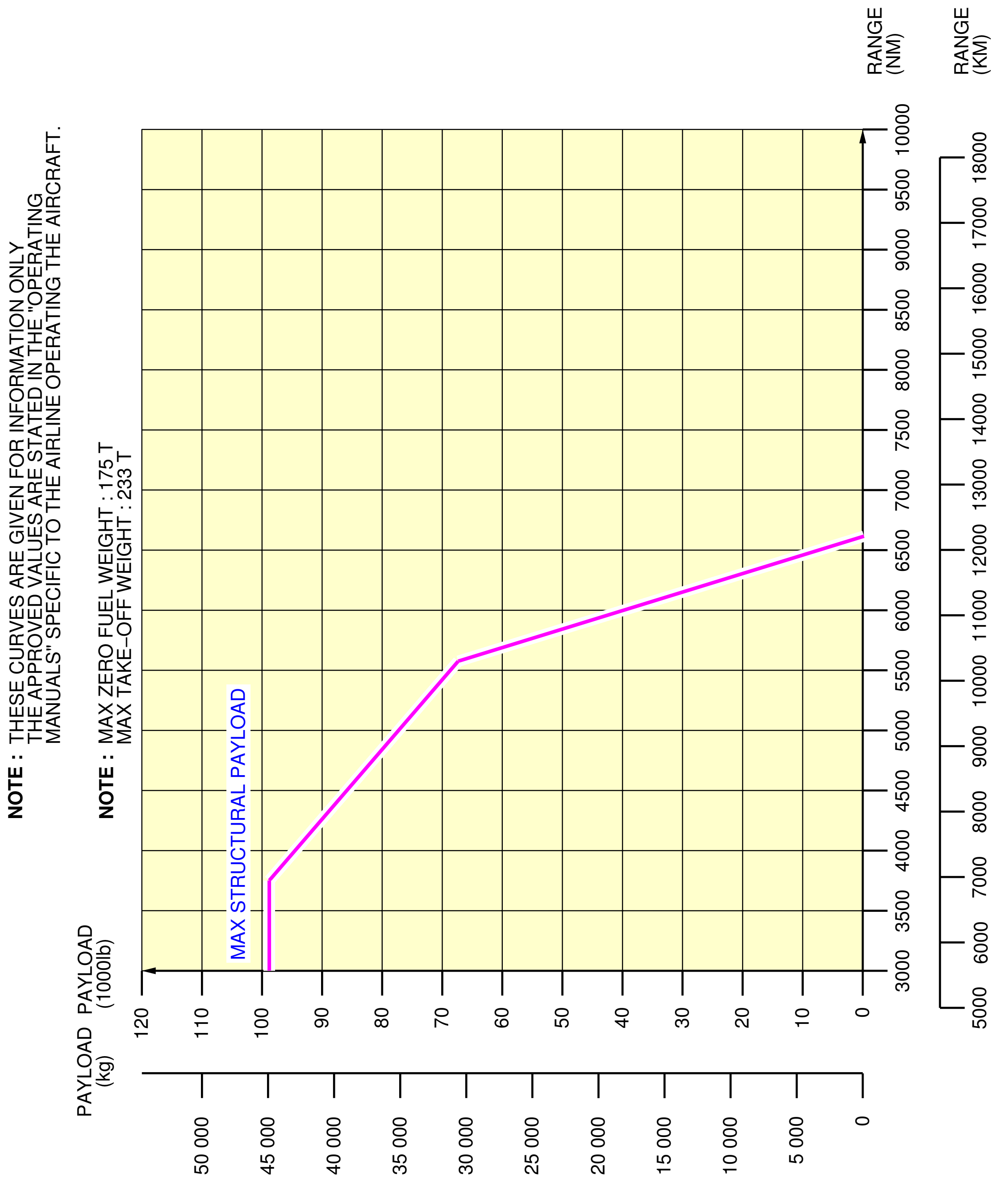
PAYLOAD / RANGE
PW 4000 Series Engine
FIGURE 4

**ON A/C A330-300



PAYLOAD / RANGE
RR TRENT 700 Series Engine
FIGURE 5

**ON A/C A330-300



F_AC_030201_1_0060101_01_01

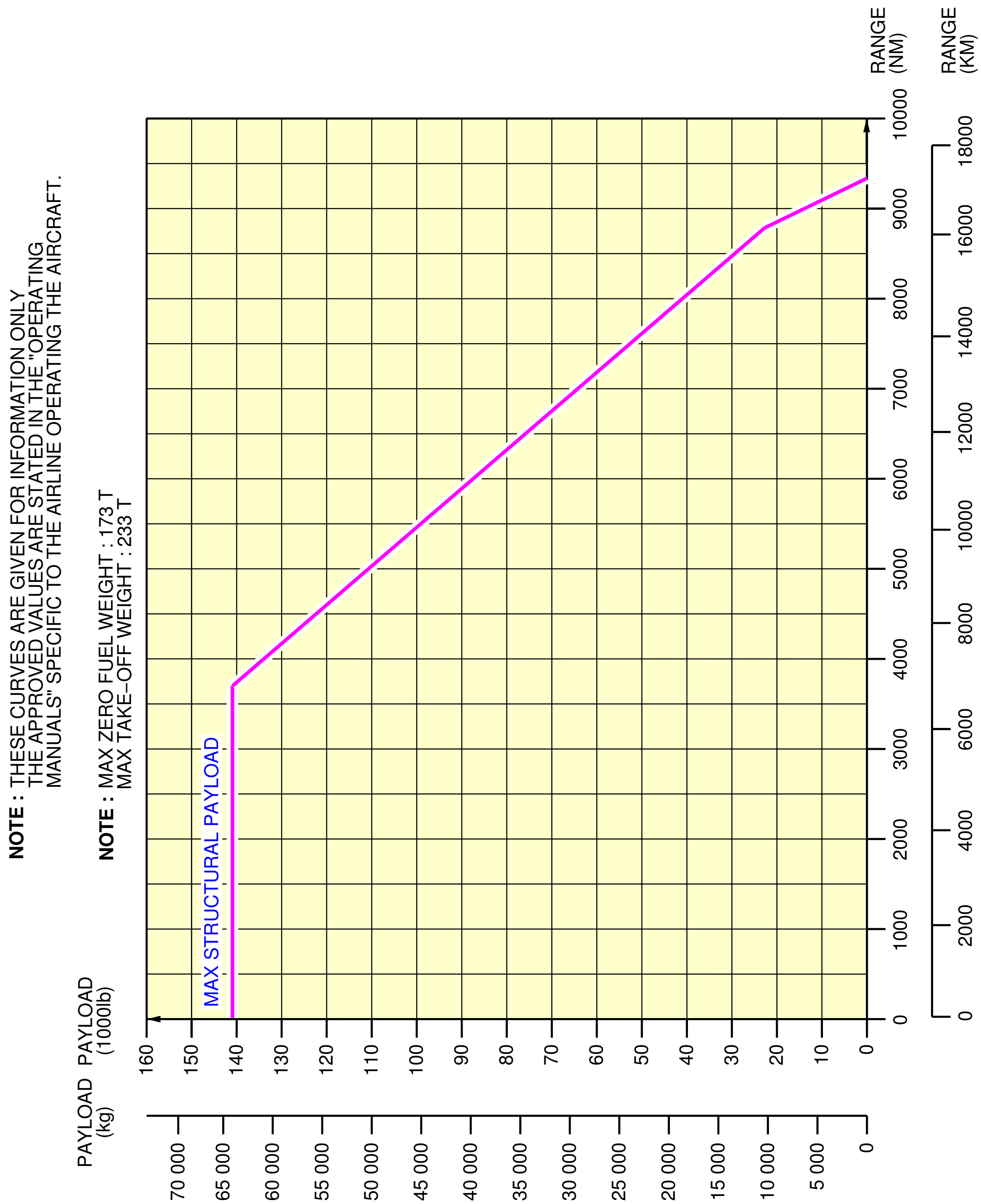
PAYLOAD / RANGE
GE CF6-80E1 Series Engine
FIGURE 6

****ON A/C A330-200F**

ISA Conditions

1. This section gives the payload / range at ISA conditions for cargo version.

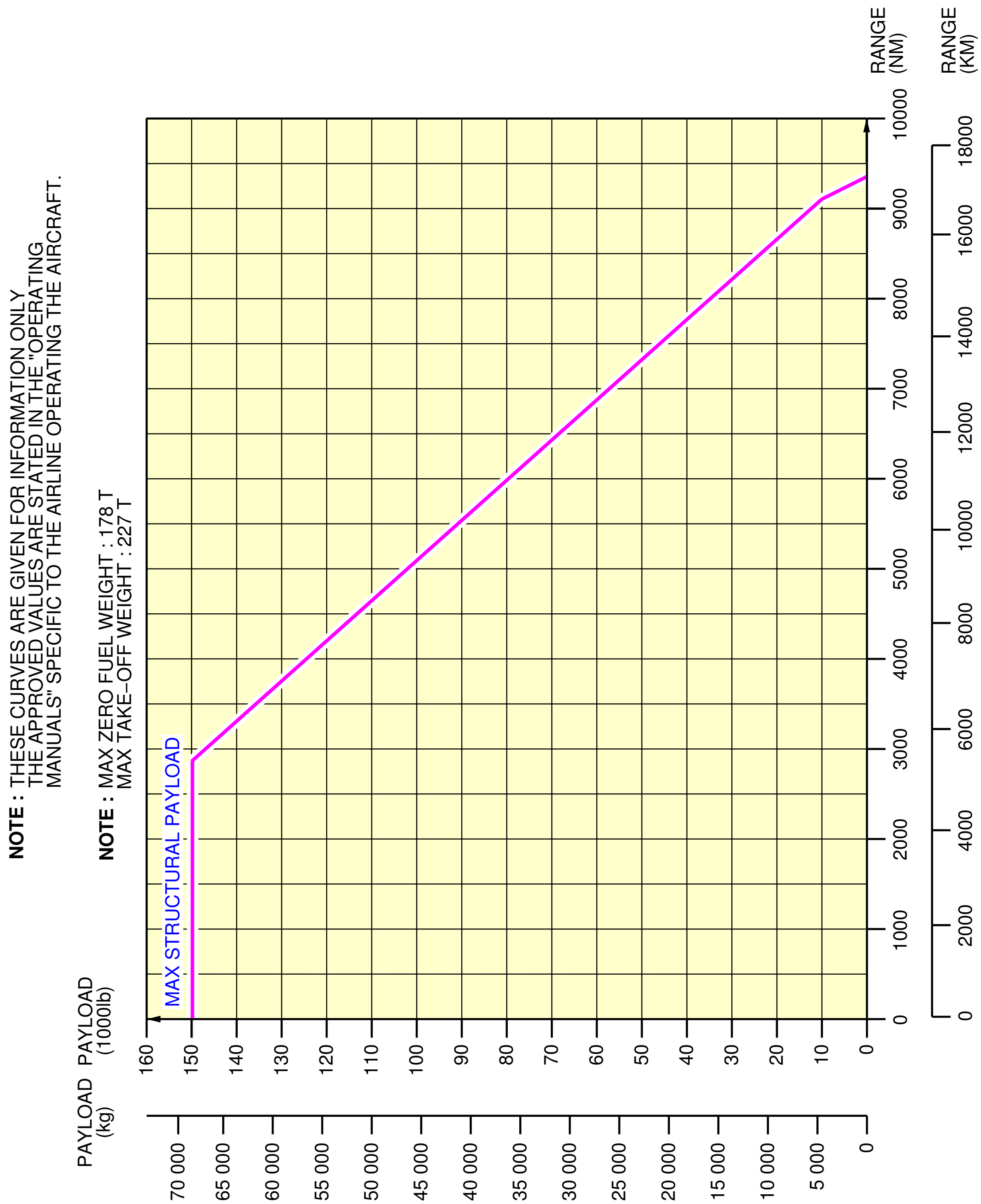
**ON A/C A330-200F



F_AC_030201_1_0070101_01_01

PAYLOAD / RANGE
RR TRENT 700 Series Engine
FIGURE 7

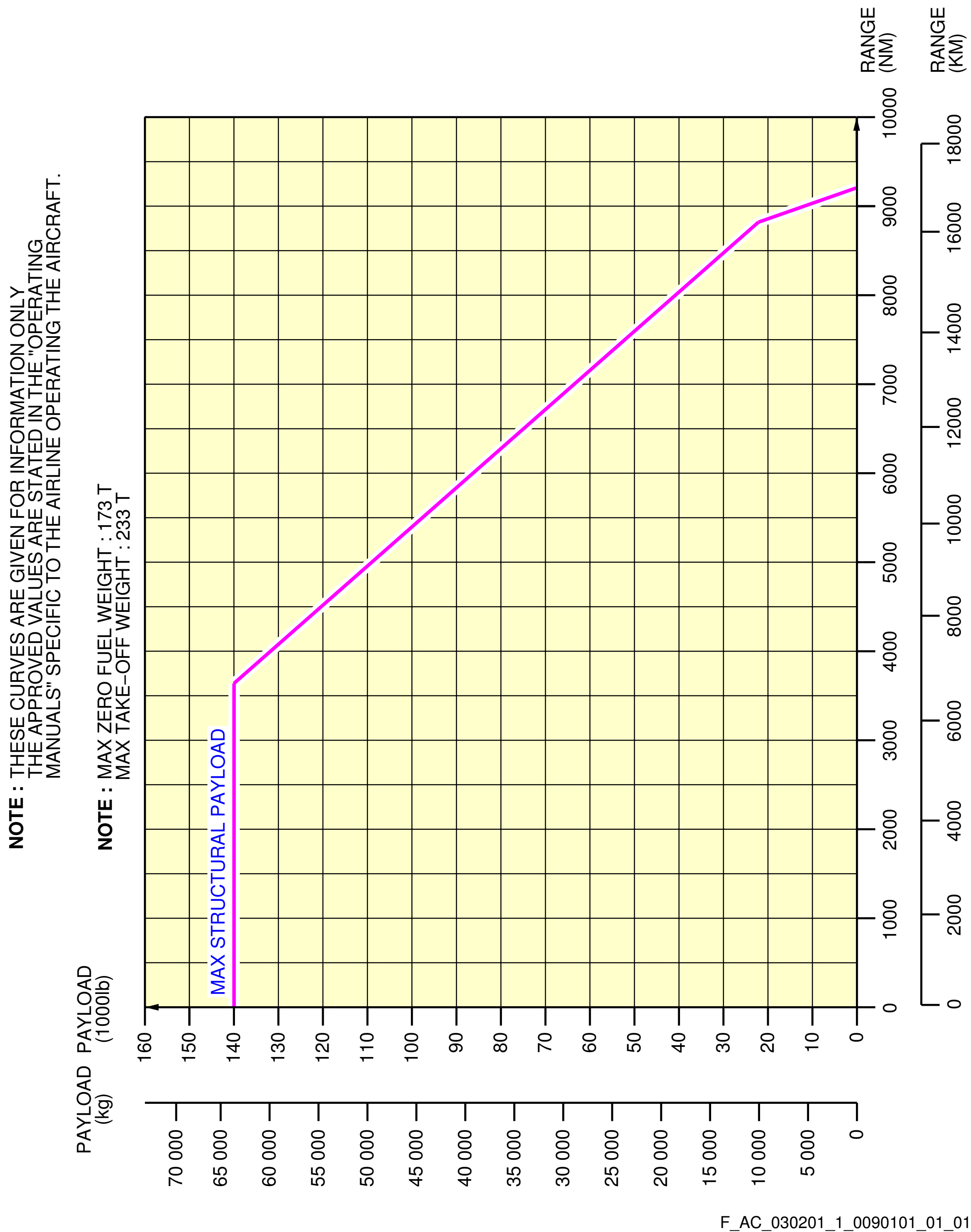
**ON A/C A330-200F



F_AC_030201_1_0080101_01_01

PAYLOAD / RANGE
RR TRENT 700 Series Engine
FIGURE 8

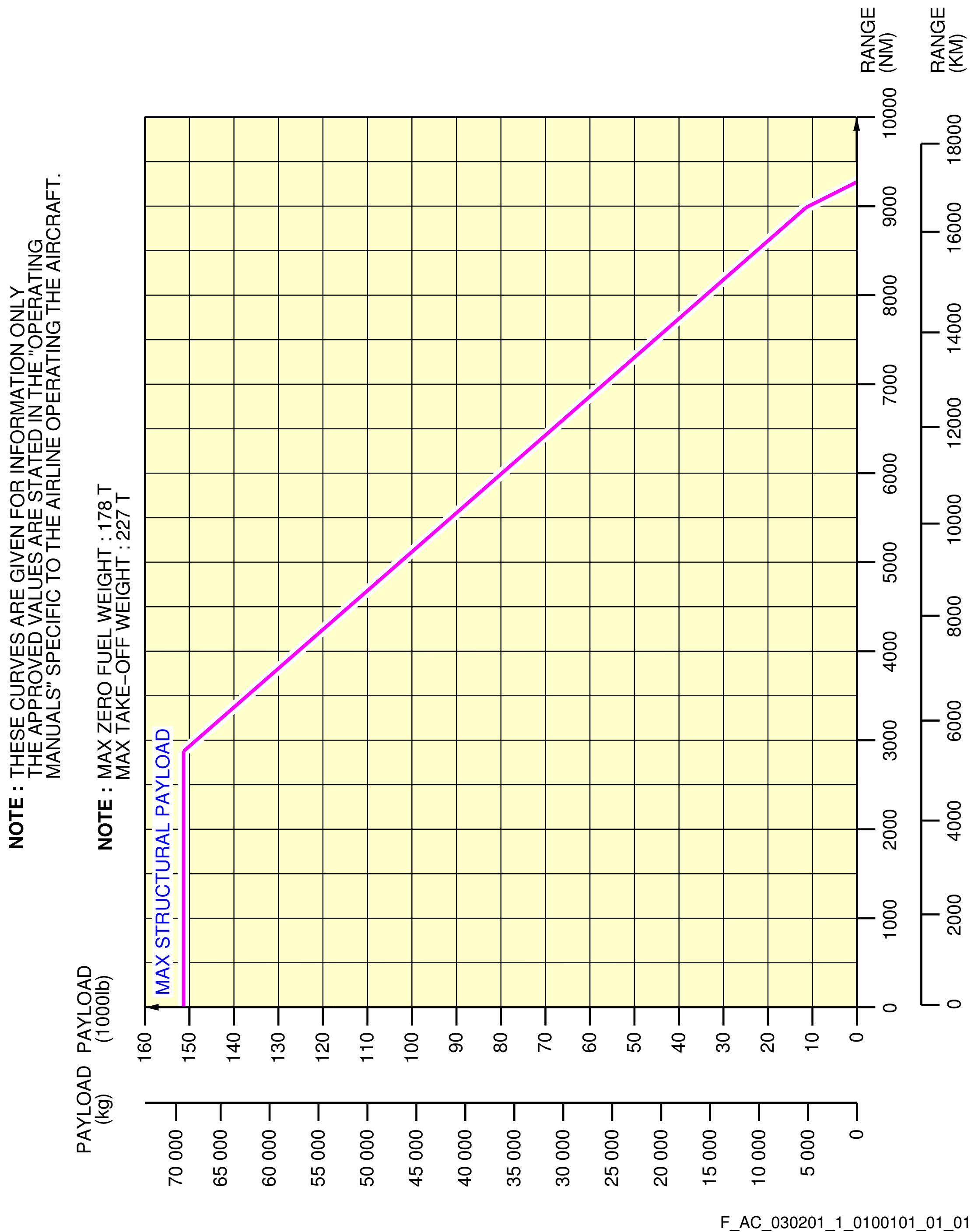
**ON A/C A330-200F



F_AC_030201_1_0090101_01_01

PAYLOAD / RANGE
PW 4000 Series Engine
FIGURE 9

**ON A/C A330-200F



F_AC_030201_1_0100101_01_01

PAYLOAD / RANGE
PW 4000 Series Engine
FIGURE 10

3-3-0 FAR / JAR Takeoff Weight Limitation

****ON A/C A330-200 A330-200F A330-300**

FAR / JAR Takeoff Weight Limitation

1. FAR / JAR Takeoff Weight Limitation

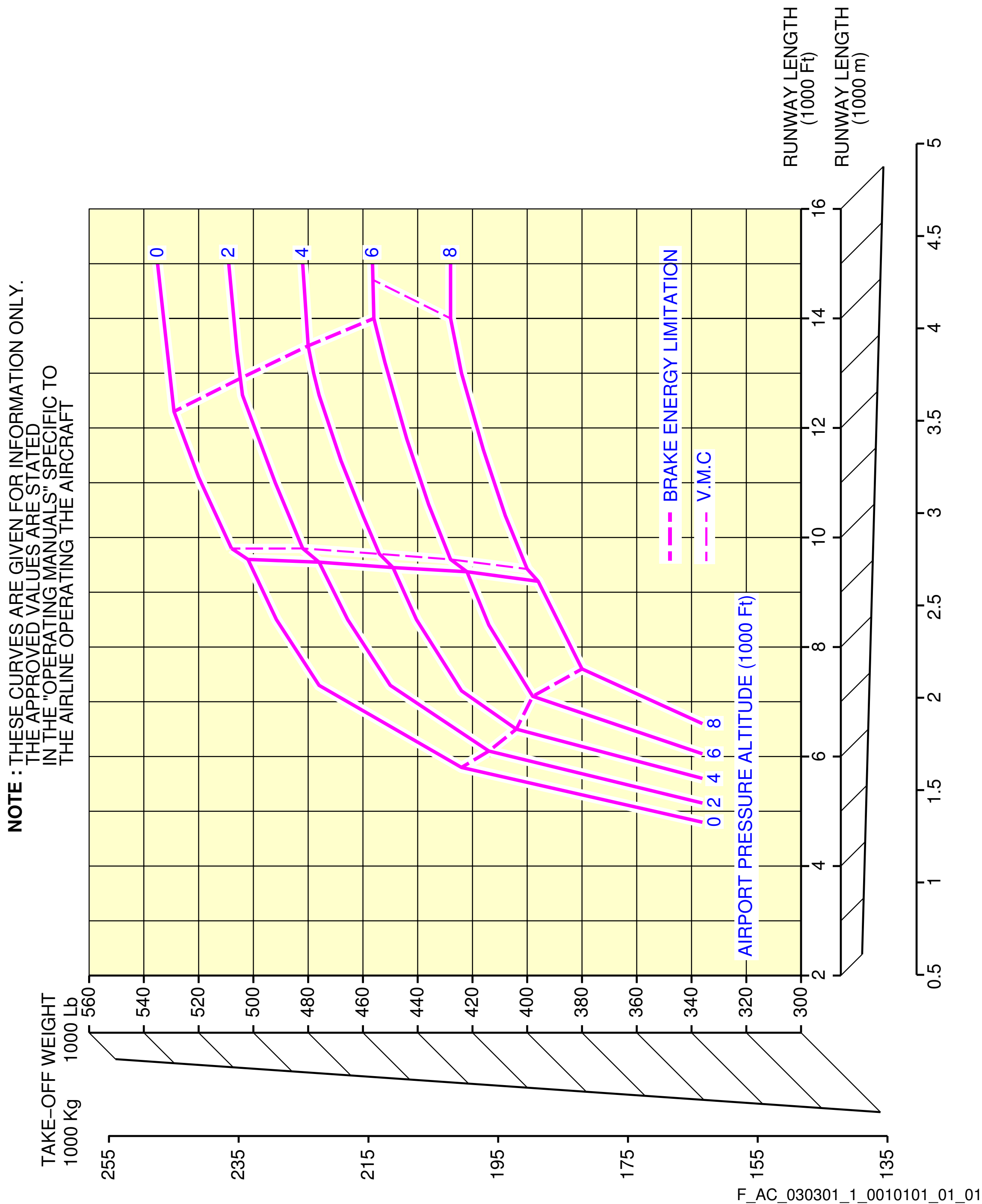
3-3-1 ISA Conditions

****ON A/C A330-200 A330-200F A330-300**

FAR / JAR Takeoff Weight Limitation

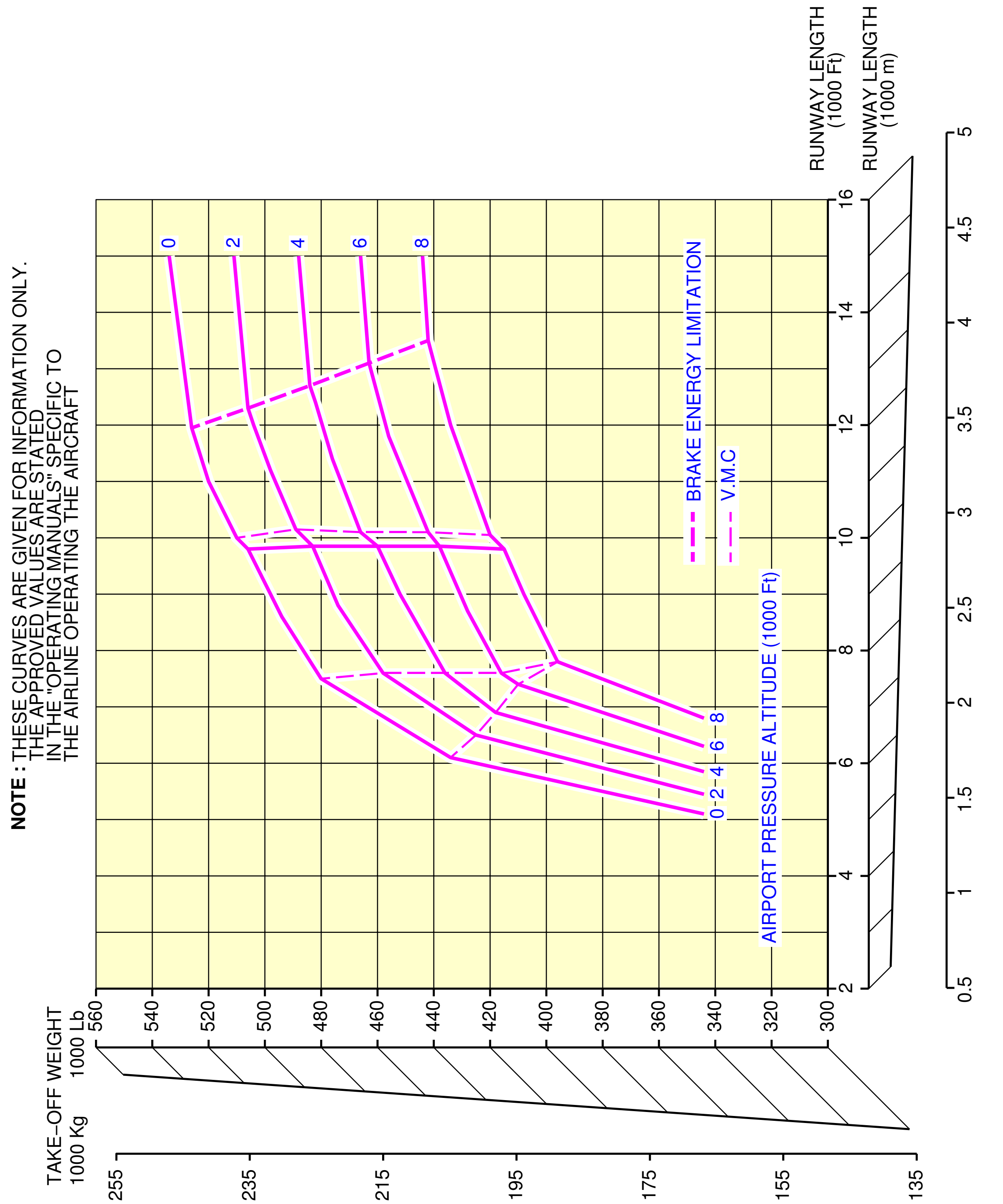
1. This section gives the takeoff weight limitation at ISA conditions.

**ON A/C A330-200 A330-200F A330-300



Takeoff Weight Limitation
ISA Conditions - PW 4000 Series Engine
FIGURE 1

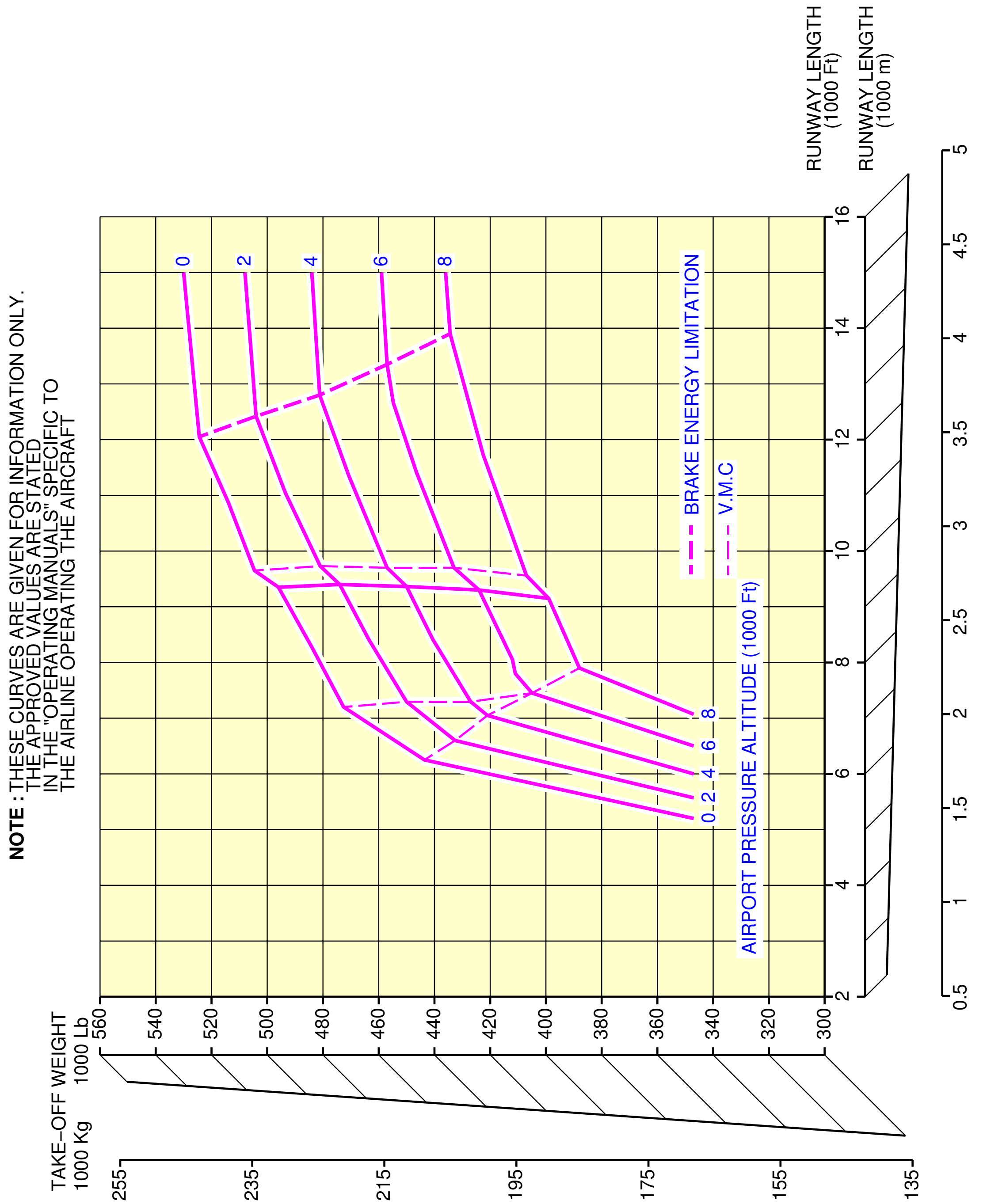
**ON A/C A330-200 A330-200F A330-300



F_AC_030301_1_0020101_01_01

Takeoff Weight Limitation
ISA Conditions - RR TRENT 700 Series Engine
FIGURE 2

**ON A/C A330-200 A330-300



F_AC_030301_1_0030101_01_01

Takeoff Weight Limitation
ISA Conditions - GE CF6-80E1 Series Engine
FIGURE 3

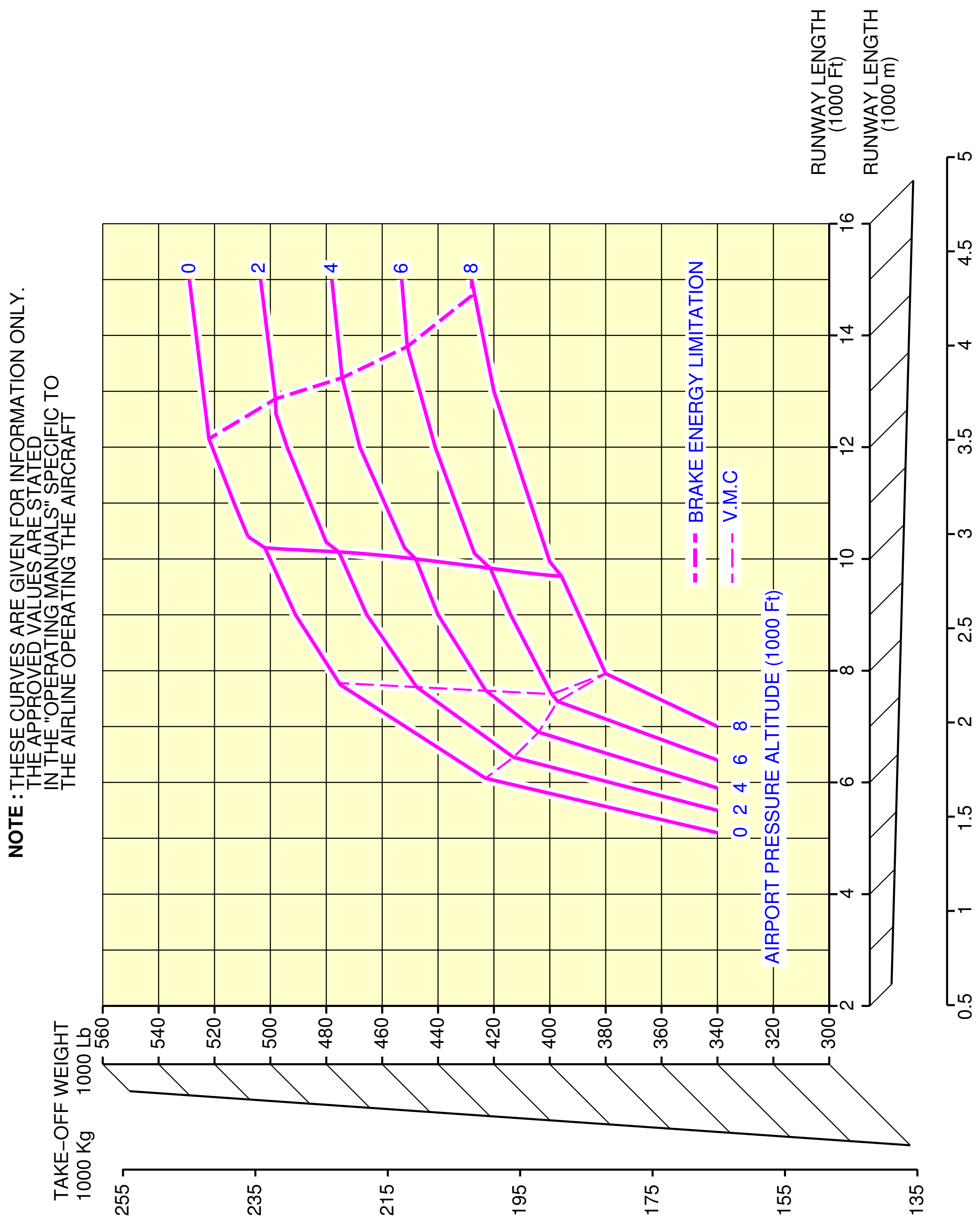
3-3-2 ISA +15 °C (ISA +27 °F) Conditions

****ON A/C A330-200 A330-200F A330-300**

ISA +15 °C (ISA +27 °F) Conditions

1. This section gives the takeoff weight limitation at ISA +15 °C (ISA +27 °F) conditions.

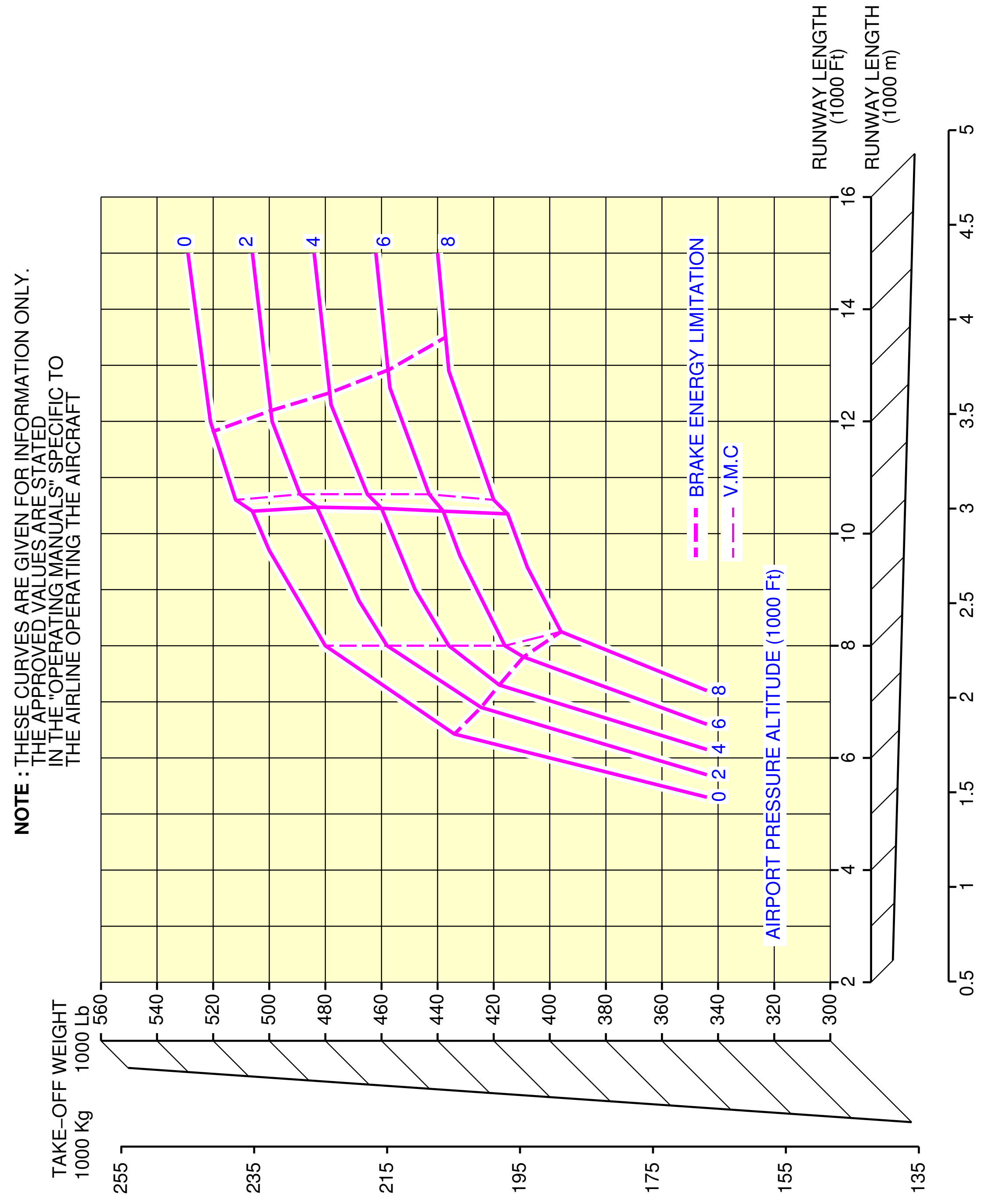
**ON A/C A330-200 A330-200F A330-300



F_AC_030302_1_0010101_01_01

FAR / JAR Takeoff Weight Limitation
ISA +15˚C (ISA +27˚F) Conditions - PW 4000 Series Engine
FIGURE 1

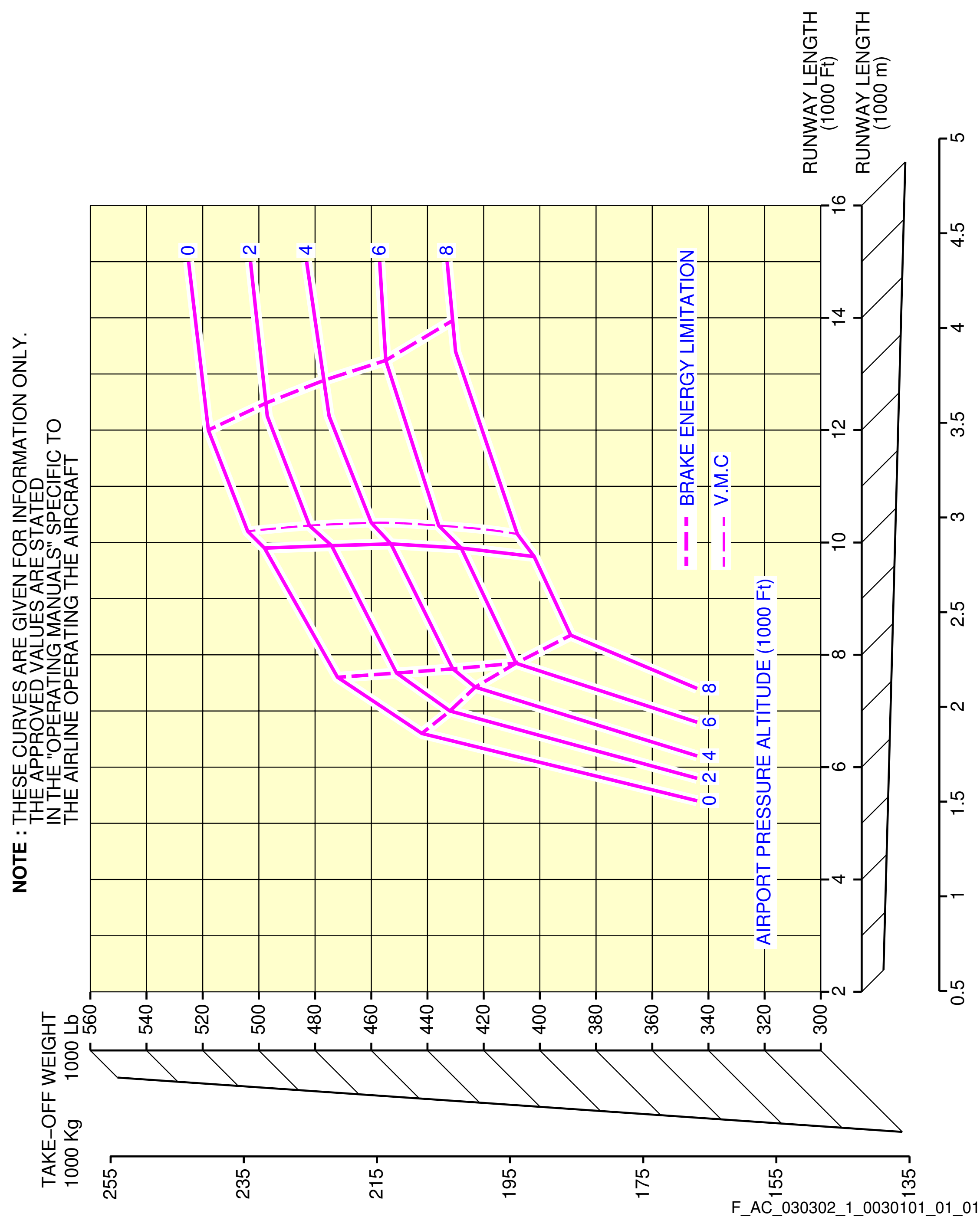
**ON A/C A330-200 A330-200F A330-300



F_AC_030302_1_0020101_01_01

FAR / JAR Takeoff Weight Limitation
ISA +15°C (ISA +27°F) Conditions - RR TRENT 700 Series Engine
FIGURE 2

**ON A/C A330-200 A330-300



FAR / JAR Takeoff Weight Limitation
ISA +15°C (ISA +27°F) Conditions - GE CF6-80E1 Series Engine
FIGURE 3

3-4-0 FAR / JAR Landing Field Length

****ON A/C A330-200 A330-200F A330-300**

Landing Field Length

1. Landing Field Length

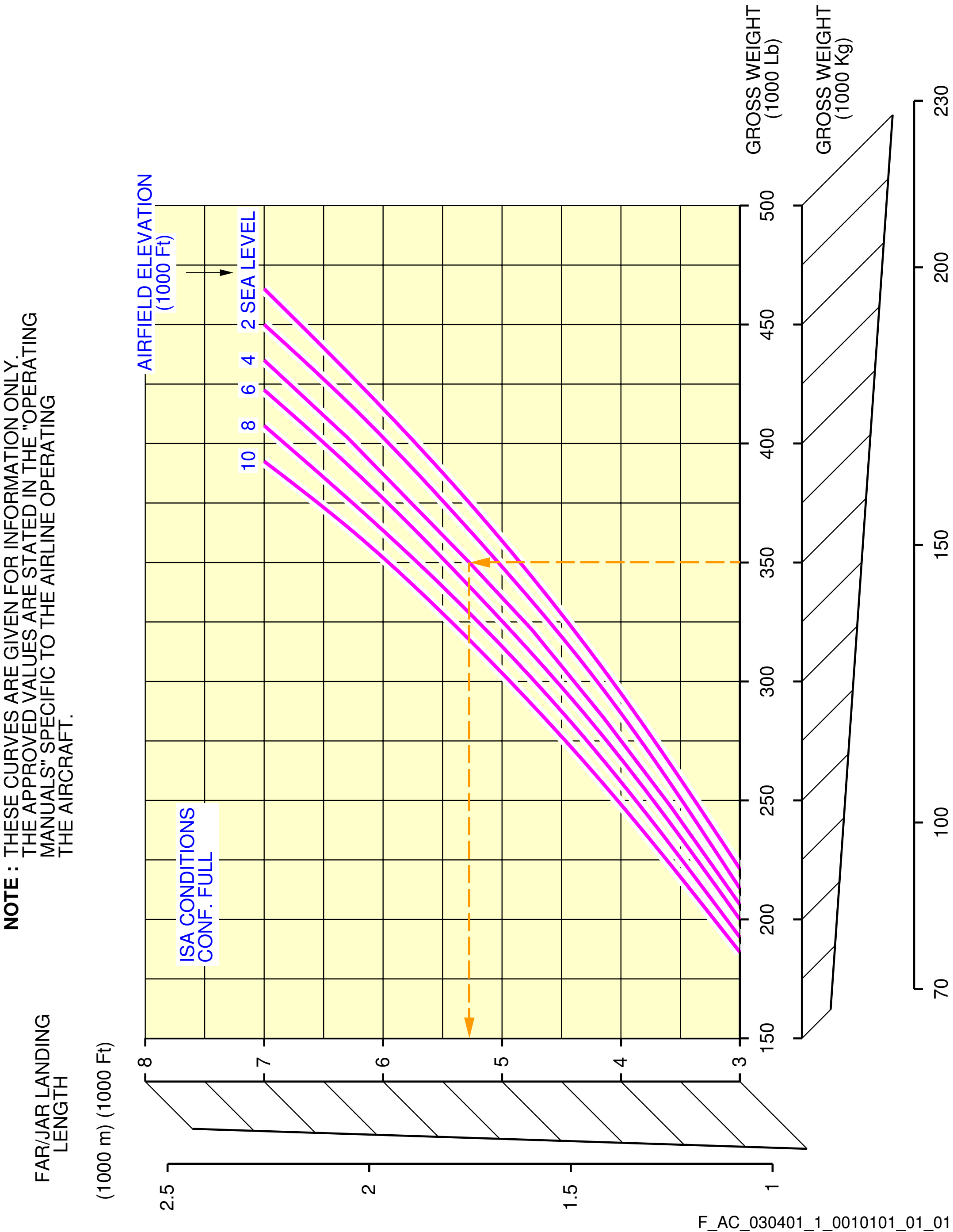
3-4-1 ISA Conditions All series engines

****ON A/C A330-200 A330-200F A330-300**

ISA Conditions All series engine

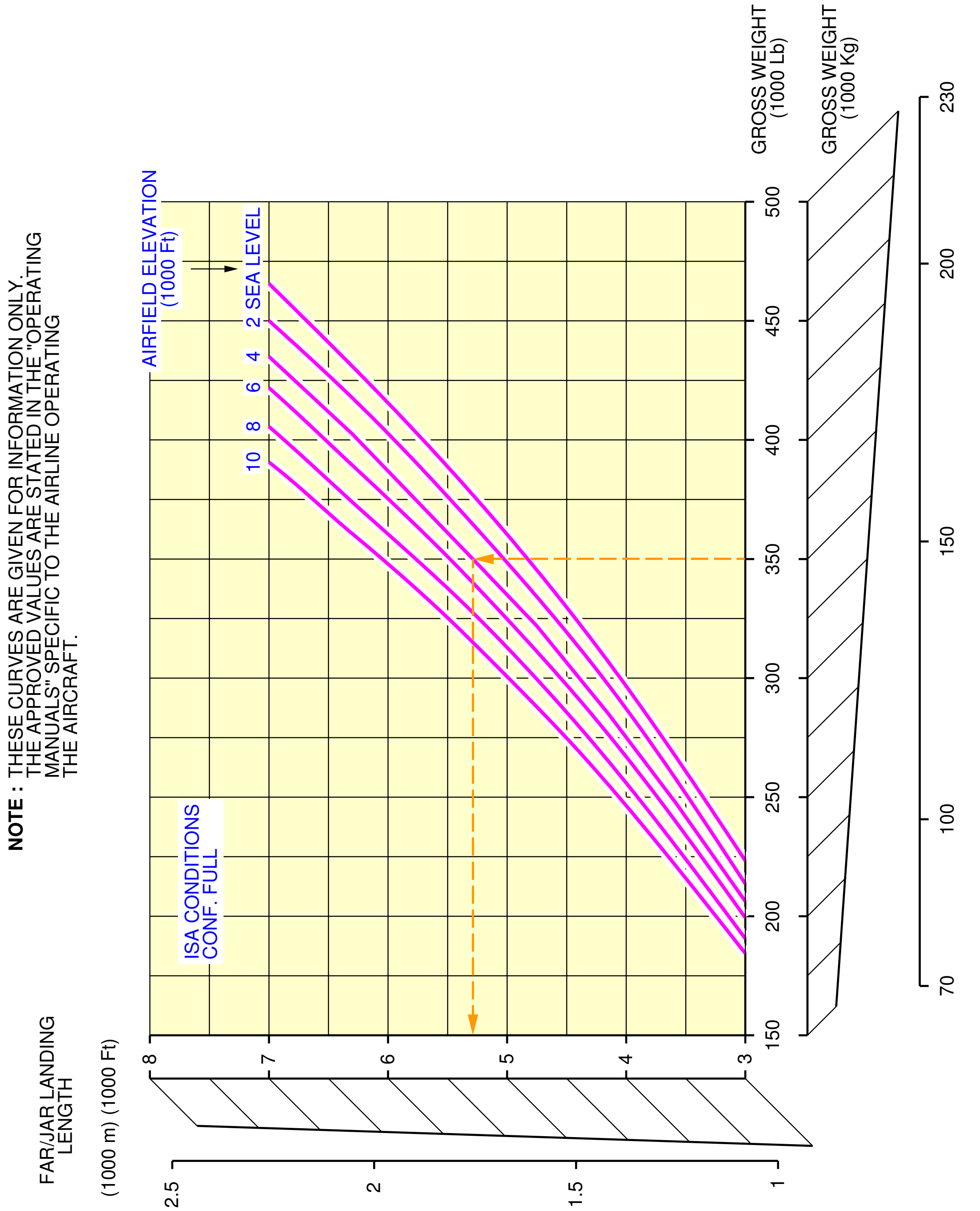
1. This section gives the landing field length.

**ON A/C A330-200 A330-200F A330-300



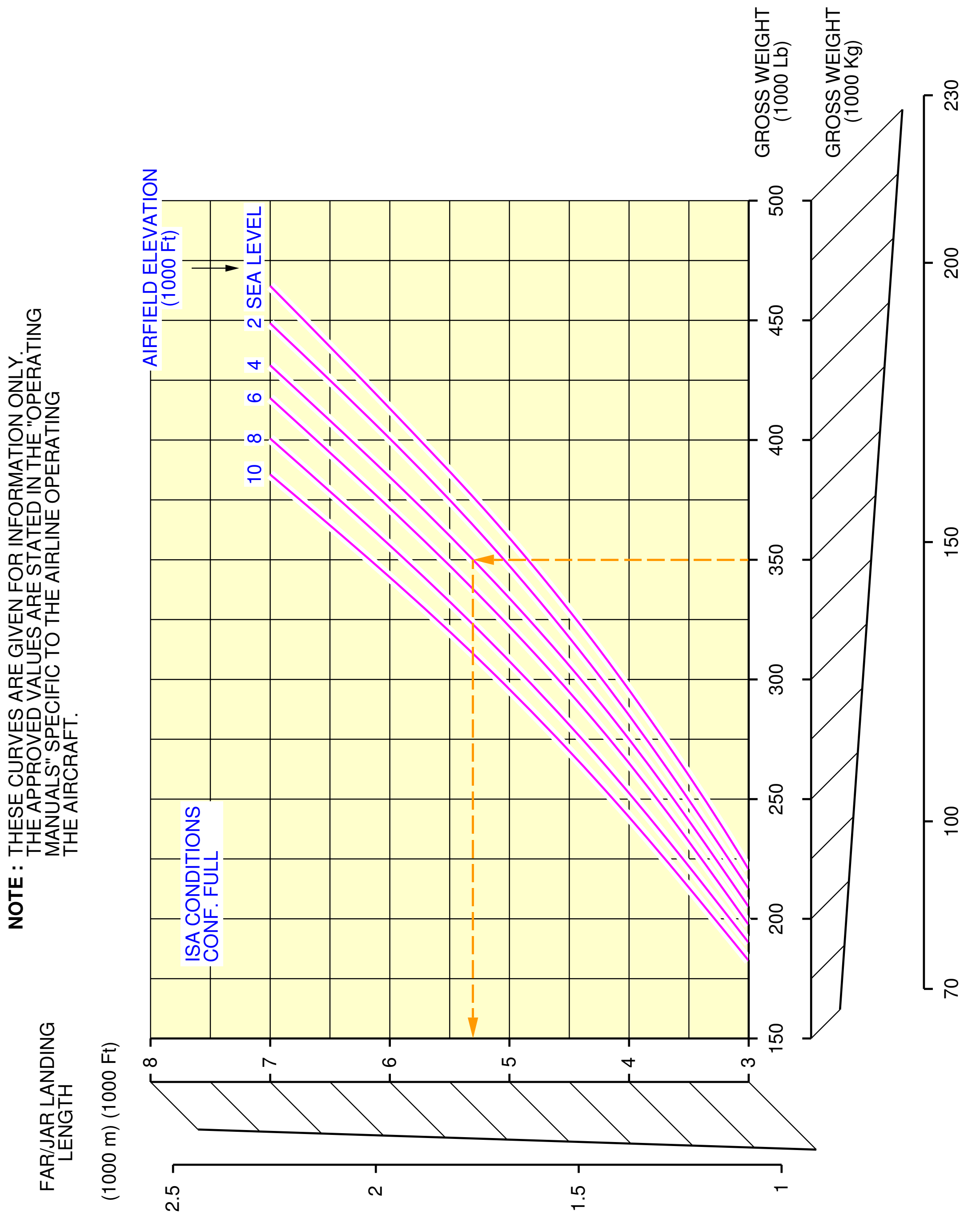
FAR / JAR Landing Field Length
ISA Conditions - PW 4000 Series Engine
FIGURE 1

**ON A/C A330-200 A330-200F A330-300



FAR / JAR Landing Field Length
ISA Conditions - RR TRENT 700 Series Engine
FIGURE 2

**ON A/C A330-200 A330-300



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FAR / JAR Landing Field Length
ISA Conditions - GE CF6-80E1 Series Engine
FIGURE 3

3-5-0 Final Approach Speed

****ON A/C A330-200 A330-200F A330-300**

Final Approach Speed

1. Final Approach Speed

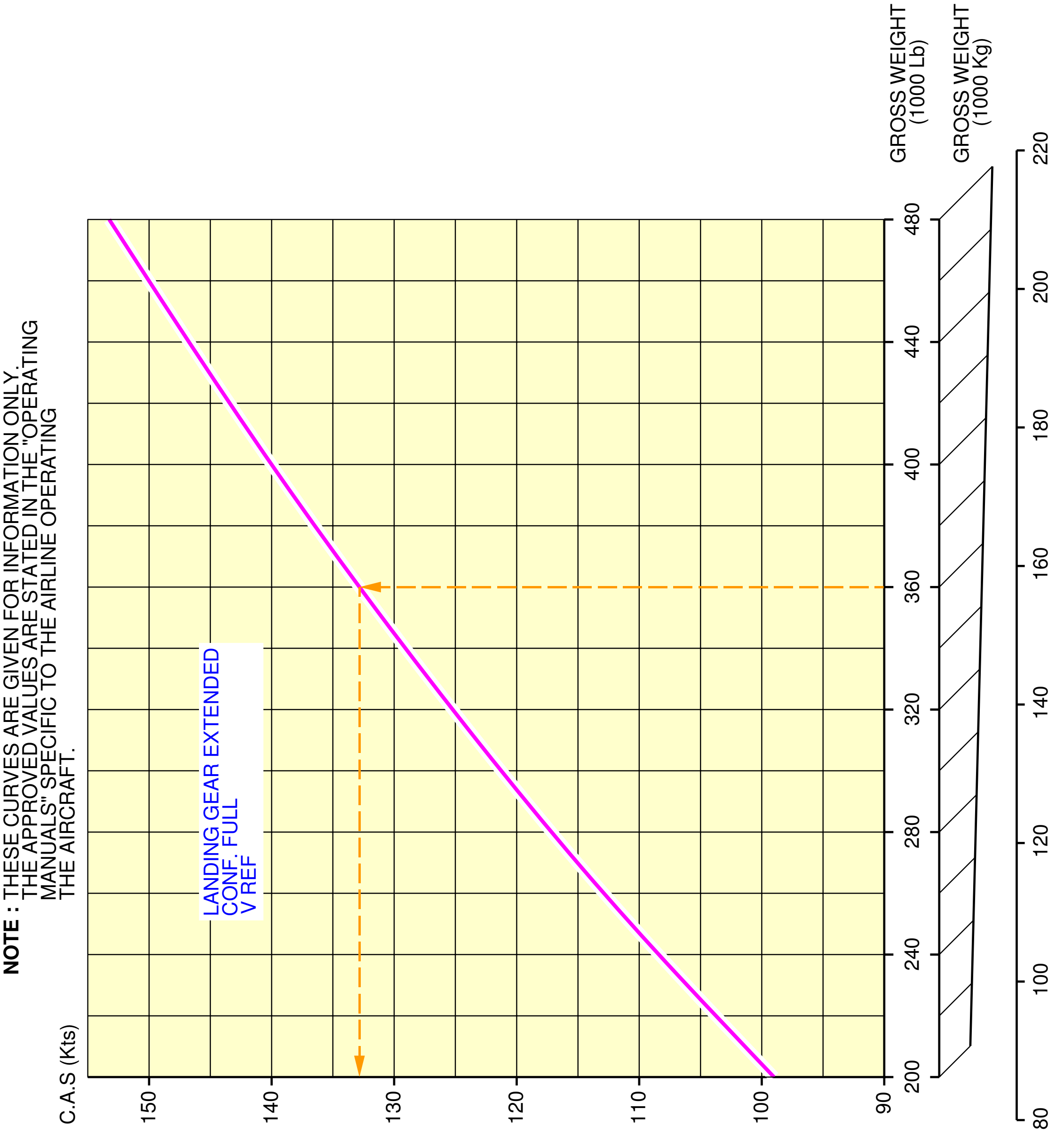
3-5-1 Final Approach Speed

****ON A/C A330-200 A330-200F A330-300**

Final Approach Speed

1. This section gives the final approach speed.

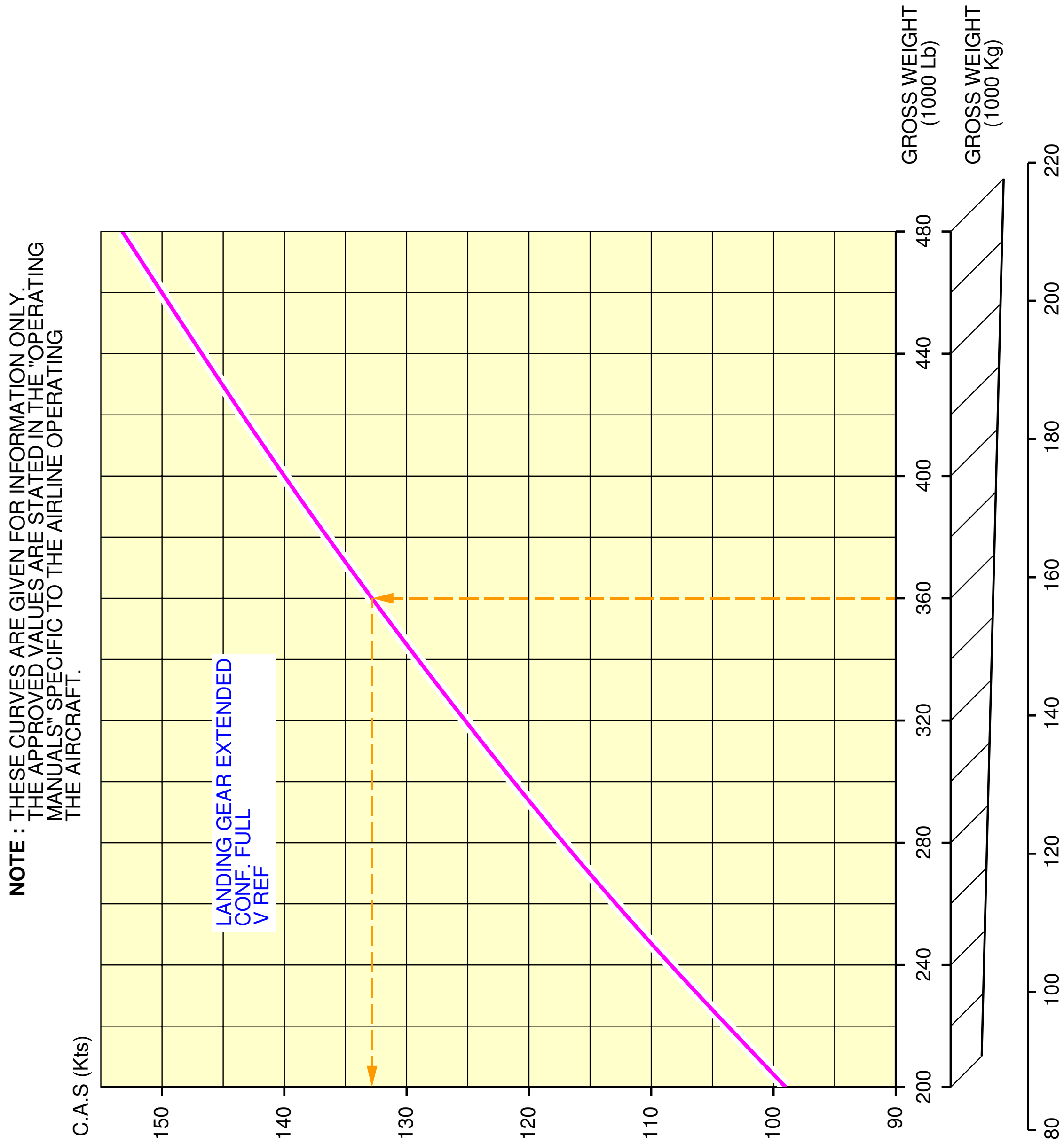
**ON A/C A330-200 A330-200F A330-300



F_AC_030501_1_0010101_01_01

Final Approach Speed
PW 4000 Series Engine
FIGURE 1

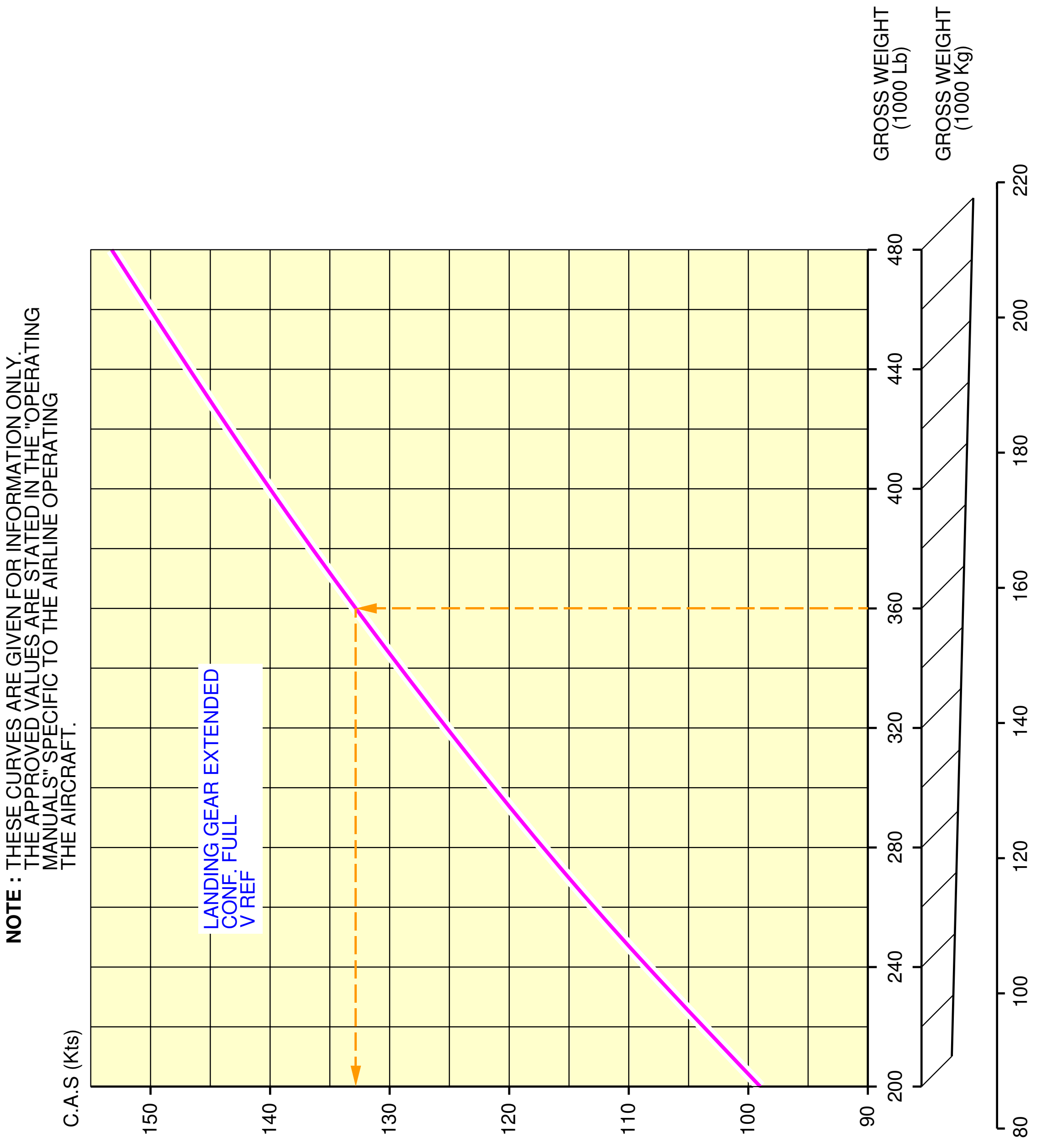
**ON A/C A330-200 A330-200F A330-300



F_AC_030501_1_0020101_01_01

Final Approach Speed
RR TRENT 700 Series Engine
FIGURE 2

**ON A/C A330-200 A330-300



F_AC_030501_1_0030101_01_01

Final Approach Speed
GE CF6-80E1 Series Engine
FIGURE 3

GROUND MANEUVERING

4-1-0 General Information

****ON A/C A330-200 A330-200F A330-300**

General Information

1. This section provides airplane turning capability and maneuvering characteristics.

   For ease of presentation, this data has been determined from the theoretical limits imposed by the geometry of the aircraft, and where noted, provides for a normal allowance for tire slippage. As such, it reflects the turning capability of the aircraft in favorable operating circumstances. This data should only be used as guidelines for the method of determination of such parameters and for the maneuvering characteristics of this aircraft type.

   In the ground operating mode, varying airline practices may demand that more conservative turning procedures be adopted to avoid excessive tire wear and reduce possible maintenance problems. Airline operating techniques will vary in the level of performance, over a wide range of operating circumstances throughout the world. Variations from standard aircraft operating patterns may be necessary to satisfy physical constraints within the maneuvering area, such as adverse grades, limited area or high risk of jet blast damage. For these reasons, ground maneuvering requirements should be coordinated with the using airlines prior to layout planning.

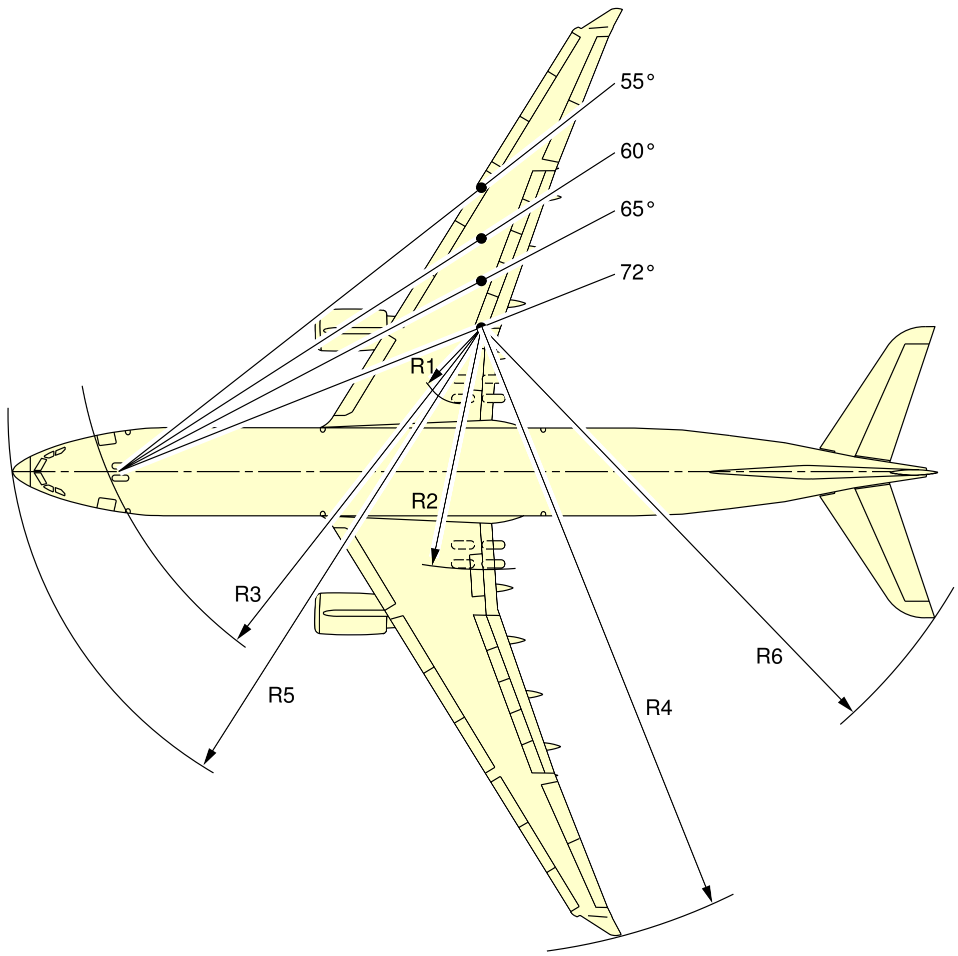
4-2-0 Turning Radii

****ON A/C A330-200 A330-200F A330-300**

Turning Radii

1. This section gives the turning radii.

**ON A/C A330-200 A330-200F A330-300



NOTE: SEE NEXT PAGES FOR DIMENSIONS

F_AC_040200_1_0040101_01_02

Turning Radii
All Models
FIGURE 1

**ON A/C A330-300

A330–300 TURNING RADII									
TYPE OF TURN	STEERING ANGLE	EFFECTIVE STEERING ANGLE		R1 RMLG	R2 LMLG	R3 NLG	R4 WING	R5 NOSE	R6 TAIL
2	20°	19.4°	m	68.3	80.8	79.6	105.1	81.5	89.7
			ft	224	265	261	345	267	294
2	25°	24.2°	m	52.1	64.7	64.6	88.9	67.0	74.7
			ft	171	212	212	292	220	245
2	30°	29.0°	m	41.0	53.6	54.7	78.0	57.6	64.8
			ft	135	176	179	256	189	213
2	35°	33.8°	m	32.9	45.5	47.7	70.0	51.0	58.0
			ft	108	149	156	230	167	190
2	40°	38.6°	m	26.7	39.3	42.7	63.8	46.6	52.7
			ft	88	129	140	209	153	173
2	45°	43.2°	m	21.7	34.3	39.1	58.8	43.3	48.5
			ft	71	113	128	193	142	159
2	50°	47.8°	m	17.6	30.2	36.2	54.7	40.8	45.5
			ft	58	99	119	179	134	149
2	55°	52.2°	m	14.2	26.8	34.1	51.4	38.9	42.9
			ft	47	88	112	169	128	141
2	60°	56.3°	m	11.3	23.9	32.4	48.5	37.5	40.9
			ft	37	78	106	159	123	134
2	65°	60.1°	m	8.9	21.5	31.2	46.2	36.5	39.3
			ft	29	71	102	152	120	129
2	72° (MAX)	63.8°	m	6.7	19.3	30.0	44.1	35.5	38.1
			ft	22	63	98	145	116	125
1	50°	48.2°	m	17.3	29.9	36.1	54.5	40.7	45.1
			ft	57	98	118	179	134	148
1	55°	52.9°	m	13.6	26.2	33.7	50.8	38.6	42.6
			ft	45	86	111	167	127	140
1	60°	57.6°	m	10.4	23.0	31.8	47.7	36.9	40.5
			ft	34	75	104	156	121	133
1	65°	62.1°	m	7.6	20.1	30.5	44.9	35.9	38.5
			ft	25	66	100	147	118	126
1	72° (MAX)	67.8°	m	4.5	17.1	29.0	41.9	34.7	36.9
			ft	15	56	95	137	114	121

TURNING RADII TABLE

NOTE: ABOVE 50°, AIRLINES MAY USE TYPE 1 OR TYPE 2 TURNS DEPENDING ON THE SITUATION
TYPE 1 TURNS USE:
ASYMMETRIC THRUST DURING THE WHOLE TURN; AND DIFFERENTIAL BRAKING TO INITIATE THE TURN ONLY
TYPE 2 TURNS USE:
SYMMETRIC THRUST DURING THE WHOLE TURN; AND NO DIFFERENTIAL BRAKING AT ALL
IT IS POSSIBLE TO GET LOWER VALUES THAN THOSE FROM TYPE 1 BY APPLYING DIFFERENTIAL BRAKING DURING THE WHOLE TURN.

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Turning Radii
Steady State Turning Radii
FIGURE 2

**ON A/C A330-200 A330-200F

A330–200/200F TURNING RADII									
TYPE OF TURN	STEERING ANGLE	EFFECTIVE STEERING ANGLE		R1 RMLG	R2 LMLG	R3 NLG	R4 WING	R5 NOSE	R6 TAIL
2	20°	19.2°	m	60.5	72.7	70.8	98.2	72.7	81.3
			ft	198	239	232	322	239	267
2	25°	23.9°	m	46.0	58.3	57.5	84.1	59.9	68.1
			ft	151	191	189	276	197	223
2	30°	28.6°	m	36.2	48.5	48.7	74.6	51.6	59.3
			ft	119	159	160	245	169	195
2	35°	33.3°	m	29.1	41.4	42.6	67.6	46.0	53.2
			ft	95	136	140	222	151	175
2	40°	38.0°	m	23.6	35.9	38.4	62.2	42.3	48.3
			ft	77	118	126	204	139	158
2	45°	42.5°	m	19.1	31.5	34.7	58.2	38.9	45.2
			ft	63	103	114	191	128	148
2	50°	46.9°	m	15.6	27.9	32.2	54.7	36.7	42.2
			ft	51	92	106	179	120	138
2	55°	51.2°	m	12.6	24.9	30.3	51.9	35.1	40.2
			ft	41	82	99	170	115	132
2	60°	5.1°	m	10.1	22.5	28.9	49.6	33.9	38.5
			ft	33	74	95	163	111	126
2	65°	59.6°	m	8.2	20.5	27.8	47.7	33.0	37.2
			ft	27	67	91	156	108	122
2	72° (MAX)	62.0°	m	6.4	18.7	27.1	46.0	32.5	35.9
			ft	21	61	89	151	107	118
1	50°	48.4°	m	14.6	26.9	31.9	53.6	36.5	41.3
			ft	48	88	105	176	120	135
1	55°	52.2°	m	11.8	24.1	30.1	51.0	35.0	39.4
			ft	39	79	99	167	115	129
1	60°	57.7°	m	8.8	21.1	28.6	47.9	33.7	37.0
			ft	29	69	94	157	111	121
1	65°	62.2°	m	6.5	18.6	27.7	45.5	33.2	35.2
			ft	21	61	91	149	109	115
1	72° (MAX)	68.1°	m	3.6	15.7	26.0	43.3	32.0	34.2
			ft	12	52	85	142	105	112

TURNING RADII TABLE

NOTE: ABOVE 50°, AIRLINES MAY USE TYPE 1 OR TYPE 2 TURNS DEPENDING ON THE SITUATION
TYPE 1 TURNS USE:
ASYMMETRIC THRUST DURING THE WHOLE TURN; AND DIFFERENTIAL BRAKING TO INITIATE THE TURN ONLY
TYPE 2 TURNS USE:
SYMMETRIC THRUST DURING THE WHOLE TURN; AND NO DIFFERENTIAL BRAKING AT ALL
IT IS POSSIBLE TO GET LOWER VALUES THAN THOSE FROM TYPE 1 BY APPLYING DIFFERENTIAL BRAKING DURING THE WHOLE TURN.

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Turning Radii
Steady State Turning Radii
FIGURE 3

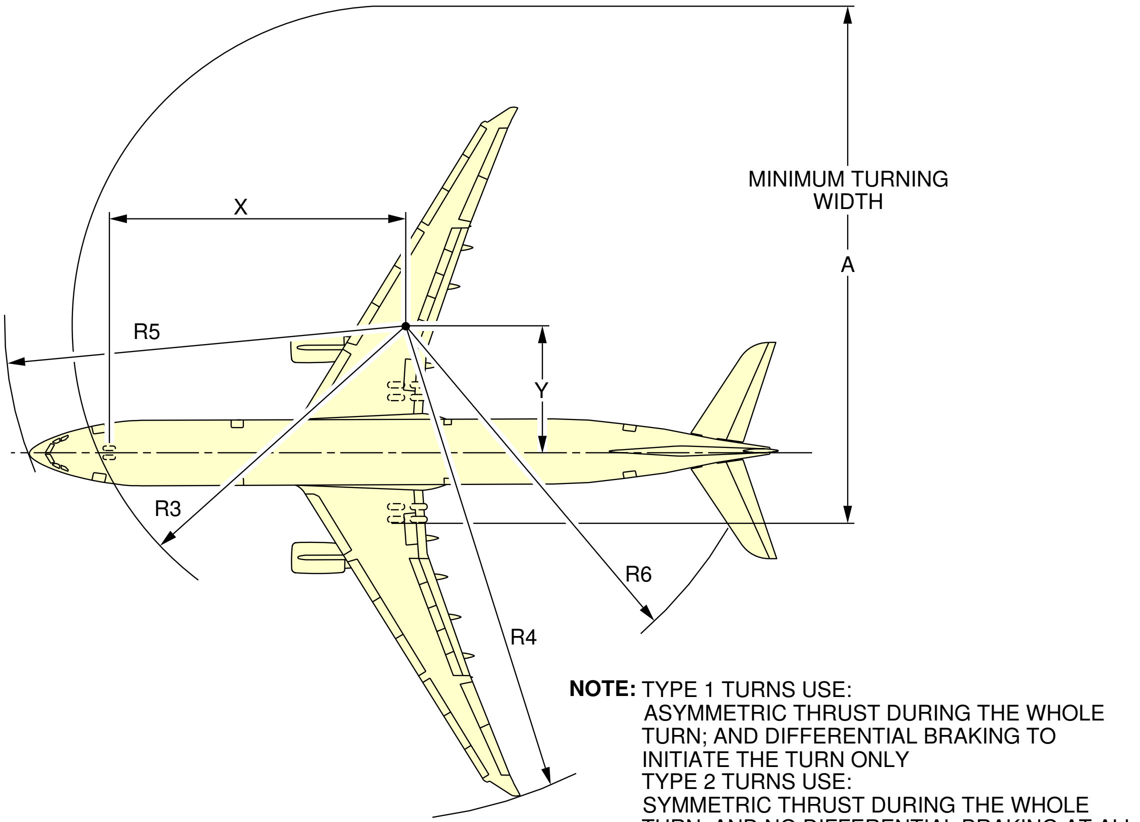
4-3-0 Minimum Turning Radii

****ON A/C A330-200 A330-200F A330-300**

Minimum Turning Radii

1. This section gives the minimum turning radii.

**ON A/C A330-300



A330–300 MINIMUM TURNING RADII										
TYPE OF TURN	STEERING ANGLE	EFFECTIVE STEERING ANGLE		X	Y	A	R3 NLG	R4 WING	R5 NOSE	R6 TAIL
1	72° (MAX)	67.8°	m	26.4	10.7	46.2	29.0	41.9	34.7	36.9
			ft	87	35	152	95	137	114	121
2	72° (MAX)	63.8°	m	26.5	13.3	49.4	30.0	44.1	35.5	38.1
			ft	87	44	162	98	145	116	125

NOTE: IT IS POSSIBLE TO GET LOWER VALUES THAN THOSE FROM TYPE 1 BY APPLYING DIFFERENTIAL BRAKING DURING THE WHOLE TURN.

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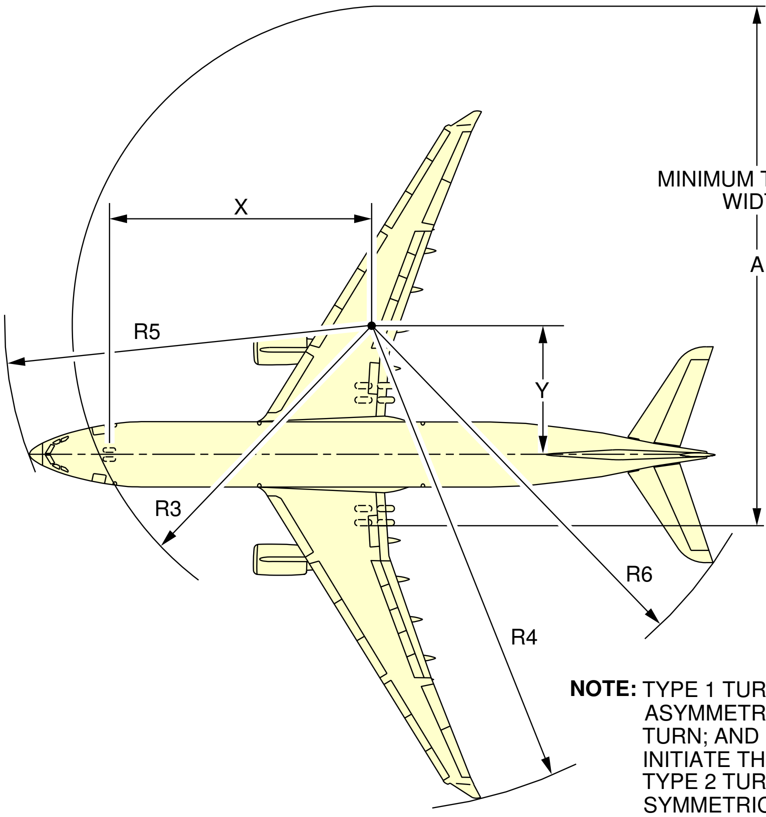
Minimum Turning Radii
FIGURE 1

**ON A/C A330-200 A330-200F



NOTE: TYPE 1 TURNS USE:
ASYMMETRIC THRUST DURING THE WHOLE TURN; AND DIFFERENTIAL BRAKING TO INITIATE THE TURN ONLY
TYPE 2 TURNS USE:
SYMMETRIC THRUST DURING THE WHOLE TURN; AND NO DIFFERENTIAL BRAKING AT ALL

A330−200/200F MINIMUM TURNING RADII										
TYPE OF TURN	STEERING ANGLE	EFFECTIVE STEERING ANGLE		X	Y	A	R3 NLG	R4 WING	R5 NOSE	R6 TAIL
1	72° (MAX)	68.1°	m	24.2	9.3	41.5	26.0	41.0	32.0	34.2
			ft	79	31	136	85	135	105	112
2	72° (MAX)	62.0°	m	23.4	12.3	45.6	27.1	45.1	32.5	35.9
			ft	77	40	150	89	148	107	118

NOTE: IT IS POSSIBLE TO GET LOWER VALUES THAN THOSE FROM TYPE 1 BY APPLYING DIFFERENTIAL BRAKING DURING THE WHOLE TURN.

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Minimum Turning Radii
FIGURE 2

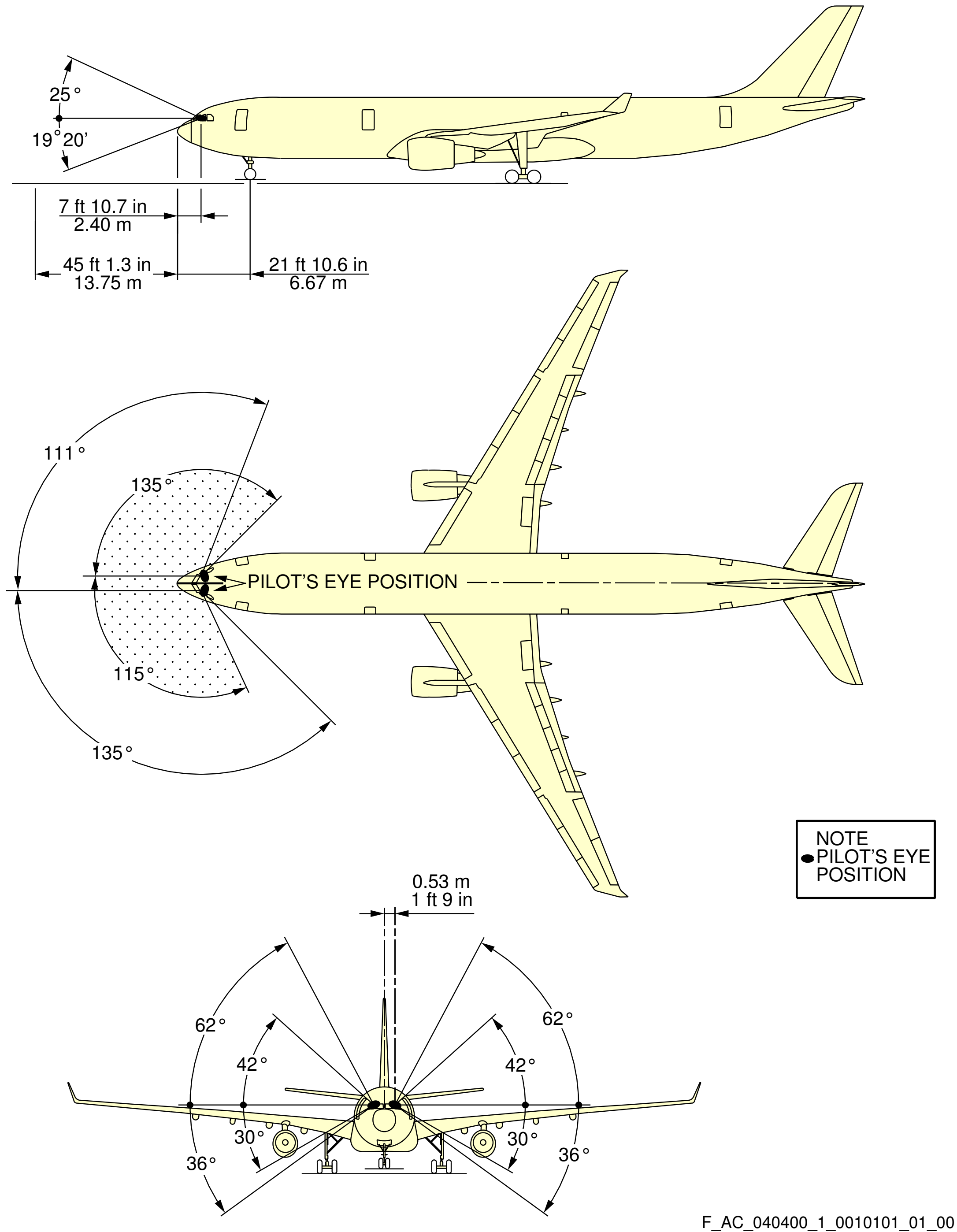
4-4-0 Visibility from Cockpit in Static Position

****ON A/C A330-200 A330-200F A330-300**

Visibility from Cockpit in Static Position.

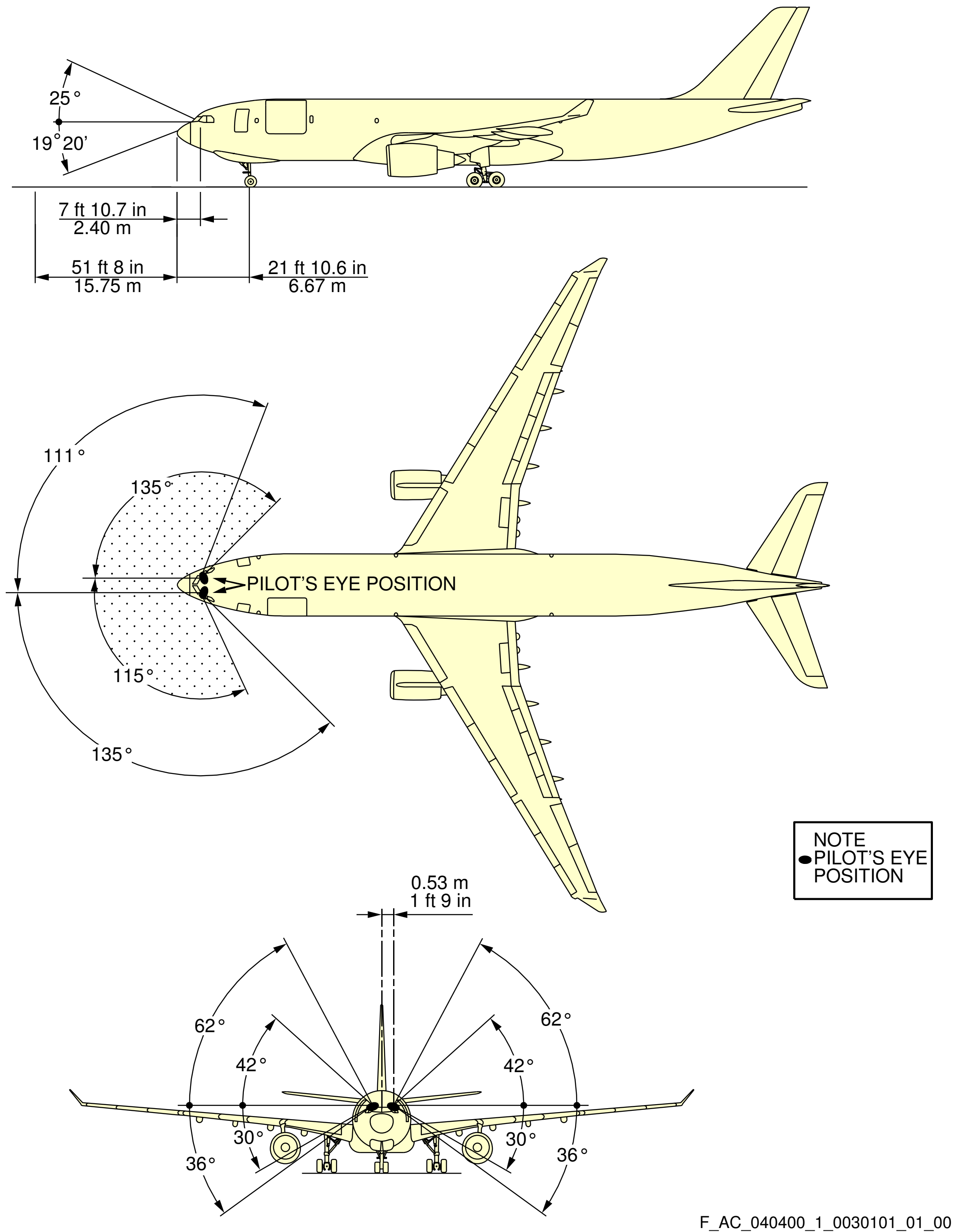
1. This section gives the visibility from cockpit in static position.

****ON A/C A330-200 A330-300**



Visibility from Cockpit in Static Position
FIGURE 1

****ON A/C A330-200F**



Visibility from Cockpit in Static Position
FIGURE 2

4-5-0 Runway and Taxiway Turn Paths

**ON A/C A330-200 A330-200F A330-300

Runway and Taxiway Turn Paths

1. Runway and Taxiway Turn Paths.

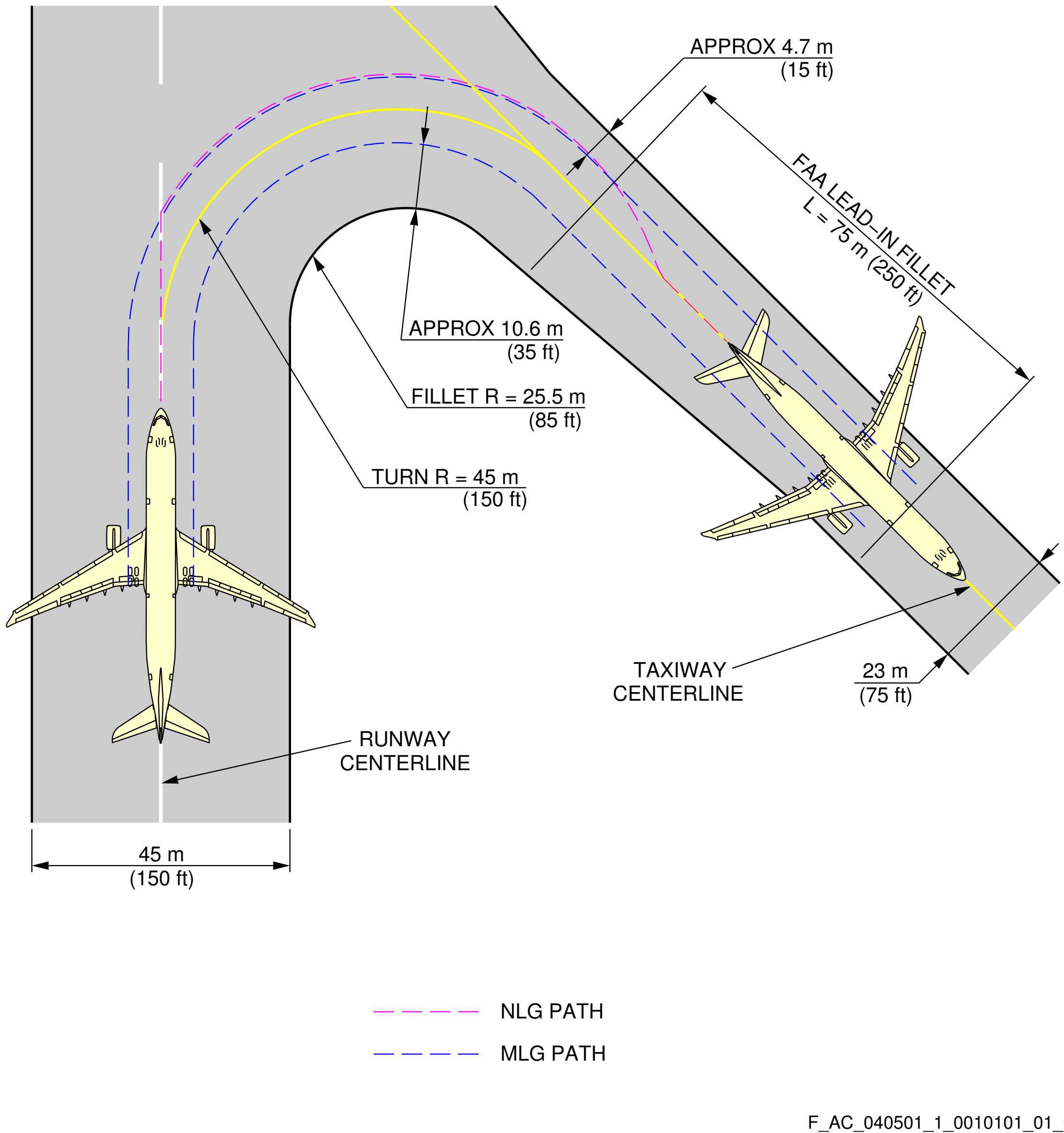
4-5-1 135° Turn - Runway to Taxiway

****ON A/C A330-200 A330-200F A330-300**

135° Turn - Runway to Taxiway

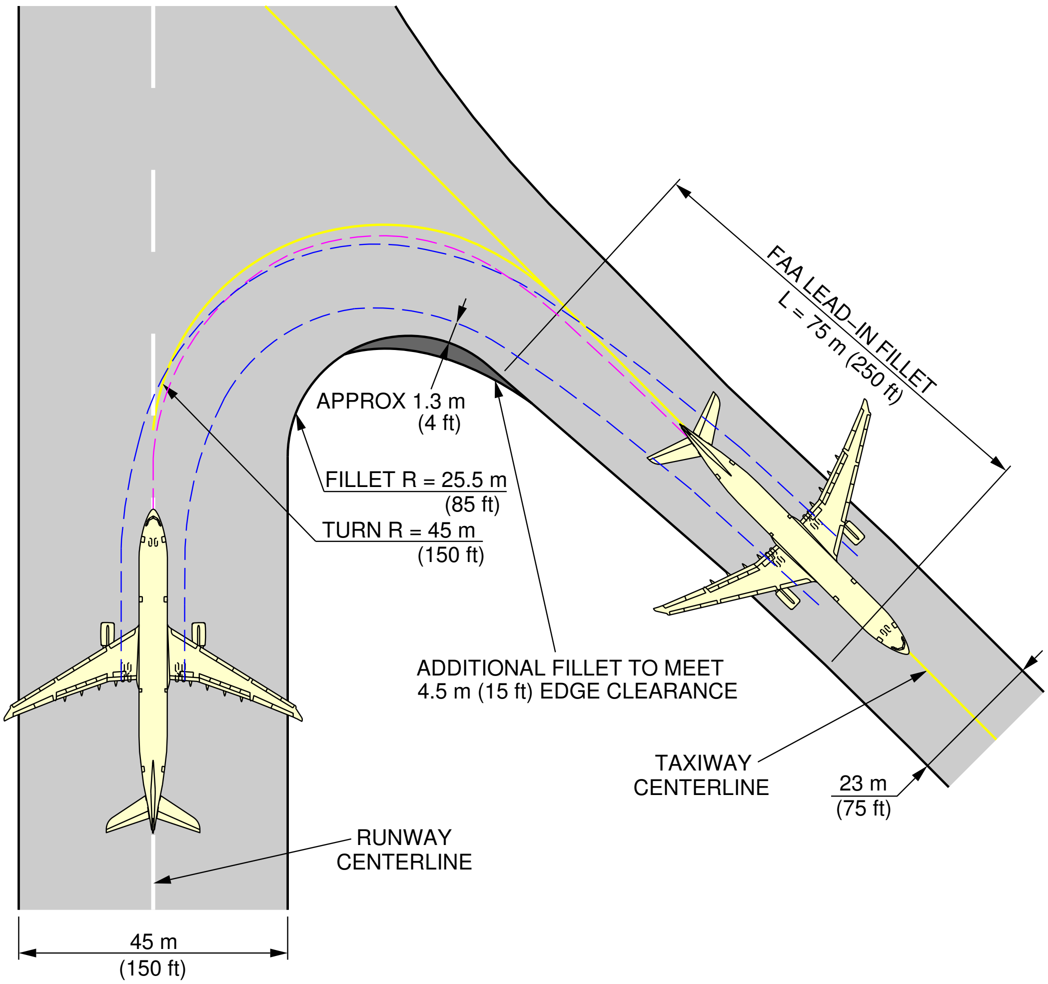
1. This section gives the 135° turn - runway to taxiway.

**ON A/C A330-300



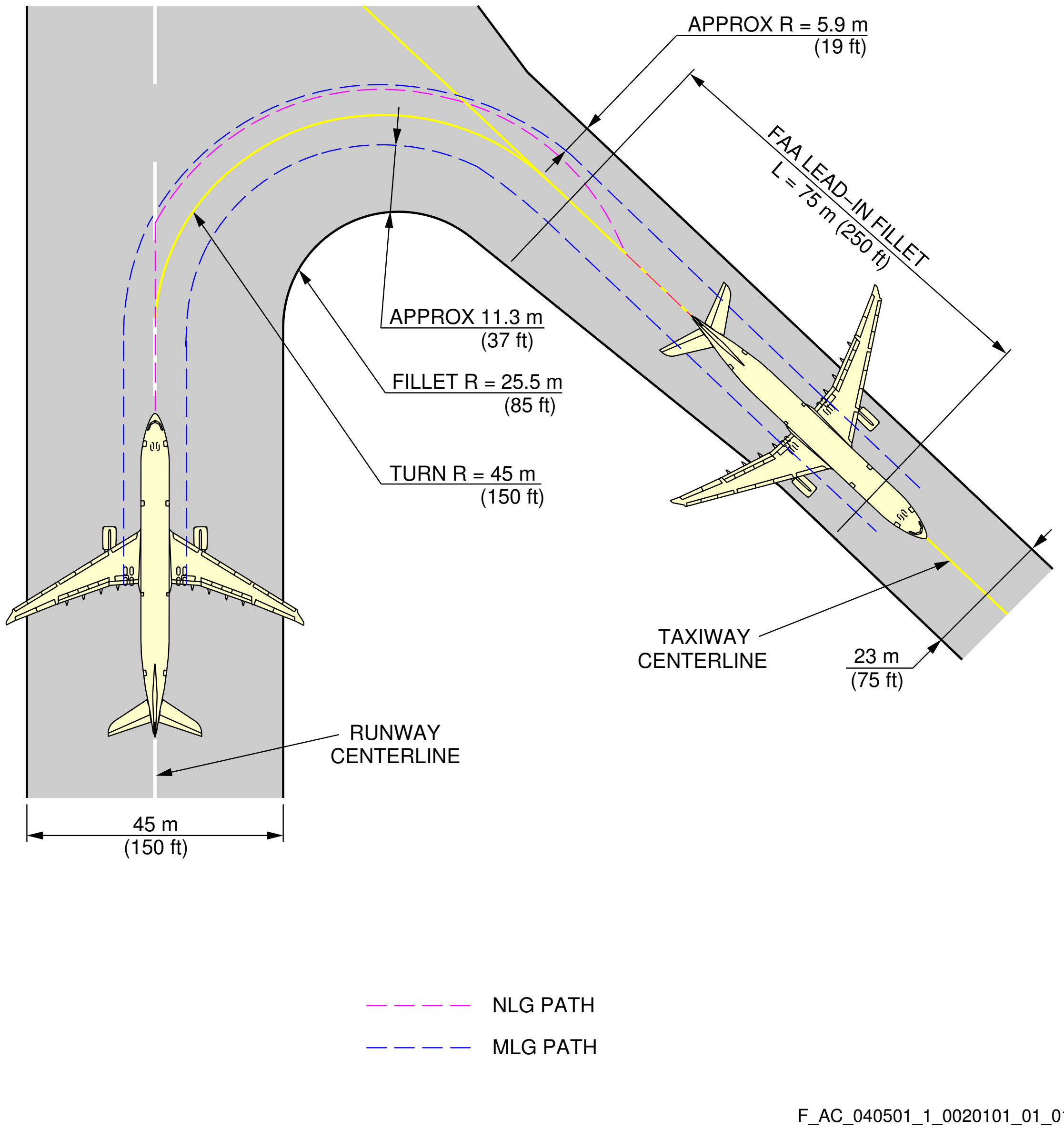
135° Turn - Runway to Taxiway
Judgemental Oversteer Method
FIGURE 1

**ON A/C A330-300



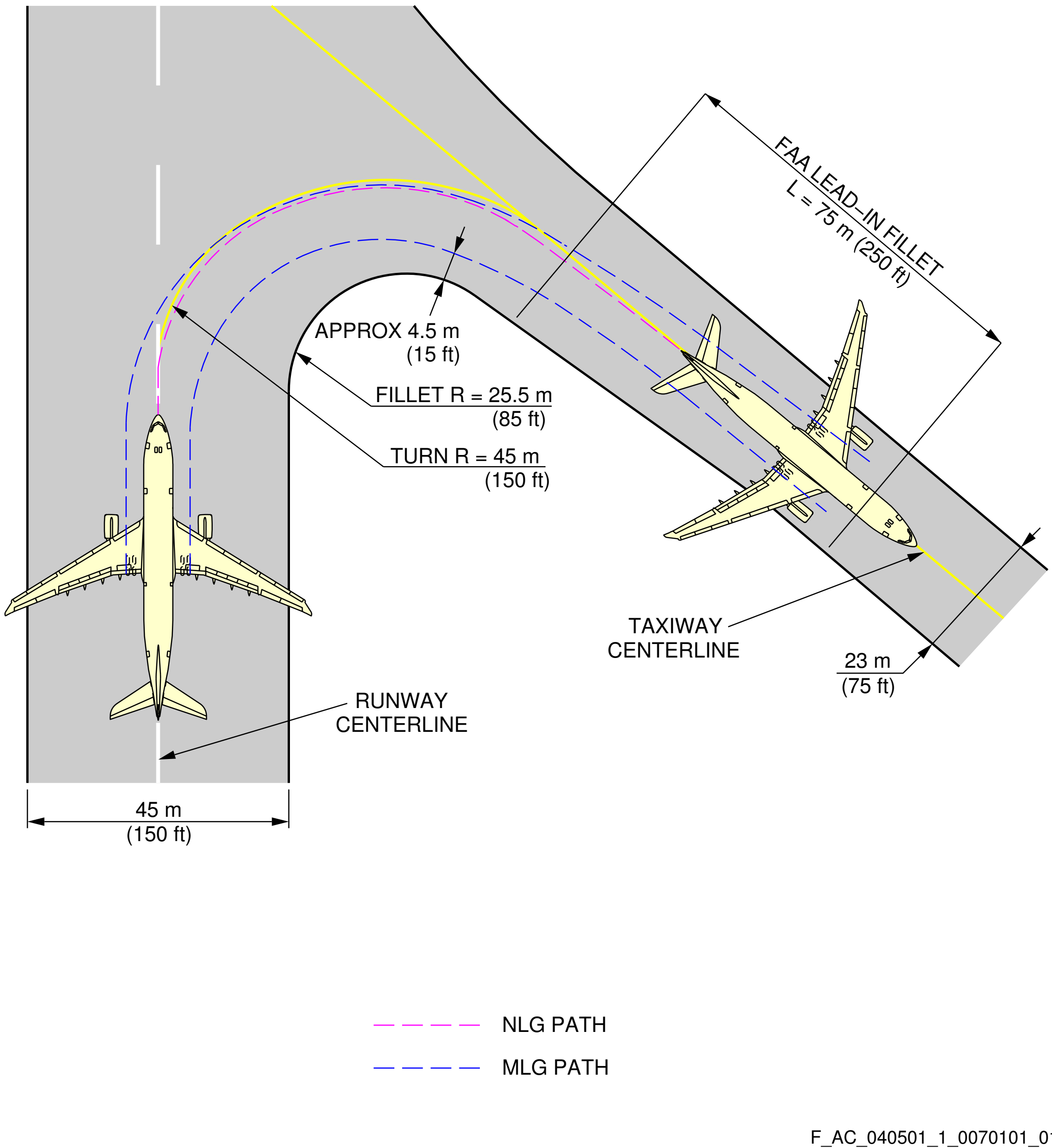
135° Turn - Runway to Taxiway
Cockpit Over Centerline Method
FIGURE 2

**ON A/C A330-200 A330-200F



135° Turn - Runway to Taxiway
Judgemental Oversteer Method
FIGURE 3

**ON A/C A330-200 A330-200F



135° Turn - Runway to Taxiway
Cockpit Over Centerline Method
FIGURE 4

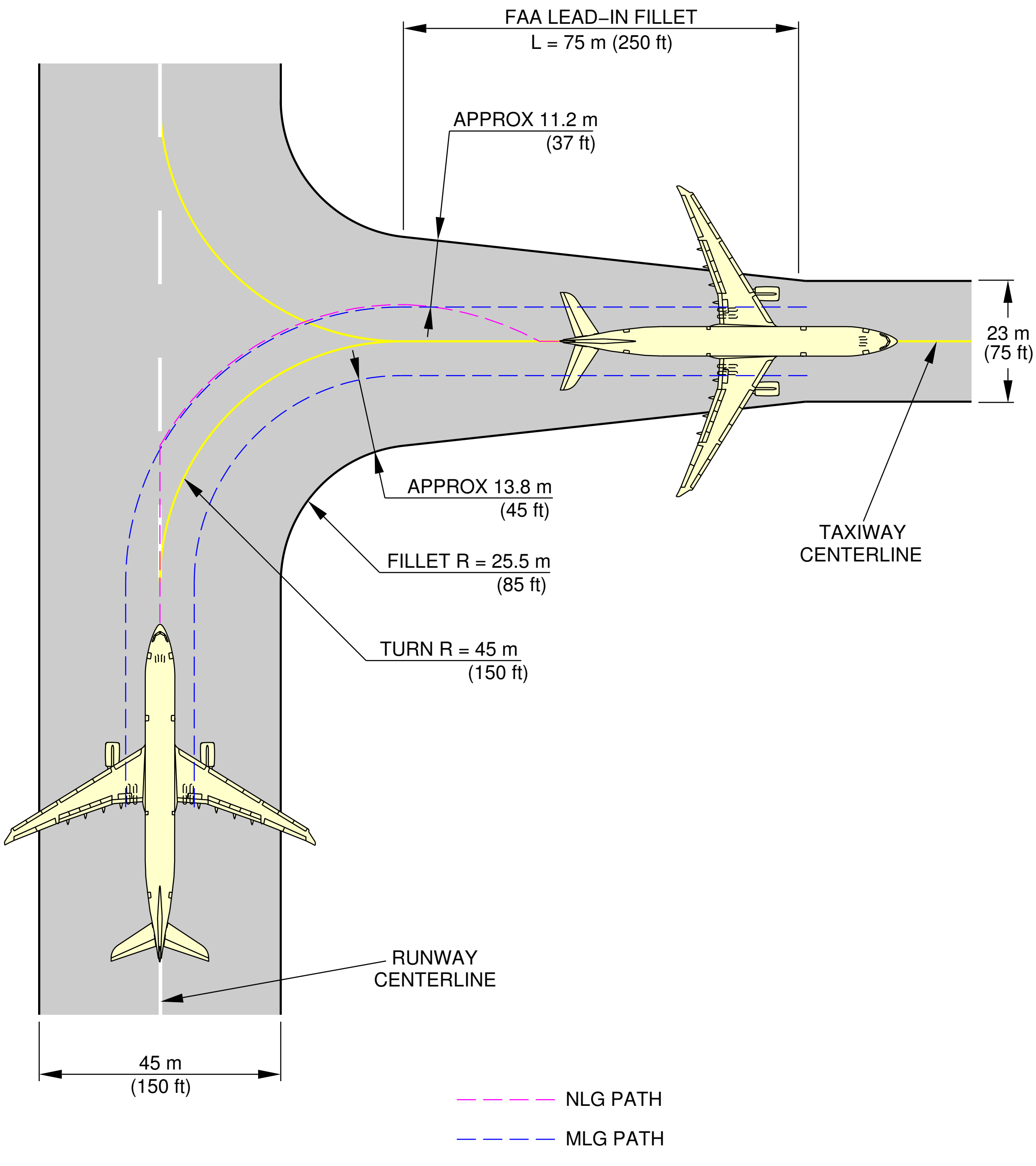
4-5-2 90° Turn - Runway to Taxiway

****ON A/C A330-200 A330-200F A330-300**

90° Turn - Runway to Taxiway

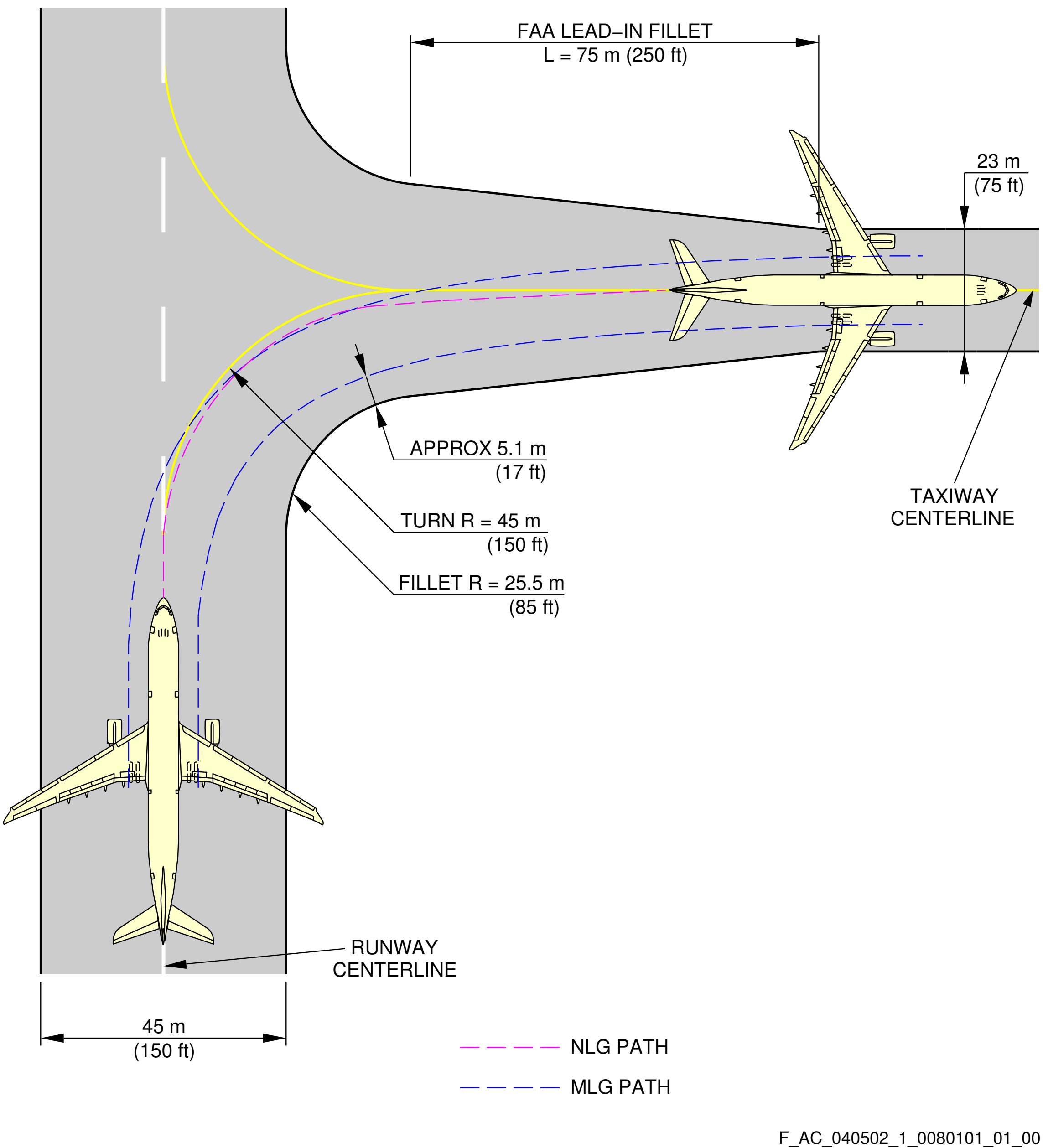
1. This section gives the 90° turn - runway to taxiway.

**ON A/C A330-300



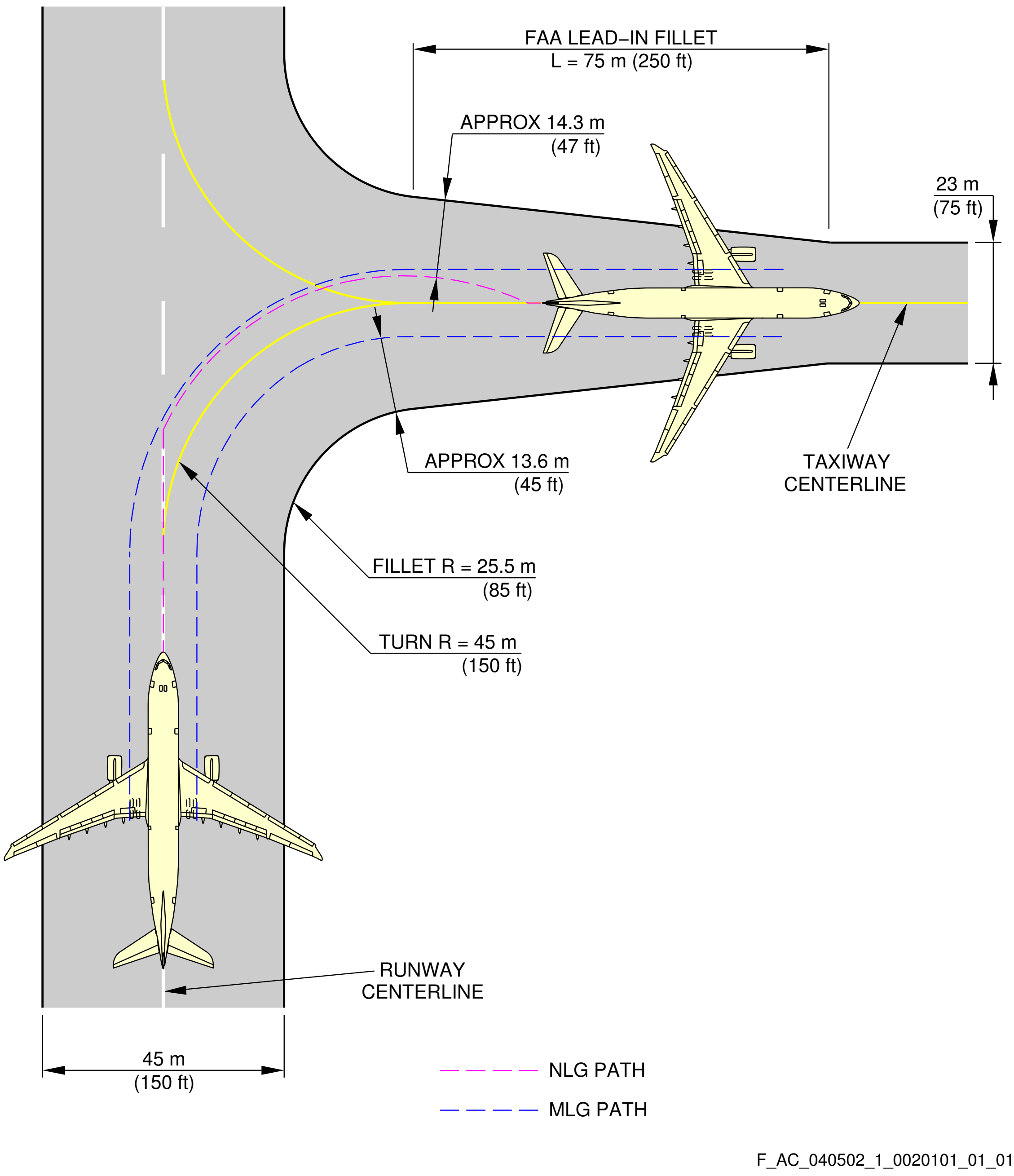
90° Turn - Runway to Taxiway
Judgemental Oversteer Method
FIGURE 1

**ON A/C A330-300



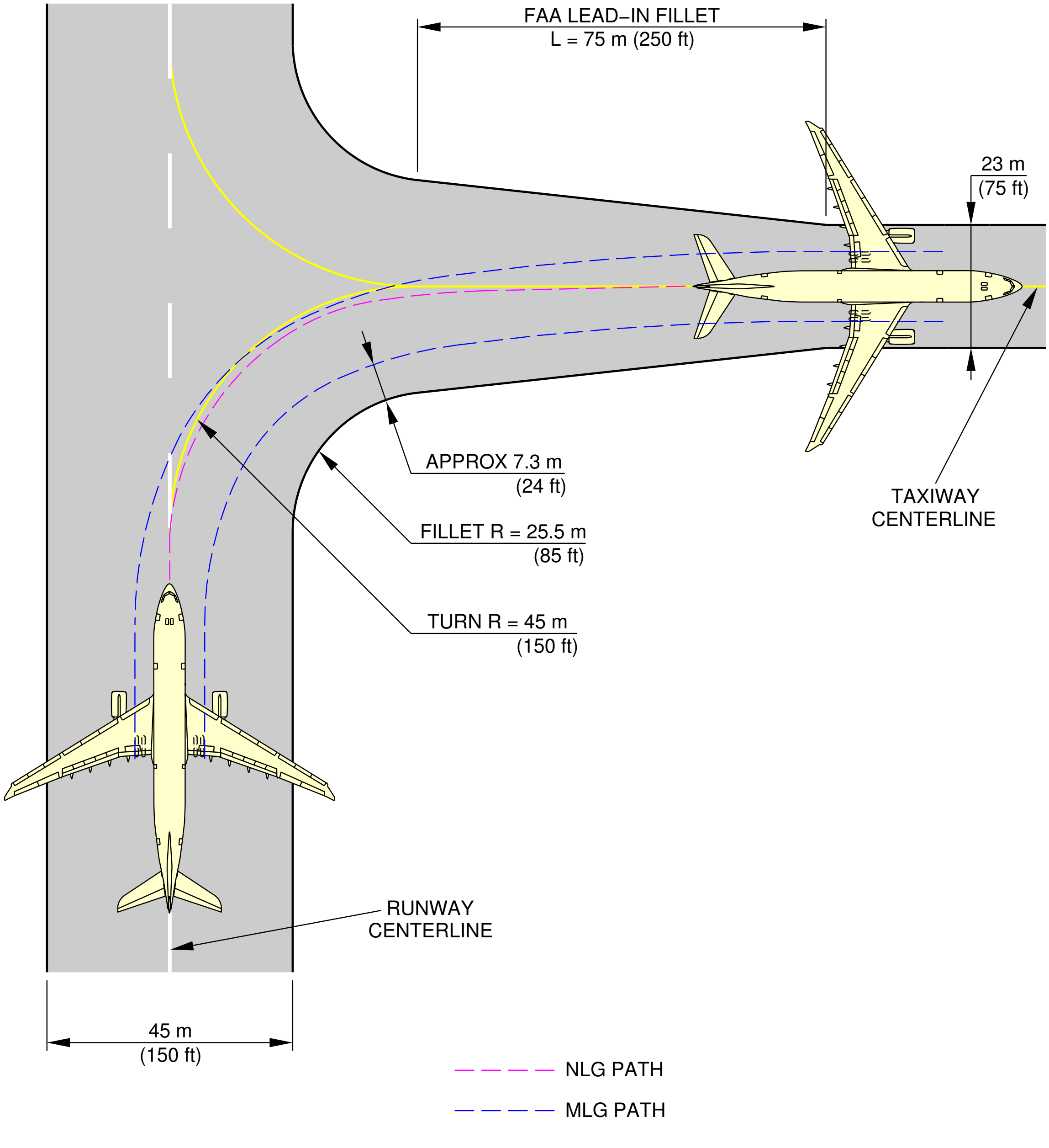
90° Turn - Runway to Taxiway
Cockpit Over Centerline Method
FIGURE 2

**ON A/C A330-200 A330-200F



90° Turn - Runway to Taxiway
Judgemental Oversteer Method
FIGURE 3

**ON A/C A330-200 A330-200F



90° Turn - Runway to Taxiway
Cockpit Over Centerline Method
FIGURE 4

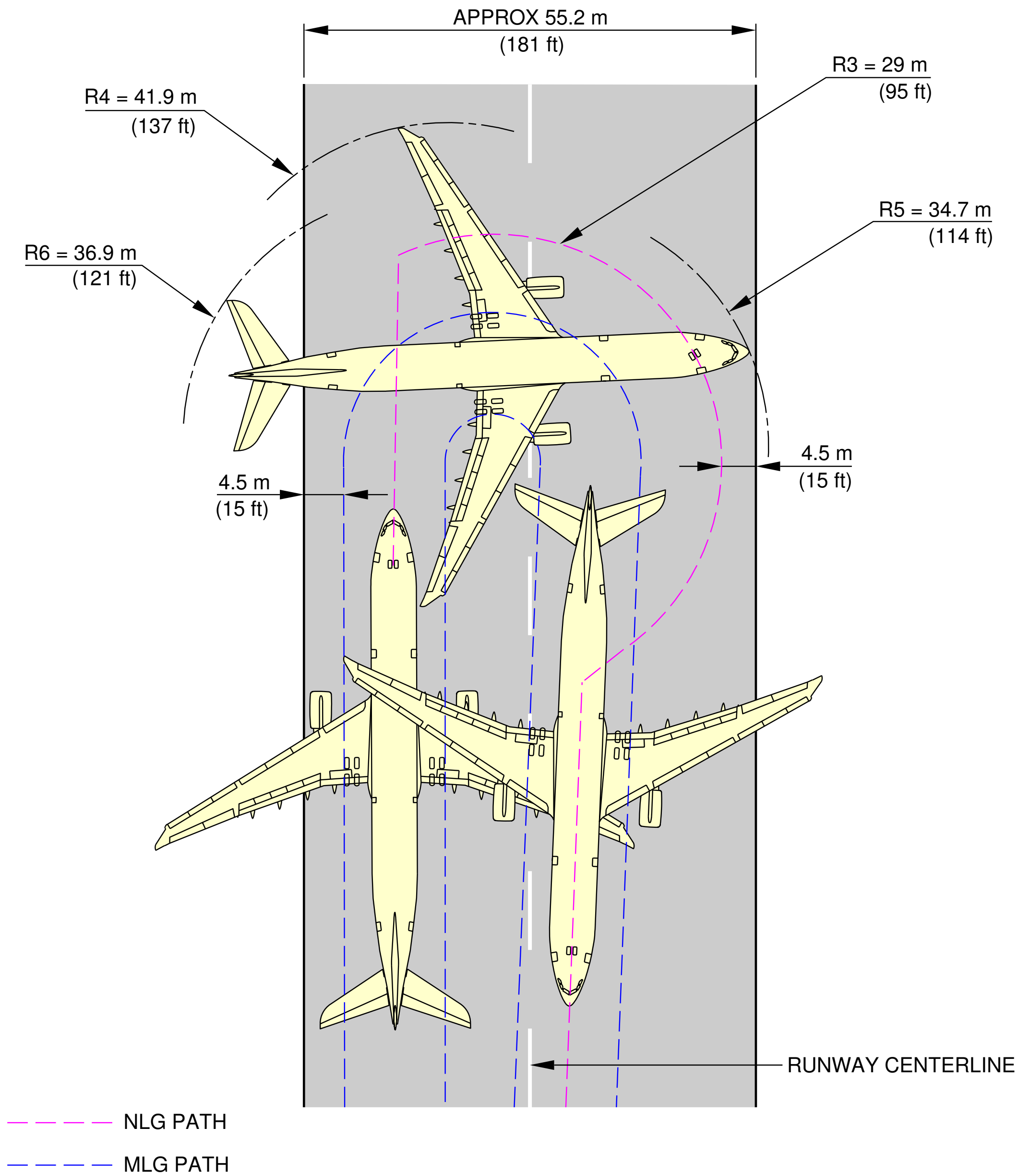
4-5-3 180° Turn on a Runway

****ON A/C A330-200 A330-200F A330-300**

180° Turn on a Runway

1. This section gives the 180° turn on a runway.

**ON A/C A330-300



NOTE: TYPE 1 VALUES.
IT IS POSSIBLE TO GET LOWER VALUES THAN THOSE FROM TYPE 1 BY APPLYING DIFFERENTIAL BRAKING DURING THE WHOLE TURN.

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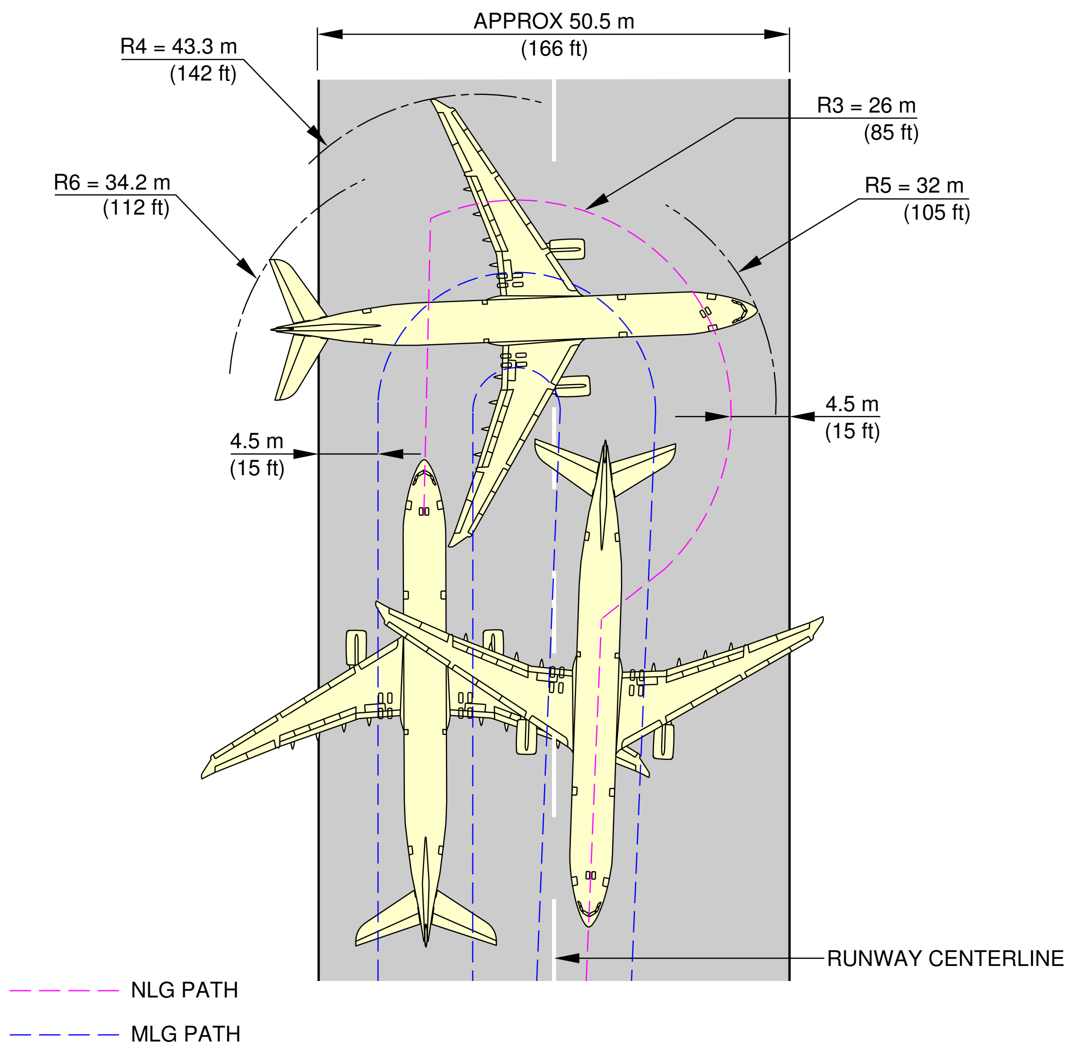
180° Turn on a Runway
180° Turn on a Runway
FIGURE 1

**ON A/C A330-200 A330-200F



NOTE: TYPE 1 VALUES.
IT IS POSSIBLE TO GET LOWER VALUES THAN THOSE FROM TYPE 1 BY APPLYING DIFFERENTIAL BRAKING DURING THE WHOLE TURN.

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180° Turn on a Runway
180° Turn on a Runway
FIGURE 2

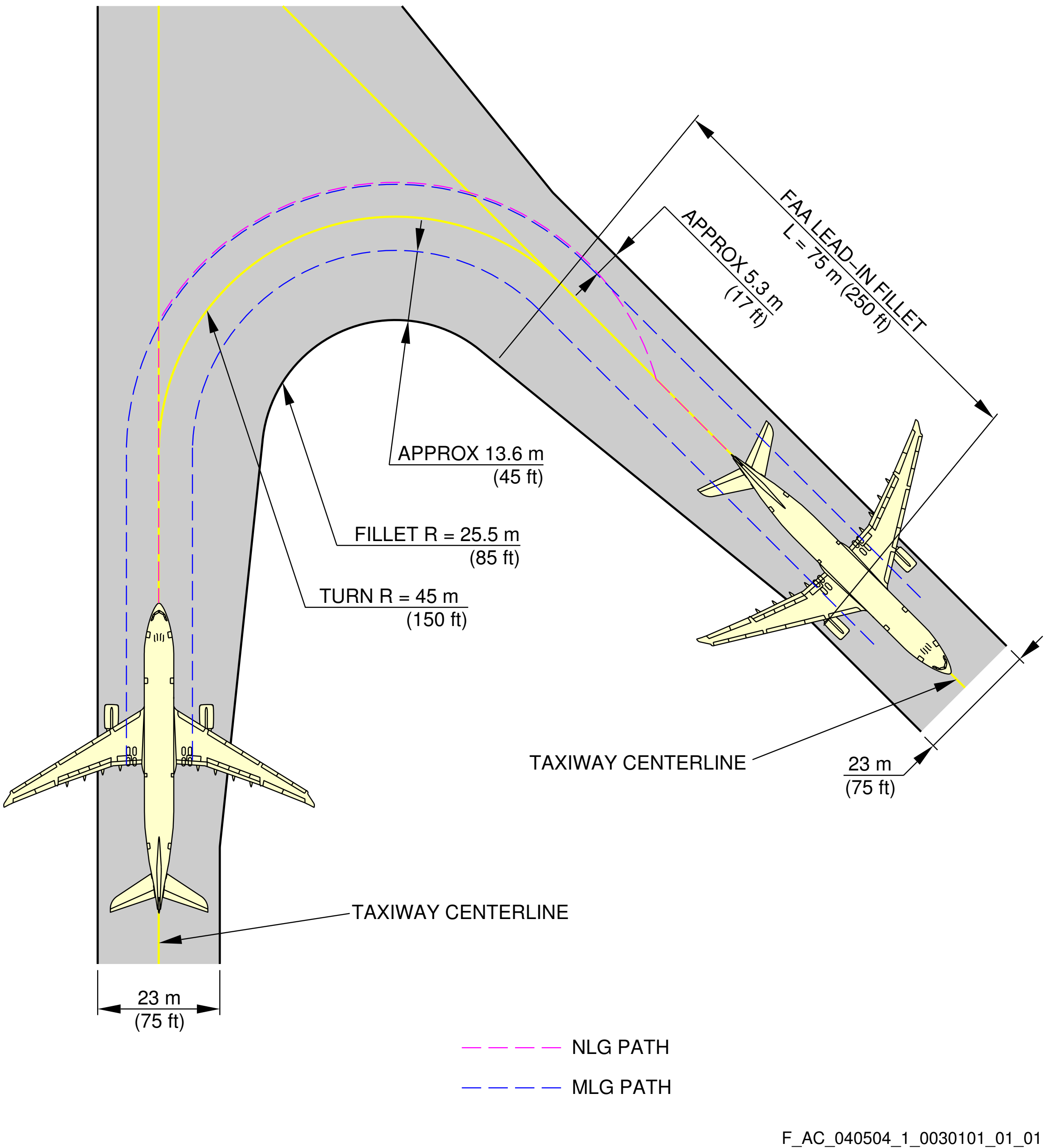
4-5-4 135° Turn - Taxiway to Taxiway

**ON A/C A330-200 A330-200F A330-300

135° Turn - Taxiway to Taxiway

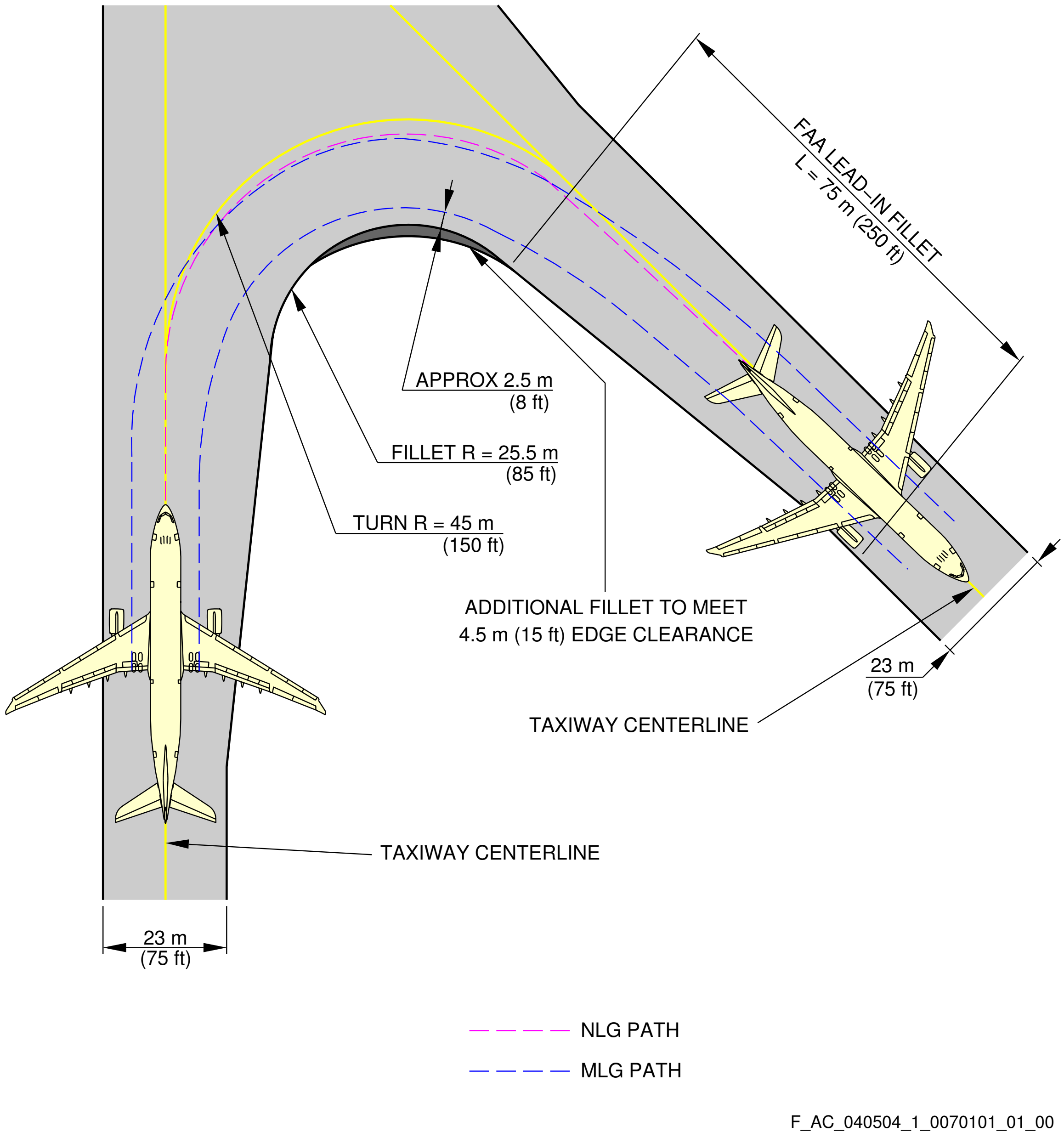
1. This section gives the 135° turn - taxiway to taxiway.

**ON A/C A330-300



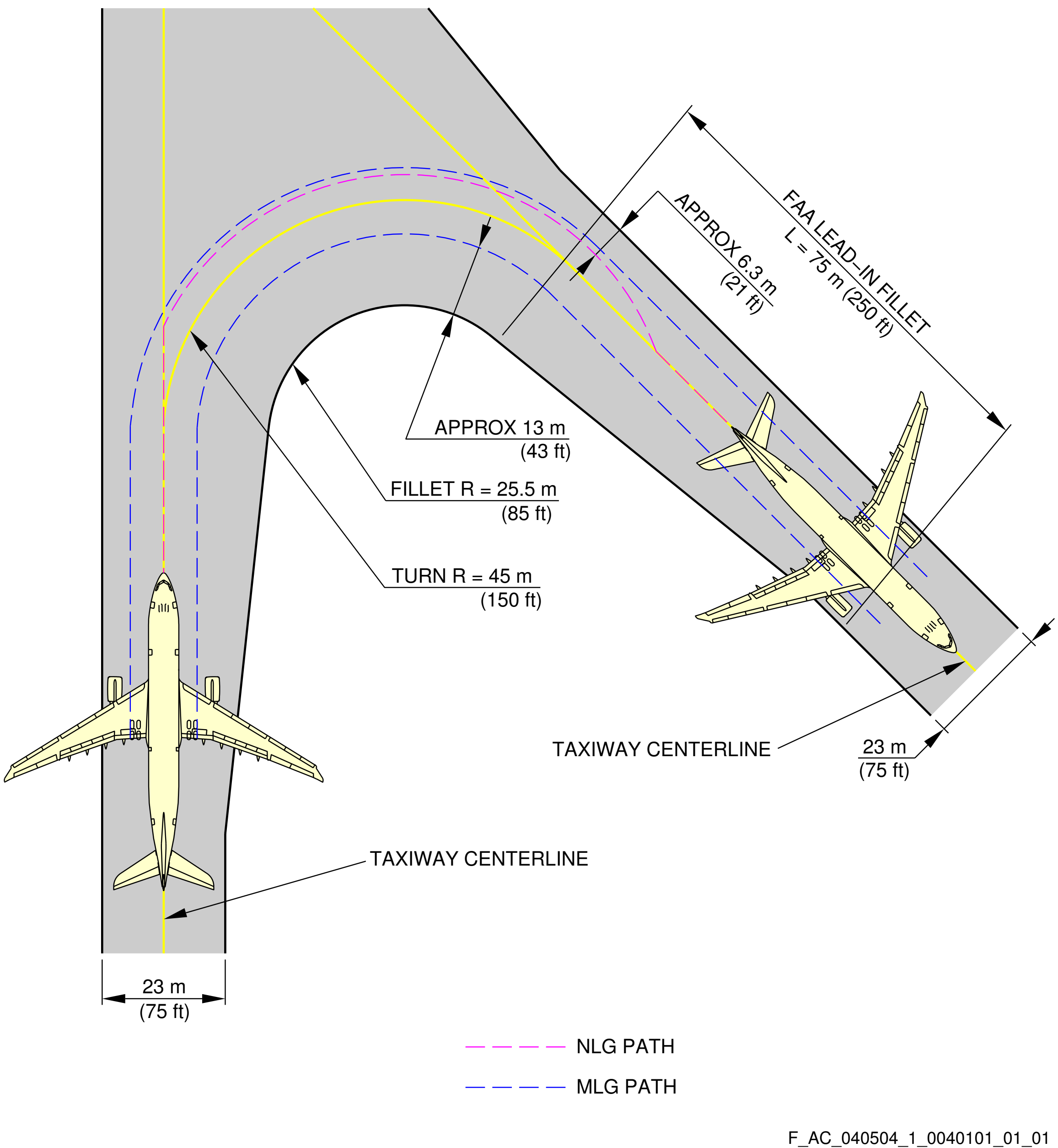
135° Turn - Taxiway to Taxiway
Judgemental Oversteer Method
FIGURE 1

**ON A/C A330-300



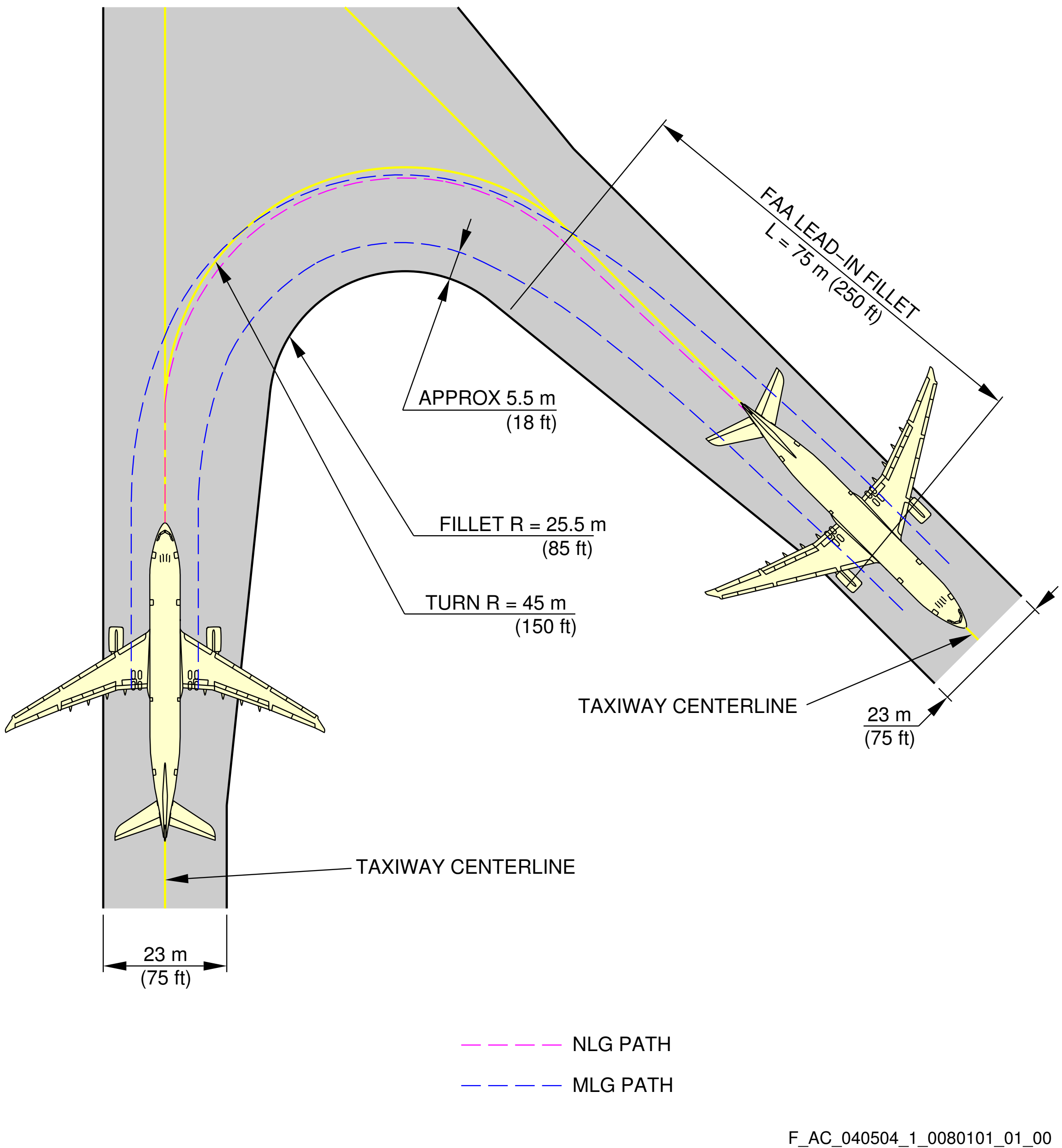
135° Turn - Taxiway to Taxiway
Cockpit Over Centerline Method
FIGURE 2

**ON A/C A330-200 A330-200F



135° Turn - Taxiway to Taxiway
Judgemental Oversteer Method
FIGURE 3

**ON A/C A330-200 A330-200F



135° Turn - Taxiway to Taxiway
Cockpit Over Centerline Method
FIGURE 4

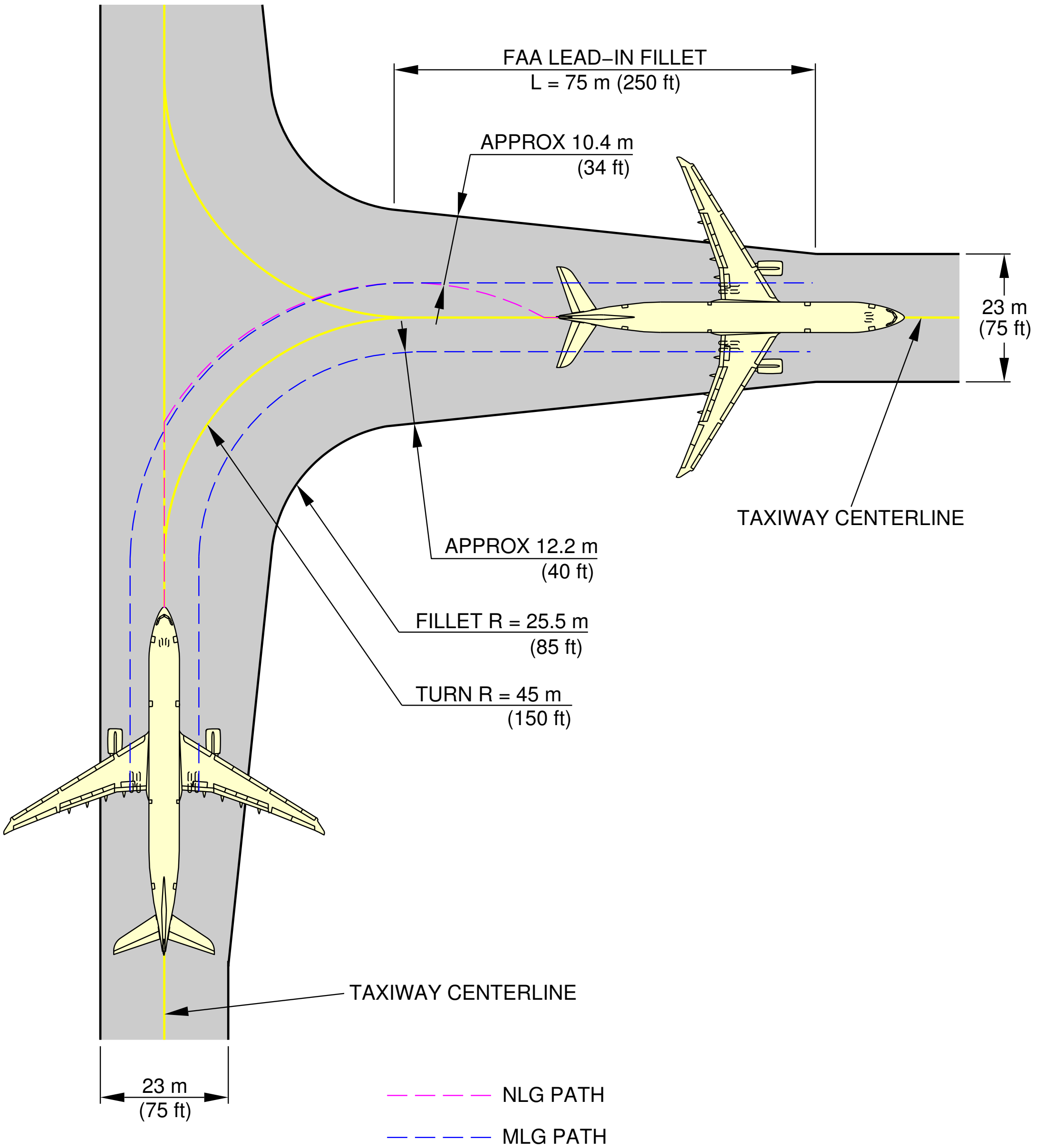
4-5-5 90° Turn - Taxiway to Taxiway

****ON A/C A330-200 A330-200F A330-300**

90° Turn - Taxiway to Taxiway

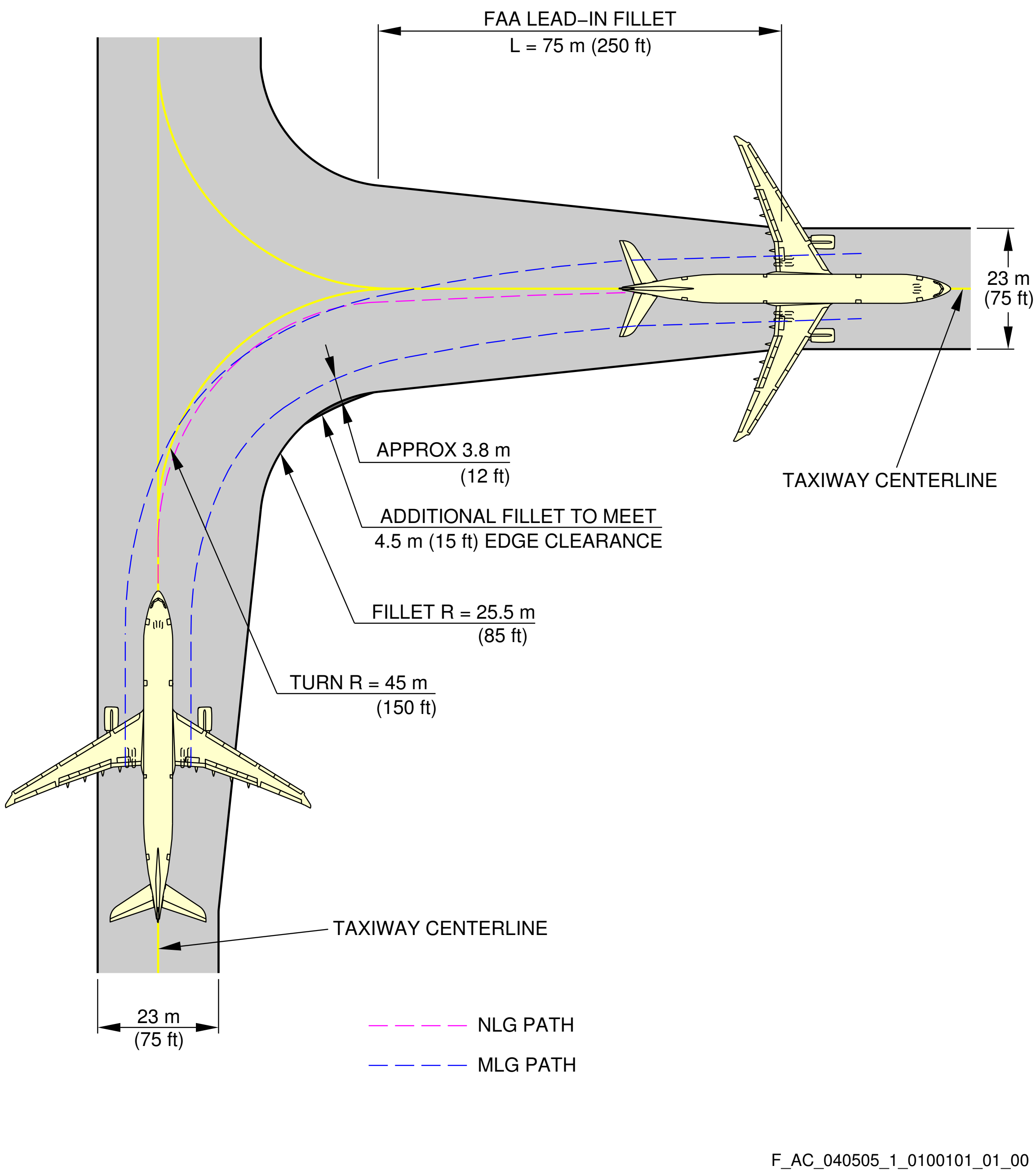
1. This section gives the 90° turn - taxiway to taxiway.

**ON A/C A330-300



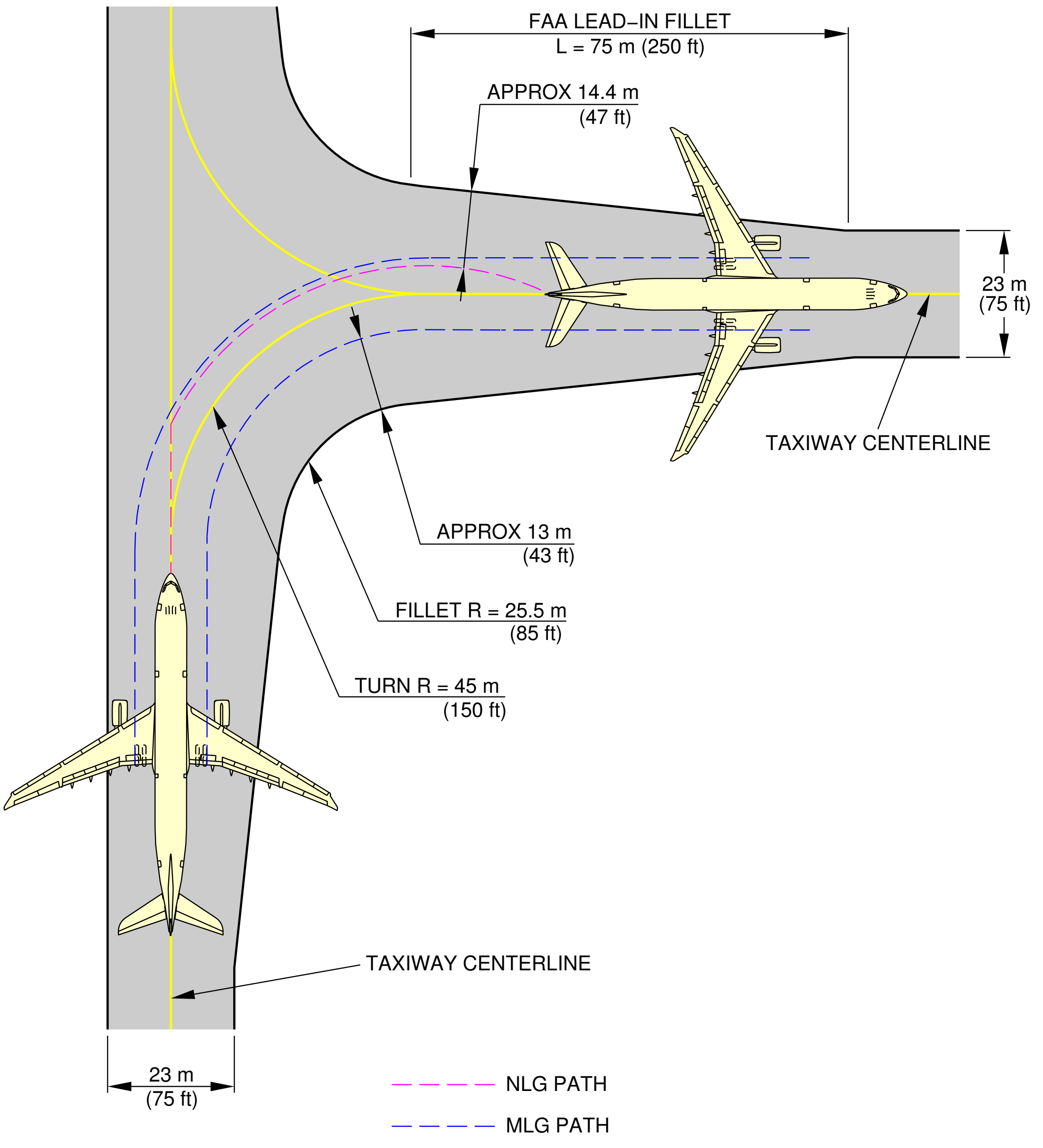
90° Turn - Taxiway to Taxiway
Judgemental Oversteer Method
FIGURE 1

**ON A/C A330-300



90° Turn - Taxiway to Taxiway
Cockpit Over Centerline Method
FIGURE 2

**ON A/C A330-200 A330-200F



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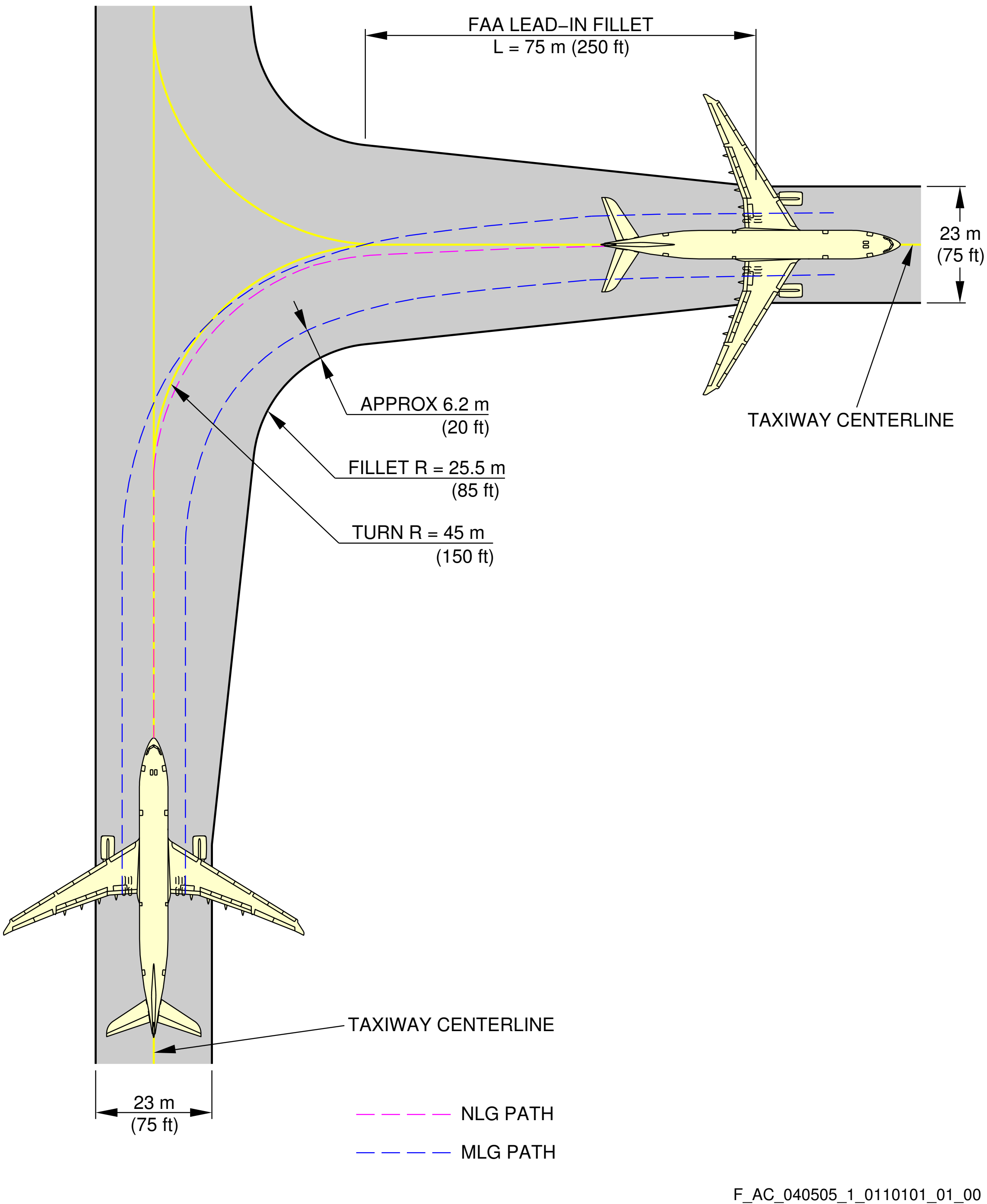
90° Turn - Taxiway to Taxiway
Judgemental Oversteer Method
FIGURE 3

**ON A/C A330-200 A330-200F



90° Turn - Taxiway to Taxiway
Cockpit Over Centerline Method
FIGURE 4

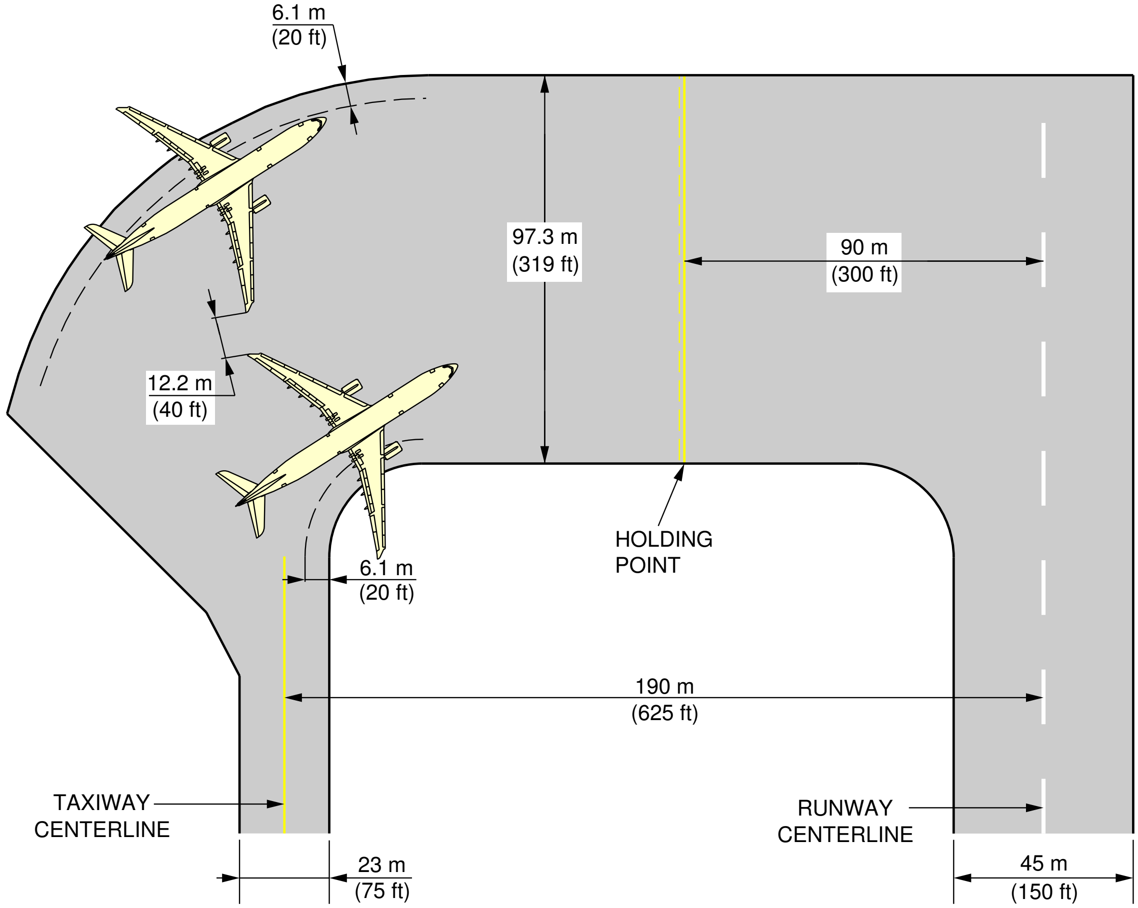
4-6-0 Runway Holding Bay (Apron)

****ON A/C A330-200 A330-200F A330-300**

Runway Holding Bay (Apron)

1. This section gives the runway holding bay (Apron).

**ON A/C A330-200 A330-200F A330-300



NOTES: COORDINATE WITH USING AIRPLANE FOR SPECIFIC PLANNED OPERATING PROCEDURES.

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Runway Holding Bay (Apron)
FIGURE 1

4-7-0 Airplane Parking

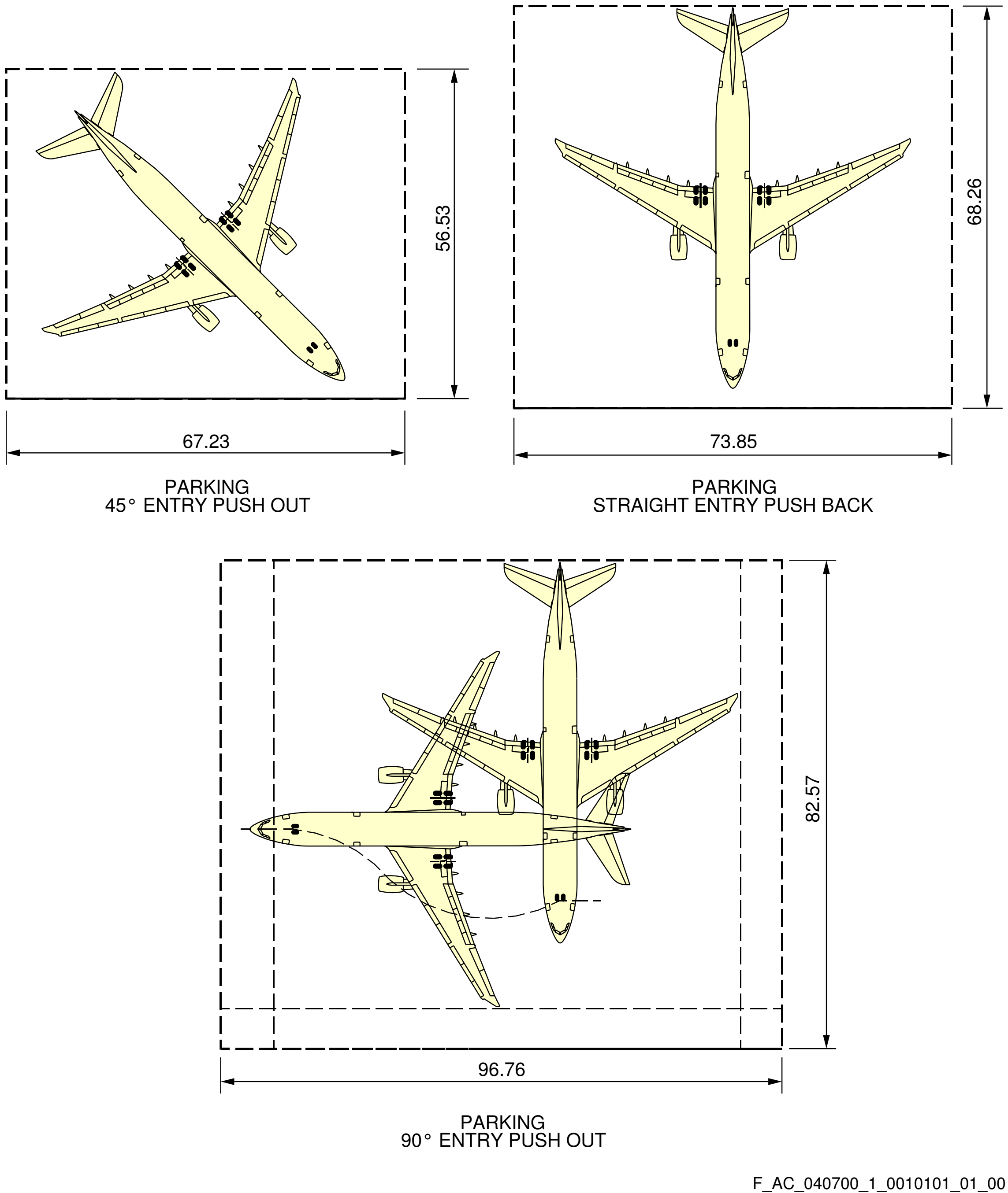
**ON A/C A330-200 A330-200F A330-300

Airplane Parking

1. The following figures and charts show the rectangular space required for parking against the terminal building.

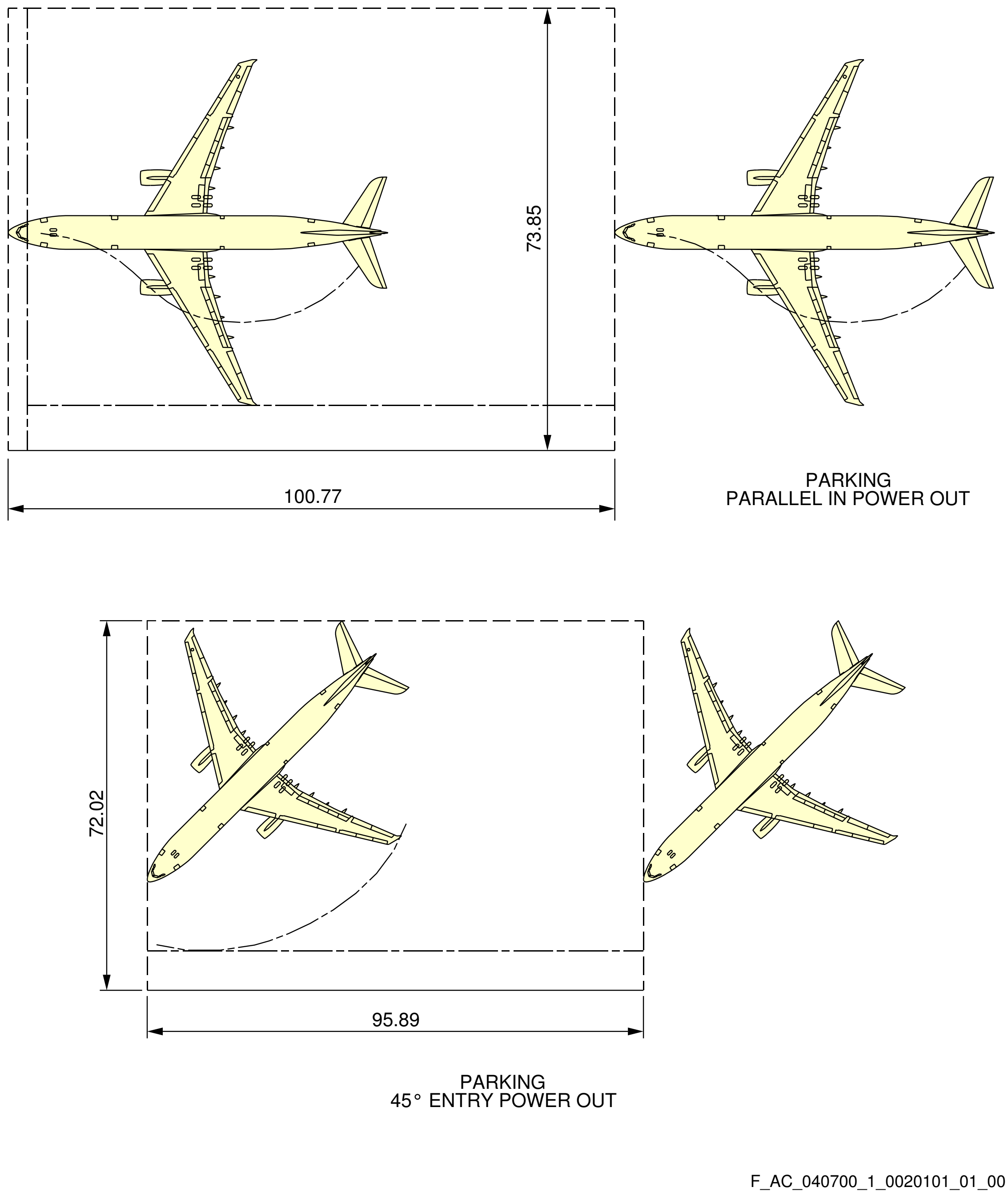
   The rectangle includes allowance for swinging the airplane on arrival and departure.
   - Steering Geometry
   - Minimum Parking Space Requirements

****ON A/C A330-300**



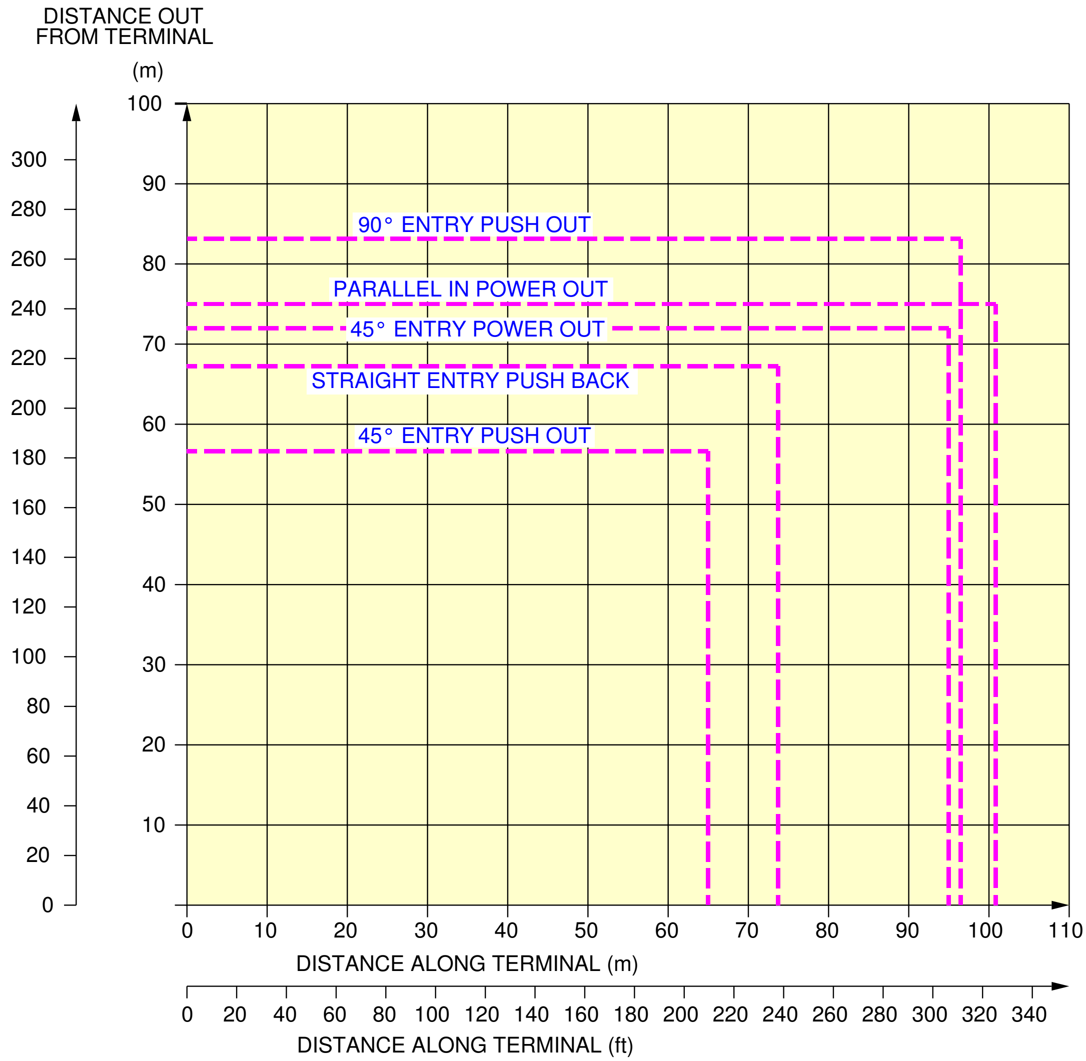
Airplane Parking
Steering Geometry
FIGURE 1

**ON A/C A330-300



Airplane Parking
Steering Geometry
FIGURE 2

**ON A/C A330-300



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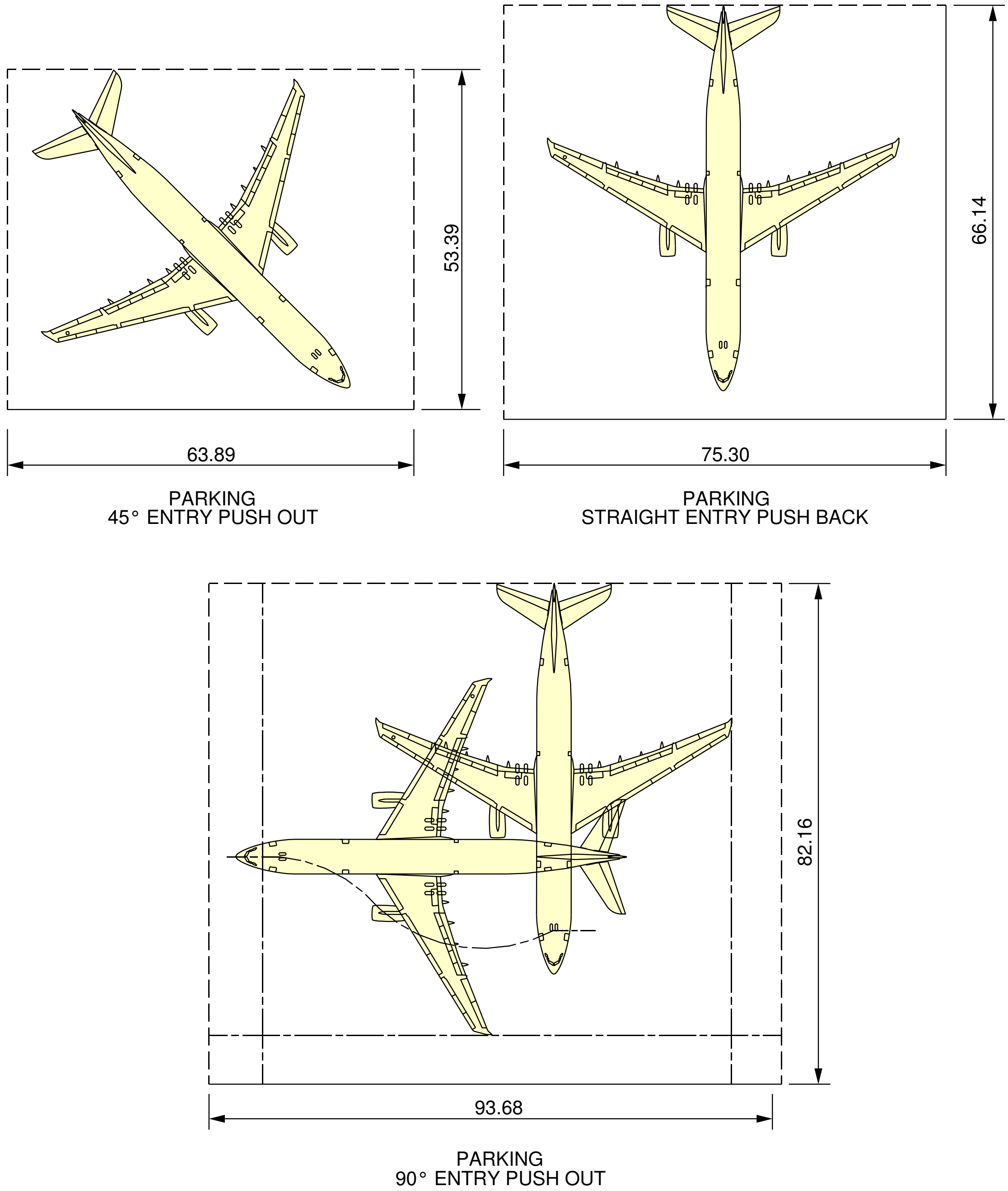
Airplane Parking
Minimum Parking Space Requirements
FIGURE 3

**ON A/C A330-200 A330-200F



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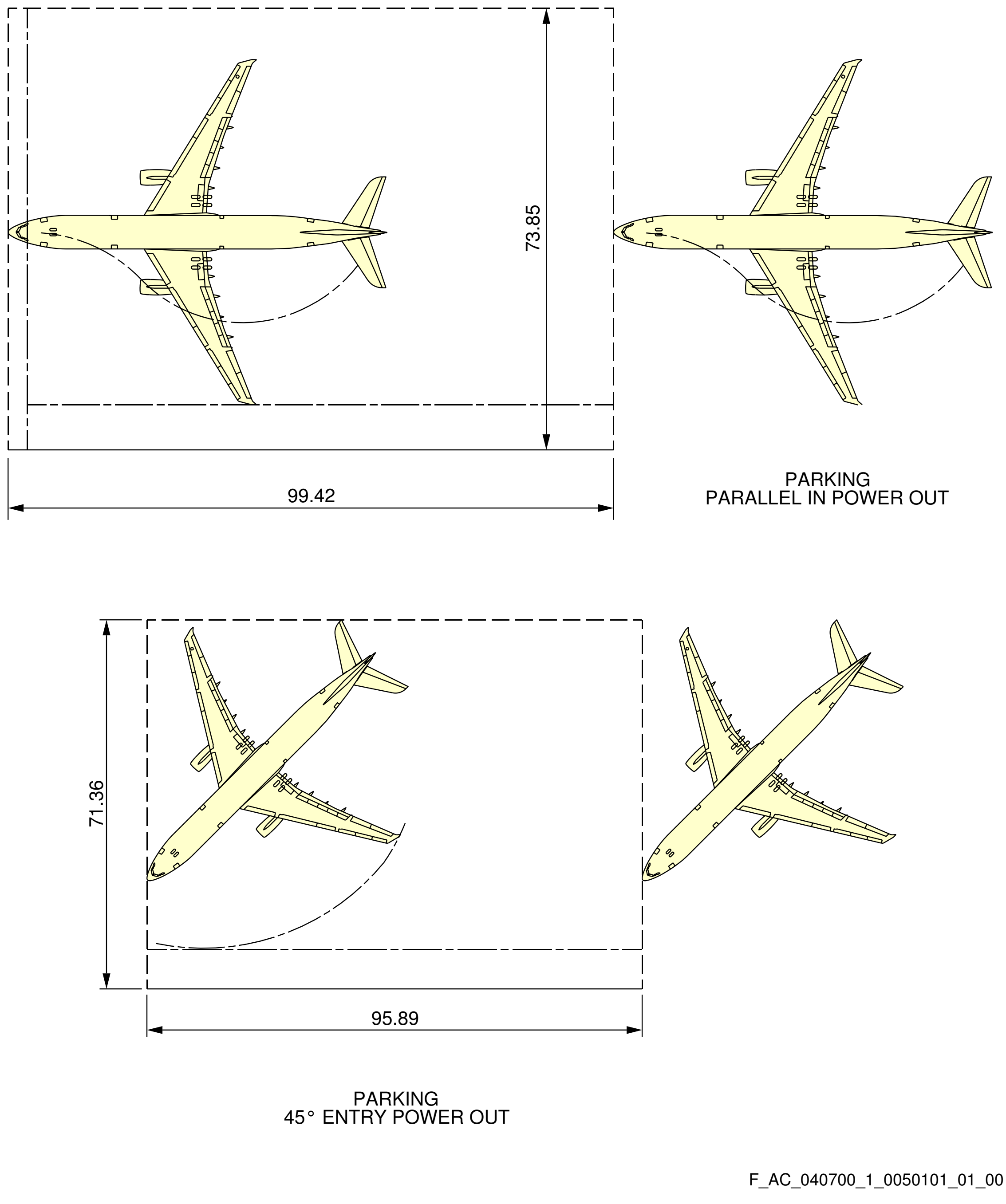
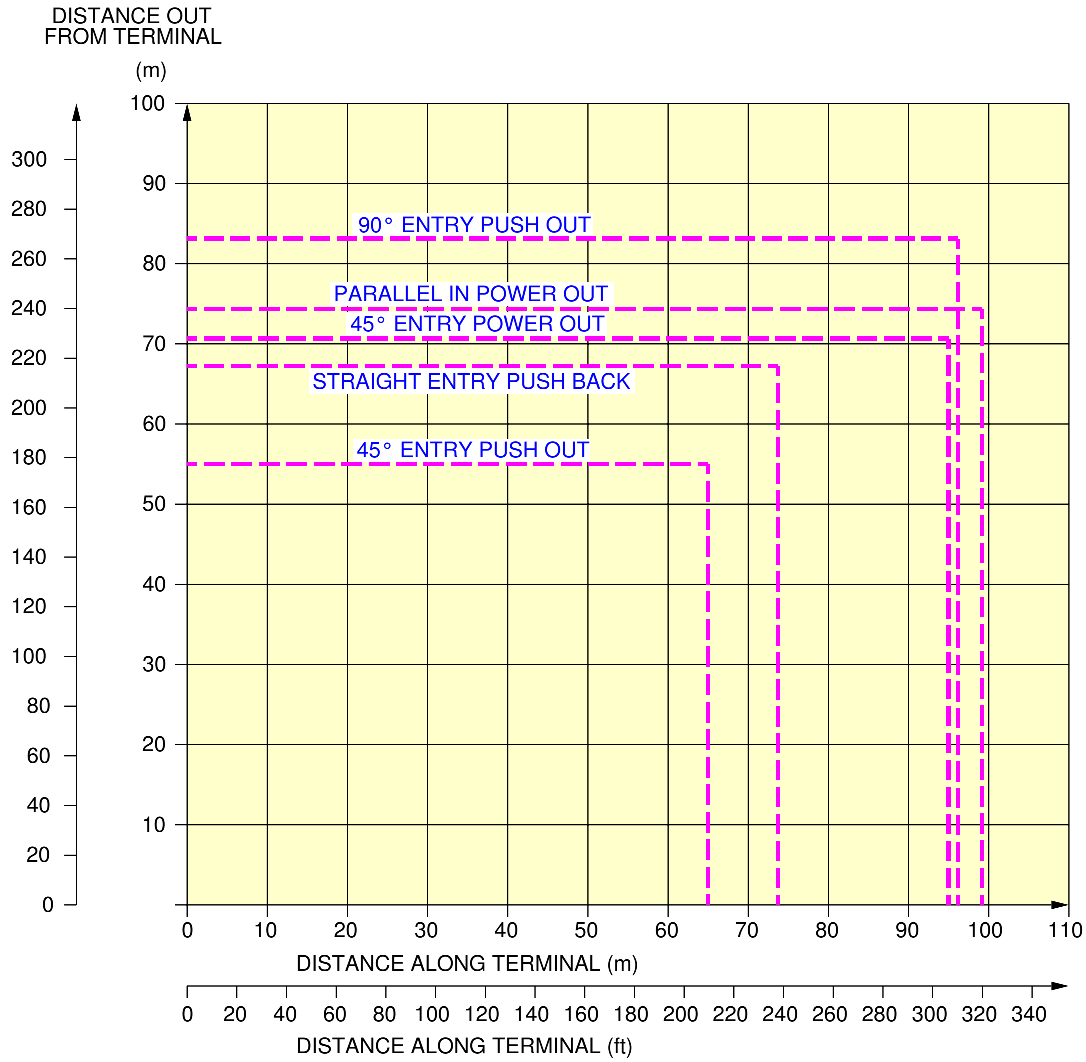
Airplane Parking
Steering Geometry
FIGURE 4

**ON A/C A330-200 A330-200F



Airplane Parking
Steering Geometry
FIGURE 5

**ON A/C A330-200 A330-200F



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Airplane Parking
Minimum Parking Space Requirements
FIGURE 6

TERMINAL SERVICING

5-0-0 TERMINAL SERVICING

****ON A/C A330-200 A330-200F A330-300**

TERMINAL SERVICING

1. Terminal servicing

This chapter provides typical ramp layouts, corresponding minimum turnaround time estimations, locations of ground service points and service requirements.
The information given in this chapter reflects ideal conditions. Actual ramp layouts and service requirements may vary according to local regulations, airline procedures and the airplane condition.

Section 5.1 shows typical ramp layouts for passenger aircraft at the gate or on an Open Apron and freighter aircraft on an Open Apron.

Section 5.2 shows the minimum turnaround schedules for full servicing arrangements (turnround stations).

Section 5.3 shows the minimum turnaround schedule for reduced servicing arrangements (en route stations).

Section 5.4 gives the locations of ground service connections, the standard of connections used and typical capacities and requirements.

Section 5.5 provides the engine starting pneumatic requirements for different engine types and different ambient temperatures.

Section 5.6 provides the air conditioning requirements for heating and cooling (pull-down and pull-up) using ground conditioned air for different ambient temperatures.

Section 5.7 provides the air conditioning requirements for heating and cooling to maintain a constant cabin air temperature using low pressure conditioned air.

Section 5.8 shows the ground towing requirements taking into account different ground surface and aircraft conditions.

5-1-0 Airplane Servicing Arrangements

****ON A/C A330-200 A330-300**

Airplane Servicing Arrangements

1. This section provides typical ramp layouts, showing the various GSE items in position during typical turnaround scenarios for the passenger aircraft.

   These ramp layouts show typical arrangements only. Each operator will have its own specific requirements/regulations for the positioning and operation on the ramp.

   The associated turnaround station is given in the section 5-2-1 for Full Servicing Turn Round Charts.

   The associated minimum turnaround time for Transit Turn Round Charts is given in a section 5-3-1.

****ON A/C A330-200F**

Airplane Servicing Arrangements

1. Airplane Servicing Arrangements

This section provides typical ramp layouts, showing the various GSE items in position during typical turnaround scenarios for the passenger aircraft.

These ramp layouts show typical arrangements only. Each operator will have its own specific requirements/regulations for the positioning and operation on the ramp.

The associated turnaround station is given in the section 5-2-1 for Full Servicing Turn Round Charts.

5-1-1 Symbols Used on Servicing Diagrams

****ON A/C A330-200 A330-200F A330-300**

Symbols Used on Servicing Diagrams

1. This table gives the symbols used on servicing diagrams.

Ground Support Equipment	
AC	AIR CONDITIONING UNIT
AS	AIR START UNIT
CAT	CATERING TRUCK
CB	CONVEYOR BELT
CLEAN	CLEANING TRUCK
FUEL	FUEL HYDRANT DISPENSER or TANKER
GPU	GROUND POWER UNIT
LD CL	LOWER DECK CARGO LOADER
LV	LAVATORY VEHICLE
MD CL	MAIN DECK CARGO LOADER
PBB	PASSENGER BOARDING BRIDGE
PS	PASSENGER STAIRS
TOW	TOW TRACTOR
ULD	ULD TRAIN
WV	POTABLE WATER VEHICLE

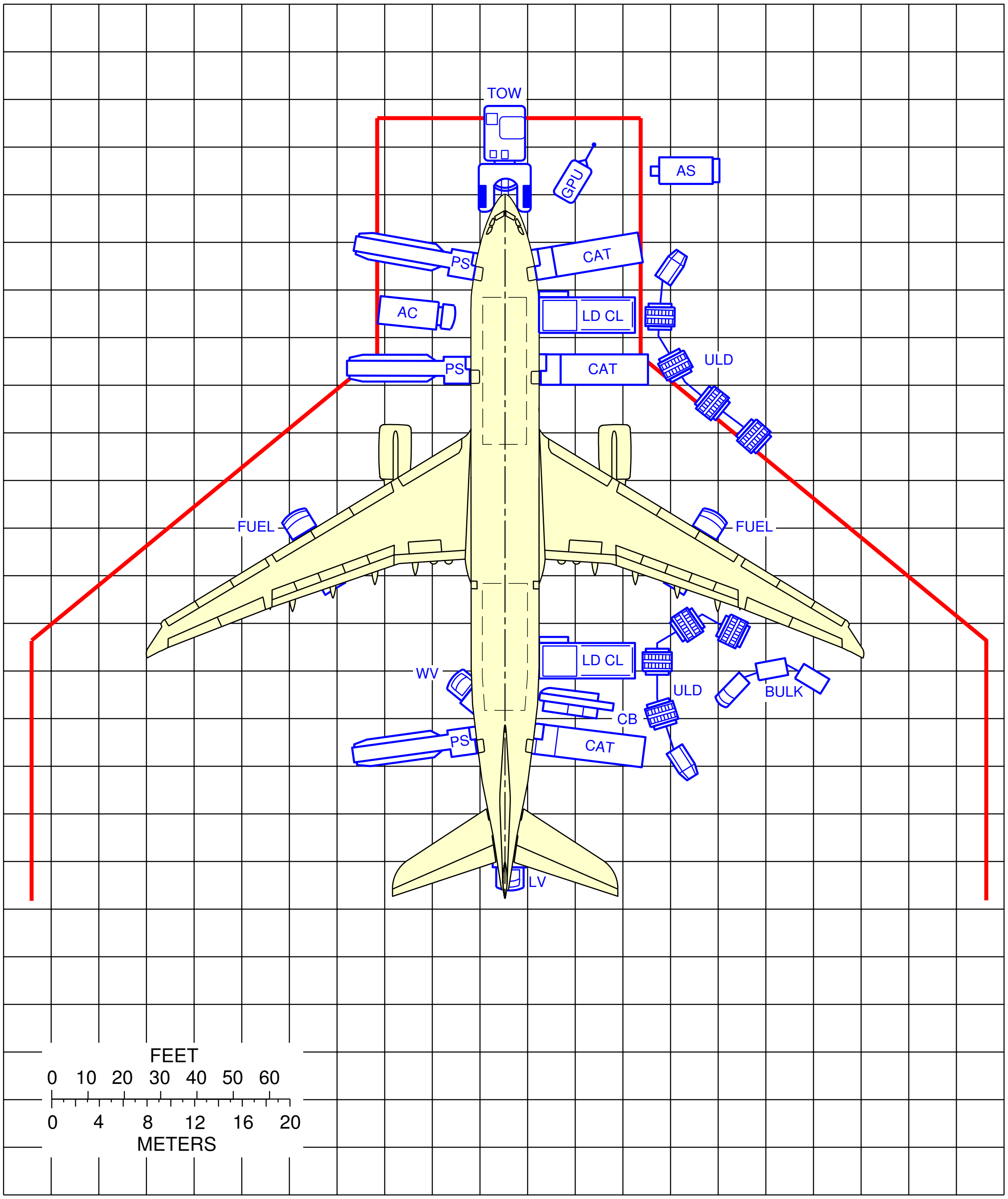
5-1-2 Loading (Open Apron)

****ON A/C A330-200 A330-300**

Loading (Open Apron)

1. This section gives the typical ramp layout for the passenger aircraft on an Open Apron.

**ON A/C A330-200



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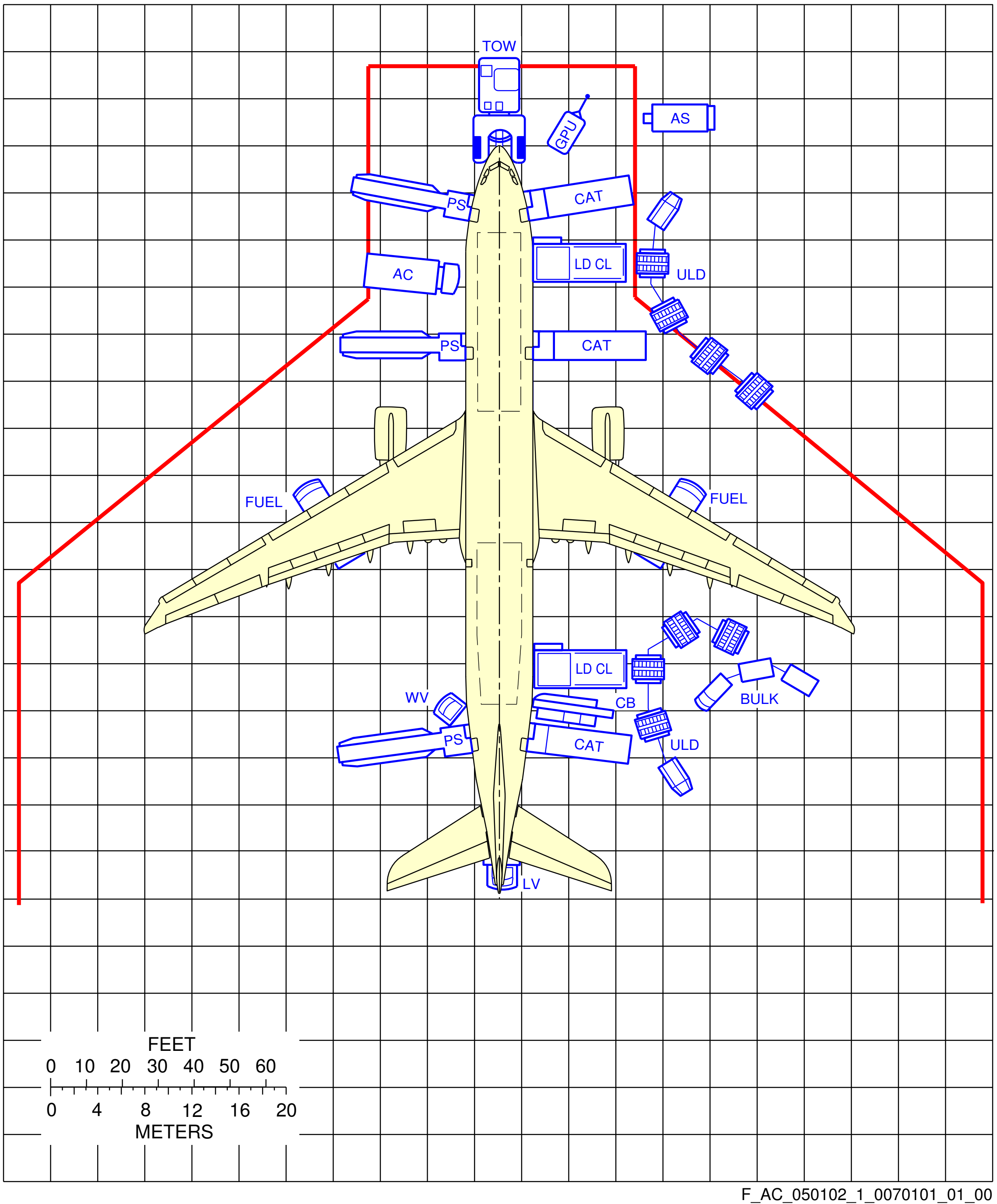
Airplane Servicing Arrangements
Typical Ramp Layout (Open Apron)
FIGURE 1

**ON A/C A330-300



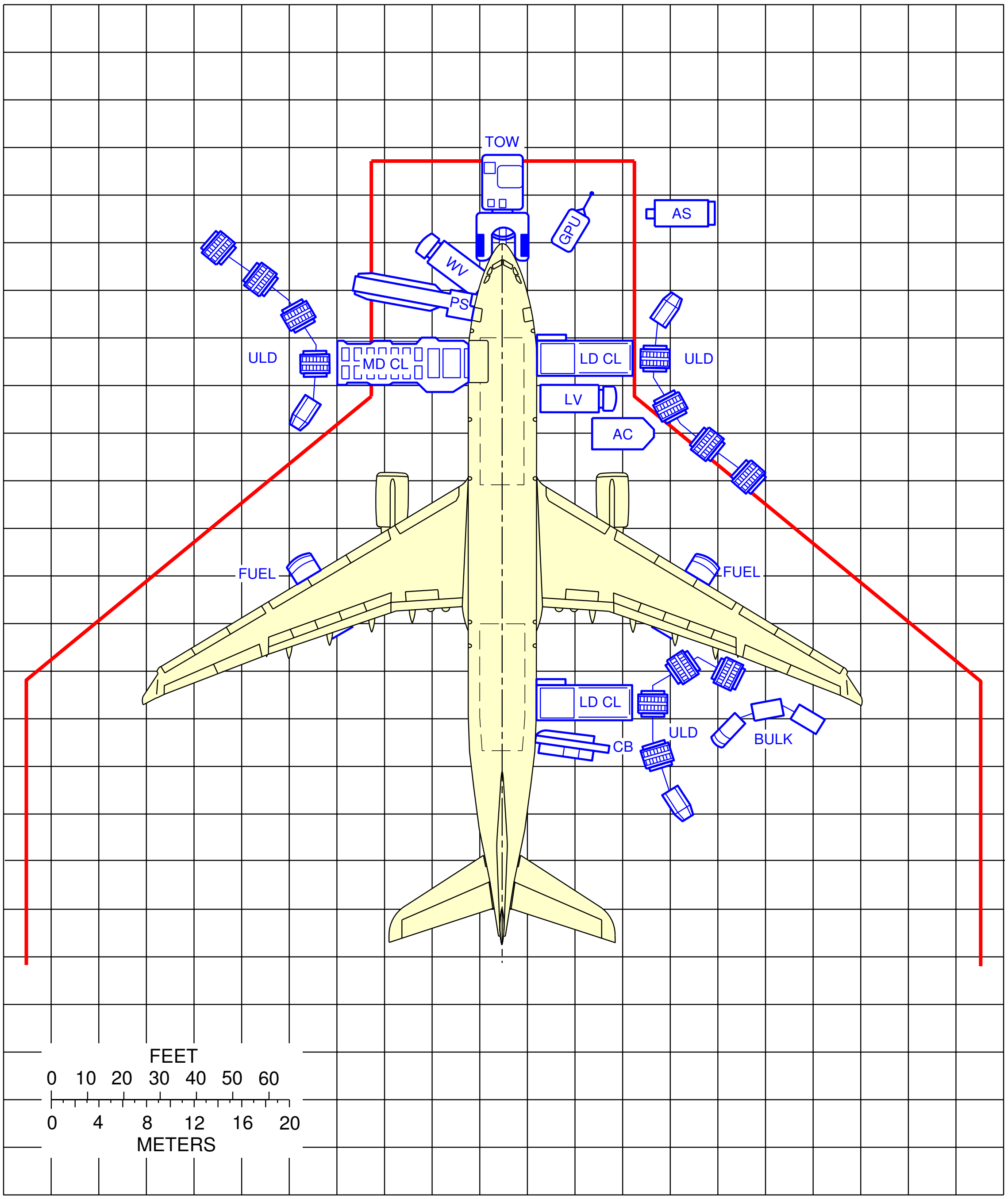
Airplane Servicing Arrangements
Typical Ramp Layout (Open Apron)
FIGURE 2

**ON A/C A330-200F

Loading (Open Apron)

1. This section gives the typical ramp layout for cargo version on an Open Apron.

**ON A/C A330-200F



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Airplane Servicing Arrangements
Typical Ramp Layout (Open Apron)
FIGURE 3

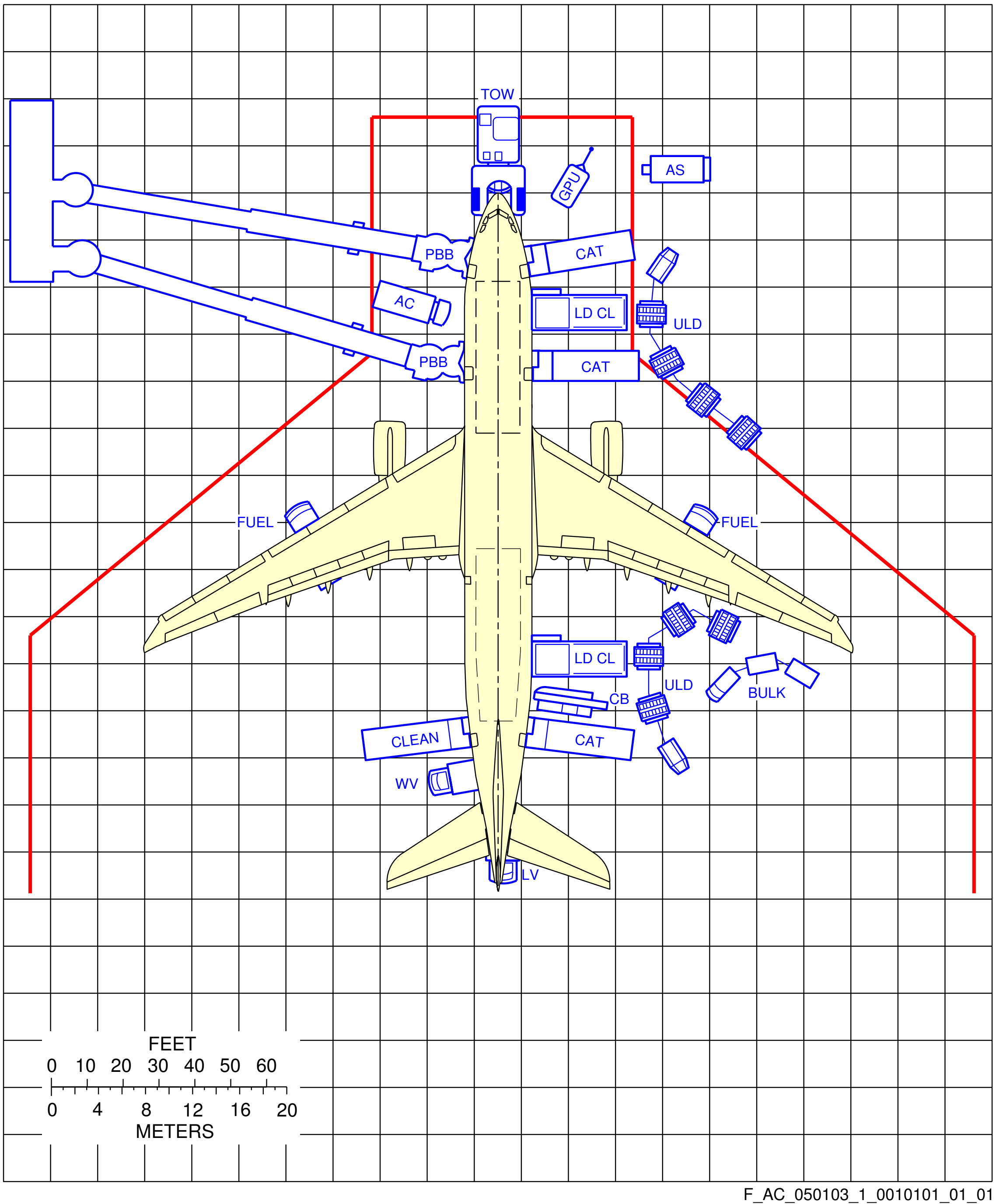
5-1-3 Loading (Passenger Bridge)

****ON A/C A330-200 A330-300**

Loading (Passenger Bridge)

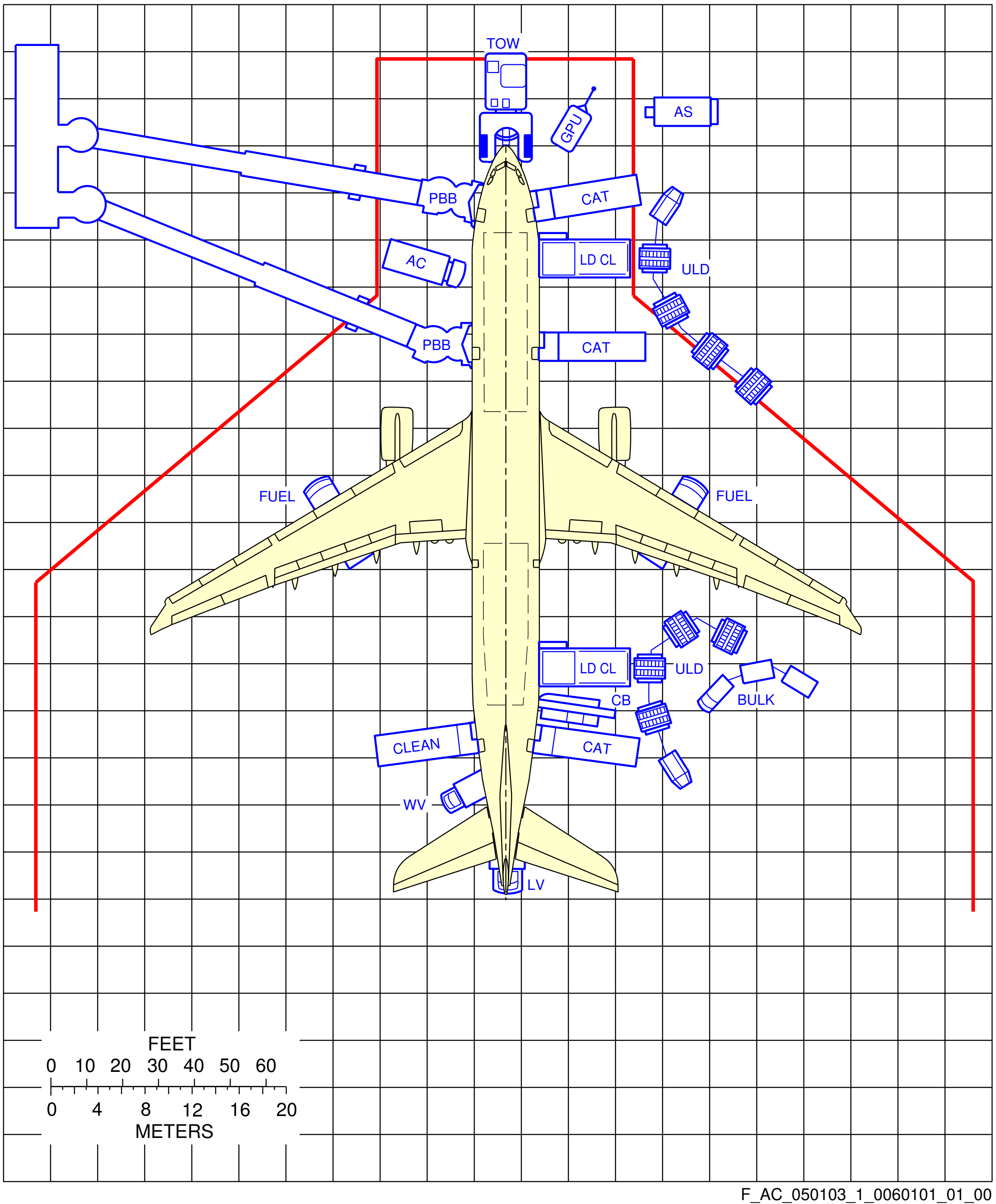
1. This section gives the typical ramp layout for the passenger aircraft at a gate with 2 passenger boarding bridges.

**ON A/C A330-200



Airplane Servicing Arrangements
Typical Ramp Layout (gate area)
FIGURE 1

**ON A/C A330-300



Airplane Servicing Arrangements
Typical Ramp Layout (gate area)
FIGURE 2

5-2-0 Terminal Operations - Full Servicing Turn Round Charts

****ON A/C A330-200 A330-200F A330-300**

Terminal Operations - Full Servicing Turn Round Charts

1. This section provides a series of charts showing typical activities during turnaround at destination airports.

   This data is provided to show the general scope and type of activities involved in ramp operations during the turnaround of an aircraft.

   Varying Airline practices and operating circumstances may result in different sequences and different time intervals to do the activities shown.

5-2-1 Full Servicing Turn Round Charts

**ON A/C A330-200 A330-300

Full Servicing Turn Round Charts

**ON A/C A330-200

1. Assumptions for full servicing turn round chart.

A. PASSENGER BOARDING/DEBOARDING (PB/D)

Deboarding : 293 passengers (30 business + 263 tourists)
- For full servicing, all passengers deboard and board
- Doors used: L1 + L2
- Deboarding:
  - 160 pax at L1 (30 business and 130 tourists) and 133 pax at L2
  - Deboarding rate = 25 pax/min
  - Priority deboarding for premium passengers
- Boarding:
  - 30 pax at L1 and 263 pax at L2
  - Boarding rate = 15 pax/min
- Last Pax Seating Allowance (LPS) + headcounting = + 4 min

B. CARGO
- 6 LD3 + 2 pallets for AFT CC
- 8 LD3 + 2 pallets for FWD CC
- 1 000 kg (2 205 lb) in Bulk CC
- LD-3 off-loading/loading times:
  - off-loading = 1.2 min/LD-3
  - loading = 1.4 min/LD-3
- Pallet loading times:
  - off-loading = 2.4 min/pallet
  - loading = 2.8 min/pallet
- Bulk off-loading/loading times:
  - off-loading = 9.2 min/t
  - loading = 10.5 min/t

C. REFUELLING
- Block fuel for Nominal Range through 4 nozzles
- 115 000 liters (30 380 US gal) at 50 psi
- Dispenser positioning or removal = 3 min (fuel truck change) / if any = 5 min

D. CLEANING
- Cleaning is performed in available time

E. CATERING
- 3 catering vehicles
- 36 Full size trolley: 10 FST at R1, 9 FST at R2 and 17 FST at R4
- FST exchange time = 1.5 min/FST

F. GROUND HANDLING/SERVICING
- Start of operations :
  (1) Bridges = t0 = 0
  (2) Others = t0 + 1 min
- Vehicle positioning/removal = 2 min (fuel truck excluded)
- Ground Power Unit (GPU) = up to 2 × 90 kVA
- Air conditioning = two carts
- Potable water servicing: replenish 700 l (185 US gal); flow rate: 60 l/min (15.85 US gal/min)
- Waste water servicing (draining + rinsing): discharge 700 l (185 US gal)
- Dollies per tractor = 4

****ON A/C A330-300**

2. Assumptions for full servicing turn round chart.

A. PASSENGER BOARDING/DEBOARDING (PB/D)

Deboarding : 332 passengers (30 business + 302 tourists)
- For full servicing, all passengers deboard and board
- Doors used: L1 + L2
- Deboarding:
  - 180 pax at L1 (30 business and 150 tourists) and 152 pax at L2
  - Deboarding rate = 25 pax/min
  - Priority deboarding for premium passengers
- Boarding:
  - 30 pax at L1 and 302 pax at L2
  - Boarding rate = 15 pax/min
- Last Pax Seating Allowance (LPS) + headcounting = + 4 min

B. CARGO
- 8 LD3 + 2 pallets for AFT CC
- 12 LD3 + 2 pallets for FWD CC
- 1 000 kg (2 205 lb) in Bulk CC
- LD-3 off-loading/loading times:
  - off-loading = 1.2 min/LD-3
  - loading = 1.4 min/LD-3
- Pallet loading times:
  - off-loading = 2.4 min/pallet
  - loading = 2.8 min/pallet

- Bulk off-loading/loading times:
  - off-loading = 9.2 min/t
  - loading = 10.5 min/t

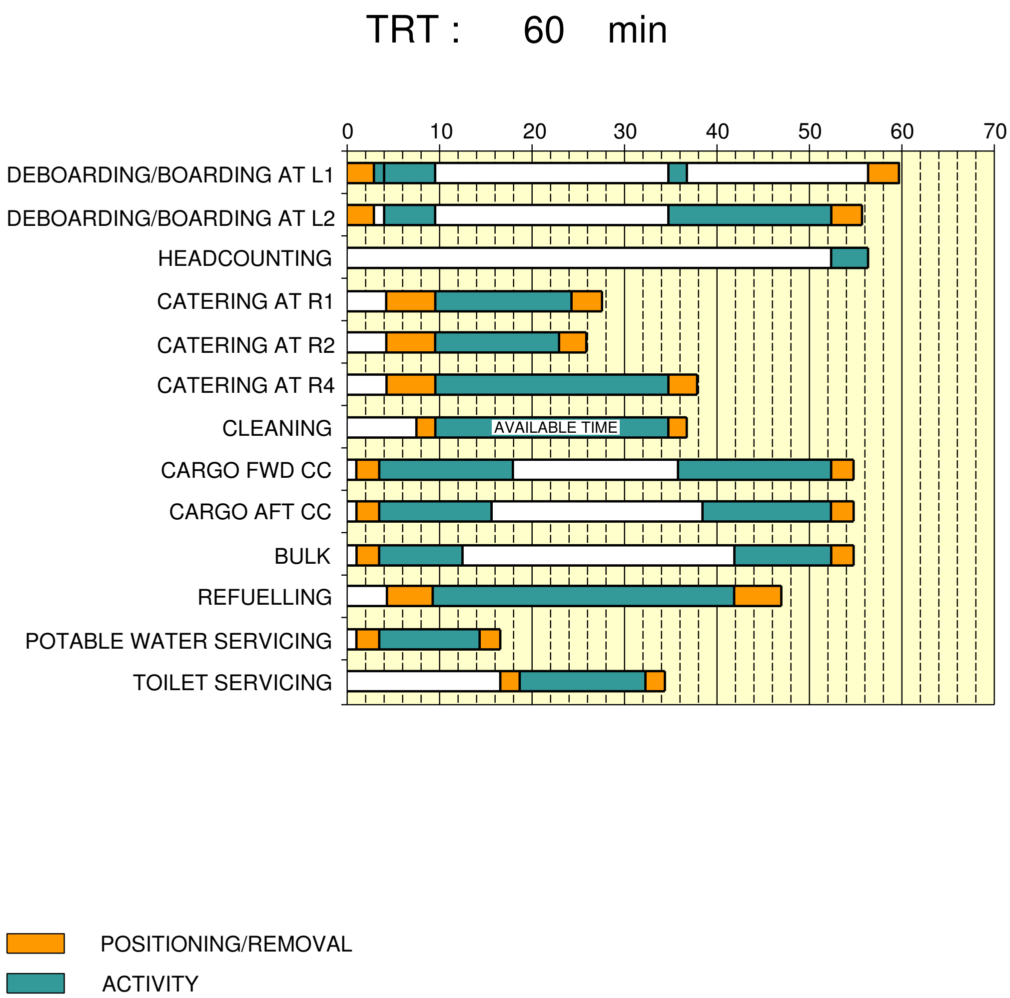
C. REFUELLING
- Block fuel for Nominal Range through 4 nozzles
- 89 100 l (23 538 US gal) at 50 psi
- Dispenser positioning or removal = 3 min (fuel truck change) / if any = 5 min

D. CLEANING
- Cleaning is performed in available time

E. CATERING
- 3 catering vehicles
- 39 Full size trolley: 8 FSTE at R1, 13 FSTE at R2 and 18 FSTE at R4
- FST exchange time = 1.5 min/FST

F. GROUND HANDLING/SERVICING
- Start of operations :
  (1) Bridges = t0 = 0
  (2) Others = t0 + 1 min
- Vehicle positioning/removal = 2 min (fuel truck excluded)
- Ground Power Unit (GPU) = up to 2 × 90 kVA
- Air conditioning = two carts
- Potable water servicing: replenish 700 l (185 US gal); flow rate: 60 l/min (15.85 US gal/min)
- Waste water servicing (draining + rinsing): discharge 700 l (185 US gal)
- Dollies per tractor = 4

**ON A/C A330-200



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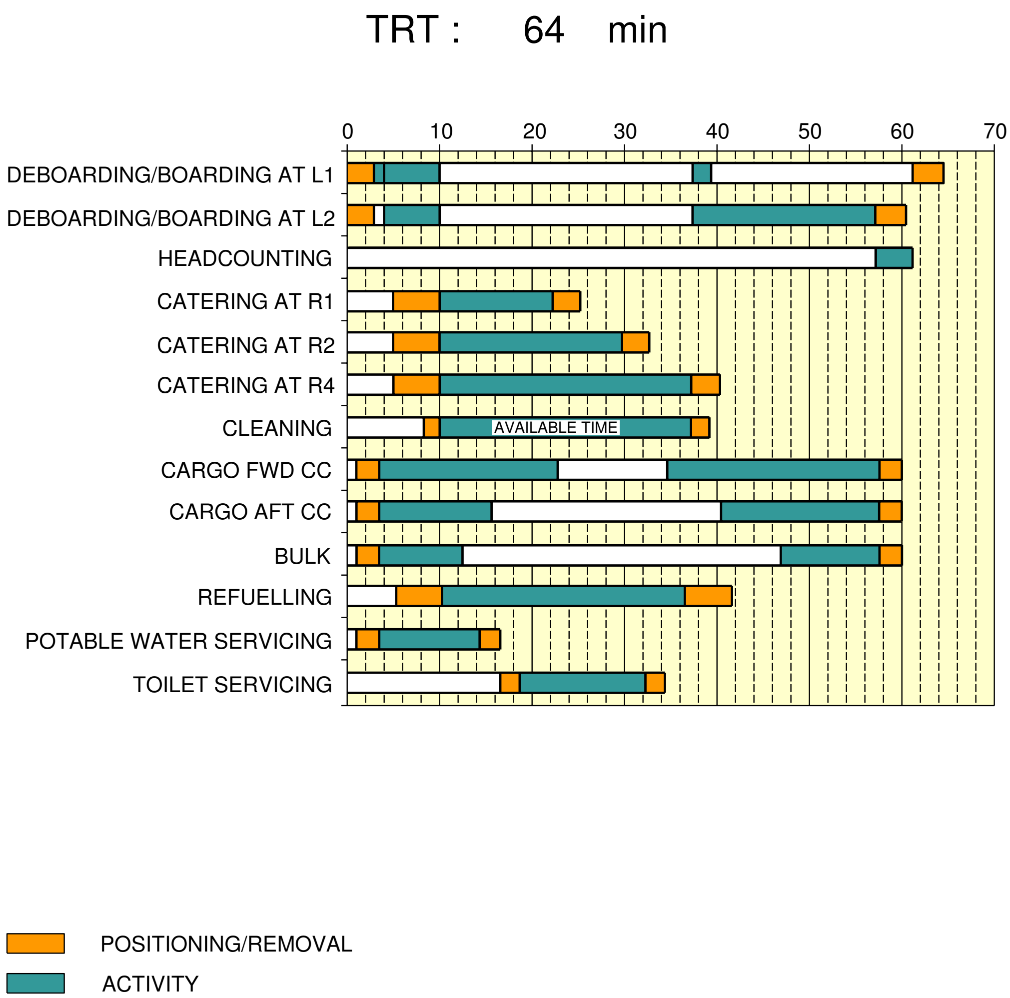
Full Servicing Turn Round Charts
Turn Round Time 60 min.
FIGURE 1

**ON A/C A330-300



Full Servicing Turn Round Charts
Turn Round Time 64 min.
FIGURE 2

**ON A/C A330-200F

Full Servicing Turn Round Charts

1. Assumptions for full servicing turn round chart.

A. PASSENGER BOARDING/DEBOARDING (PB/D)

4 Couriers
- Door used: L1
- Deboarding:
  - 4 couriers at L1
  - Deboarding rate = 25 pax/min
- Boarding:
  - 4 couriers at L1
  - Boarding rate = 15 pax/min

B. CARGO

100% cargo exchange
- 22 pallets on MD CC
- 4 pallets for AFT CC
- 2 LD3 + 4 pallets for FWD CC
- 1 000 kg (2 205 lb) in Bulk CC
- LD-3 off-loading/loading times:
  - off-loading = 1.2 min/LD-3
  - loading = 1.4 min/LD-3
- Lower Deck pallet loading times:
  - off-loading = 2.4 min/pallet
  - loading = 2.8 min/pallet
- Bulk off-loading/loading times:
  - off-loading = 9.2 min/t
  - loading = 10.5 min/t

C. REFUELLING
- Block fuel for Nominal Range through 4 nozzles
- 115 000 l (30 380 US gal) at 50 psi
- Dispenser positioning or removal = 3 min (fuel truck change) / if any = 5 min

D. CLEANING
- Courier area cleaning is performed in available time

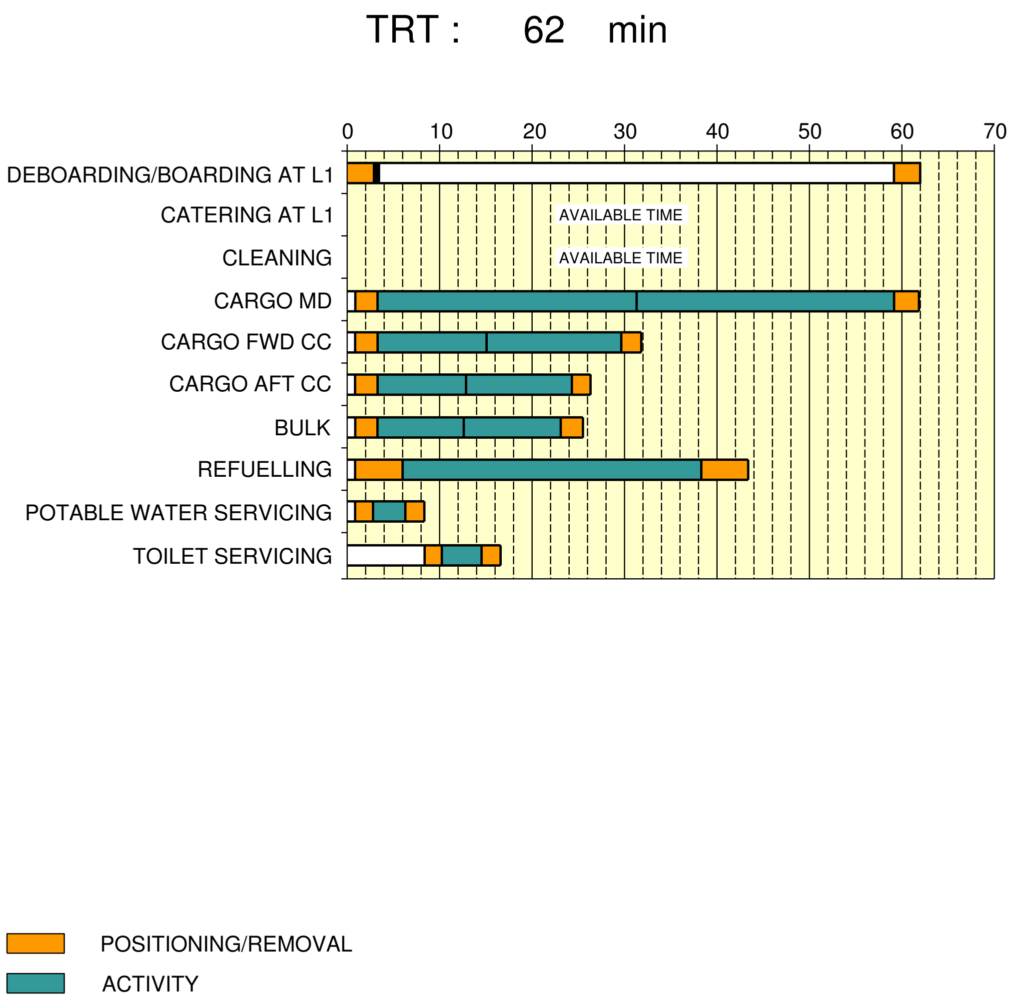
E. CATERING
- Catering of galley (if installed) is performed through door L1 (standard units only) and in available time.

F. GROUND HANDLING/SERVICING
- Start of operations :

(1) Stair = t0 = 0
(2) Others = t0 + 1 min

- Vehicle positioning/removal = 2 min (fuel truck excluded)
- Ground Power Unit (GPU) = up to 2 × 90 kVA
- Air conditioning = two carts
- Potable water servicing: replenish 700 l (185 US gal); flow rate: 60 l/min (15.85 US gal/min)
- Waste water servicing (draining + rinsing): discharge 700 l (185 US gal)
- Dollies per tractor = 4

**ON A/C A330-200F



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Full Servicing Turn Round Charts
Turn Round Time 62 min.
FIGURE 3

5-3-0 Terminal Operations - Transit Turn Round Charts

****ON A/C A330-200 A330-300**

Terminal Operations - Transit Turn Round Charts

1. This section provides a series of charts showing typical activities during turnaround at transit airports.

   This data is provided to show the general scope and type of activities involved in ramp operations during the turnaround of an aircraft.

   Varying Airline practices and operating circumstances may result in different sequences and different time intervals to do the activities shown.

5-3-1 Transit Turn Round Charts

****ON A/C A330-200 A330-300**

Transit Turn Round Charts

****ON A/C A330-200**

1. Assumptions for transit turn round chart.

A. PASSENGER BOARDING/DEBOARDING (PB/D)

Deboarding : 293 passengers (30 business + 263 tourists)
- 50% pax in transit, all passengers deboard and board
- Doors used: L1 + L2
- Deboarding:
  - 160 pax at L1 (30 business and 130 tourists) and 133 pax at L2
  - Deboarding rate = 25 pax/min
  - Priority deboarding for premium passengers
- Boarding:
  - 30 pax at L1 and 263 pax at L2
  - Boarding rate = 15 pax/min
- Last Pax Seating Allowance (LPS) + headcounting = + 4 min

B. CARGO

For transit, 50% of luggages are exchanged in one cargo compartment only
- 1 container loader for AFT CC
- 5 LD3 for AFT CC
- LD-3 off-loading/loading times:
  - off-loading = 1.2 min/LD-3
  - loading = 1.4 min/LD-3

C. REFUELLING
- Refueling through 2 nozzles
- For transit, fuel uplift is 30% of maximum fuel uplift. (Max = 139 090 l (36 744 US gal))
  Note: local rules and regulations to be respected
- Passengers boarding can start before refuel is finished
- Dispenser positioning or removal = 3 min (fuel truck change) / if any = 5 min

D. CLEANING
- Cleaning is performed in available time

E. CATERING
- Time needed just for additional meals
- Assumptions: 10 min

F. GROUND HANDLING/SERVICING
- Start of operations :
  (1) Bridges = t0 = 0
  (2) Others = t0 + 1 min
- Vehicle positioning/removal = 2 min (fuel truck excluded)
- Ground Power Unit (GPU) = up to 2 × 90 kVA
- Air conditioning = two carts
- No potable water servicing
- No waste water servicing
- Dollies per tractor = 4

****ON A/C A330-300**

2. Assumptions for transit turn round chart.

A. PASSENGER BOARDING/DEBOARDING (PB/D)

Deboarding : 332 passengers (30 business + 302 tourists)
- 50% pax in transit, all passengers deboard and board
- Doors used: L1 + L2
- Deboarding:
  - 165 pax at L1 (30 business and 135 tourists) and 167 pax at L2
  - Deboarding rate = 25 pax/min
  - Priority deboarding for premium passengers
- Boarding:
  - 30 pax at L1 and 302 pax at L2
  - Boarding rate = 15 pax/min
- Last Pax Seating Allowance (LPS) + headcounting = + 4 min

B. CARGO

For transit, 50% of luggages are exchanged in one cargo compartment only
- 1 container loader for AFT CC
- 5 LD3 for AFT CC
- LD-3 off-loading/loading times:
  - off-loading = 1.2 min/LD-3
  - loading = 1.4 min/LD-3

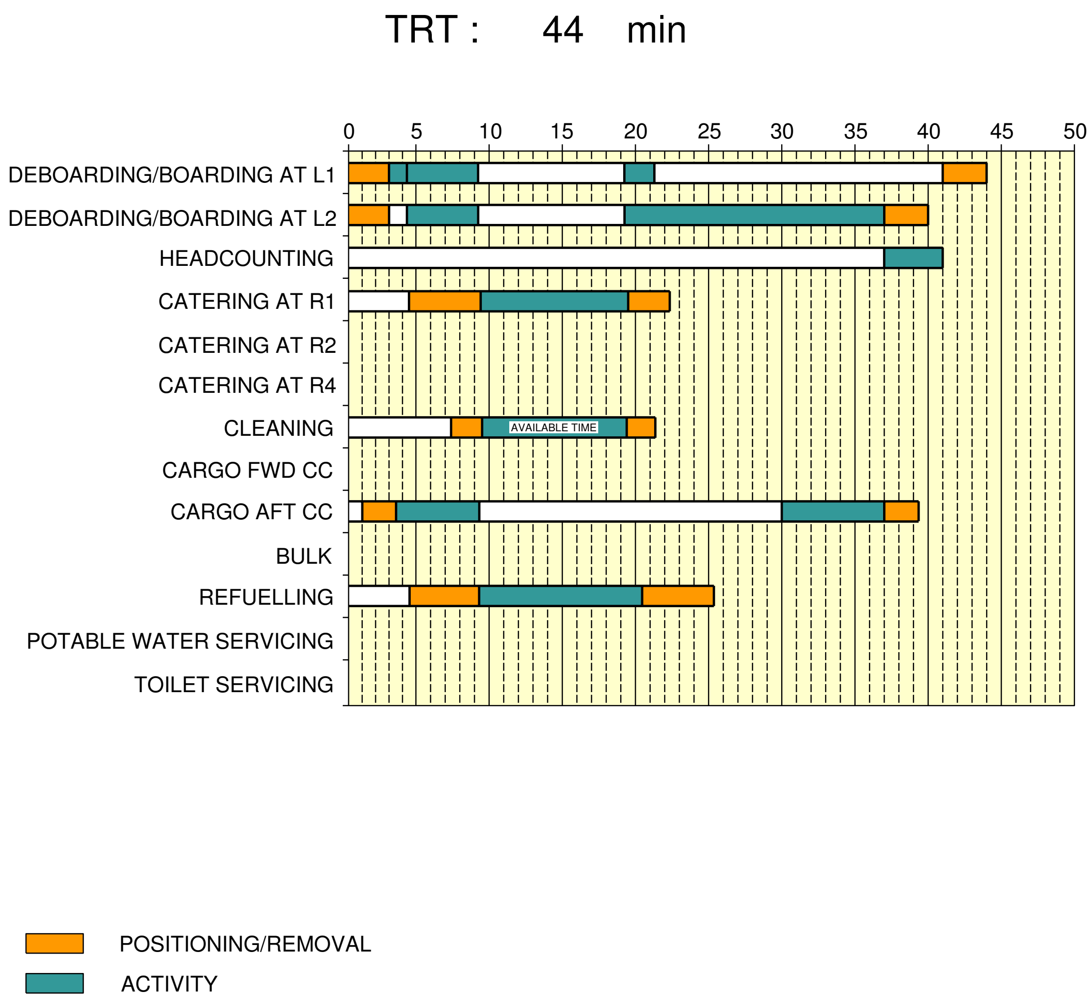
C. REFUELLING
- Refueling through 2 nozzles
- For transit, fuel uplift is 30% of maximum fuel uplift. (Max = 97 530 l (25 765 US gal))
  Note: local rules and regulations to be respected
- Passengers boarding can start before refuel is finished
- Dispenser positioning or removal = 3 min (fuel truck change) / if any = 5 min

D. CLEANING
- Cleaning is performed in available time

E. CATERING
- Time needed just for additional meals
- Assumptions: 10 min

F. GROUND HANDLING/SERVICING
- Start of operations :
  (1) Bridges = t0 = 0
  (2) Others = t0 + 1 min
- Vehicle positioning/removal = 2 min (fuel truck excluded)
- Ground Power Unit (GPU) = up to 2 × 90 kVA
- Air conditioning = two carts
- No potable water servicing
- No waste water servicing
- Dollies per tractor = 4

**ON A/C A330-200



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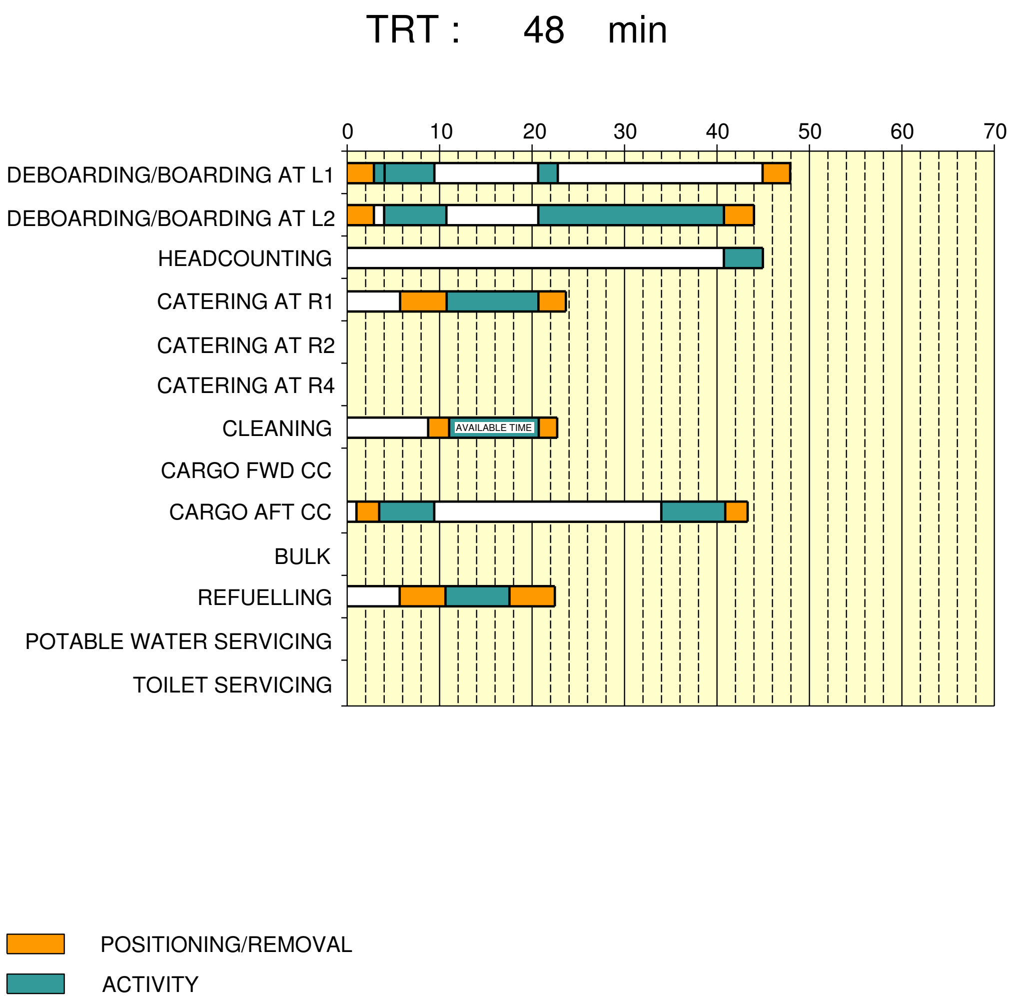
Transit Turn Round Charts
Turn Round Time 44 min.
FIGURE 1

**ON A/C A330-300



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Transit Turn Round Charts
Turn Round Time 48 min.
FIGURE 2

5-4-0 Ground Service Connections

****ON A/C A330-200 A330-200F A330-300**

Ground Service Connections

1. Ground Service Connections.

5-4-1 Ground Service Connections Layout

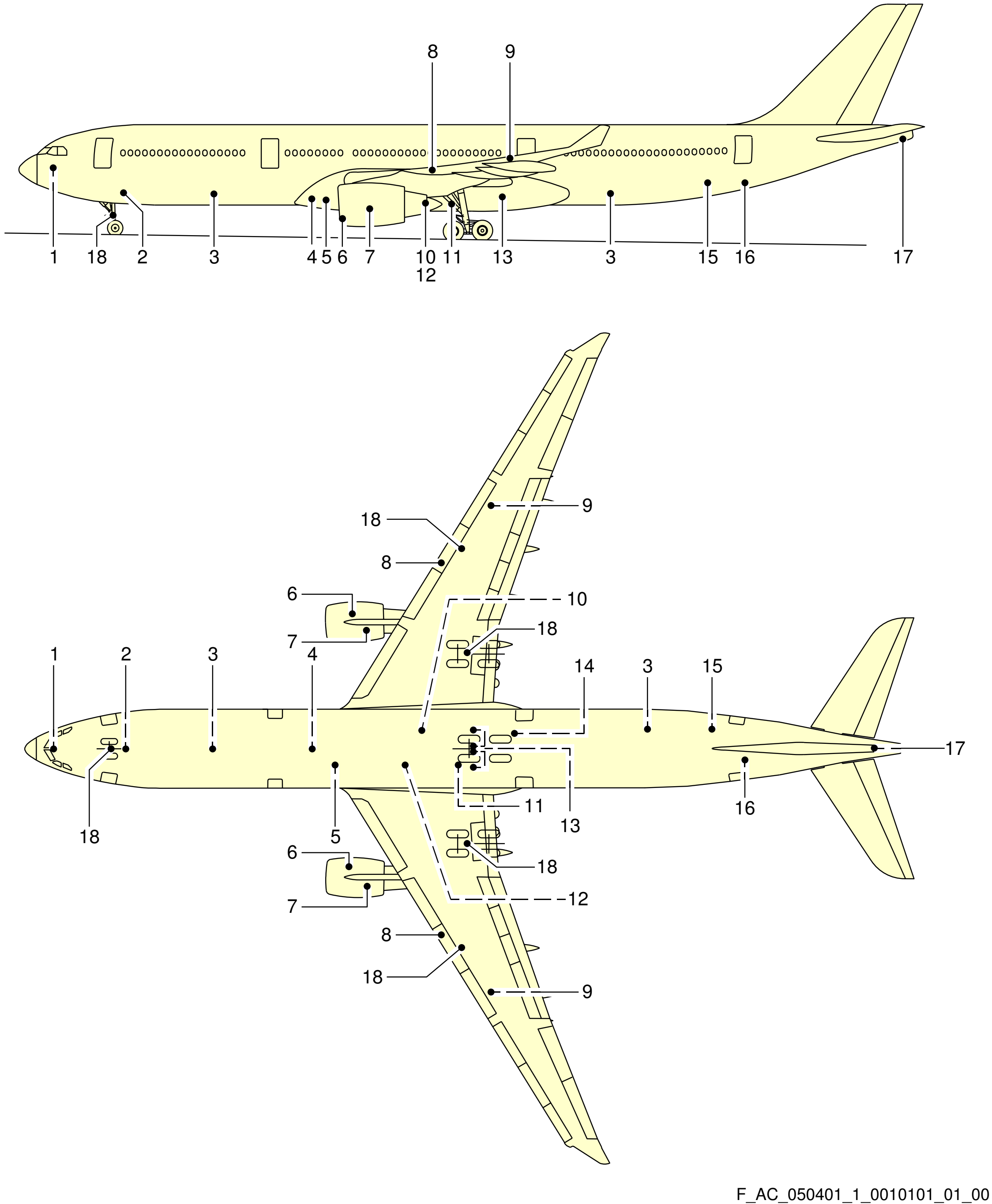
**ON A/C A330-200 A330-300

Ground Service Connections Layout

1. This section gives the ground service connections layout.

Ground Service Connections Layout	
1	– OXYGEN SYSTEM
2	– EXTERNAL POWER (ELECTRICAL)
3	– POTABLE WATER DRAIN
4	– LOW PRESSURE PRE-CONDITIONING
5	– HIGH PRESSURE AIR PRE-CONDITIONING AND ENGINE STARTING
6	– IDG OIL FILLING
7	– ENGINE OIL FILLING
8	– PRESSURE REFUEL
9	– OVERWING REFUEL
10	– HYDRAULIC GROUND POWER SUPPLY (YELLOW)
11	– HYD RESERVOIR FILLING AND GROUND POWER SUPPLY (GREEN)
12	– HYD RESERVOIR AIR PRESSURIZATION & GROUND POWER SUPPLY (BLUE)
13	– NITROGEN CHARGING FOR HYDRAULIC ACCUMULATORS
14	– REFUEL/DEFUEL PANEL
15	– POTABLE WATER FILLING
16	– TOILET SERVICING
17	– APU OIL FILLING
18	– GROUNDING POINTS

**ON A/C A330-200 A330-300



Ground Service Connections
FIGURE 1

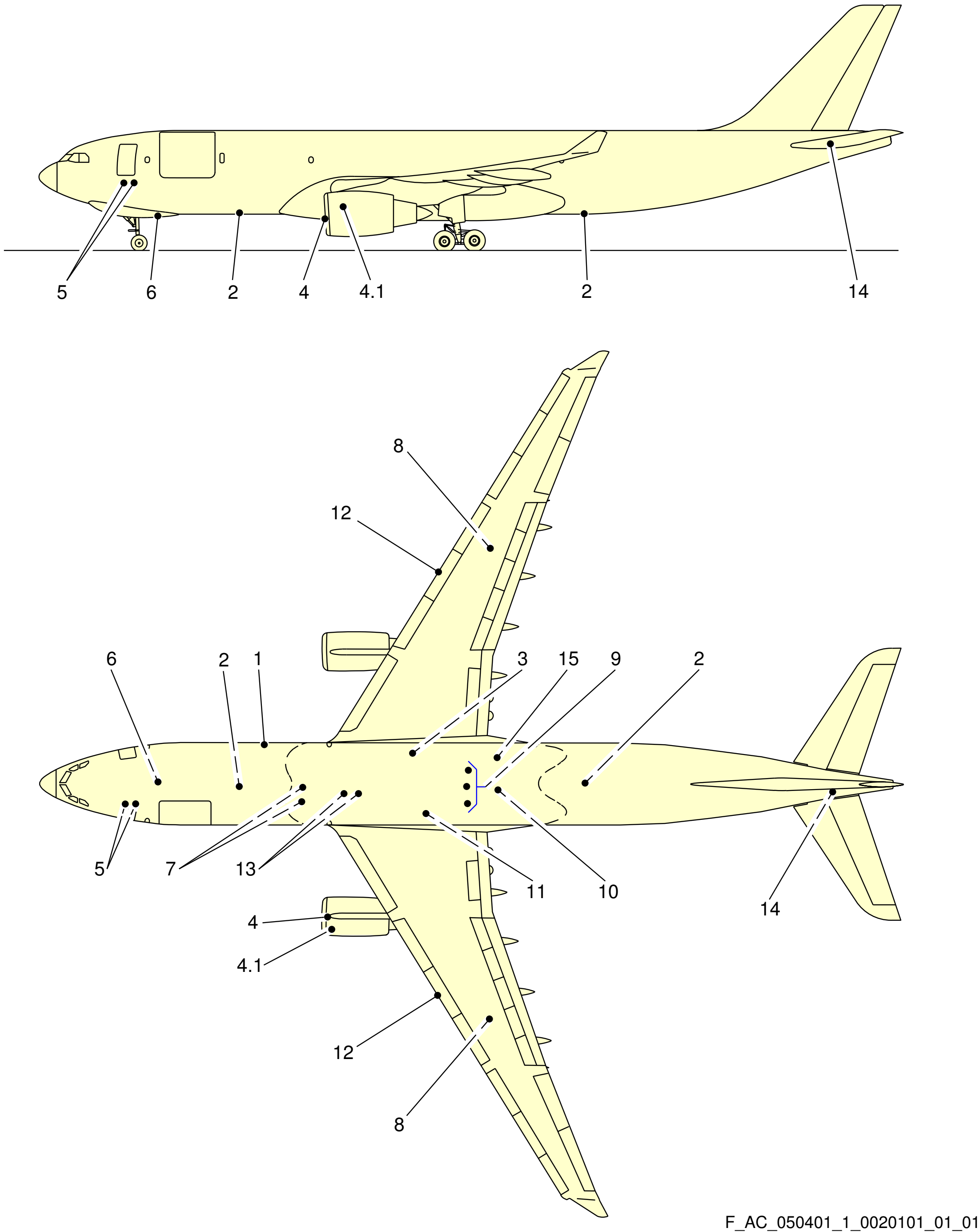
****ON A/C A330-200F**

Ground Service Connections Layout

1. Ground Service Connections Layout

Ground Service Connections Layout	
1	– POTABLE WATER SERVICE PANEL
2	– REMOTE WATER DRAIN
3	– HYDRAULIC GROUND POWER SUPPLY (YELLOW)
4	– IDG OIL FILLING
4.1	– ENGINE OIL FILLING
5	– WASTE WATER PANEL
6	– ELECTRICAL GROUND POWER RECEPTACLES
7	– LOW PRESSURE AIR
8	– FUEL GRAVITY FILLING
9	– AIR CHARGING FOR HYDRAULIC ACCUMULATORS
10	– HYD RESERVOIR FILLING AND GROUND POWER (GREEN)
11	– HYD RESERVOIR AIR CHARGING & GROUND POWER (BLUE)
12	– REFUEL/DEFUEL COUPLING
13	– HIGH PRESSURE AIR
14	– APU OIL FILLING
15	– REFUEL/DEFUEL PANEL

**ON A/C A330-200F



Ground Service Connections
FIGURE 2

5-4-2 Grounding Points

****ON A/C A330-200 A330-200F A330-300**

Grounding Points

****ON A/C A330-200 A330-200F**

1. Grounding Points.

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
On Nose Landing Gear leg :	6.67 m (21.88 ft)	on centerline		1.40 m (4.59 ft)
On left Main Landing Gear leg :	28.37 m (93.08 ft)		5.34 m (17.52 ft)	1.50 m (4.92 ft)
On right Main Landing Gear leg :	28.37 m (93.08 ft)	5.34 m (17.52 ft)		1.50 m (4.92 ft)

A. The grounding stud on each landing gear leg is designed for use with a clip-on connector (such as Appleton TGR).

B. The grounding studs are used to connect the aircraft to an approved ground connection on the ramp or in the hangar for :
- refuel/defuel operations.
- maintenance operations.
- bad weather conditions.

NOTE : In all other conditions, the electrostatic discharge through the tyre is sufficient.

****ON A/C A330-300**

2. Grounding Points.

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	

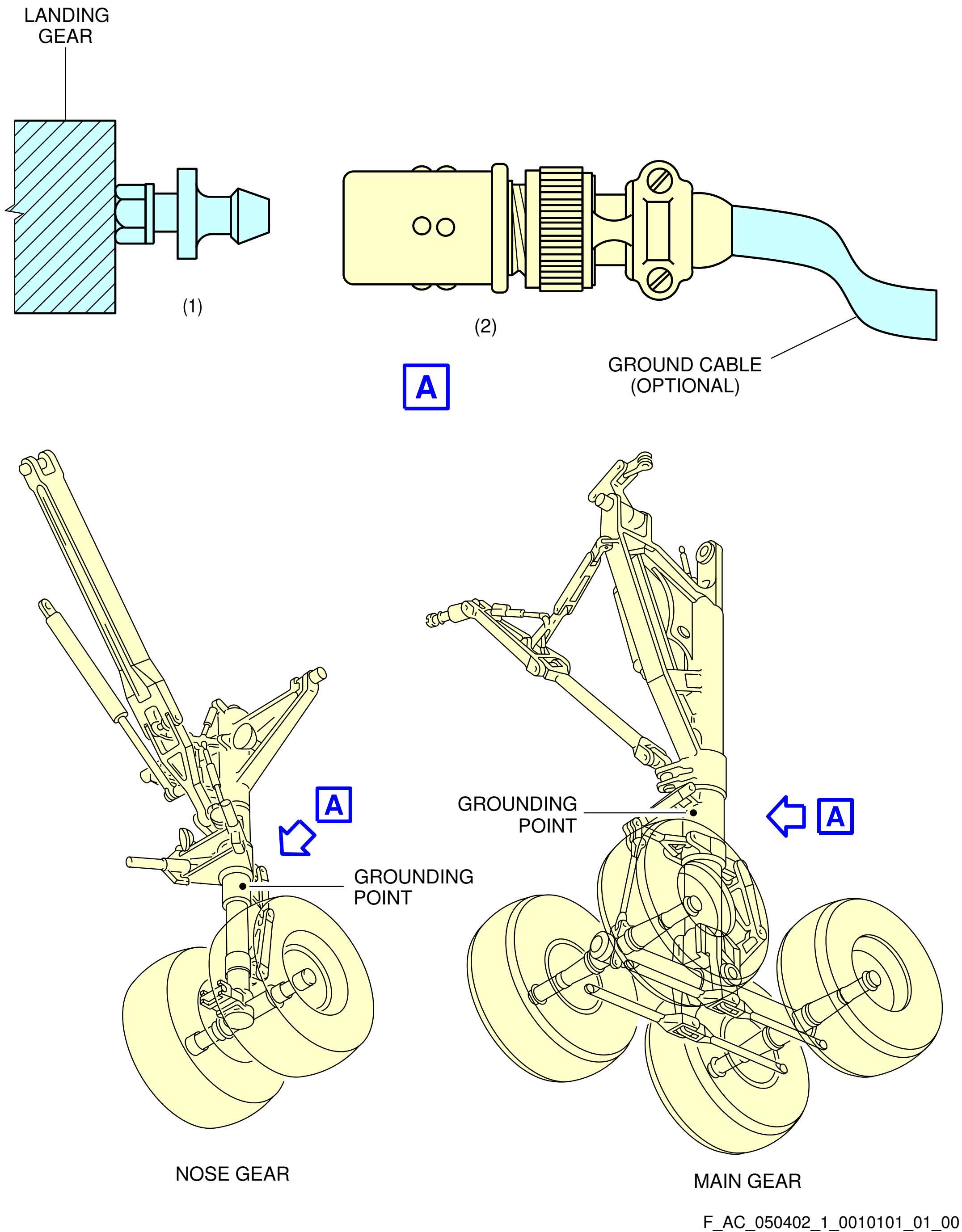
	DISTANCE : Meters (ft)			
On Nose Landing Gear leg :	6.67 m (21.88 ft)	on centerline		1.40 m (4.59 ft)
On left Main Landing Gear leg :	31.53 m (103.44 ft)		5.34 m (17.52 ft)	1.50 m (4.92 ft)
On right Main Landing Gear leg :	31.53 m (103.44 ft)	5.34 m (17.52 ft)		1.50 m (4.92 ft)

A. The grounding stud on each landing gear leg is designed for use with a clip-on connector (such as Appleton TGR).

B. The grounding studs are used to connect the aircraft to an approved ground connection on the ramp or in the hangar for :
- refuel/defuel operations.
- maintenance operations.
- bad weather conditions.

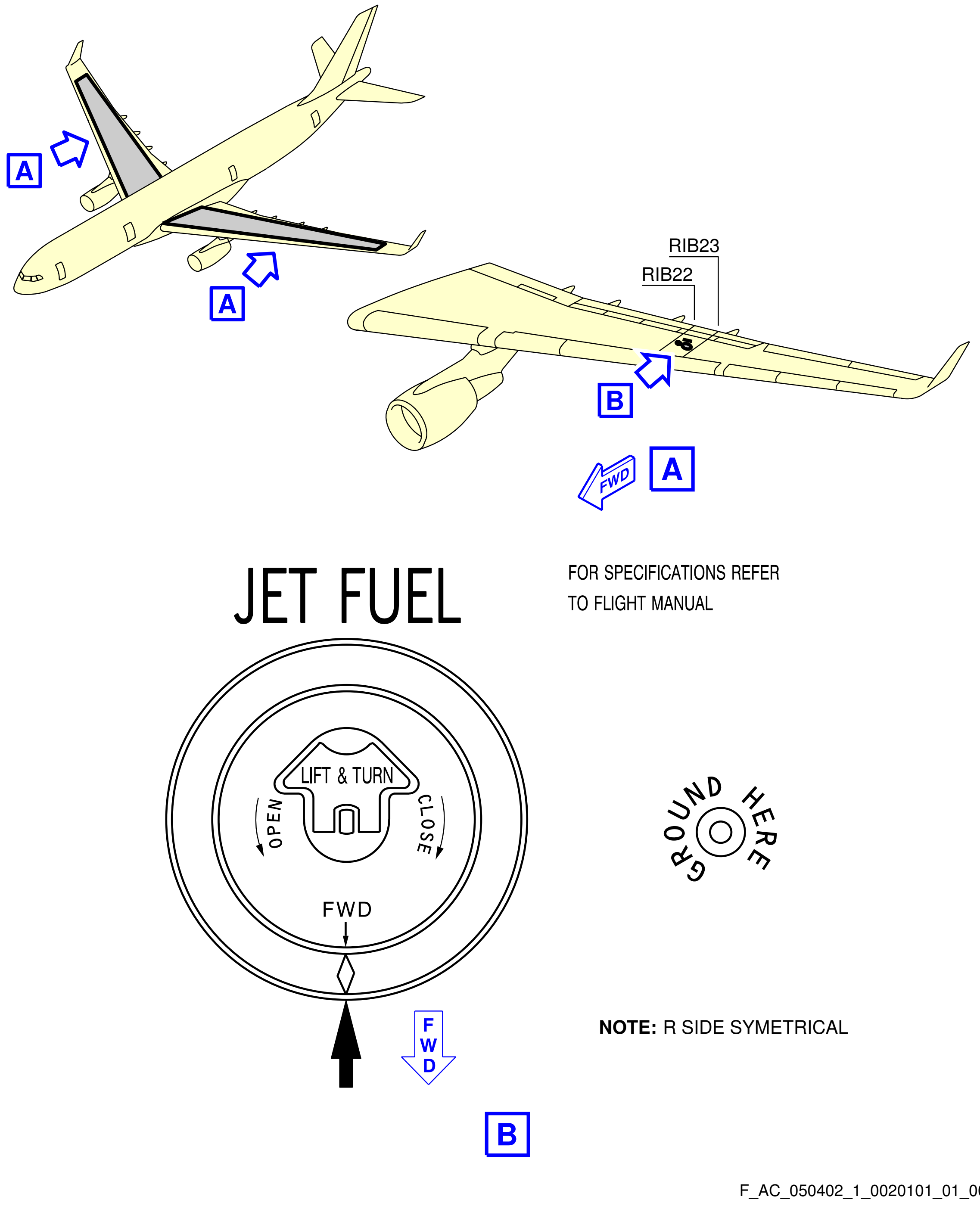
NOTE : In all other conditions, the electrostatic discharge through the tyre is sufficient.

**ON A/C A330-200 A330-200F A330-300



Ground Service Connections
Grounding Points
FIGURE 1

**ON A/C A330-200 A330-200F A330-300



Ground Service Connections
Grounding Points
FIGURE 2

5-4-3 Hydraulic System

****ON A/C A330-200 A330-200F A330-300**

Hydraulic System

1. Ground service panels.

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Green System :	41.3 m (135.50 ft)		1.34 m (4.40 ft)	2.23 m (7.32 ft)
Yellow System :	35.4 m (116.14 ft)	1.30 m (4.27 ft)		1.95 m (6.40 ft)
Blue System :	34.41 m (112.89 ft)		1.28 m (4.20 ft)	1.94 m (6.36 ft)

2. Reservoir Pressurization.

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
One 1/4 in. self sealing connection common to the 3 reservoirs. (Blue System Ground Service Panel) :	34.47 m (113.09 ft)		1.41 m (4.63 ft)	1.89 m (6.20 ft)

****ON A/C A330-200 A330-200F**

3. Accumulator Charging, 5 connections.

   (one for each accumulator) for :

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Yellow System accumulator:	35.55 m (116.63 ft)	1.43 m (4.69 ft)		1.91 m (6.27 ft)
Green System accumulator:	41.52 m (136.22 ft)		1.33 m (4.36 ft)	2.19 m (7.19 ft)
Blue System accumulator:	34.54 m (113.32 ft)		1.38 m (4.53 ft)	1.9 m (6.23 ft)
Blue system brake accumulator:	34.54 m (113.32 ft)		1.24 m (4.07 ft)	1.9 m (6.23 ft)

****ON A/C A330-300**

4. Accumulator Charging, 5 connections.

(one for each accumulator) for :

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Yellow System accumulator:	35.55 m (116.63 ft)	1.43 m (4.69 ft)		1.91 m (6.27 ft)
Green System accumulator:	41.52 m (136.22 ft)		1.33 m (4.36 ft)	2.19 m (7.19 ft)
Blue System accumulator:	34.54 m (113.32 ft)		1.38 m (4.53 ft)	1.9 m (6.23 ft)
Blue system brake accumulator:	34.54 m (113.32 ft)		1.18 m (3.87 ft)	1.9 m (6.23 ft)

****ON A/C A330-200 A330-200F A330-300**

5. Reservoir Filling, 2 connections.

One self-sealing connection for pressurized supply on the Green system ground service panel.

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
One handpump filling connection.	41.31 m (135.53 ft)		1.3 m (4.27 ft)	2.11 m (6.92 ft)

6. Reservoir Drain.

One 3/8 in. self-sealing connection on reservoir for :

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Green System :	29.03 m (95.24 ft)	2.12 m (6.96 ft)		2.40 m (7.87 ft)
Yellow System :	33.17 m (108.83 ft)		0.70 m (2.30 ft)	3.80 m (12.47 ft)
Blue System :	29.03 m (95.24 ft)		2.12 m (6.96 ft)	2.40 m (7.87 ft)

7. Ground Test.

Three 1 in. self-sealing connections and three 1-1/2 in. self-sealing connections (one pair per system)

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Green System ground service panel:	34.92 m (114.57 ft)		1.35 m (4.43 ft)	2.2 m (7.22 ft)
Yellow System ground service panel:	29.03 m (95.24 ft)	1.30 m (4.27 ft)		2.0 m (6.56 ft)
Blue System ground service panel:	28.03 m (91.96 ft)		1.28 m (4.20 ft)	2.0 m (6.56 ft)

5-4-4 Electrical System

****ON A/C A330-200 A330-200F A330-300**

Electrical System

****ON A/C A330-200 A330-300**

1. Electrical System.

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Two standard 6 pin connectors ISO R 461 specification.	7.2 m (23.62 ft)	on centerline		1.98 m (6.50 ft)

A. Supply :
115/200 Volt, 3-Phase, 400 Hz.

B. Electrical connectors for servicing :
- AC outlets : Hubbel 5258.
- DC outlets : Hubbel 7472.
- Vacuum cleaner outlets : Hubbel 5258.

****ON A/C A330-200F**

2. Electrical System.

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Two standard 6 pin connectors ISO R 461 specification.	7.2 m (23.62 ft)	on centerline		2.29 m (7.51 ft)

A. Supply :
115/200 Volt, 3-Phase, 400 Hz.

B. Electrical connectors for servicing :
- AC outlets : Hubbel 5258.
- DC outlets : Hubbel 7472.
- Vacuum cleaner outlets : Hubbel 5258.

5-4-5 Oxygen System

****ON A/C A330-200 A330-200F A330-300**

Oxygen System

1. Oxygen System.

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
OPTION 1 :	2.50 m (8.20 ft)	0.53 m (1.74 ft)		3.20 m (10.50 ft)
OPTION 2 :	2.50 m (8.20 ft)	0.68 m (2.23 ft)		3.20 m (10.50 ft)

- 0 – Basic : external charging in the avionic compartment.
- 1 – Option.
- 2 – Option.

Zero, one or two service connections (external charging in the avionics compartment) MS22066 Std.

NOTE : Internal Charging Connection Provided.

5-4-6 Fuel System

****ON A/C A330-200 A330-200F A330-300**

Fuel System

****ON A/C A330-200**

1. Refuel/defuel access

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Refuel/defuel coupling	26.80 m (87.92 ft)	12.60 m (41.33 ft)	12.60 m (41.33 ft)	5.00 m (16.40 ft)
Overwing gravity refuel cap	31.30 m (102.69 ft)	17.20 m (56.43 ft)	17.20 m (56.43 ft)	5.80 m (19.03 ft)

A. Four Standard 2.5 in. connections – ISO R45 SPEC.

B. Two service connections (gravity refuel).

2. Refuel/defuel control panel.

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Refuel/defuel control panel	31.10 m (102.03 ft)	0.8 m (2.62 ft)		1.90 m (6.23 ft)

A. Flow Rate : 1580 l/min (417 U.S. gal/min) per connection.

B. Maximum Pressure : 50.00 psi (3.45 bar).

****ON A/C A330-200F**

3. Refuel/defuel access

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	

	DISTANCE : Meters (ft)			
refuel/defuel coupling	26.80 m (87.92 ft)	12.60 m (41.33 ft)	12.60 m (41.33 ft)	5.10 m (16.73 ft)
Overwing gravity refuel cap	31.30 m (102.69 ft)	17.20 m (56.43 ft)	17.20 m (56.43 ft)	6.10 m (20.01 ft)

A. Four Standard 2.5 in. connections – ISO R45 SPEC.

B. Two service connections (gravity refuel).

4. Refuel/defuel control panel.

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Refuel/defuel control panel :	31.10 m (102.03 ft)	0.8 m (2.62 ft)		1.90 m (6.23 ft

A. Flow Rate : 1580 l/min (417 U.S. gal/min) per connection.

B. Maximum Pressure : 50.00 psi (3.45 bar).

****ON A/C A330-300**

5. Refuel/defuel access

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Refuel/defuel coupling	30.00 m (98.45 ft)	12.60 m (41.33 ft)	12.60 m (41.33 ft)	5.00 m (16.40 ft)
Overwing gravity refuel cap	34.50 m (113.19 ft)	17.20 m (56.43 ft)	17.20 m (56.43 ft)	5.80 m (19.02 ft)

A. Four Standard 2.5 in. connections – ISO R45 SPEC.

B. Left side option.

C. Two service connections (gravity refuel).

6. Refuel/defuel control panel.

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Refuel/defuel control panel :	34.30 m (112.53 ft)	0.8 m (2.62 ft)		1.90 m (6.23 ft)

A. Flow Rate : 1580 l/min (417 U.S. gal/min) per connection.

B. Maximum Pressure : 50.00 psi (3.45 bar).

5-4-7 Pneumatic System

****ON A/C A330-200 A330-200F A330-300**

Pneumatic System

****ON A/C A330-200 A330-200F**

1. High Pressure Connectors.

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE R SIDE	FROM AIRPLANE CENTERLINE L SIDE	MEAN HEIGHT FROM GROUND
Connections for engine starting and cabin air conditioning :	20.72 m (67.98 ft)		0.84 m (2.76 ft)	1.96 m (6.43 ft)
	21.08 m (69.16 ft)		0.84 m (2.76 ft)	1.94 m (6.36 ft)

A. Two standard 3 in. TC20 connections for engine starting and cabin air conditioning.

2. Low Pressure Connectors.

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE R SIDE	FROM AIRPLANE CENTERLINE L SIDE	MEAN HEIGHT FROM GROUND
Connections for preconditioned air	19.29 m (63.29 ft)		0.31 m (1.02 ft)	2.08 m (6.82 ft)
	19.29 m (63.29 ft)		0.76 m (2.49 ft	2.11 m (6.92 ft)

A. Two standard 8 in. connections (SAE - AS4262 TYPE B) for preconditioned air.

****ON A/C A330-300**

3. High Pressure Connectors.

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Connections for engine starting and cabin air conditioning :	23.9 m (78.41 ft)		0.84 m (2.76 ft)	1.79 m (5.87 ft)
	24.25 m (79.56 ft)		0.84 m (2.76 ft)	1.79 m (5.87 ft)

A. Two standard 8 in. connections (SAE - AS4262 TYPE B) for preconditioned air.

4. Low Pressure Connectors.

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Connections for preconditioned air	22.48 m (73.75 ft)		0.31 m (1.02 ft)	1.86 m (6.10 ft)
	22.48 m (73.75 ft)		0.76 m (2.49 ft)	0.76 m (2.49 ft)

A. Two standard 8 in. connections (SAE - AS4262 TYPE B) for preconditioned air.

5-4-8 Potable Water System

****ON A/C A330-200 A330-200F A330-300**

Potable Water System

****ON A/C A330-200 A330-300**

1. Service panel.

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Service panel, located between frame 69–70 :	48.15 m (157.97 ft)	0.51 m (1.67 ft)		3.15 m (10.33 ft)

- one heated 3/4 in. quick release filling connection.
- one heated 3/4 in. overflow and discharge connection.
- one ground pressurization connection.

****ON A/C A330-200F**

2. Service panel.

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Service panel, located between frame 33-34 :	14.03 m (46.03 ft)		0.76 m (2.49 ft)	2.64 m (8.66 ft)

- one heated 3/4 in. quick release filling connection.
- one heated 3/4 in. overflow and discharge connection.
- one ground pressurization connection.

****ON A/C A330-200 A330-300**

3. Fwd drainage panel.

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Fwd drainage panel, located between frame 28–29 comprising :	14.70 m (48.23 ft)		0.60 m (1.97 ft)	1.90 m (6.23 ft)

- one standard 3/4 in. drain connection with back-up mechanical control.

****ON A/C A330-200F**

4. Fwd drainage panel.

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Fwd drainage panel, located between frame 15A-16 comprising :	6.1 m (20.01 ft)		1.7 m (5.58 ft)	3.07 m (10.07 ft)

- one standard 3/4 in. drain connection with back-up mechanical control.
- Usable capacity : 100 l (26.42 US gal).

****ON A/C A330-200**

5. Aft drainage panel.

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Aft drainage panel, located between frame 55–56 :	40.18 m (131.82 ft)	0.72 m (2.36 ft)		2.46 m (8.07 ft)

- one standard 3/4 in. drain connection with back-up mechanical control.
- one standard 3/4 in. overflow and discharge connection with back-up mechanical control.

A. Usable capacity :
- 700 l (184.92 US gal) standard.
- 1050 l (277.38 US gal) standard option.

****ON A/C A330-300**

6. Aft drainage panel.

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Aft drainage panel, located between frame 51.1–57.2 :	40.18 m (131.82 ft)	0.72 m (2.36 ft)		2.46 m (8.07 ft)

- one standard 3/4 in. drain connection with back-up mechanical control.
- one standard 3/4 in. overflow and discharge connection with back-up mechanical control.

A. Usable capacity :
- 700 l (184.92 US gal) standard.
- 1050 l (277.38 US gal) standard option.

****ON A/C A330-200 A330-200F A330-300**

7. Fill rate :

	Potable water storage tank installed in ... or ...			
	Fwd-tank (and opt-tank) [sect.15/16]		aft-tank [sect.18]	
Pressure :	50 psi (3.45 bar)	125 psi (8.62 bar)	50 psi (3.45 bar)	125 psi (8.62 bar)
Flow :	45 l/min (11.89 US gal/min)	73 l/min (19.28 US gal/min)	56 l/min (14.79 US gal/min)	85 l/min (22.45 US gal/min)

5-4-9 Oil System

****ON A/C A330-200 A330-200F A330-300**

Oil System

1. Engine Oil Tank and IDG for PW 4000 series engine.

   A. Engine Oil Replenishment :

   One gravity filling cap and one pressure filling connection per engine.

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		ENGINE 1 (Left)	ENGINE 2 (Right)	
Engine Oil Filling:	25.7 m (84.32 ft)	10.6 m (34.78 ft)	8.07 m (26.48 ft)	2.23 m (7.32 ft)

   (1) Tank capacity :
   - Full level : 8.00 US gal (30.28 l).
   - Usable : 5.75 US gal (21.77 l).

   B. IDG Oil Replenishment :

   One pressure filling connection per engine.

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		ENGINE 1 (Left)	ENGINE 2 (Right)	
IDG Oil Pressure Filling Connection:	26.16 m (85.83 ft)	10.07 m (33.04 ft)	8.66 m (28.41 ft)	1.50 m (4.92 ft)

   - Max delivery pressure required : 40 psi (2.76 bar).
   - Max OIL capacity of the IDG : 1.1 US gal (4.16 l).

2. Engine Oil Tank and IDG for RR Trent 700 series engine

   A. Engine Oil Replenishment :

   One gravity filling cap.

   One ozone self sealing pressure fill and overfill connector per engine.

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		ENGINE 1 (Left)	ENGINE 2 (Right)	
Engine Oil Filling:	23.9 m (78.41 ft)	7.92 m (25.98 ft)	10.82 m (35.50 ft)	2.05 m (6.73 ft)

(1) Tank capacity :
- Full level : 7.18 US gal (27.18 l.
- Usable : 6.00 US gal (22.71 l).

B. IDG Oil Replenishment :

One ozone self sealing pressure fill and overfill connector per engine.

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		ENGINE 1 (Left)	ENGINE 2 (Right)	
IDG Oil Pressure Filling Connection:	24.38 m (79.99 ft)	9.65 m (31.66 ft)	9.09 m (29.82 ft)	0.8 m (2.62 ft)

- Max delivery pressure required : 40 psi (2.76 bar).
- Max OIL capacity of the IDG : 1.12 US gal (4.24 l).

****ON A/C A330-200 A330-300**

3. Engine Oil Tank and IDG for GE CF6-80E1 series engine

A. Engine Oil Replenishment :

One gravity filling cap and one pressure filling connection per engine.

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		ENGINE 1 (Left)	ENGINE 2 (Right)	
Engine Oil Filling:	24.93 m (81.79 ft)	10.00 m (32.81 ft)	8.73 m (28.64 ft)	1.71 m (5.61 ft)

(1) Tank capacity :
- Full level : 6.49 US gal (24.57 l).
- Usable : 6.09 US gal (23.05 l).

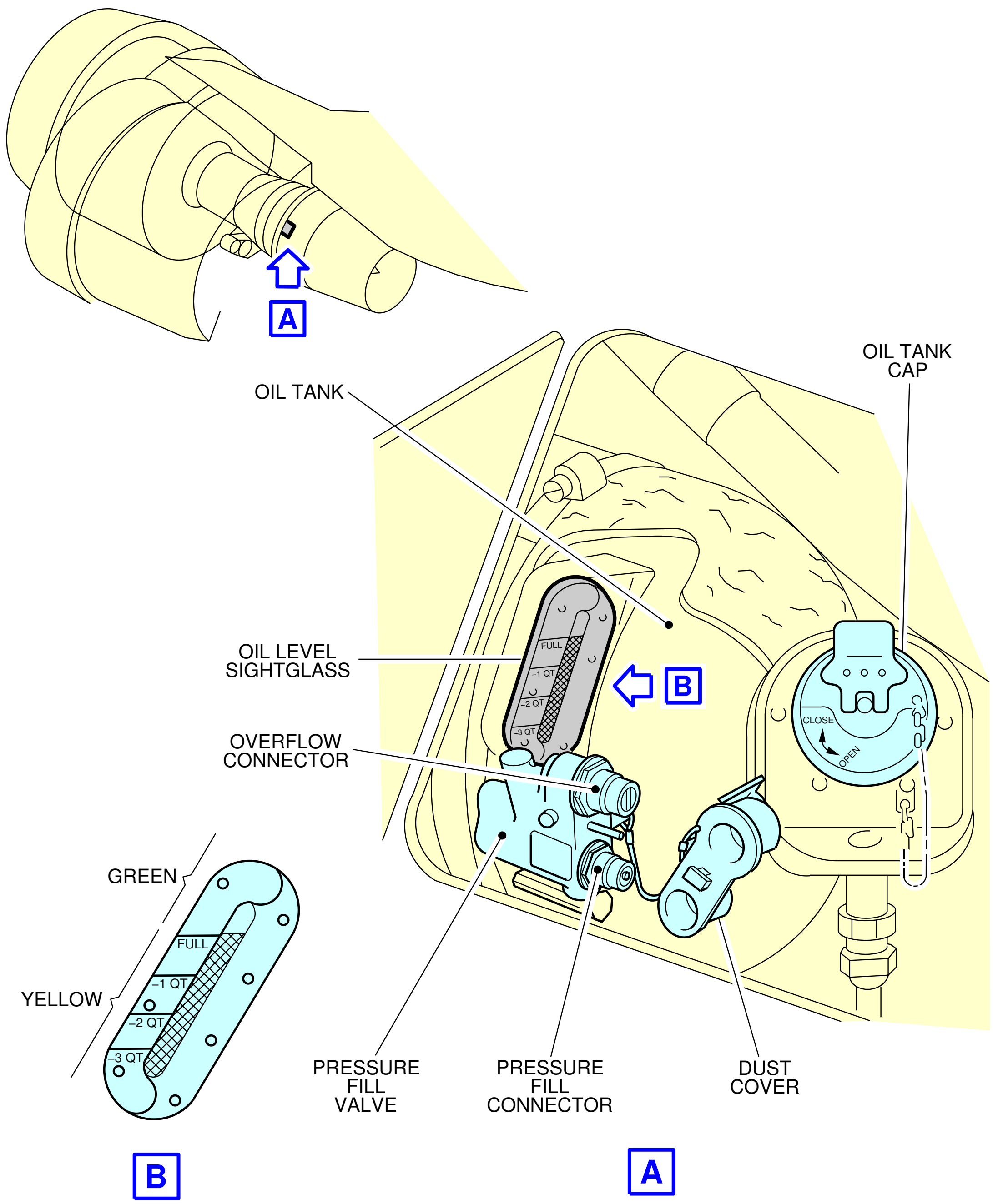
B. IDG Oil Replenishment :

One pressure filling connection per engine.

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		ENGINE 1 (Left)	ENGINE 2 (Right)	
IDG Oil Pressure Filling Connection:	23.03 m (75.56 ft)	7.96 m (26.12 ft	10.77 m (35.33 ft)	2.35 m (7.71 ft)

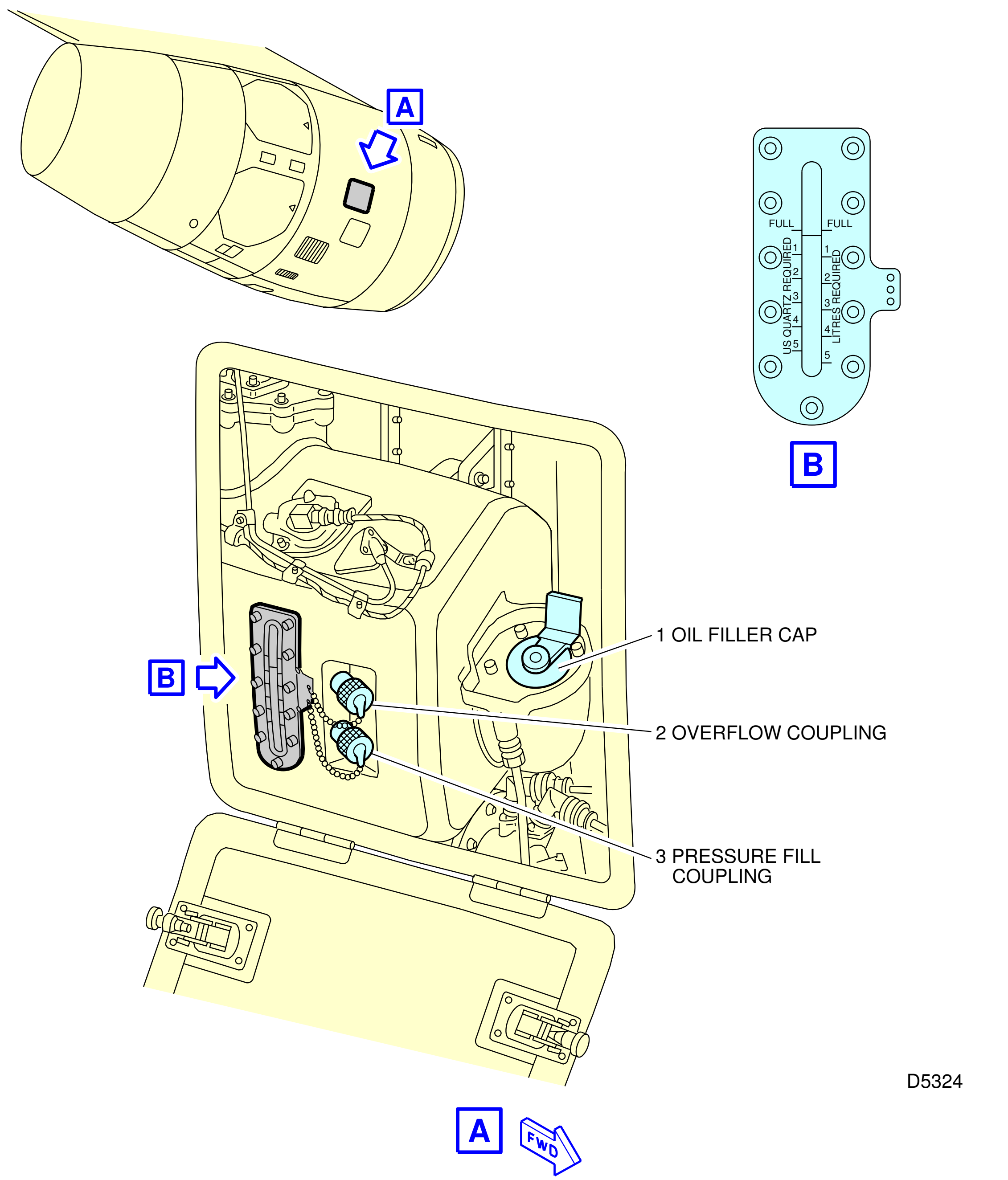
- Max delivery pressure required : 40 psi (2.76 bar).
- Max OIL capacity of the IDG : 1.1 US gal (4.16 l).

**ON A/C A330-200 A330-200F A330-300



Ground Service Connections
Engine Oil Tank - PW 4000 series engine
FIGURE 1

**ON A/C A330-200 A330-200F A330-300



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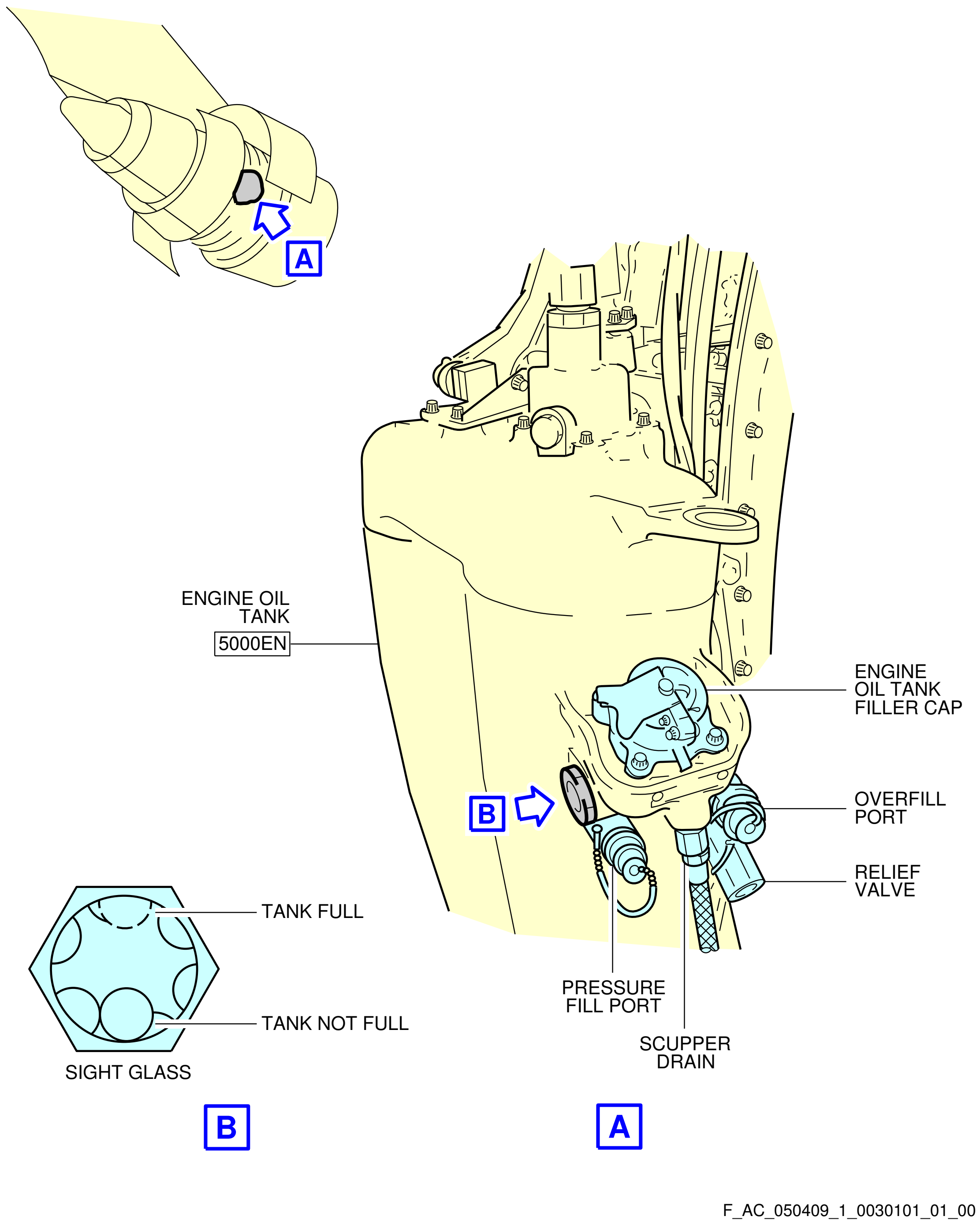
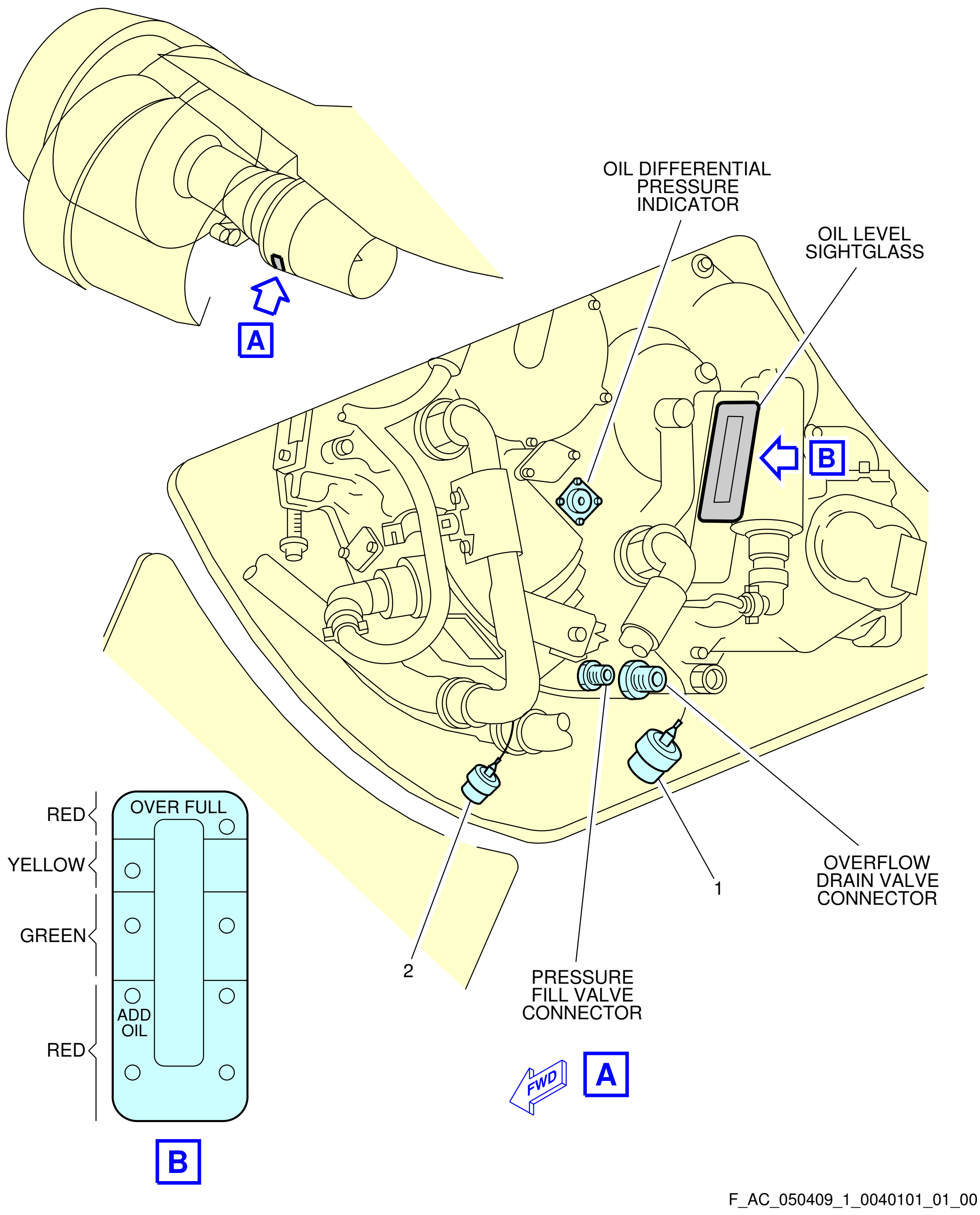
Ground Service Connections
Engine Oil Tank - RR Trent 700 series engine
FIGURE 2

**ON A/C A330-200 A330-300



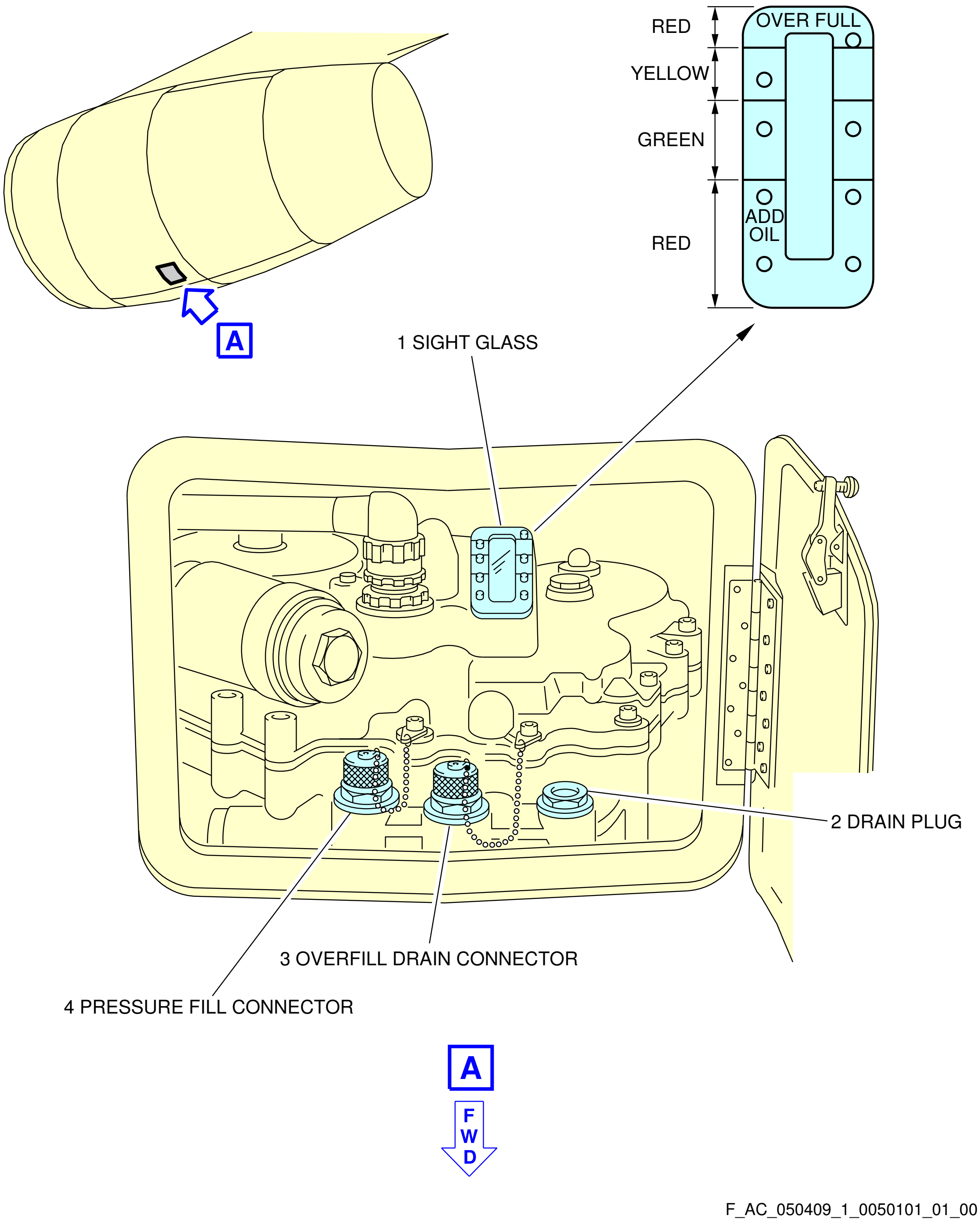
Ground Service Connections
Engine Oil Tank - GE CF6-80E1 series engine
FIGURE 3

**ON A/C A330-200 A330-200F A330-300



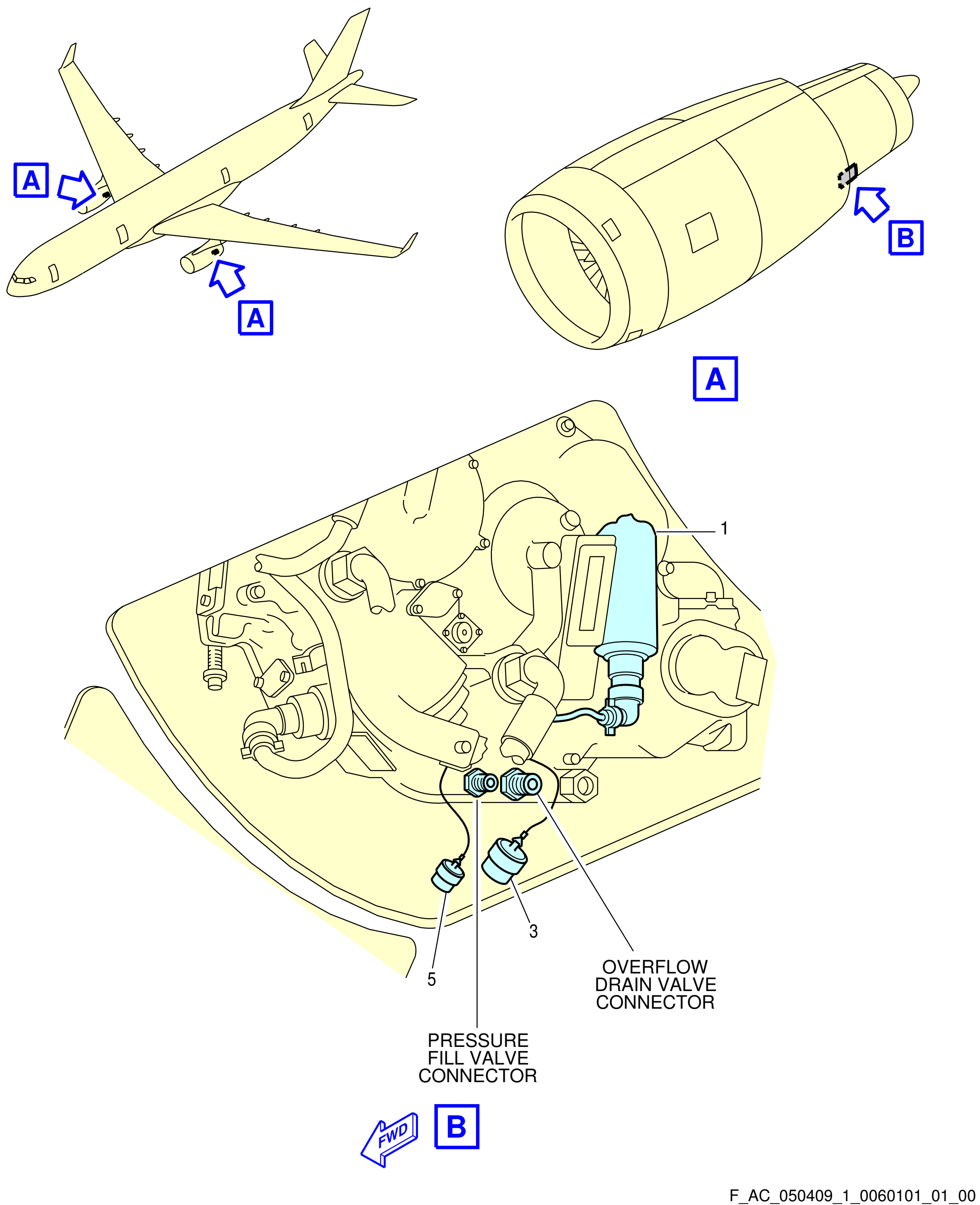
Ground Service Connections
IDG Oil Tank - PW 4000 series engine
FIGURE 4

**ON A/C A330-200 A330-200F A330-300



Ground Service Connections
IDG Oil Tank - RR Trent 700 series engine
FIGURE 5

**ON A/C A330-200 A330-300



Ground Service Connections
IDG Oil Tank - GE CF6-80E1 series engine
FIGURE 6

****ON A/C A330-200 A330-200F A330-300**

<u>APU Oil System</u>

****ON A/C A330-200 A330-200F**

1. APU Oil System.

APU oil gravity filling cap.

	DISTANCE : Meters (ft)		
	AFT OF NOSE	FROM AIRPLANE CENTERLINE (LEFT HAND)	MEAN HEIGHT FROM GROUND
APU Oil Replenishment :	55.00 m (180.45 ft)	0.4 m (1.31 ft)	8.00 m (26.25 ft)

A. Tank capacity (usable) :
   - APU Type : 331-350 : 7.3 l (1.93 US gal).

****ON A/C A330-300**

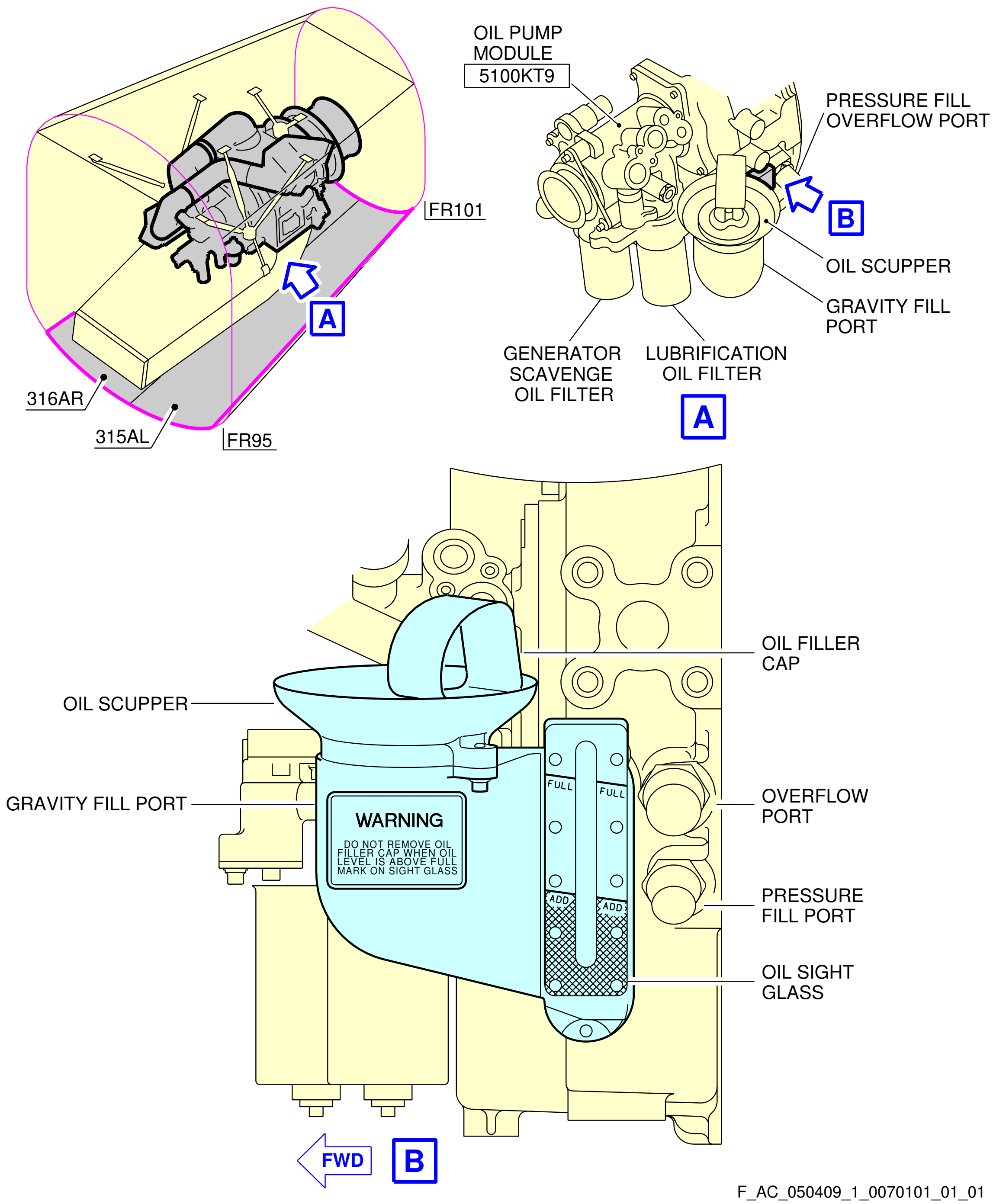
2. APU Oil System.

APU oil gravity filling cap.

	DISTANCE : Meters (ft)		
	AFT OF NOSE	FROM AIRPLANE CENTERLINE (LEFT HAND)	MEAN HEIGHT FROM GROUND
APU Oil Replenishment :	60.3 m (197.83 ft)	0.4 m (1.31 ft)	8.00 m (26.25 ft)

A. Tank capacity (usable) :
   - APU Type : 331-350 : 7.3 l (1.93 US gal).

**ON A/C A330-200 A330-200F A330-300



Ground Service Connections
APU Oil Tank
FIGURE 7

5-4-10 Vacuum Toilet System

****ON A/C A330-200 A330-200F A330-300**

Vacuum Toilet System

****ON A/C A330-200 A330-300**

1. Vacuum Toilet System

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Waste Service panel:	50.65 m (166.17 ft)		0.09 m (0.30 ft)	3.6 m (11.81 ft)

A. Waste Service panel comprising :
   - Standard : One standard 4 in. drain connection and two 1 in. flushing connections.
   - Standard option : One standard 4 in. drain connection and three 1 in. flushing connections.

B. Capacity waste tanks :
   - Standard : 700 l (184.92 US gal).
   - Standard option : 1050 l (277.38 US gal).

C. Chemical fluid :
   - Standard : 36 l (9.51 US gal).
   - Standard option : 54 l (14.27 US gal).

****ON A/C A330-200F**

2. Vacuum Toilet System

	DISTANCE : Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Waste Service panel 1:	5.61 m (18.41 ft)		1.43 m (4.69 ft)	2.95 m (9.68 ft)
Waste Service panel 2:	6.1 m (20.01 ft)		1.69 m (5.54 ft)	3.15 m 10.33 ft)

A. A330-200F has two waste service panels :
   - First panel : One standard connection Roylyn 1 in for Flushing and filling.

- Second panel : One standard Taco type valve 4 in for draining.

NOTE : Handle used for drainage is located on the first panel.

B. Capacity waste tanks :
   - Standard : 35 l (9.25 US gal).

C. Chemical fluid :
   - Standard : 9.5 l (2.51 US gal).

5-5-0 Engine Starting Pneumatic Requirements

****ON A/C A330-200 A330-200F A330-300**

Engine Starting Pneumatic Requirements

1. Engine Starting Pneumatic Requirements.

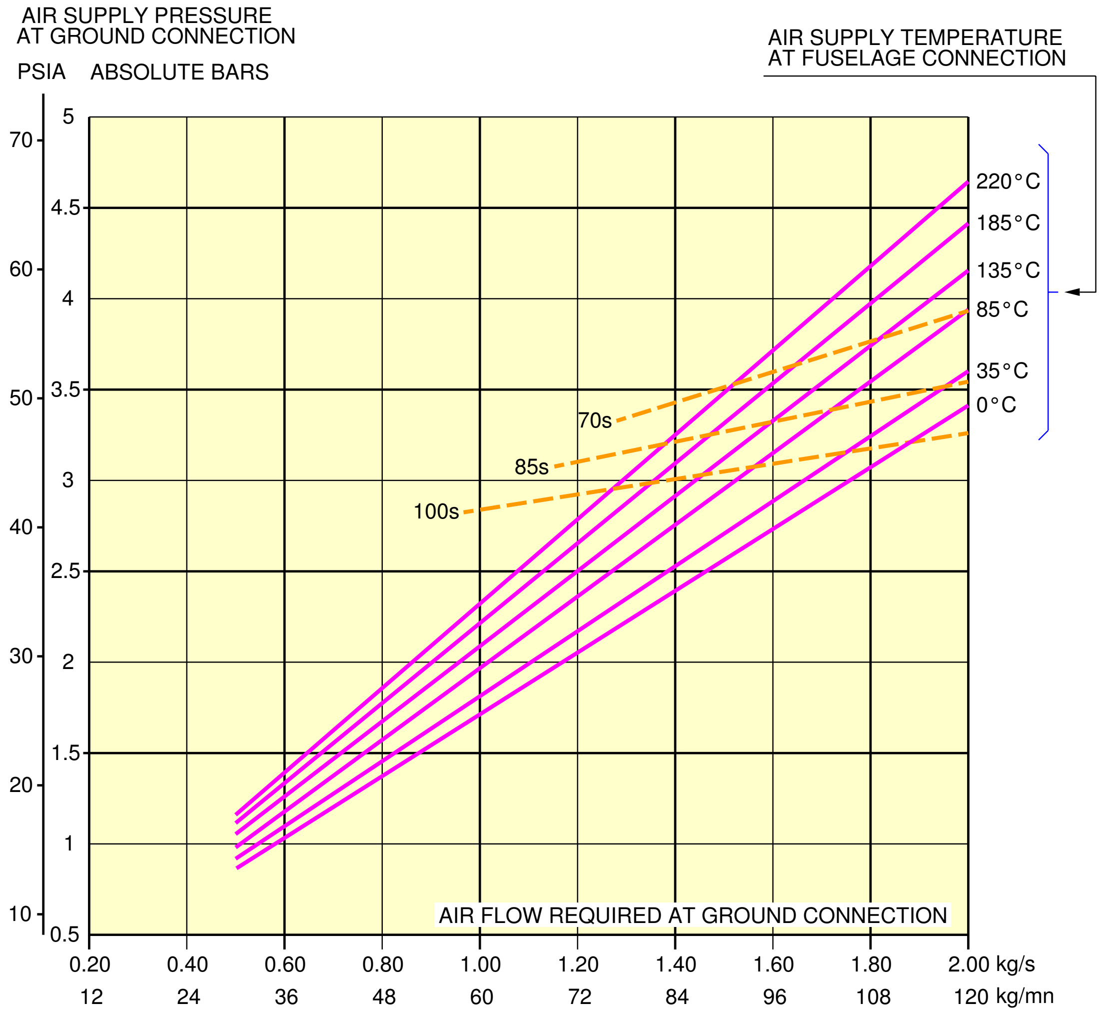
5-5-1 Low Temperatures

****ON A/C A330-200 A330-200F A330-300**

Ambient Temperature - 40°C (- 40°F) and - 55°C (- 67°F)

1. This section provides the engine starting pneumatic requirements for an ambient temperatures of -40°C (-40°F) and -55°C (-67°F).

**ON A/C A330-200 A330-200F A330-300



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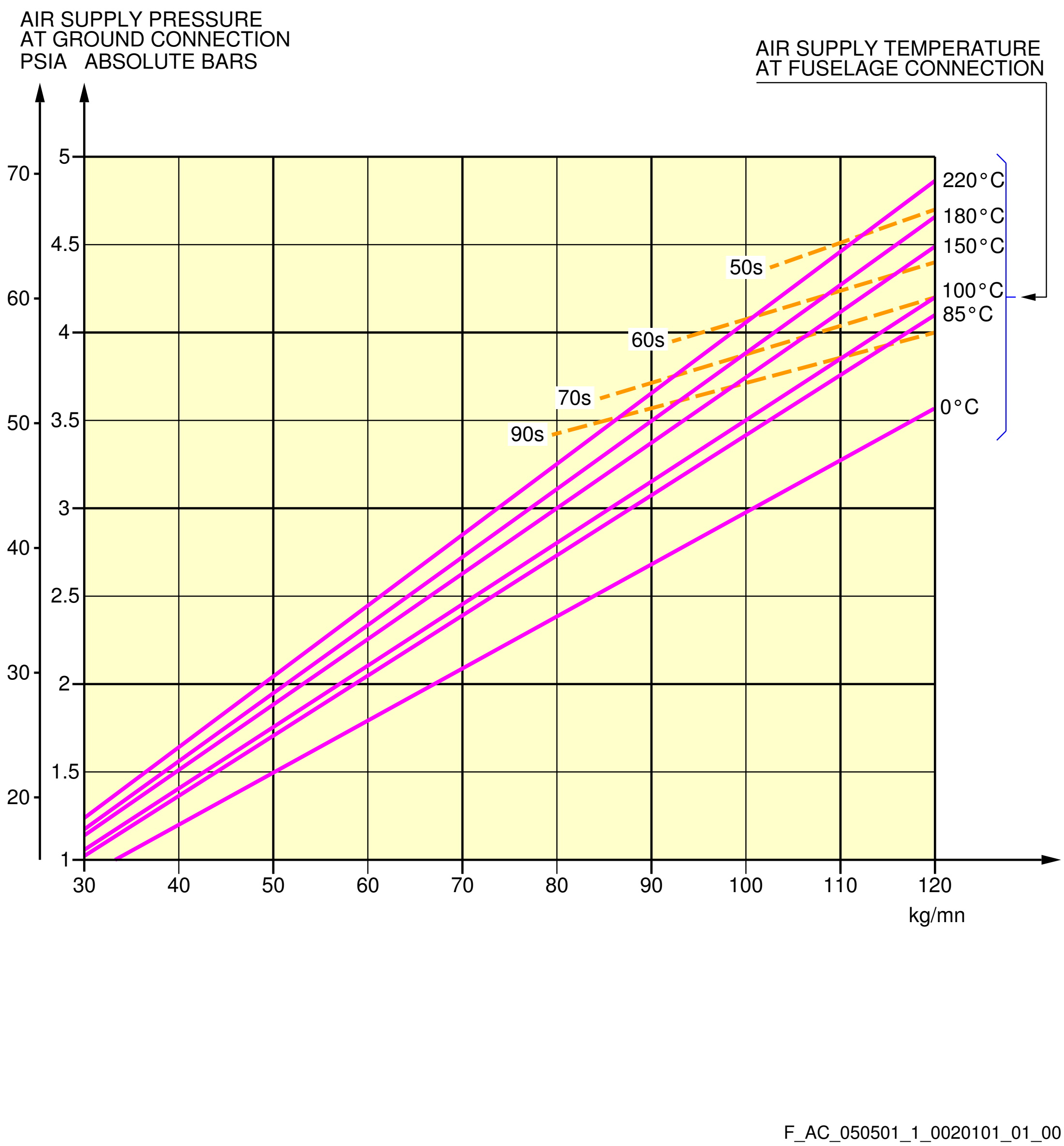
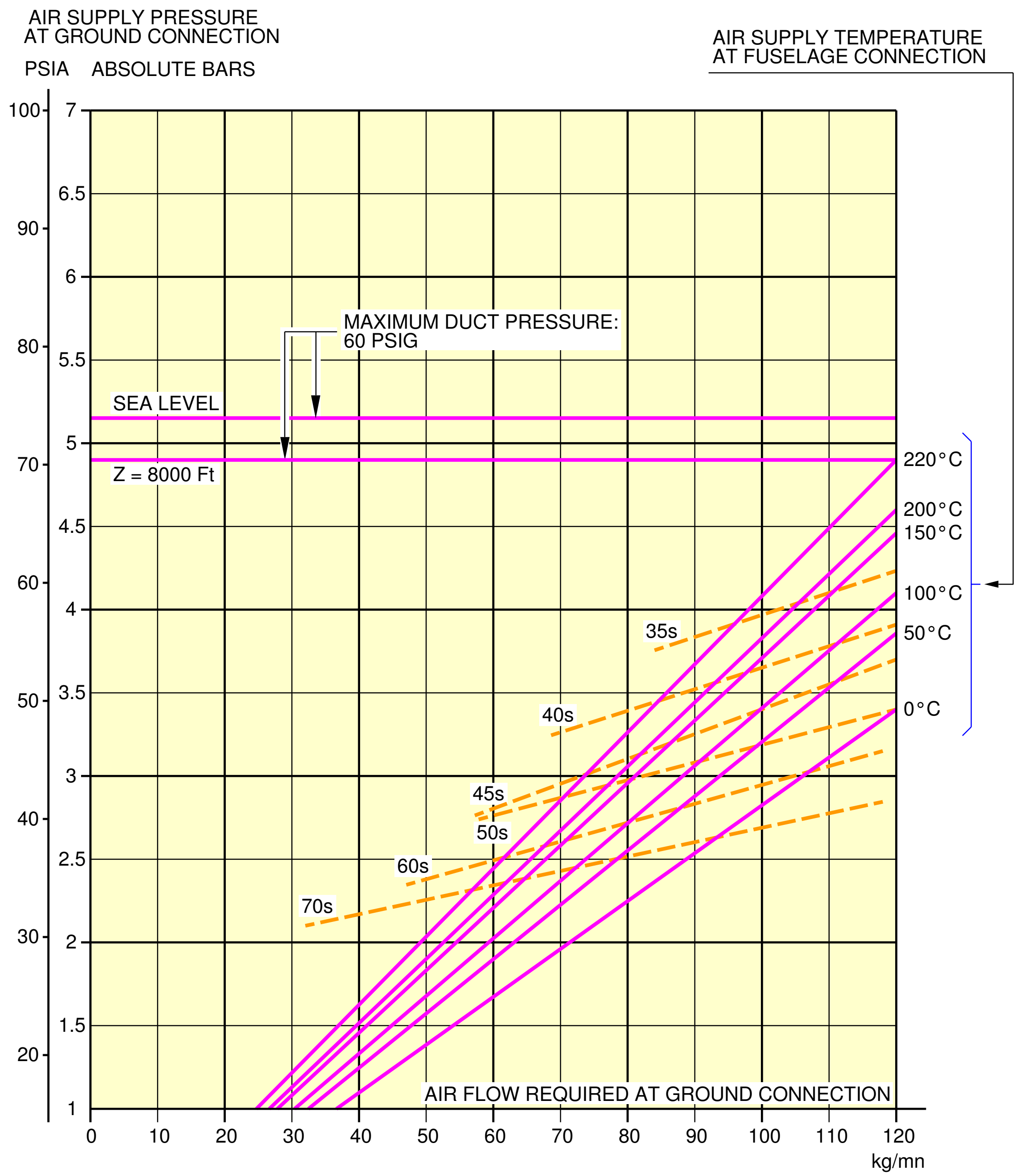
Engine Starting Pneumatic Requirements
Ambient Temperature - 40°C (- 40°F) – PW 4000 series engine
FIGURE 1

**ON A/C A330-200 A330-200F A330-300



Engine Starting Pneumatic Requirements
Ambient Temperature - 55°C (- 67°F) – RR Trent 700 series engine
FIGURE 2

**ON A/C A330-200 A330-300



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Engine Starting Pneumatic Requirements
Ambient Temperature - 40°C (- 40°F) – GE CF6-80E1 series engine
FIGURE 3

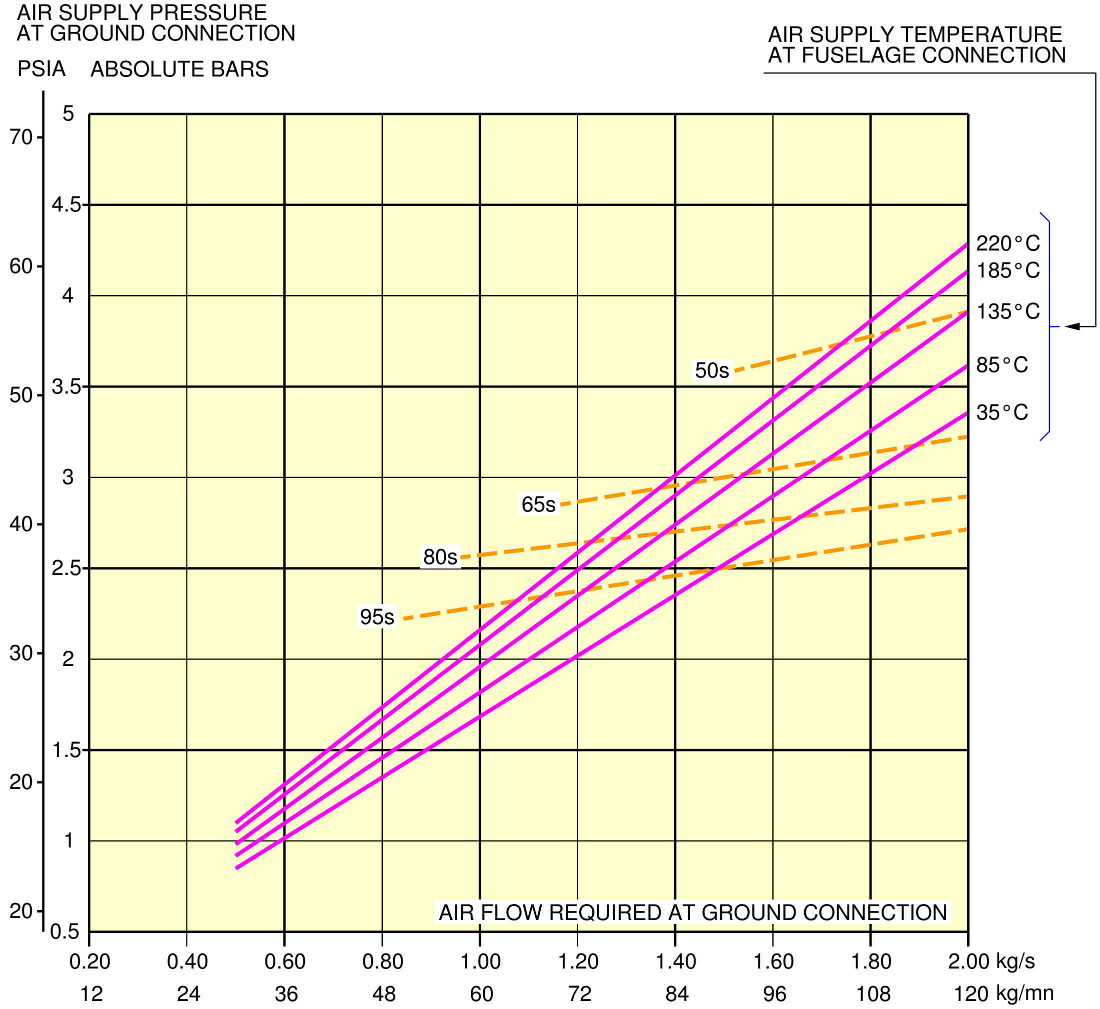
5-5-2 Ambient Temperatures

****ON A/C A330-200 A330-200F A330-300**

Ambient Temperature +0°C (+32°F) and +15°C (+59°F)

1. This section provides the engine starting pneumatic requirements for an ambient temperatures of 0°C (+32°F) and +15°C (+59°F)

**ON A/C A330-200 A330-200F A330-300



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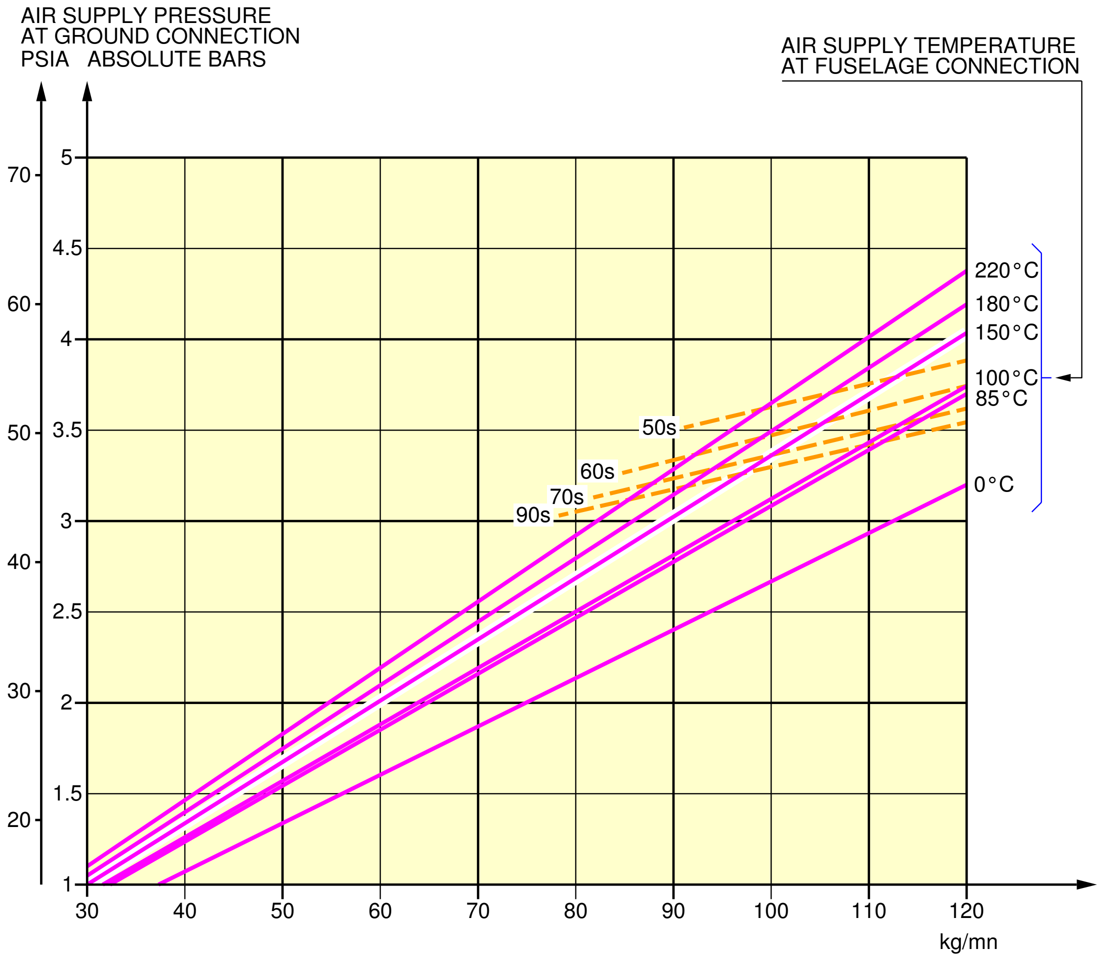
Engine Starting Pneumatic Requirements
Ambient Temperature +15°C (+59°F) – PW 4000 series engine
FIGURE 1

**ON A/C A330-200 A330-200F A330-300



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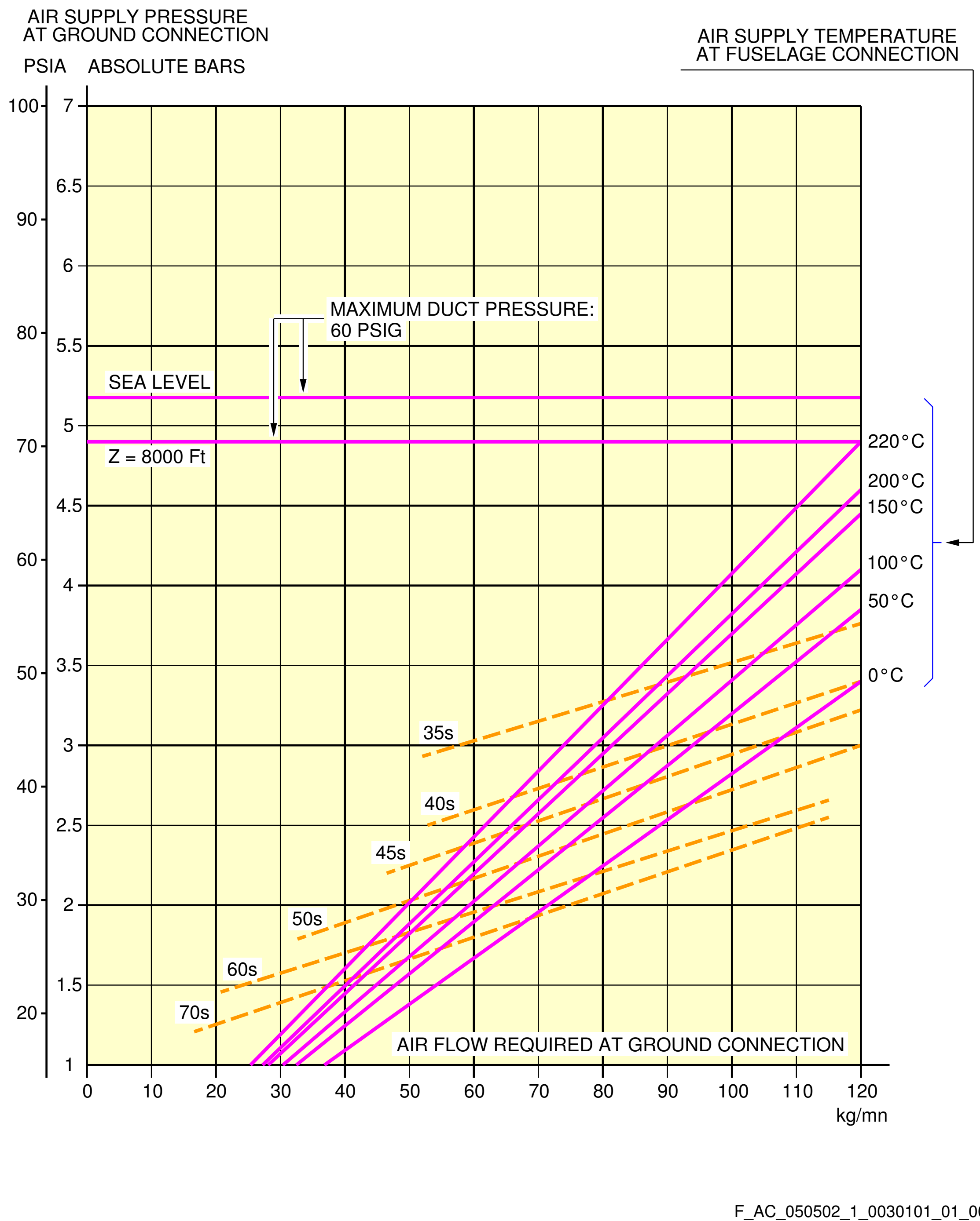
Engine Starting Pneumatic Requirements
Ambient Temperature 0°C (+32°F) – RR Trent 700 series engine
FIGURE 2

**ON A/C A330-200 A330-300



Engine Starting Pneumatic Requirements
Ambient Temperature +15°C (+59°F) – GE CF6-80E1 series engine
FIGURE 3

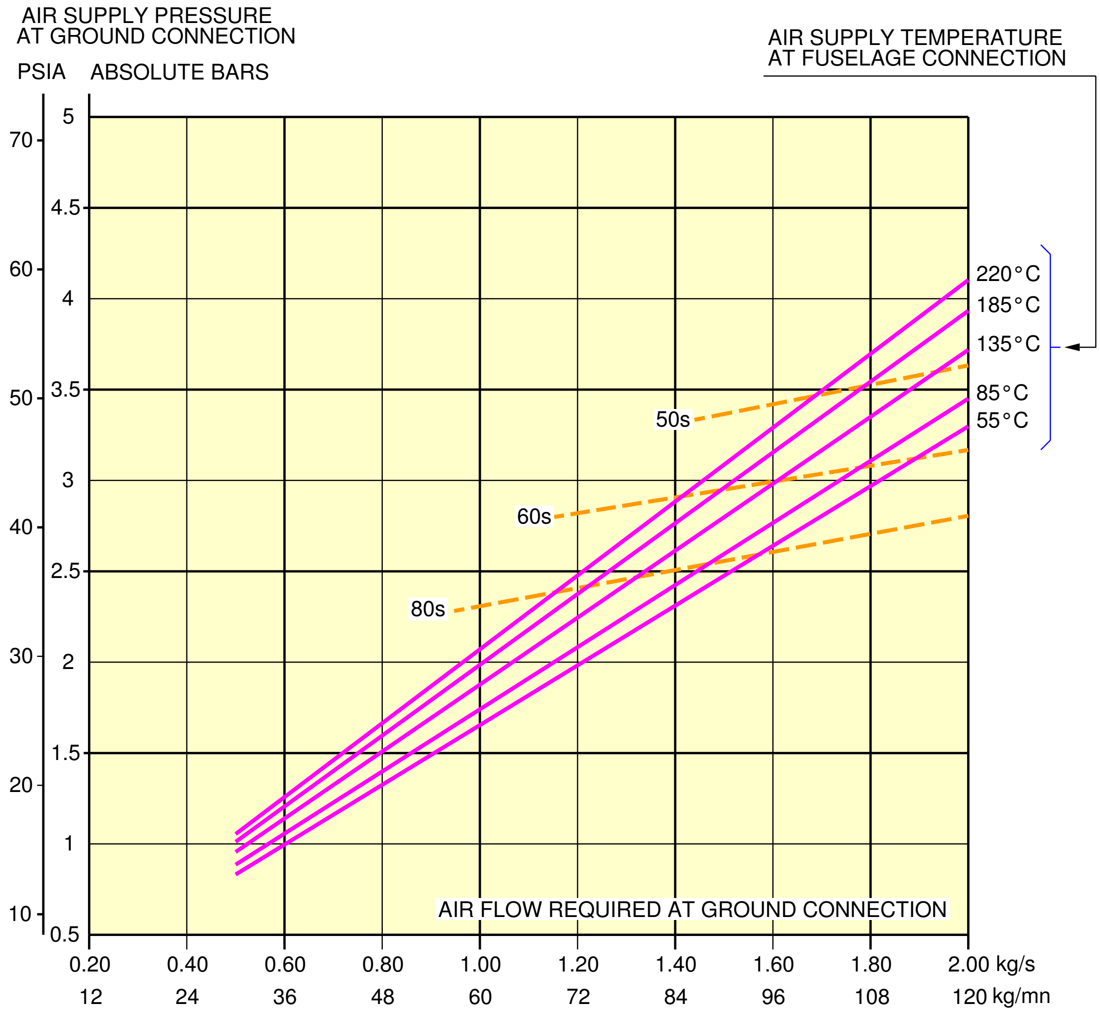
5-5-3 High Temperatures

****ON A/C A330-200 A330-200F A330-300**

Ambient Temperature Upper +38°C (+100°F)

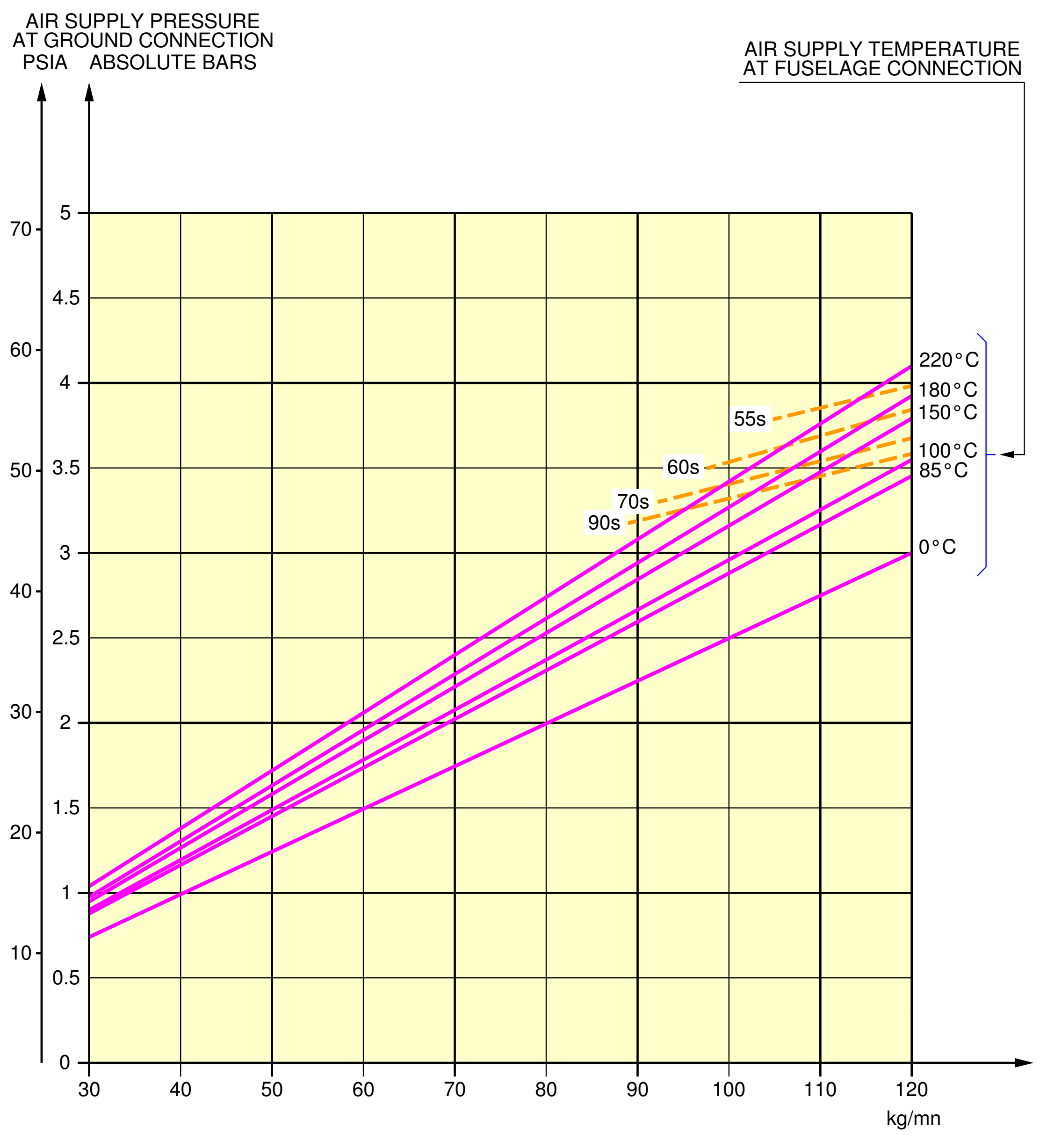
1. This section provides the engine starting pneumatic requirements for an ambient temperature upper +38°C (+100°F)

**ON A/C A330-200 A330-200F A330-300



Engine Starting Pneumatic Requirements
Ambient Temperature +55°C (+131°F) – PW 4000 series engine
FIGURE 1

**ON A/C A330-200 A330-200F A330-300



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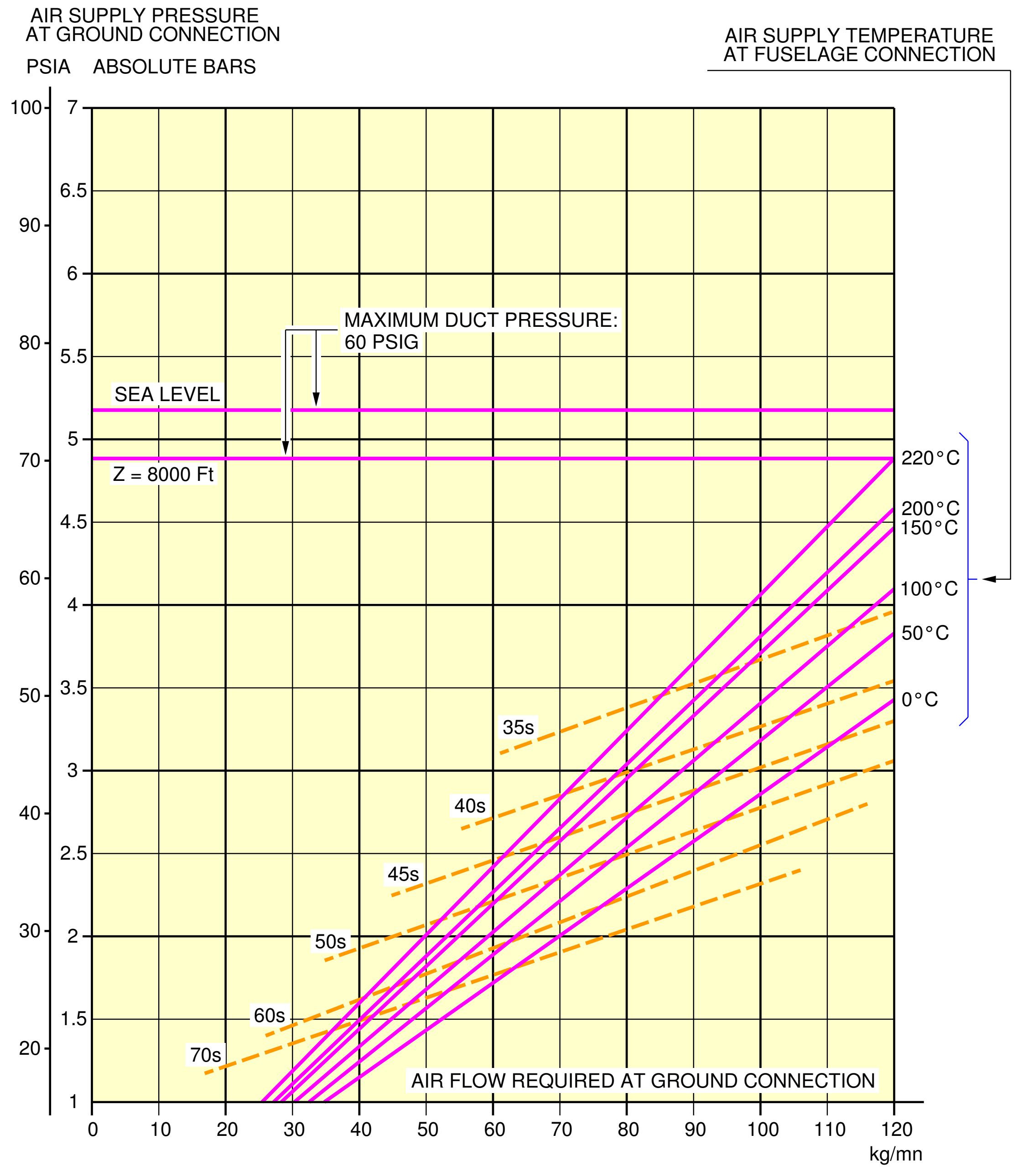
Engine Starting Pneumatic Requirements
Ambient Temperature +40˚C (+104˚F) – RR Trent 700 series engine
FIGURE 2

****ON A/C A330-200 A330-300**



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Engine Starting Pneumatic Requirements
Ambient Temperature +50°C (122°F) – GE CF6-80E1 series engine
FIGURE 3

5-6-0 Ground Pneumatic Power Requirements

****ON A/C A330-200 A330-200F A330-300**

Ground Pneumatic Power Requirements

1. Ground Pneumatic Power Requirements.

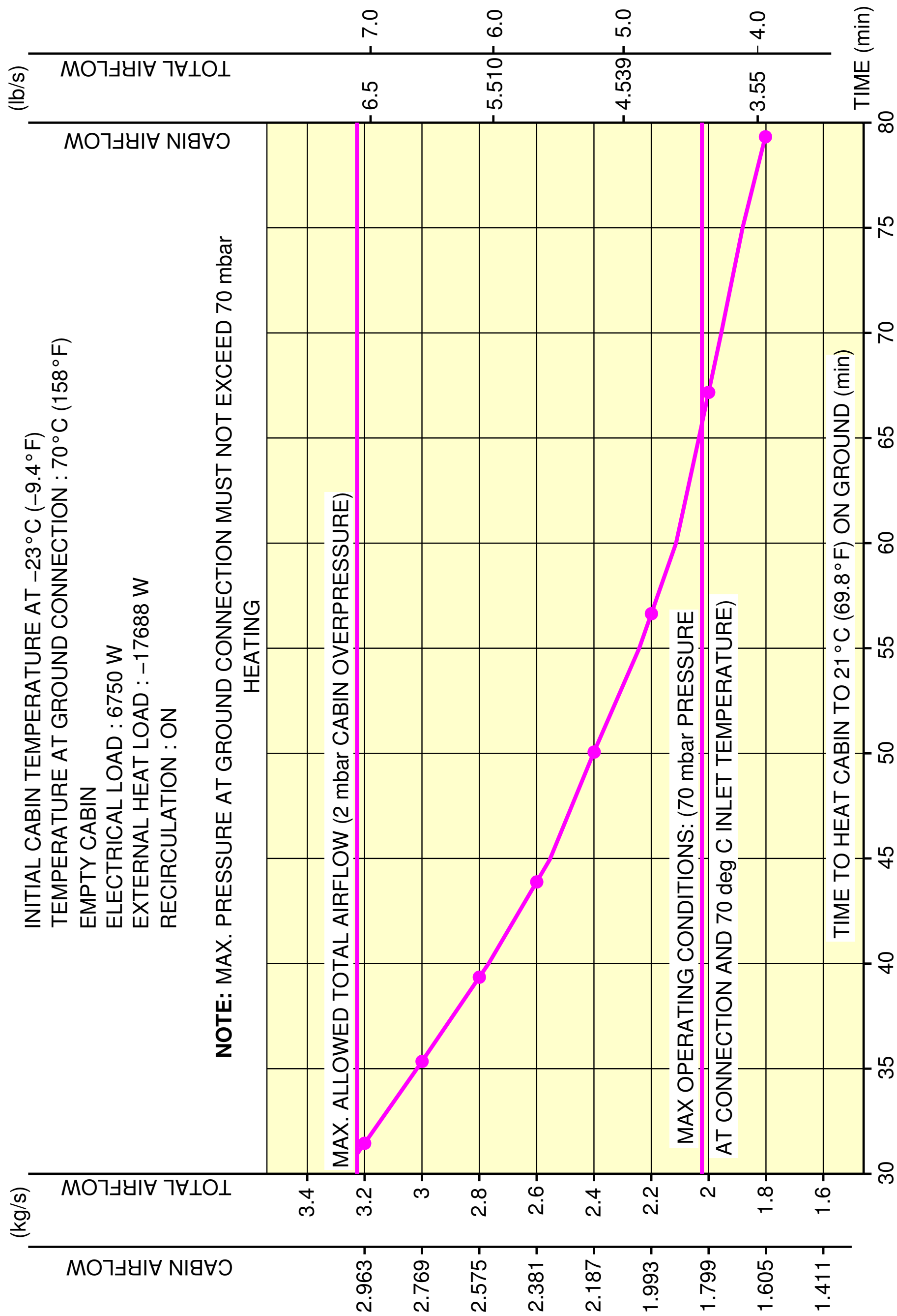
5-6-1 Heating

****ON A/C A330-200 A330-200F A330-300**

Heating

1. This section provides the ground pneumatic power requirements heating.

**ON A/C A330-200 A330-200F A330-300



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Ground Pneumatic Power Requirements
Heating
FIGURE 1

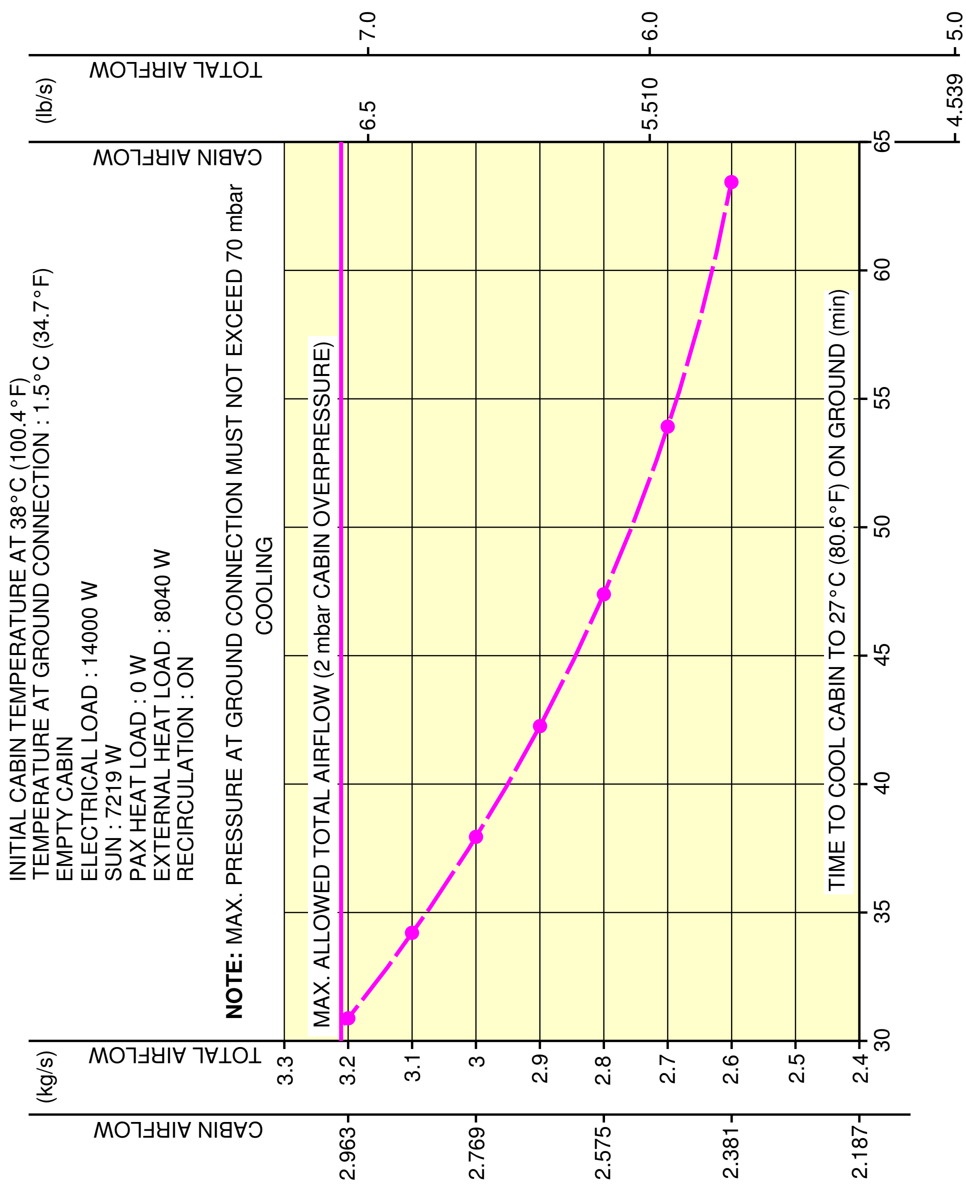
5-6-2 Cooling

****ON A/C A330-200 A330-200F A330-300**

<u>Cooling</u>

1. This section provides the ground pneumatic power requirements cooling.

**ON A/C A330-200 A330-200F A330-300



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Ground Pneumatic Power Requirements
Cooling
FIGURE 1

5-7-0 Preconditioned Airflow Requirements

****ON A/C A330-200 A330-200F A330-300**

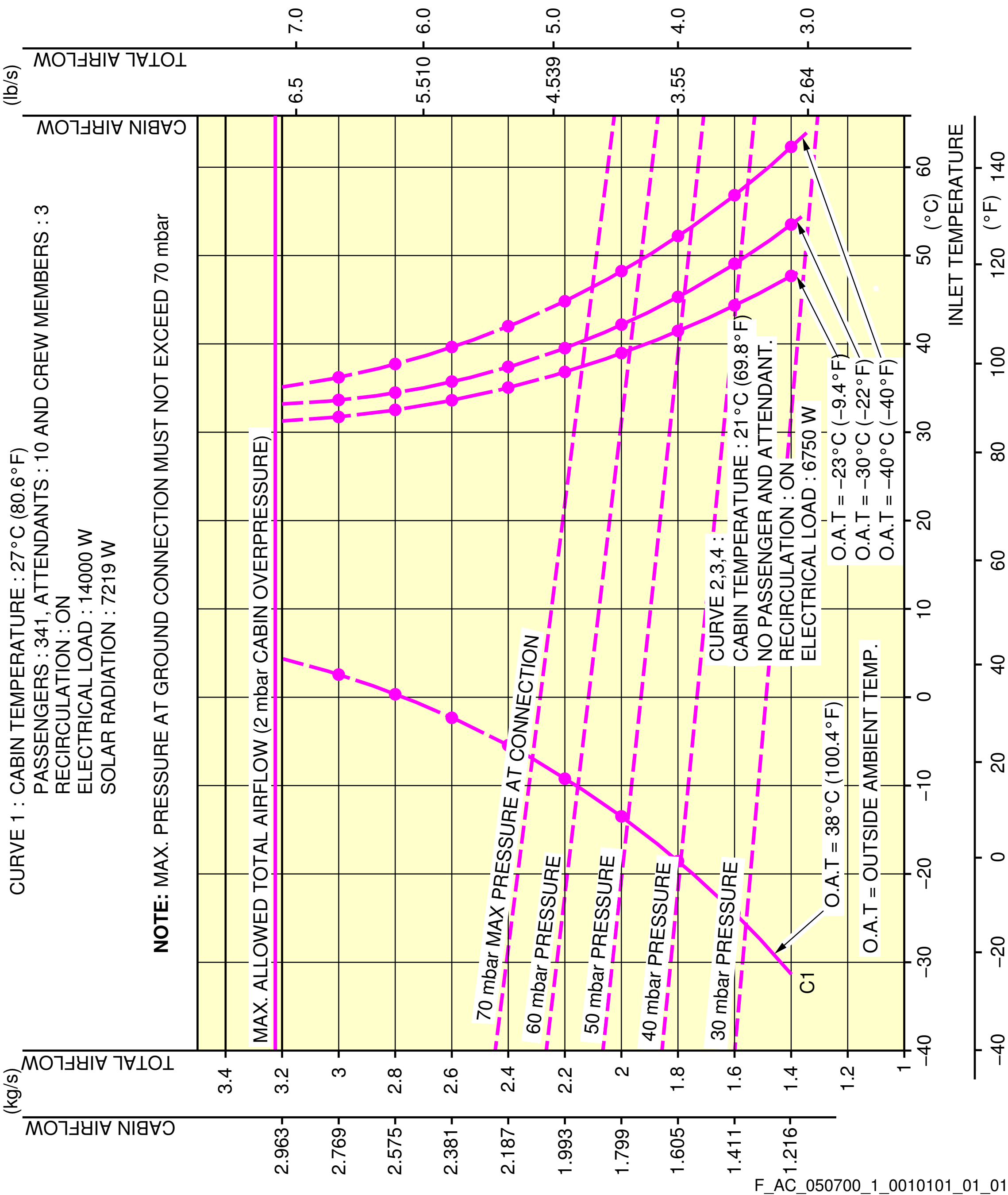
Preconditioned Airflow Requirements

1. This section gives the preconditioned airflow requirements for cabin air conditioning.

   The total airflow must be not more than 3.232 kg/s. If the total airflow is more than this value, it will be more than the capacity of the outflow valve in the fully open position and a cabin overpressure of more than 2 mbar will occur.

   Other Filling capacities and characteristics (hydraulic, electrical, oxygen, fuel, oil, water, toilet) are shown in chapter 5-4.

**ON A/C A330-200 A330-200F A330-300



Preconditioned Airflow Requirements
FIGURE 1

**ON A/C A330-200 A330-200F A330-300

TABLE 3.16. AIRFLOW REQUIREMENTS.

FRESH AIRFLOW				CURVE 1		CURVE 2		CURVE 3		CURVE 4	
TOTAL		CABIN		T FL		T FL		T FL		T FL	
(kg/s)	(lb/s)	(kg/s)	(lb/s)	(°C)	(°F)	(°C)	(°F)	(°C)	(°F)	(°C)	(°F)
1.40	3.086	1.216	2.681	–31.90	–25.42	49	120.20	54.8	130.64	63.3	145.94
1.60	3.527	1.411	3.110	–24.50	–12.10	45.2	113.36	50.3	122.54	57.5	135.50
1.80	3.968	1.605	3.538	–17.10	1.22	41.7	107.06	46	114.80	52.3	126.14
2.00	4.409	1.799	3.966	–12.00	10.40	39.2	102.56	43	109.40	48.4	119.12
2.20	4.850	1.993	4.394	–8.10	17.42	37.2	98.96	40.7	105.26	45.6	114.08
2.40	5.291	2.187	4.821	–5.00	23.00	35.5	95.90	38.6	101.48	43	109.40
2.60	5.732	2.381	5.249	–2.10	28.22	34.3	93.74	37.1	98.78	41.1	105.98
2.80	6.173	2.575	5.677	0.00	32.00	33.2	91.76	35.7	96.26	39.4	102.92
3.00	6.614	2.769	6.104	2.30	36.14	32.1	89.78	34.5	94.10	37.9	100.22
3.20	7.055	2.963	6.532	4.00	39.20	31.3	88.34	33.5	92.30	36.6	97.88

TABLE 3.17. AIRFLOW VS INLET TEMPERATURE AND DIFFERENTIAL PRESSURE.

INLET TEMP. [°C]	ΔP = 20 mbar	ΔP = 30 mbar	ΔP = 40 mbar	ΔP = 50 mbar	ΔP = 60 mbar	ΔP = 70 mbar	ΔP = 80 mbar	ΔP = 90 mbar	ΔP = 100 mbar
	AIRFLOW [kg/s]								
–40	1.60167	1.84954	2.06795	2.26544	2.44707	2.61616	2.77499	2.92524	3.06817
–30	1.56839	1.81111	2.02498	2.21836	2.39622	2.5618	2.71733	2.86446	3.00442
–20	1.5371	1.77497	1.98458	2.1741	2.34842	2.51069	2.66312	2.80731	2.94448
–10	1.50761	1.74092	1.94651	2.13239	2.30336	2.46252	2.61203	2.75345	2.88799
0	1.47975	1.70876	1.91054	2.093	2.26081	2.41702	2.56377	2.70258	2.83463
10	1.45339	1.67831	1.8765	2.05571	2.22053	2.37396	2.51809	2.65443	2.78413
20	1.42838	1.64944	1.84422	2.02034	2.18232	2.33312	2.47477	2.60876	2.73623
30	1.40463	1.622	1.81355	1.98674	2.14603	2.29431	2.43361	2.56537	2.69072
40	1.38202	1.5959	1.78435	1.95476	2.11148	2.25738	2.39443	2.52408	2.64741
50	1.36047	1.57101	1.75653	1.92428	2.07856	2.22218	2.3571	2.48472	2.60612
60	1.33989	1.54725	1.72997	1.89518	2.04712	2.18858	2.32145	2.44714	2.56671
70	1.32023	1.52454	1.70457	1.86736	2.01708	2.15645	2.28737	2.41122	2.52904

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Preconditioned Airflow Requirements
FIGURE 2

5-8-0 Ground Towing Requirements

****ON A/C A330-200 A330-200F A330-300**

Ground Towing Requirements

1. This section provides information on aircraft towing.

   The A330 is designed with means for conventional or towbarless towing.
   Information/procedures can be found for both in chapter 9 of the Aircraft Maintenance Manual.
   Status on towbarless towing equipment qualification can be found in SIL 09-002.
   It is possible to tow or push the aircraft, at maximum ramp weight with engines at zero or up to idle thrust, using a tow bar attached to the nose gear leg (refer to AMM chapter 9 for conditions and limitations). One tow bar fitting is installed at the front of the leg (optional towing fitting for towing from the rear of the NLG available).
   The Main Landing Gears have attachment points for towing or debogging (for details refer to chapter 7 of the Aircraft Recovery Manual).

   - The first part of this section shows the chart to determine the draw bar pull and tow tractor mass requirements as function of the following physical characteristics:
     - aircraft weight
     - slope
     - number of engines at idle

     The chart is based on the A330 engine type with the biggest idle thrust.
     The chart is therefore valid for all A330 models

   - The second part of this section supplies guidelines for the tow bar.

   Note: information on aircraft towing procedures and corresponding aircraft limitations are given in chapter 9 of the Aircraft Maintenance Manual.

2. Tow bar design guidelines

   The aircraft tow bar shall respect the following norms:
   - SAE AS 1614, "Main Line Aircraft Tow Bar Attach Fitting Interface"
   - SAE ARP1915 Revision C, "Aircraft Tow Bar"
   - ISO 8267-1, "Aircraft - Tow bar attachment fitting - Interface requirements - Part 1: Main line aircraft"
   - ISO 9667, "Aircraft ground support equipment - Tow bars"
   - IATA Airport Handling Manual AHM 958, "Functional Specification for an Aircraft Tow bar"

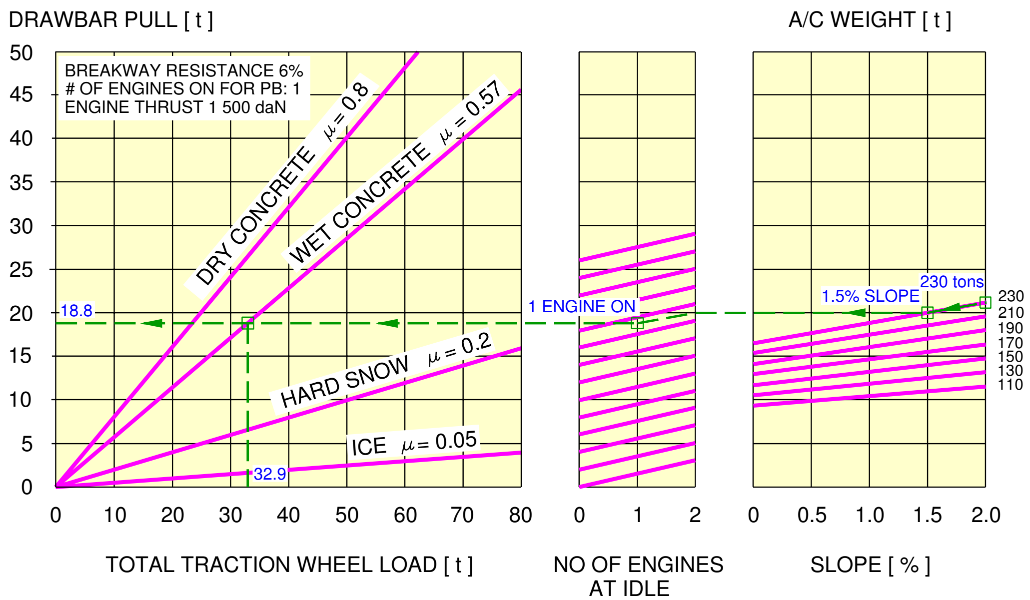
   A conventional type tow bar is required which should be equipped with a damping system to protect the nose gear against jerks and with towing shear pins :
   - A traction shear pin calibrated at 28 620 daN (64 340 lbf)

- A torsion pin calibrated at 3 130 m.daN (27 7028 lbf.in)

The towing head is designed according to SAE/AS 1614 (issue C) cat. III.

There is a variety of shear pin arrangements and the values of the shear pins depend on them. We hereafter show two arrangements classically used on tow bars.

**ON A/C A330-200 A330-200F A330-300



EXAMPLE HOW TO DETERMINE THE MASS REQUIREMENT TO TOW A A330 AT 230 t, AT 1.5% SLOPE, 1 ENGINE AT IDLE AND FOR WET TARMAC CONDITIONS:

- ON THE RIGHT HAND SIDE OF THE GRAPH, CHOOSE THE RELEVANT AIRCRAFT WEIGHT (230 t),
- FROM THIS POINT DRAW A PARALLEL LINE TO THE REQUIRED SLOPE PERCENTAGE (1.5%),
- FROM THIS POINT OBTAINED DRAW A STRAIGHT HORIZONTAL LINE UNTIL NO OF ENGINES AT IDLE = 2,
- FROM THIS POINT DRAW A PARALLEL LINE TO THE REQUESTED NUMBER OF ENGINES (1),
- FROM THIS POINT DRAW A STRAIGHT HORIZONTAL LINE TO THE DRAWBAR PULL AXIS,
- THE Y−COORDINATE OBTAINED IS THE NECESSARY DRAWBAR PULL FOR THE TRACTOR (18.8 t),
- SEARCH THE INTERSECTION WITH THE "WET CONCRETE" LINE.

THE OBTAINED X−COORDINATE IS THE RECOMMENDED MINIMUM TRACTOR WEIGHT (32.9 t).

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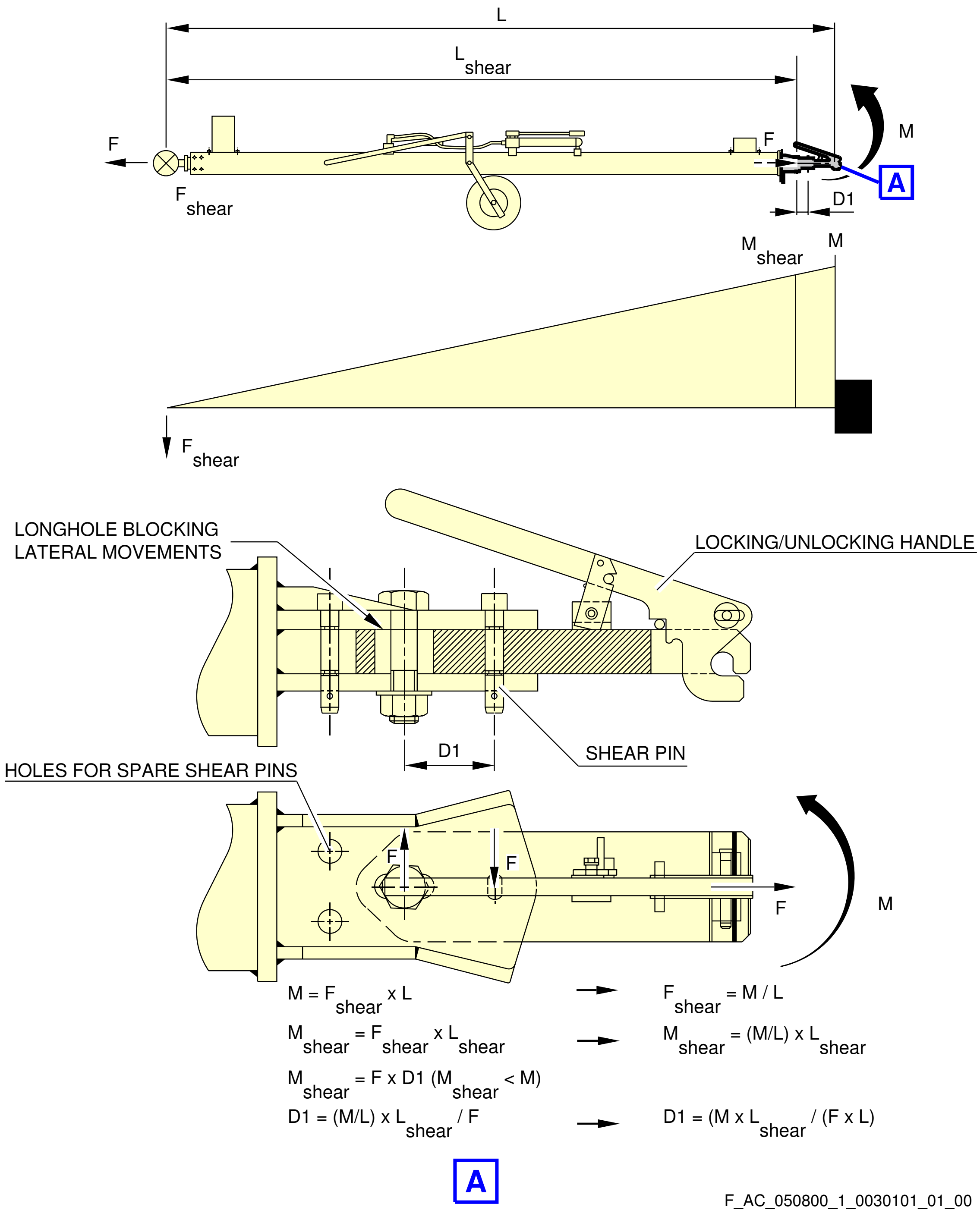
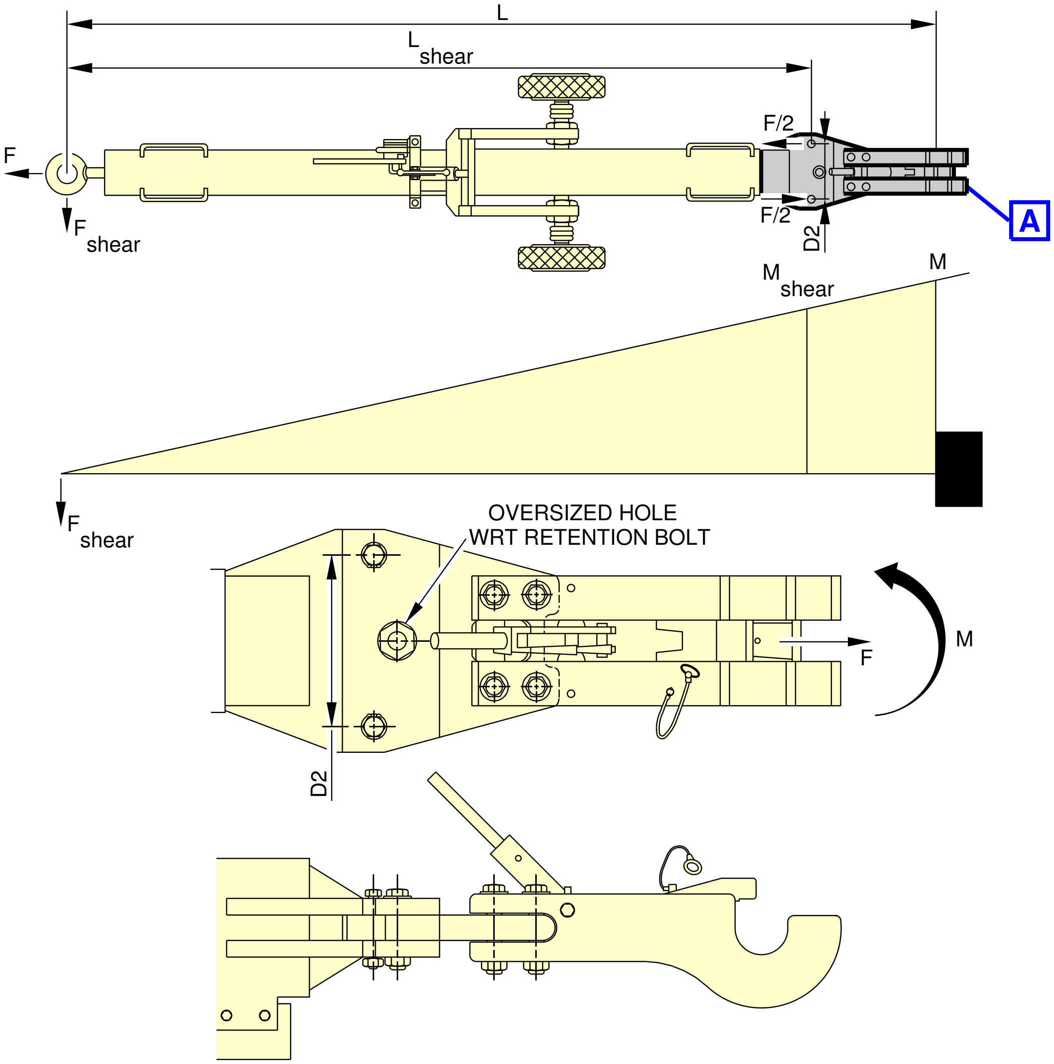
Ground Towing Requirements
FIGURE 1

**ON A/C A330-200 A330-200F A330-300



Ground Towing Requirements
Typical tow bar configuration 1
FIGURE 2

**ON A/C A330-200 A330-200F A330-300



$M = F_{shear} \times L \rightarrow F_{shear} = M / L$

$M_{shear} = F_{shear} \times L_{shear} \rightarrow M_{shear} = (M / L) \times L_{shear}$

$M_{shear} = F/2 \times D2 \ (M_{shear} < M)$

$D2 = (2 \times M_{shear}) / F \rightarrow D2 = (2 \times M \times L_{shear}) / (F \times L)$

F [daN]	M [m.daN]	D1 [mm]	D2 [mm]
28620	3130	98.4	210.0

RESULTS FOR A TOWBAR LENGTH OF $L_{shear}/L = 0.90$

A

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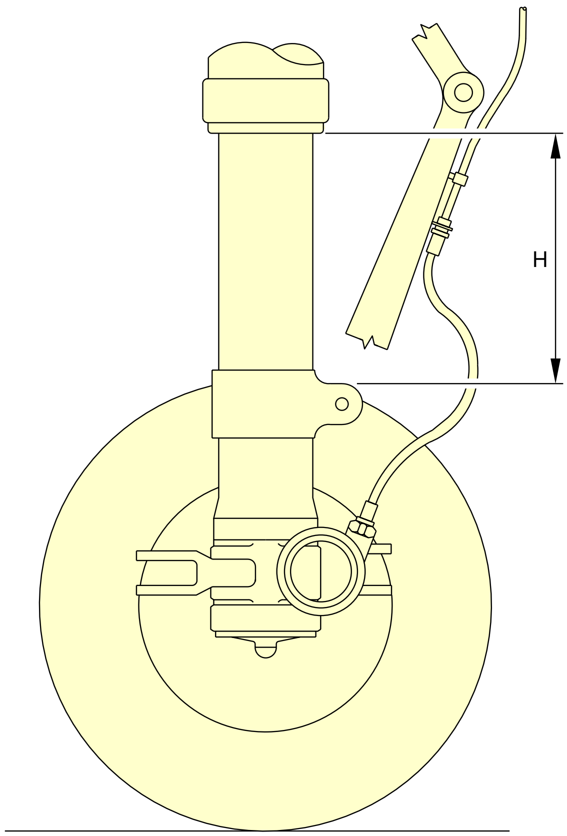
Ground Towing Requirements
Typical tow bar configuration 2
FIGURE 3

**ON A/C A330-200 A330-200F A330-300



MAKE SURE THAT THE DIMENSION "H" OF THE NLG IS NEVER GREATER THAN 310 mm (12.2047 in.) WHEN YOU TOW THE AIRCRAFT.

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Ground Towing Requirements
Maximum Extension of the NLG Shock Absorber
FIGURE 4

OPERATING CONDITIONS

6-1-0 Engine Exhaust Velocities and Temperatures

****ON A/C A330-200 A330-200F A330-300**

Engine Exhaust Velocities and Temperatures

1. General
   This section shows the estimated engine exhaust efflux velocities and temperatures contours for Ground Idle, Breakaway, Maximum Takeoff conditions.

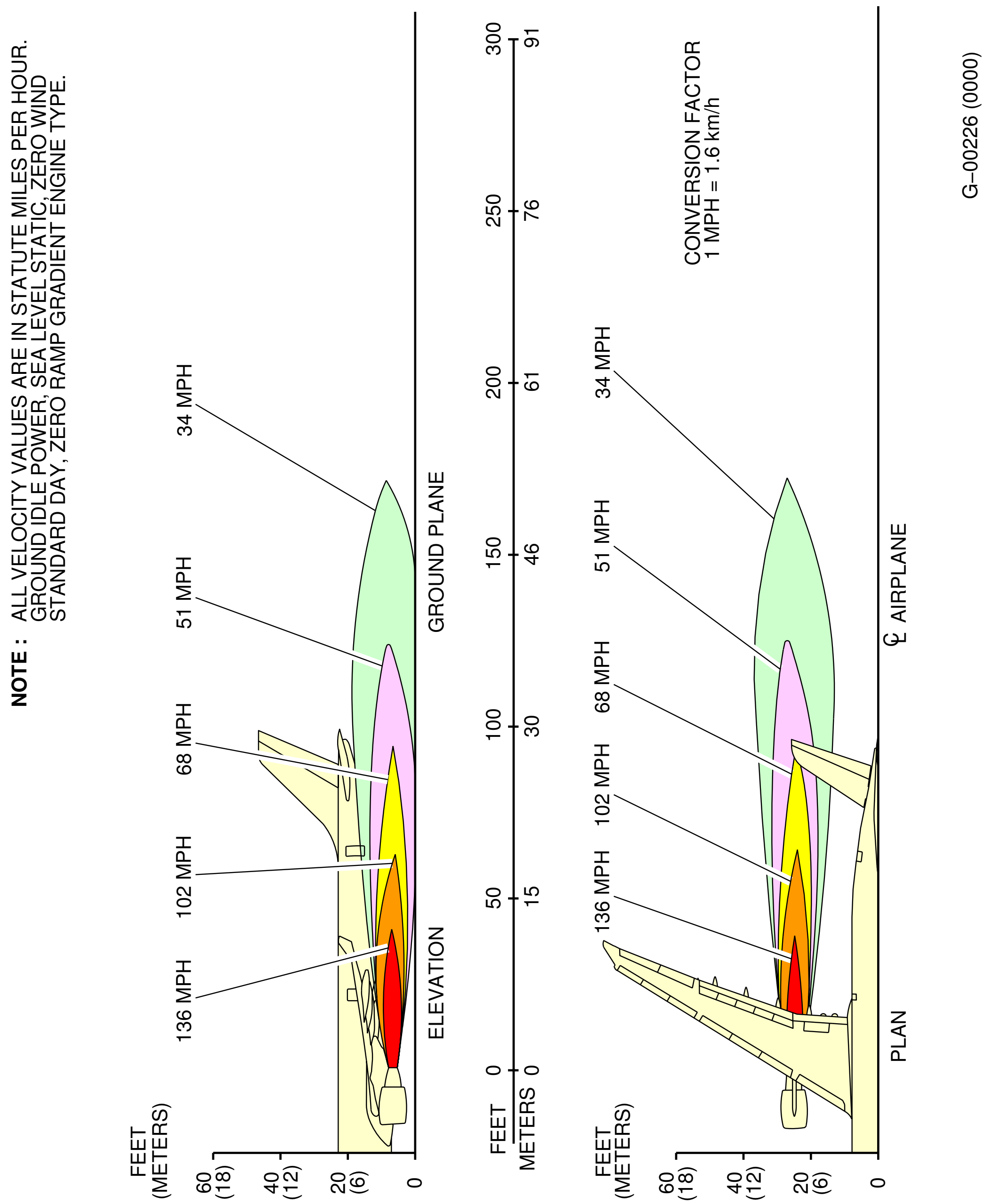
6-1-1 Engine Exhaust Velocities Contours - Ground Idle Power

****ON A/C A330-200 A330-200F A330-300**

Engine Exhaust Velocities Contours - Ground Idle Power

1. This section gives engine exhaust velocities contours at ground idle power

**ON A/C A330-200 A330-200F A330-300



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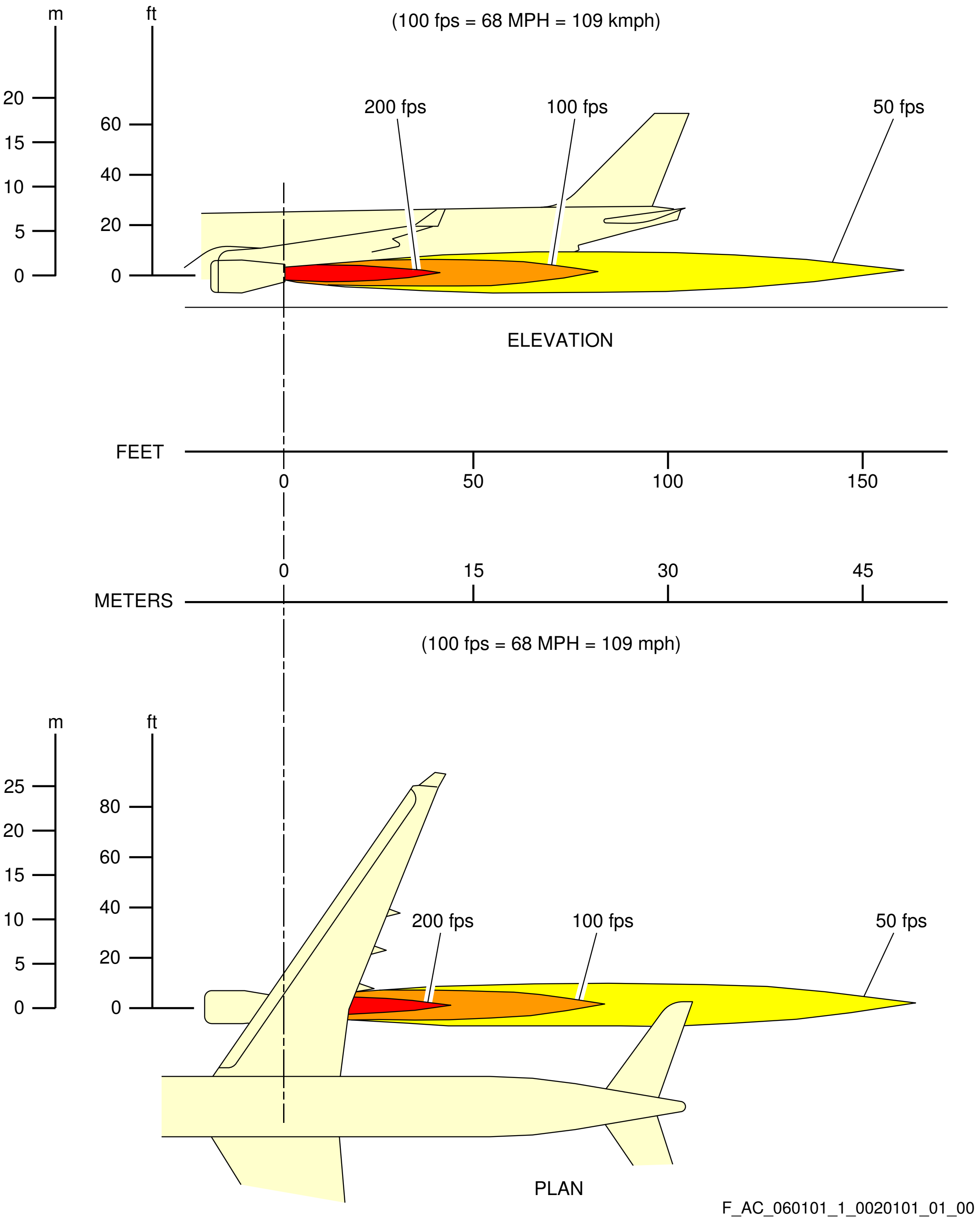
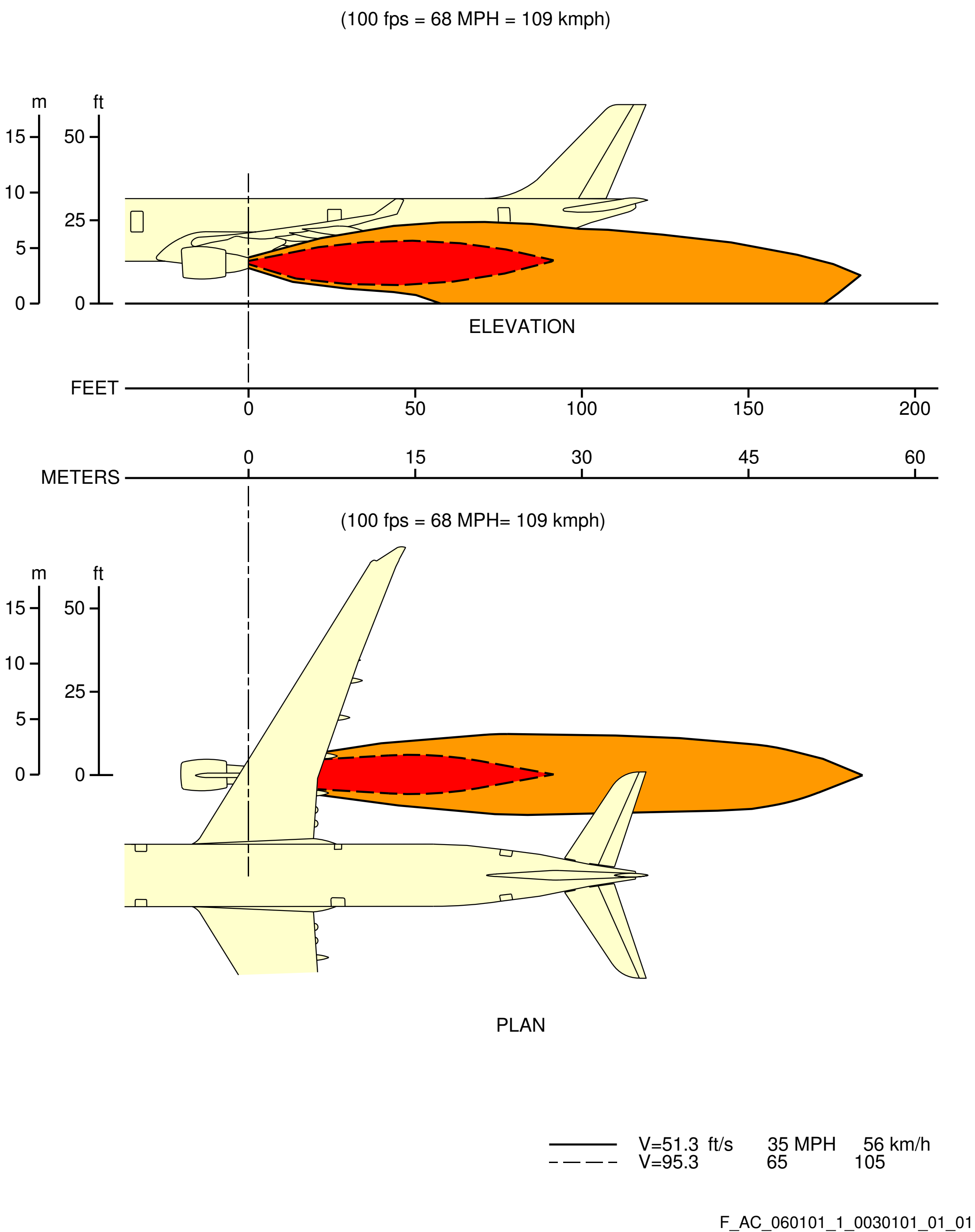
Engine Exhaust Velocities
Ground Idle Power - PW 4000 series engine
FIGURE 1

**ON A/C A330-200 A330-200F A330-300



Engine Exhaust Velocities
Ground Idle Power - RR Trent 700 series engine
FIGURE 2

**ON A/C A330-200 A330-300



Engine Exhaust Velocities
Ground Idle Power - GE CF6-80E1 series engine
FIGURE 3

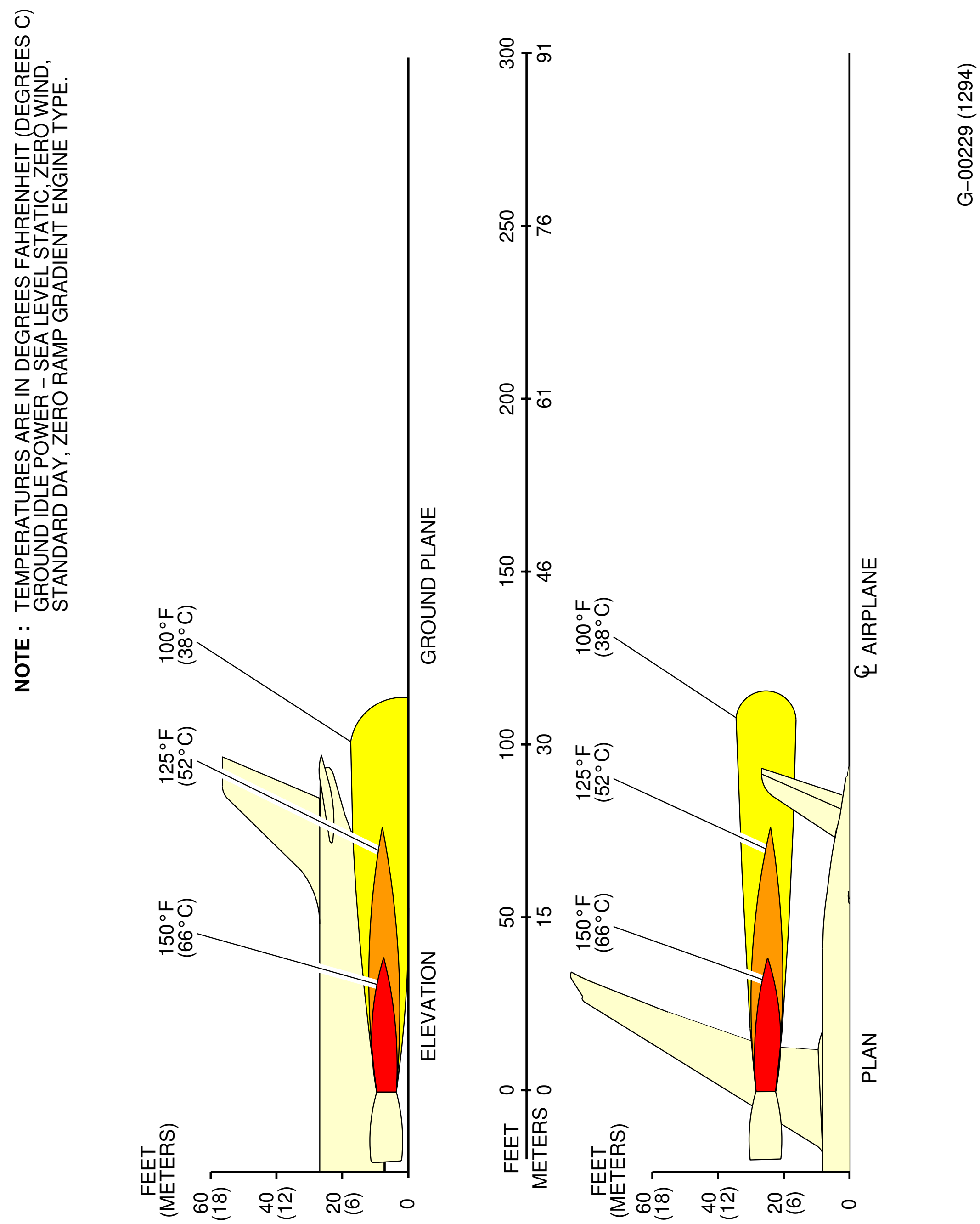
6-1-2 Engine Exhaust Temperatures Contours - Ground Idle Power

****ON A/C A330-200 A330-200F A330-300**

Engine Exhaust Temperatures Contours - Ground Idle Power

1. This section gives engine exhaust temperatures contours at ground idle power.

**ON A/C A330-200 A330-200F A330-300



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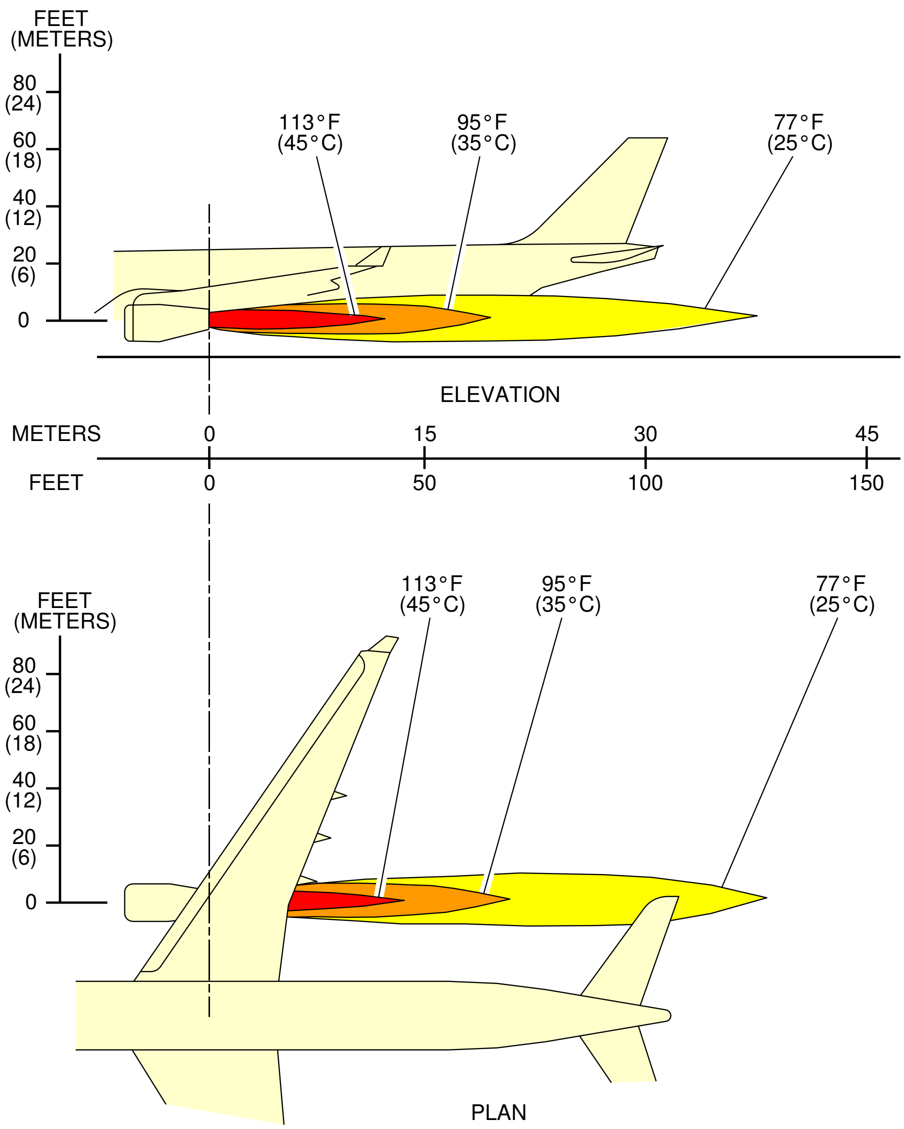
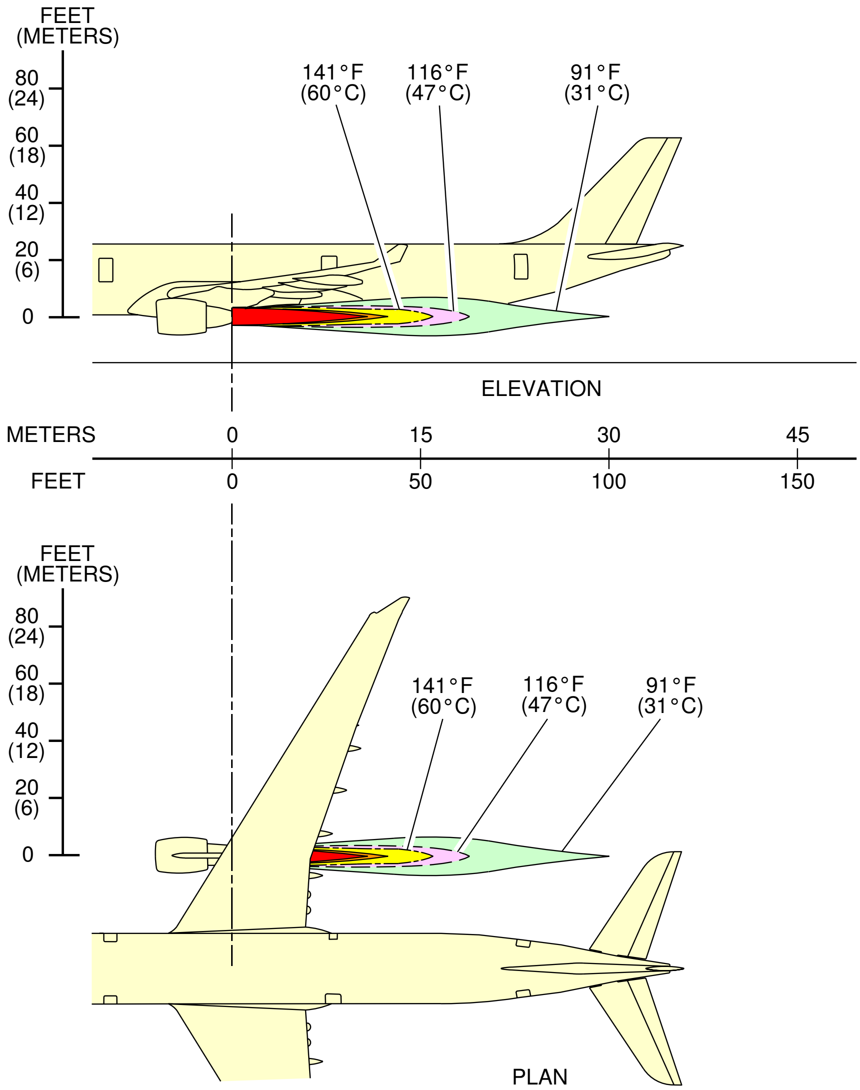
Engine Exhaust Temperatures
Ground Idle Power - PW 4000 series engine
FIGURE 1

**ON A/C A330-200 A330-200F A330-300



Engine Exhaust Temperatures
Ground Idle Power - RR Trent 700 series engine
FIGURE 2

****ON A/C A330-200 A330-300**



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Engine Exhaust Temperatures
Ground Idle Power - GE CF6-80E1 series engine
FIGURE 3

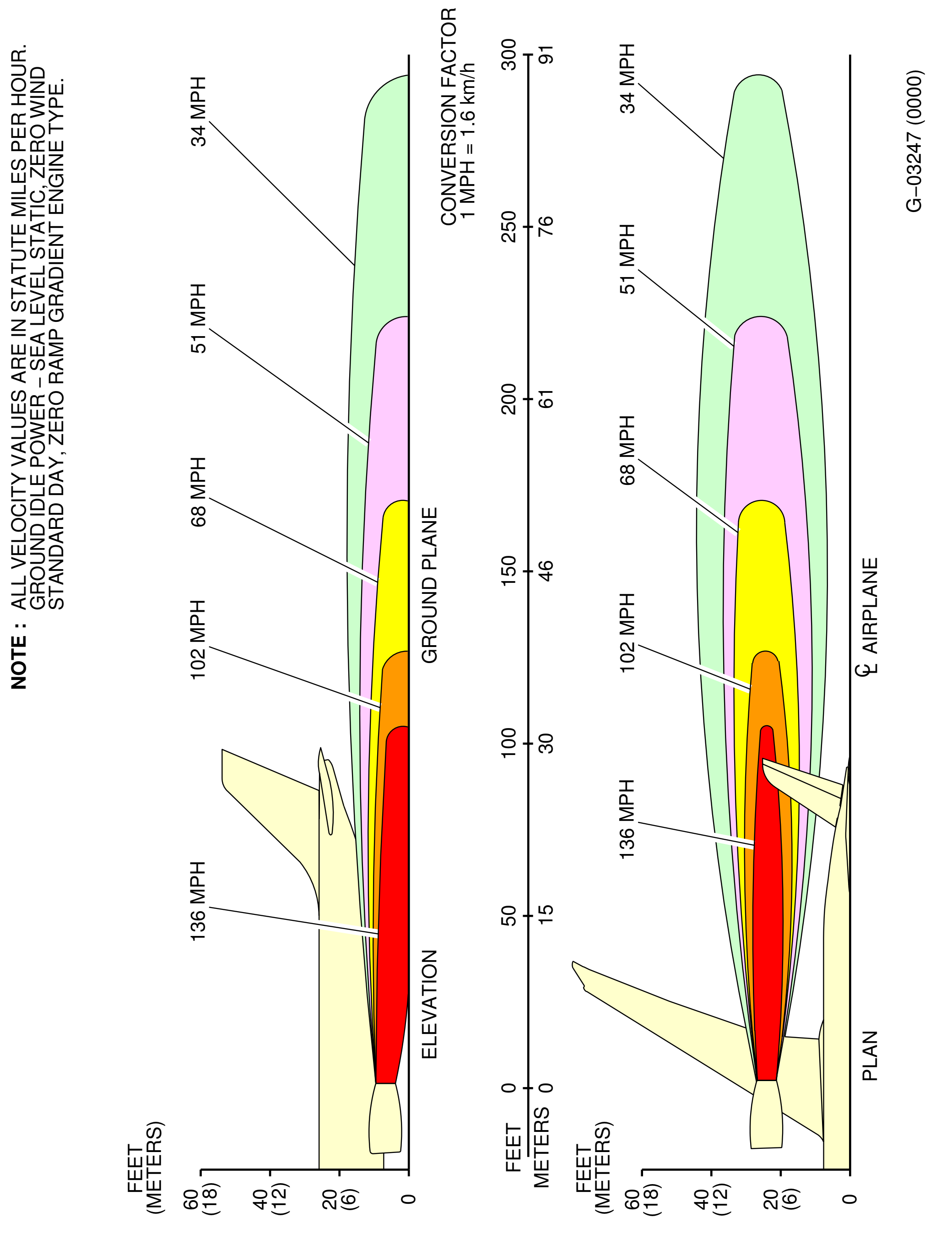
6-1-3 Engine Exhaust Velocities Contours - Breakaway Power

****ON A/C A330-200 A330-200F A330-300**

Engine Exhaust Velocities Contours - Breakaway Power

1. This section gives engine exhaust velocities contours at breakaway power

**ON A/C A330-200 A330-200F A330-300



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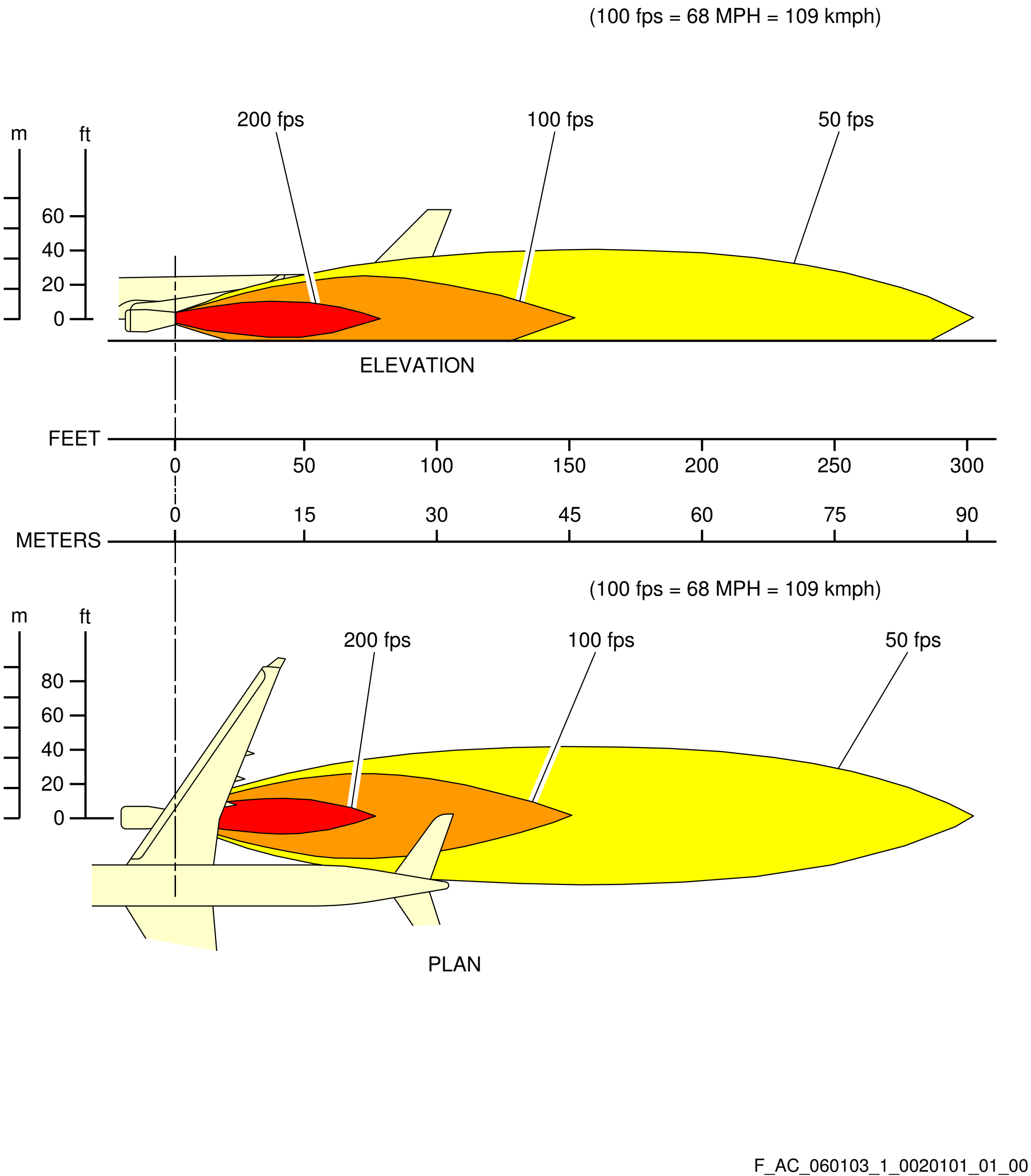
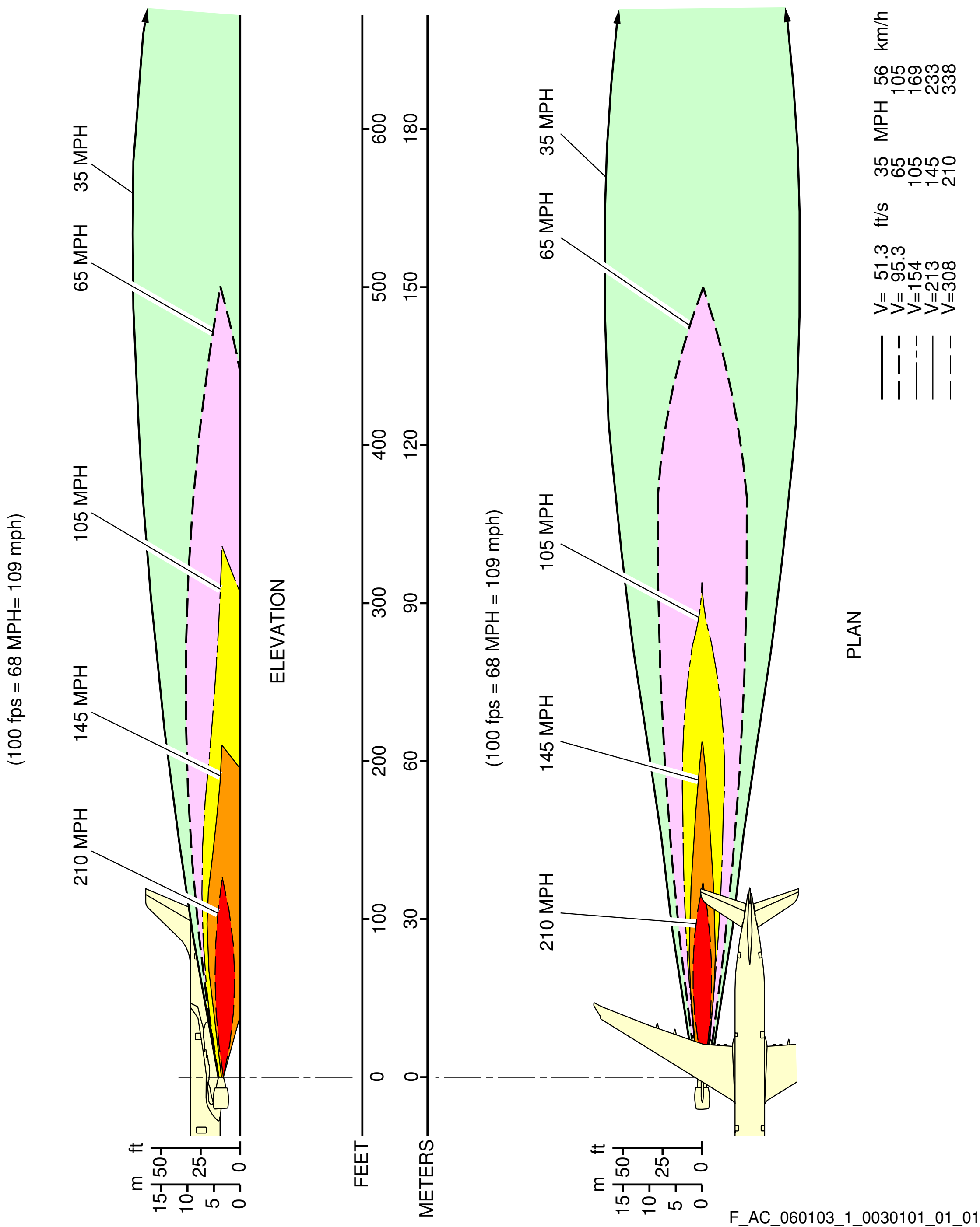
Engine Exhaust Velocities
Breakaway Power - PW 4000 series engine
FIGURE 1

**ON A/C A330-200 A330-200F A330-300



Engine Exhaust Velocities
Breakaway Power - RR Trent 700 series engine
FIGURE 2

****ON A/C A330-200 A330-300**



Engine Exhaust Velocities
Breakaway Power - GE CF6-80E1 series engine
FIGURE 3

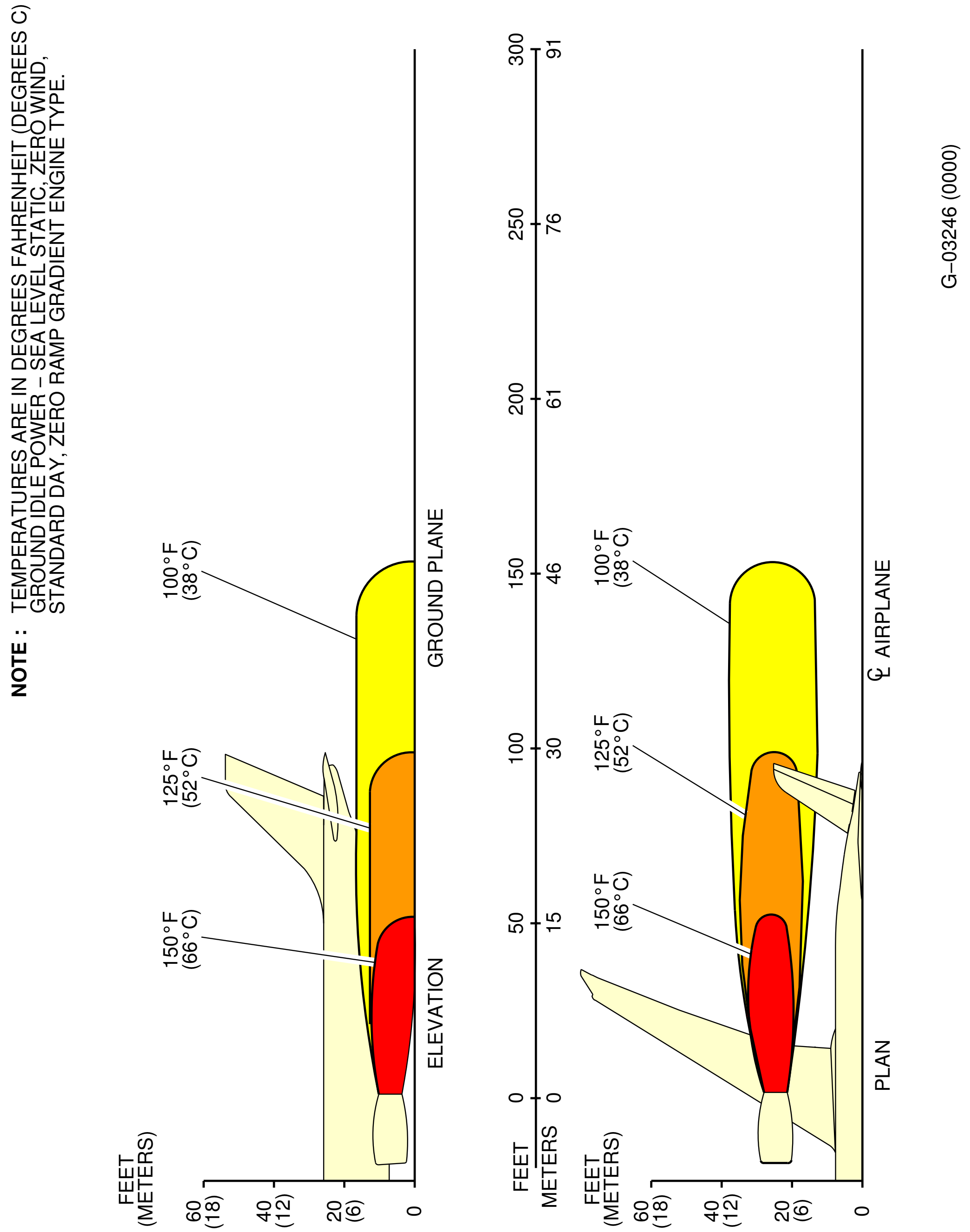
6-1-4 Engine Exhaust Temperatures Contours - Breakaway Power

****ON A/C A330-200 A330-200F A330-300**

Engine Exhaust Temperatures Contours - Breakaway Power

1. This section gives engine exhaust temperatures contours at breakaway power.

**ON A/C A330-200 A330-200F A330-300



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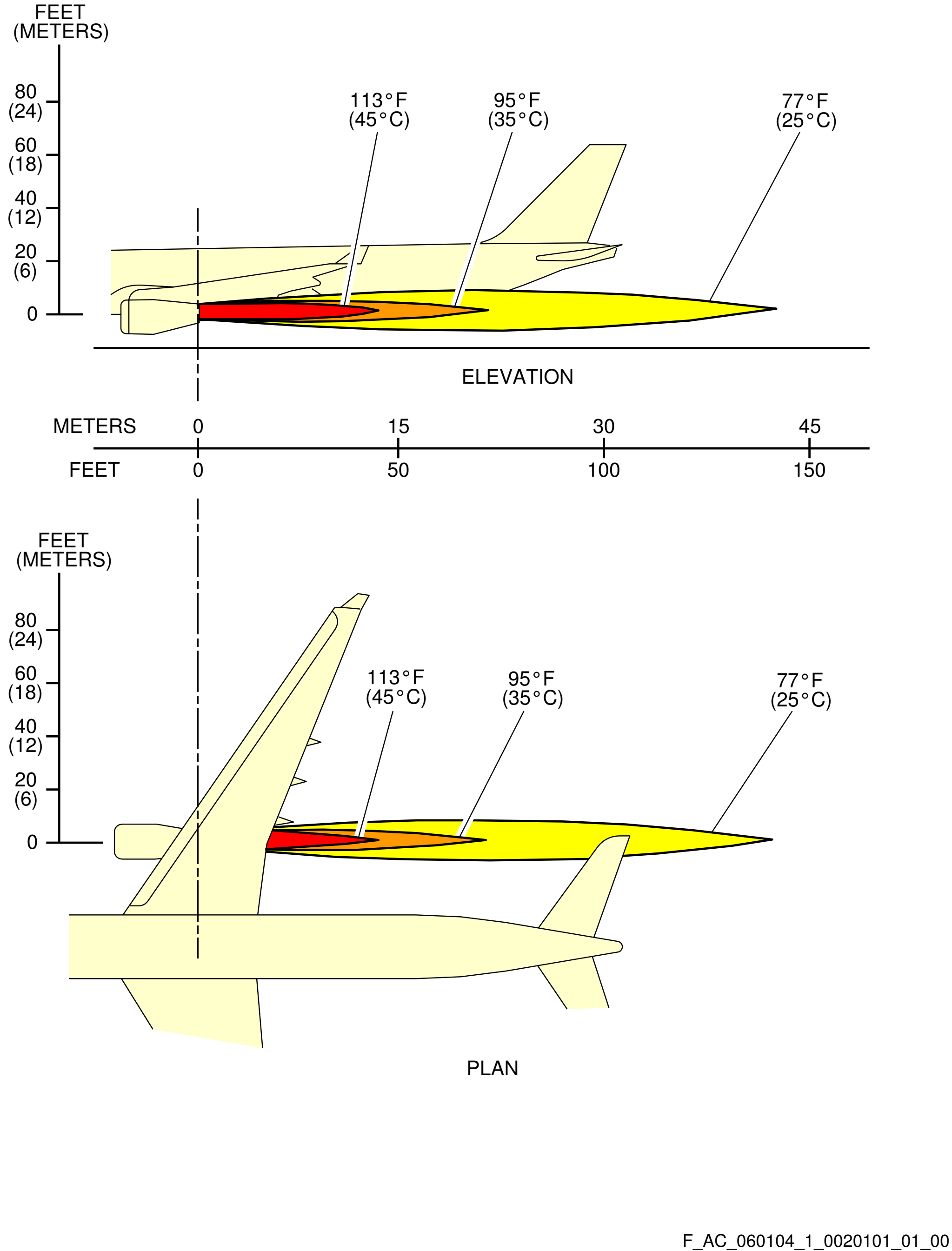
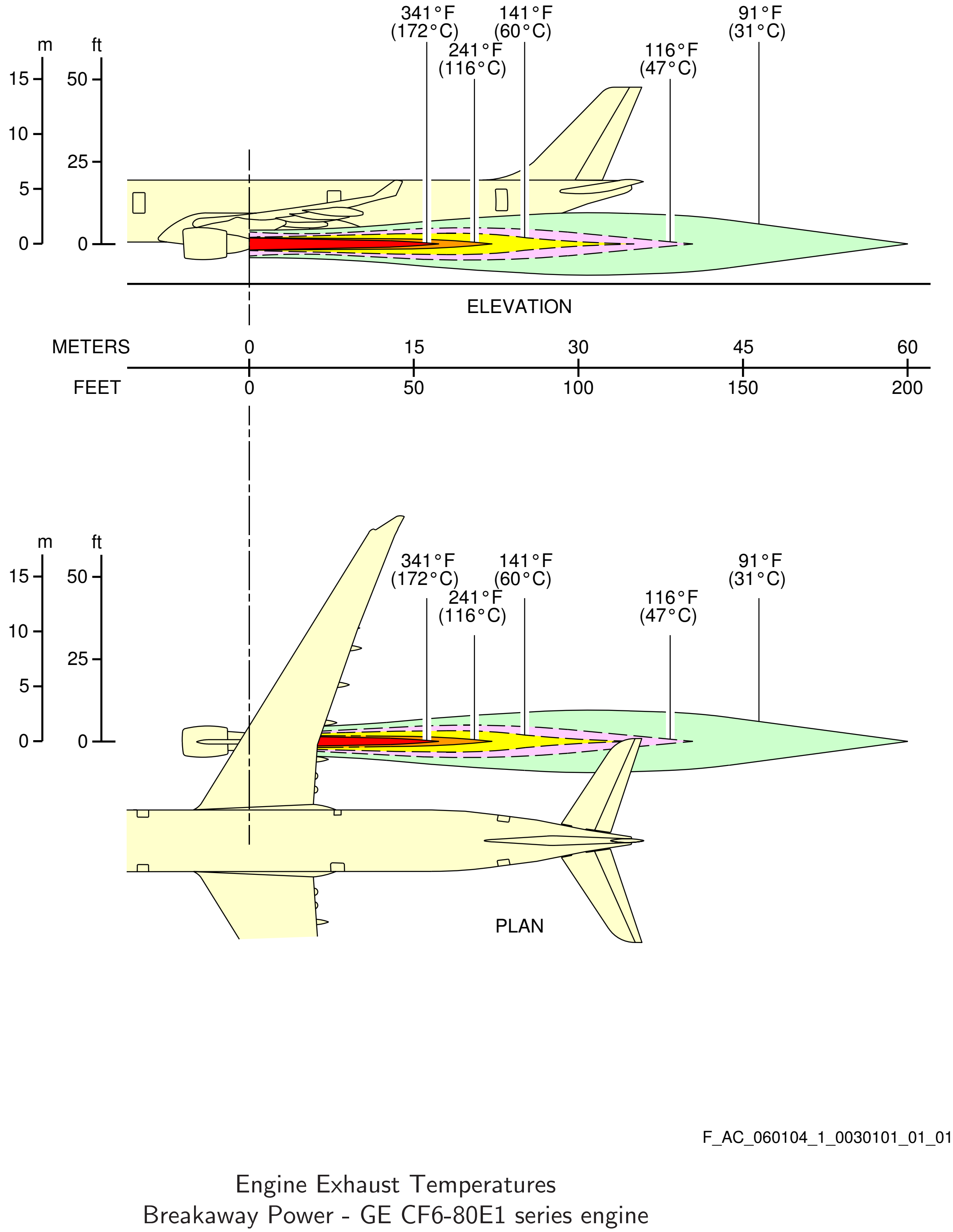
Engine Exhaust Temperatures
Breakaway Power - PW 4000 series engine
FIGURE 1

**ON A/C A330-200 A330-200F A330-300



Engine Exhaust Temperatures
Breakaway Power - RR Trent 700 series engine
FIGURE 2

**ON A/C A330-200 A330-300



Engine Exhaust Temperatures
Breakaway Power - GE CF6-80E1 series engine
FIGURE 3

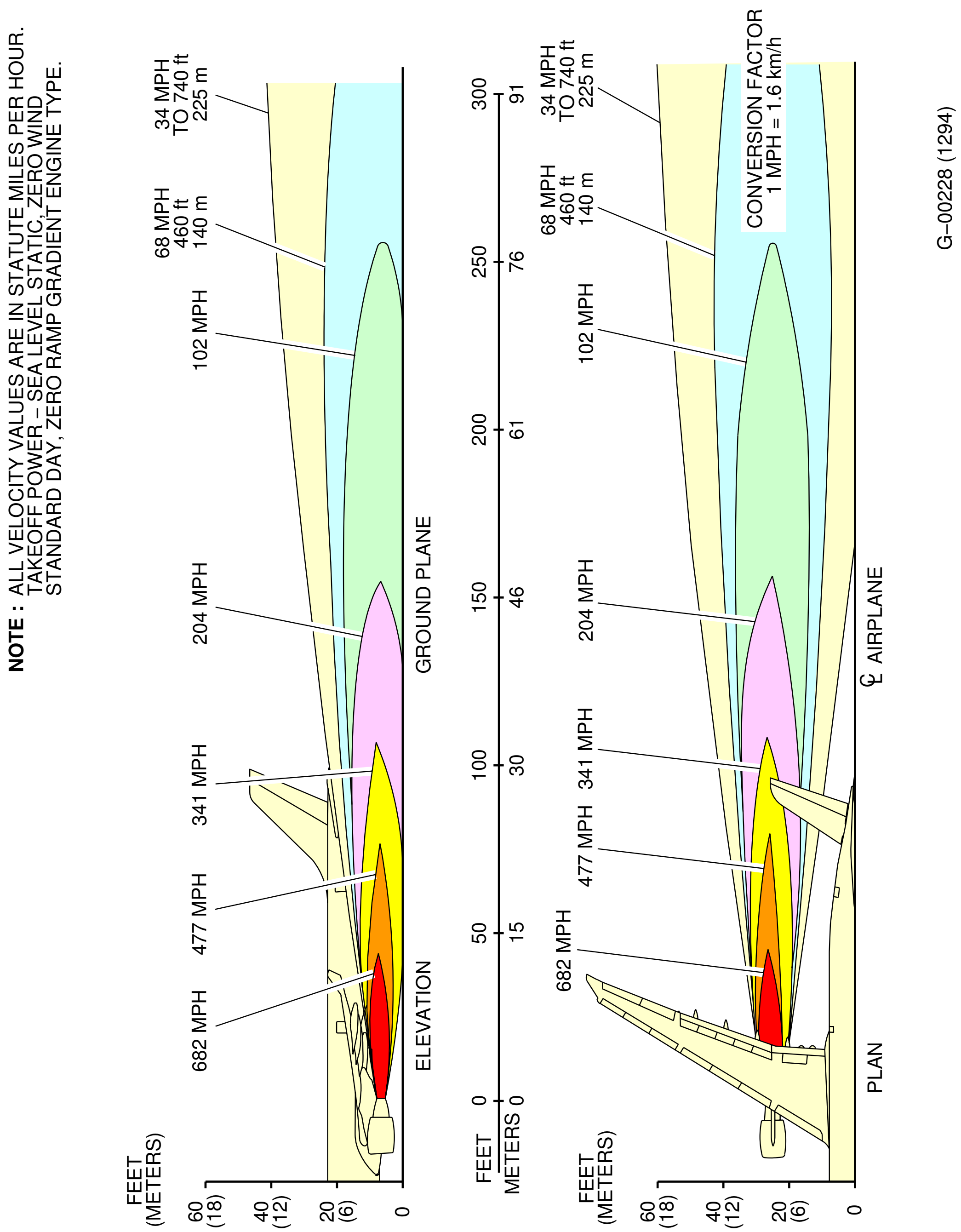
6-1-5 Engine Exhaust Velocities Contours - Takeoff Power

****ON A/C A330-200 A330-200F A330-300**

Engine Exhaust Velocities Contours - Takeoff Power

1. This section gives engine exhaust velocities contours at takeoff power

**ON A/C A330-200 A330-200F A330-300



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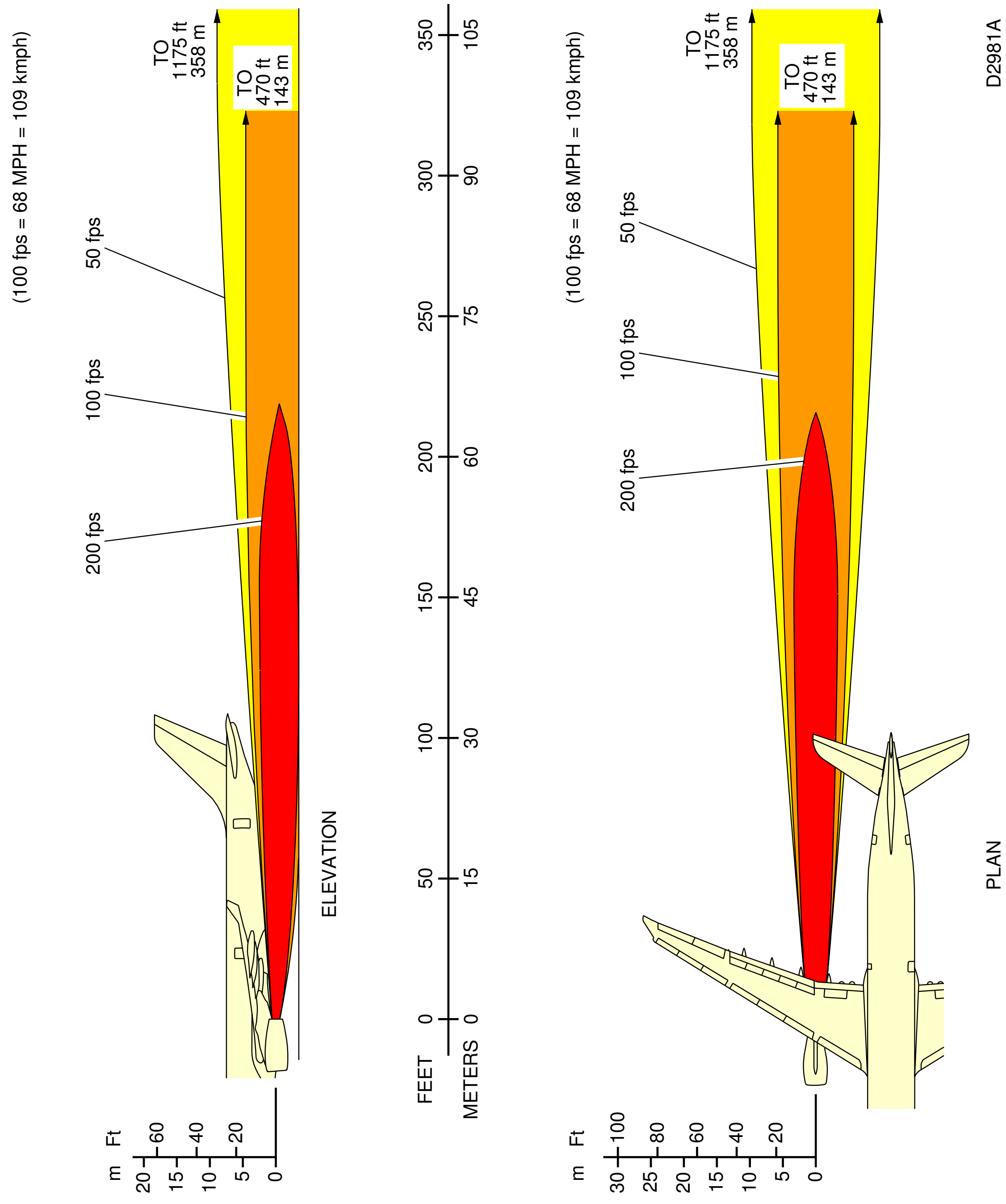
Engine Exhaust Velocities
Takeoff Power - PW 4000 series engine
FIGURE 1

**ON A/C A330-200 A330-200F A330-300



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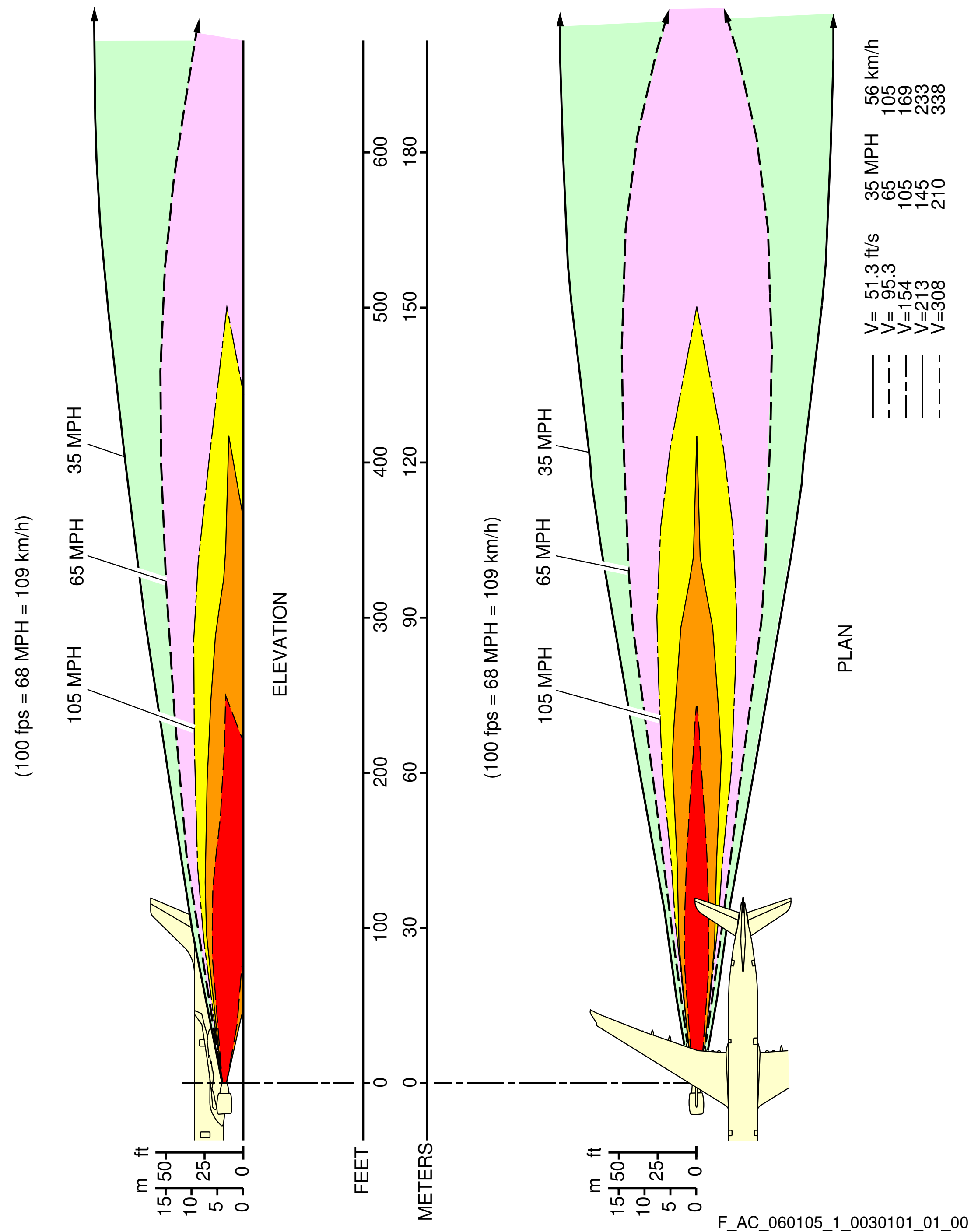
Engine Exhaust Velocities
Takeoff Power - RR Trent 700 series engine
FIGURE 2

**ON A/C A330-200 A330-300



Engine Exhaust Velocities
Takeoff Power - GE CF6-80E1 series engine
FIGURE 3

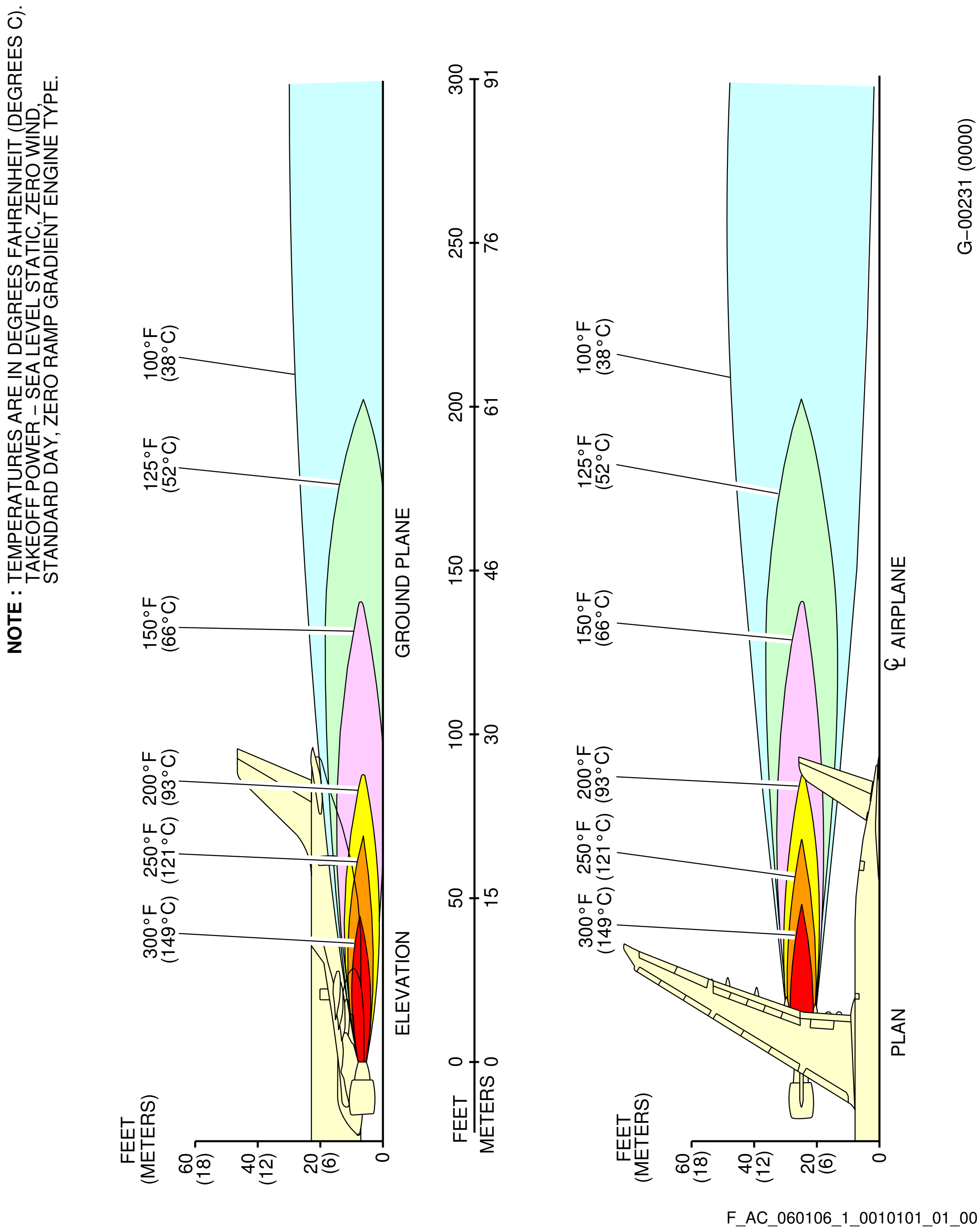
6-1-6 Engine Exhaust Temperatures Contours - Takeoff Power

****ON A/C A330-200 A330-200F A330-300**

Engine Exhaust Temperatures Contours - Takeoff Power

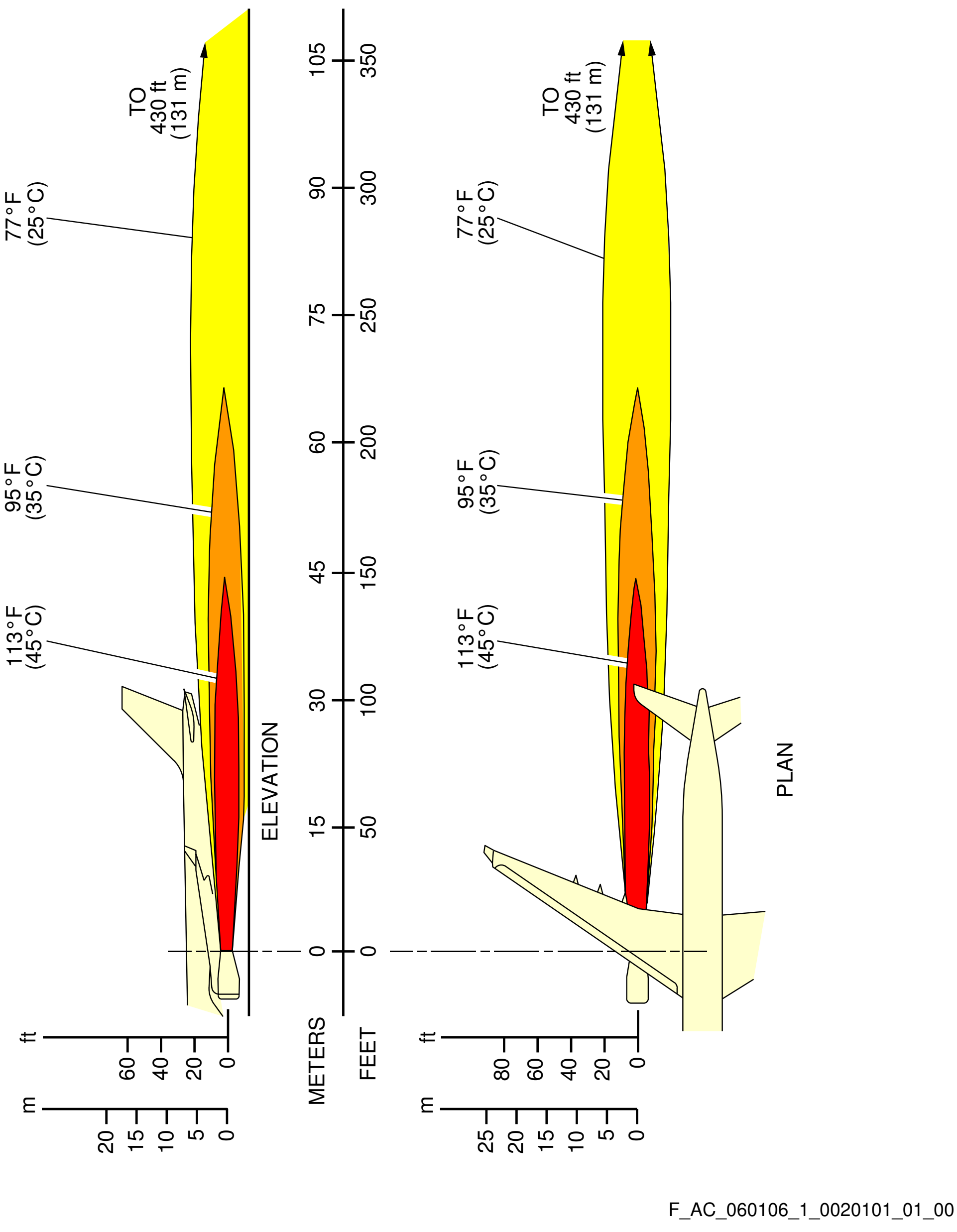
1. This section gives engine exhaust temperatures contours at takeoff power

**ON A/C A330-200 A330-200F A330-300



Engine Exhaust Temperatures
Takeoff Power - PW 4000 series engine
FIGURE 1

**ON A/C A330-200 A330-200F A330-300



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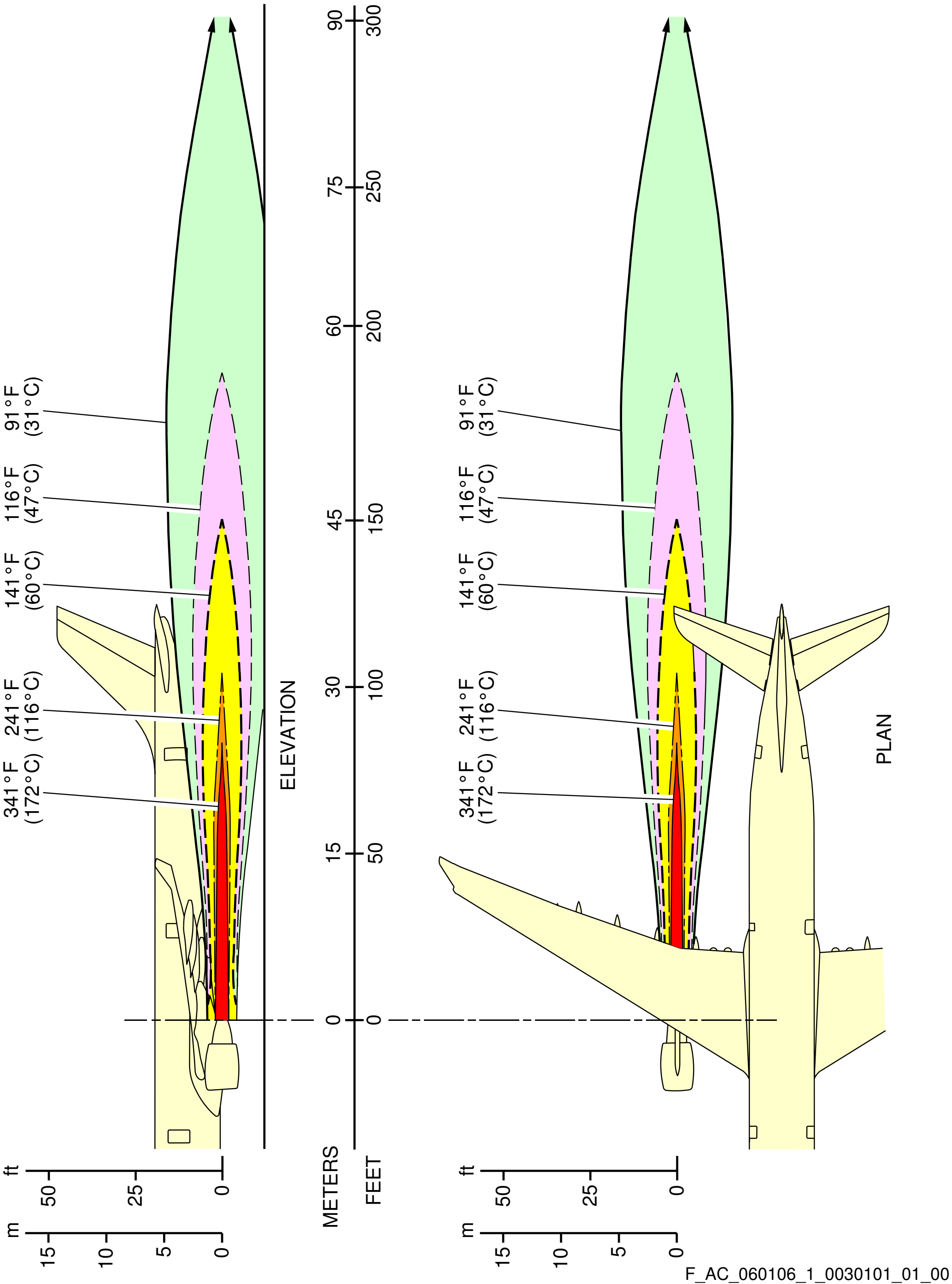
Engine Exhaust Temperatures
Takeoff Power - RR Trent 700 series engine
FIGURE 2

****ON A/C A330-200 A330-300**



Engine Exhaust Temperatures
Takeoff Power - GE CF6-80E1 series engine
FIGURE 3

6-2-0 Airport and Community Noise

****ON A/C A330-200 A330-200F A330-300**

Airport and Community Noise Data

1. Airport and Community Noise Data

   This section gives data concerning engine maintenance run-up noise to permit evaluation of possible attenuation requirements.

6-2-1 Noise Data

****ON A/C A330-200 A330-200F A330-300**

Noise Data

1. Noise Data for PW 4000 series engine

   A. Description of test conditions :

      The arc of circle (radius = 60 m (196.85 ft)), with microphones 1.2 m (3.94 ft) high, is centered on the position of the noise reference point.
      A.P.U. : off ; E.C.S. : Packs off.

   B. Engine parameters : 2 engines running

   C. Meteorological data

      The meteorological parameters measured 1.6 m (5.25 ft) from the ground on the day of test were as follows :
      - Temperature : 24.8 ˚C (76.64 ˚F)
      - Relative humidity : 46%
      - Atmospheric pressure : 1000 hPa
      - Wind speed : Negligible
      - No rain

2. Noise Data for RR Trent 700 series engine

   A. Description of test conditions :

      The arc of circle (radius = 60 m (196.85 ft)), with microphones 1.2 m (3.94 ft) high, is centered on the position of the noise reference point.
      A.P.U. : off ; E.C.S. : Packs off.

   B. Engine parameters : 2 engines running

   C. Meteorological data

      The meteorological parameters measured 1.6 m (5.25 ft) from the ground on the day of test were as follows :
      - Temperature : 16.8 ˚C (62.24 ˚F)
      - Relative humidity : 70%
      - Atmospheric pressure : 1009 hPa
      - Wind speed : Negligible
      - No rain

**ON A/C A330-200 A330-300

3. Noise Data for GE CF6-80E1 series engine

A. Description of test conditions :

The arc of circle (radius = 60 m (196.85 ft)), with microphones 1.2 m (3.94 ft) high, is centered on the position of the noise reference point.
A.P.U. : off ; E.C.S. : Packs off.

B. Engine parameters : 2 engines running

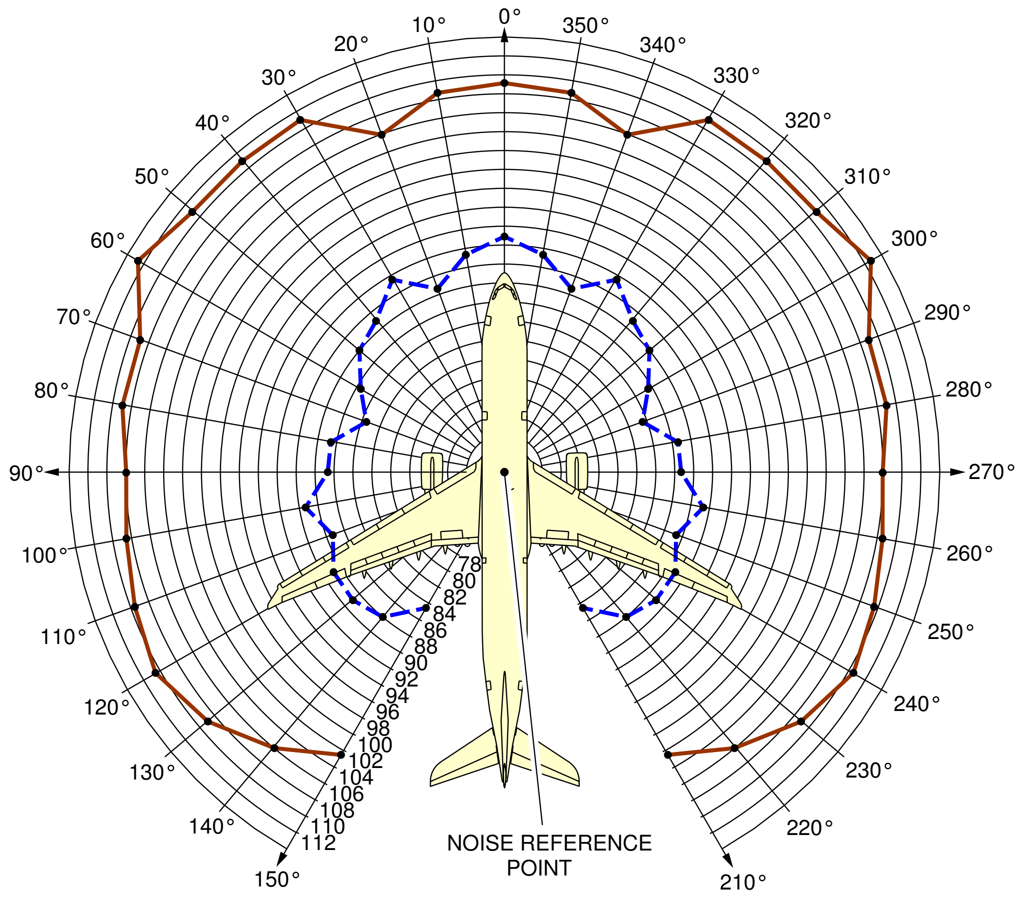
C. Meteorological data

The meteorological parameters measured 1.6 m (5.25 ft) from the ground on the day of test were as follows :

- Temperature : 24.5 °C (76.10 °F)
- Relative humidity : 47%
- Atmospheric pressure : 1003.1 hPa
- Wind speed : Negligible
- No rain

**ON A/C A330-200 A330-200F A330-300

	GROUND IDLE	MAX THRUST POSSIBLE ON BRAKES
E.P.R.	1.016	1.337
N1	25%	82.4%
CURVE		



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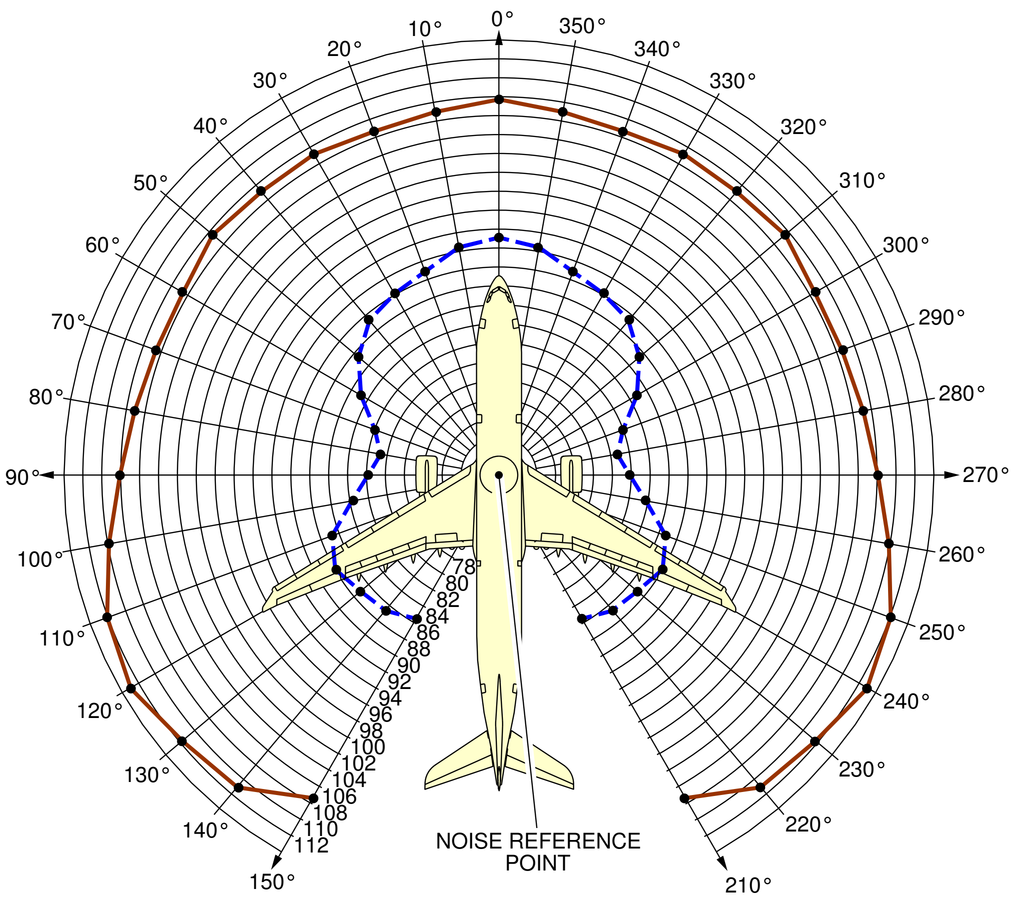
Airport and Community Noise
PW 4000 series engine
FIGURE 1

**ON A/C A330-200 A330-200F A330-300

	GROUND IDLE	MAX THRUST POSSIBLE ON BRAKES
E.P.R.	1.017	1.43
N1	23%	79.5%
CURVE		



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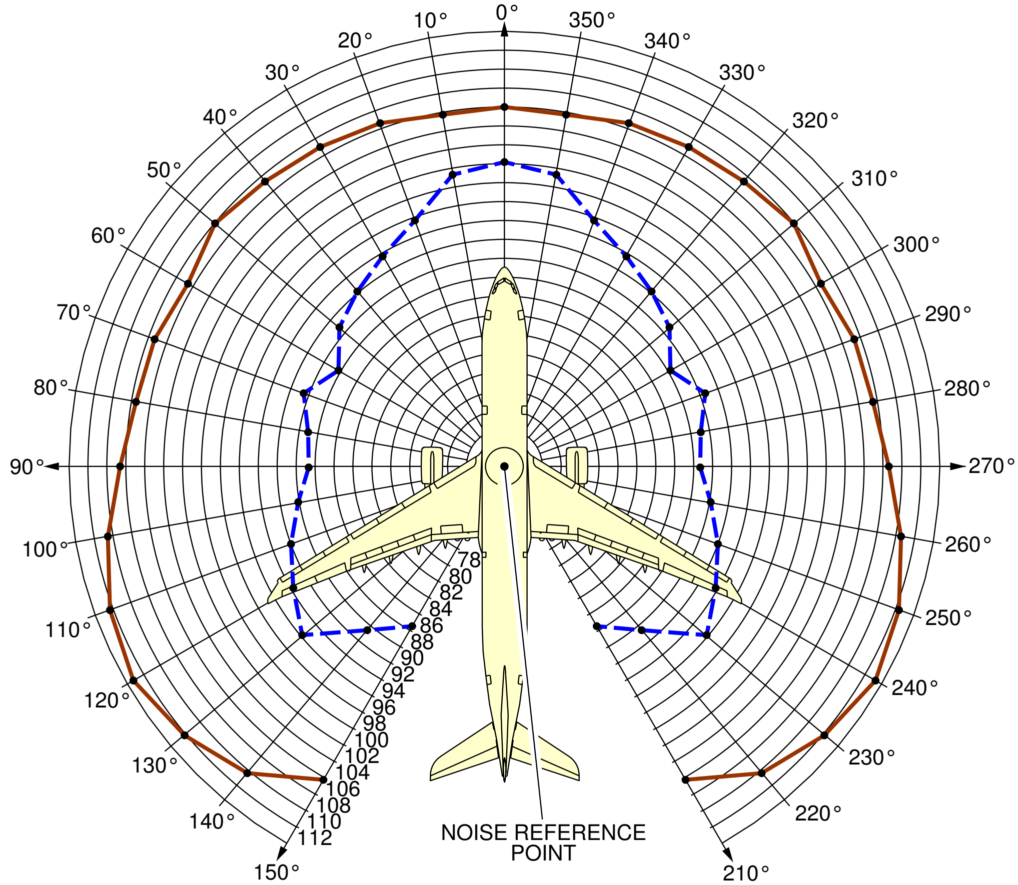
Airport and Community Noise
RR Trent 700 series engine
FIGURE 2

**ON A/C A330-200 A330-300

	GROUND IDLE	MAX THRUST POSSIBLE ON BRAKES
N1	26%	99.5%
CURVE		



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Airport and Community Noise
GE CF6-80E1 series engine
FIGURE 3

6-3-0 Danger Areas of Engines

****ON A/C A330-200 A330-200F A330-300**

Danger Areas of Engines

1. Danger Areas of the Engines.

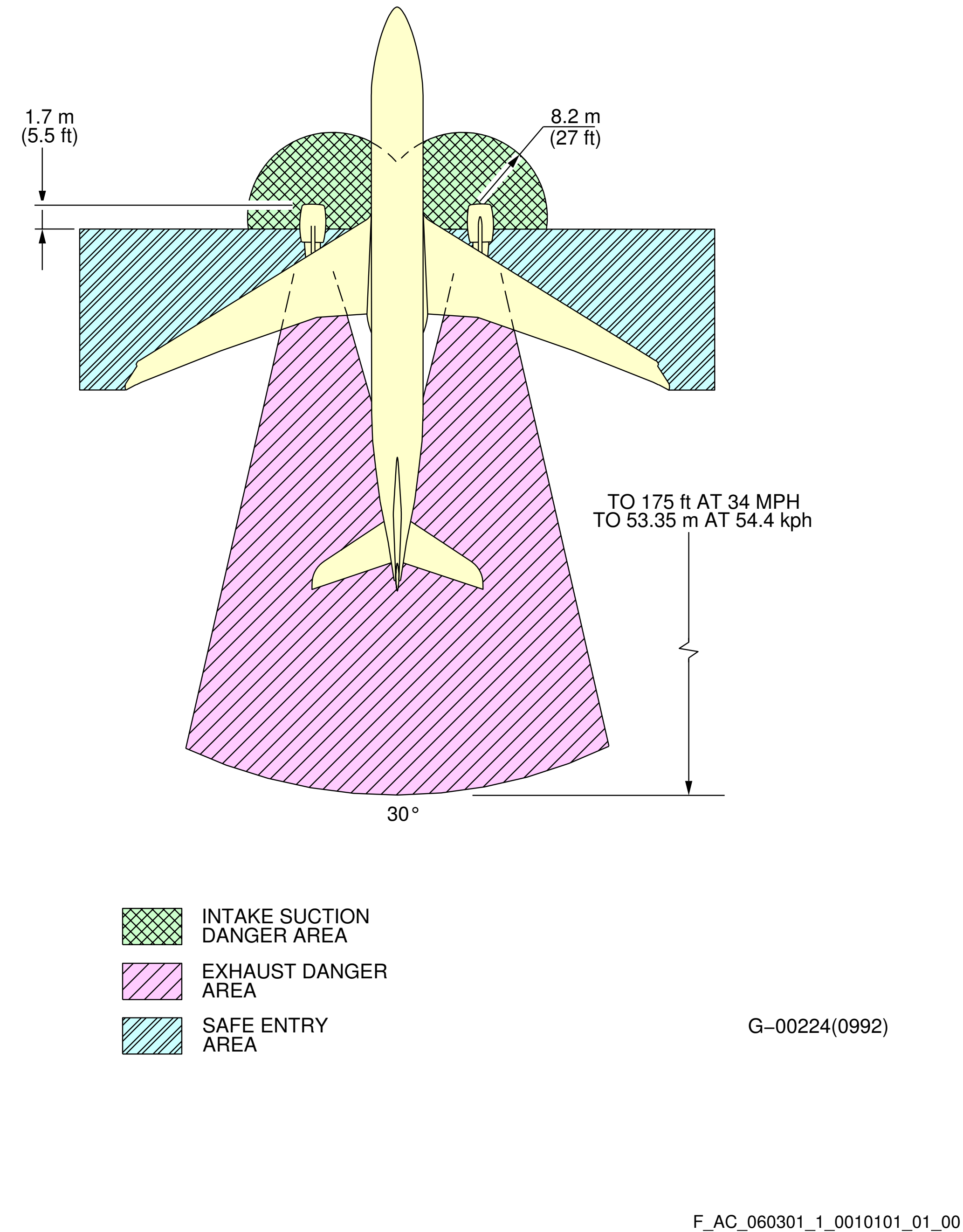
6-3-1 Ground Idle Power

****ON A/C A330-200 A330-200F A330-300**

Ground Idle Power

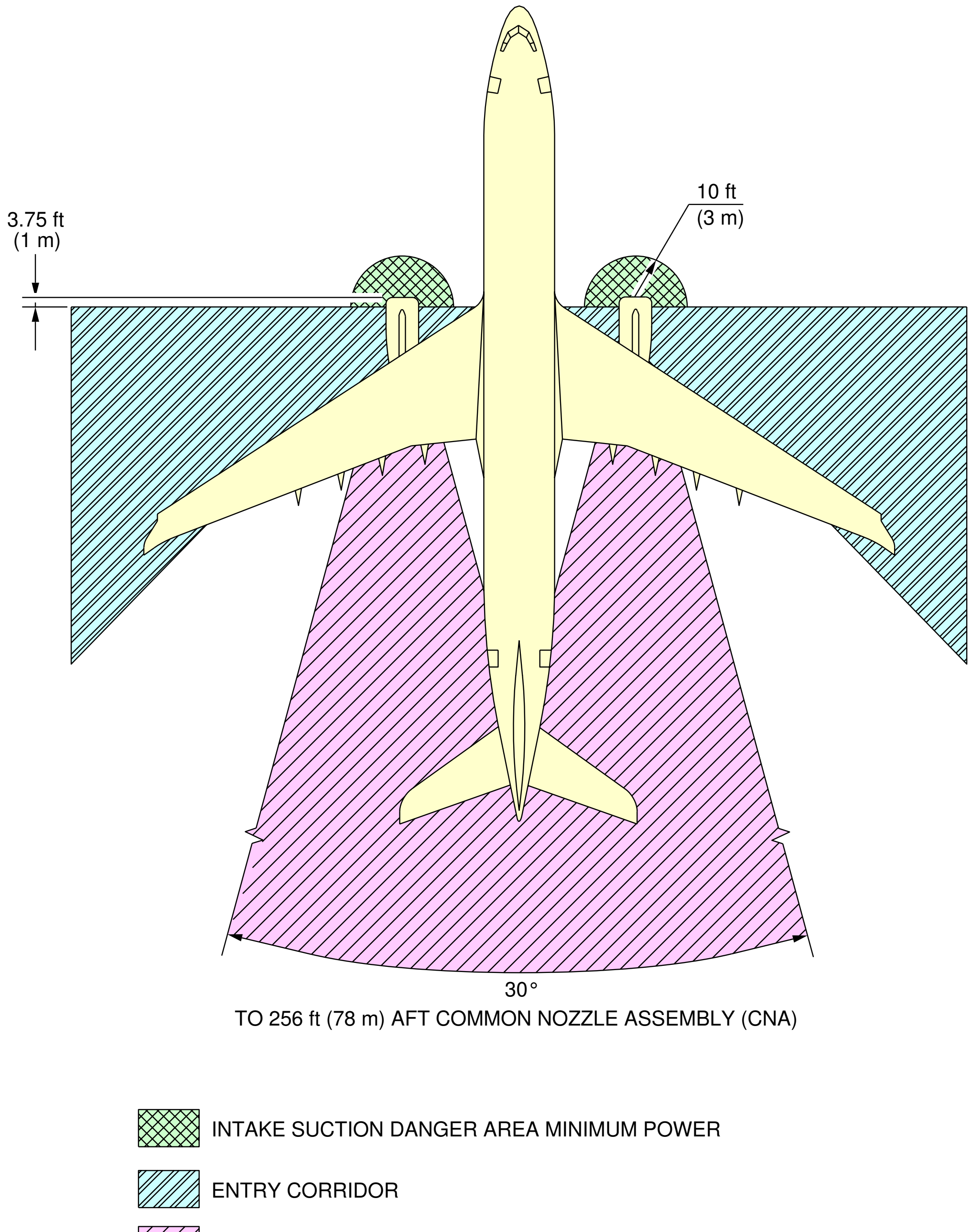
1. This section gives danger areas of the engines at ground idle power conditions

****ON A/C A330-200 A330-200F A330-300**



Danger Areas of Engines
PW 4000 series engine
FIGURE 1

**ON A/C A330-200 A330-200F A330-300



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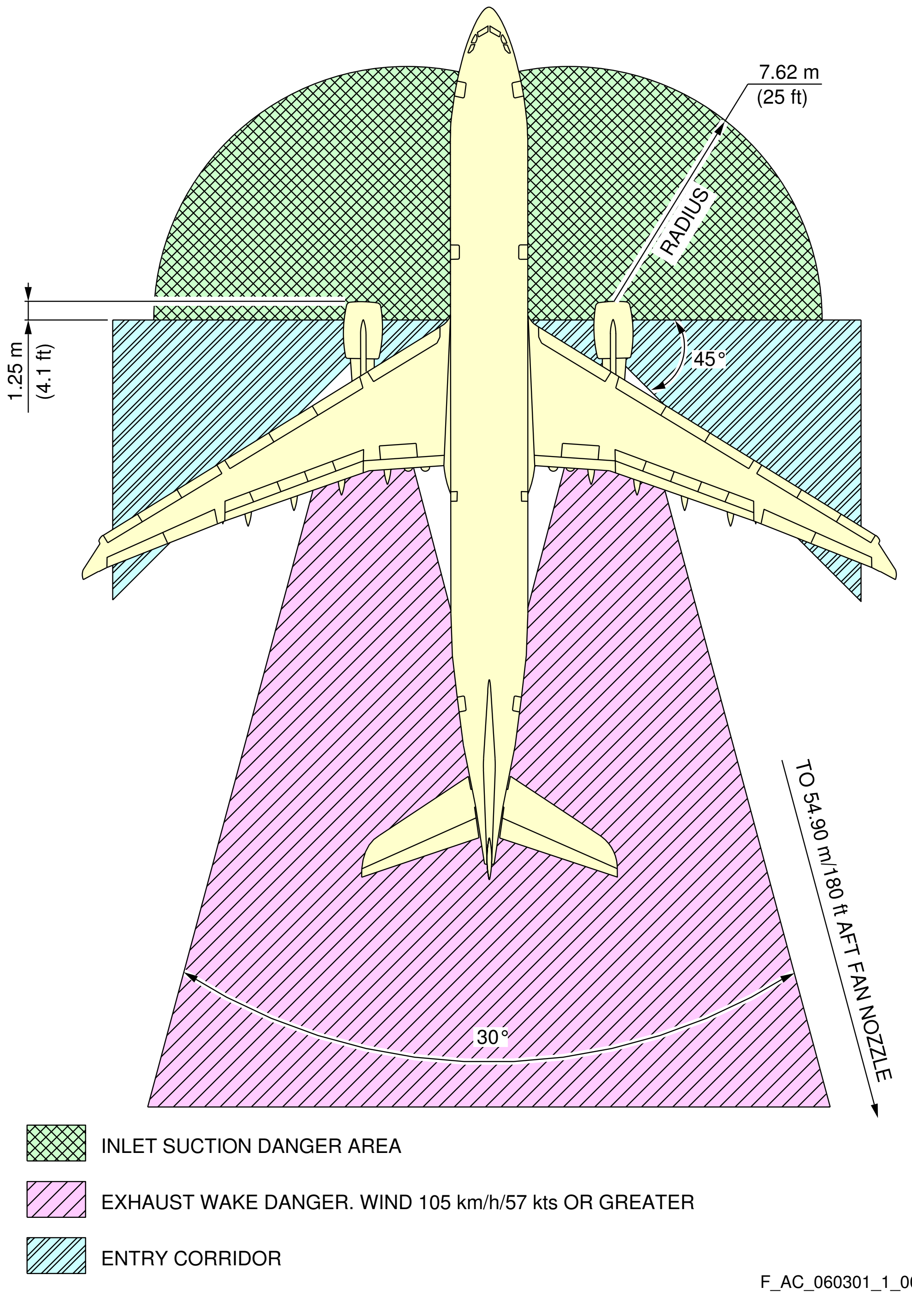
Danger Areas of Engines
RR Trent 700 series engine
FIGURE 2

**ON A/C A330-200 A330-300



Danger Areas of Engines
GE CF6-80E1 series engine
FIGURE 3

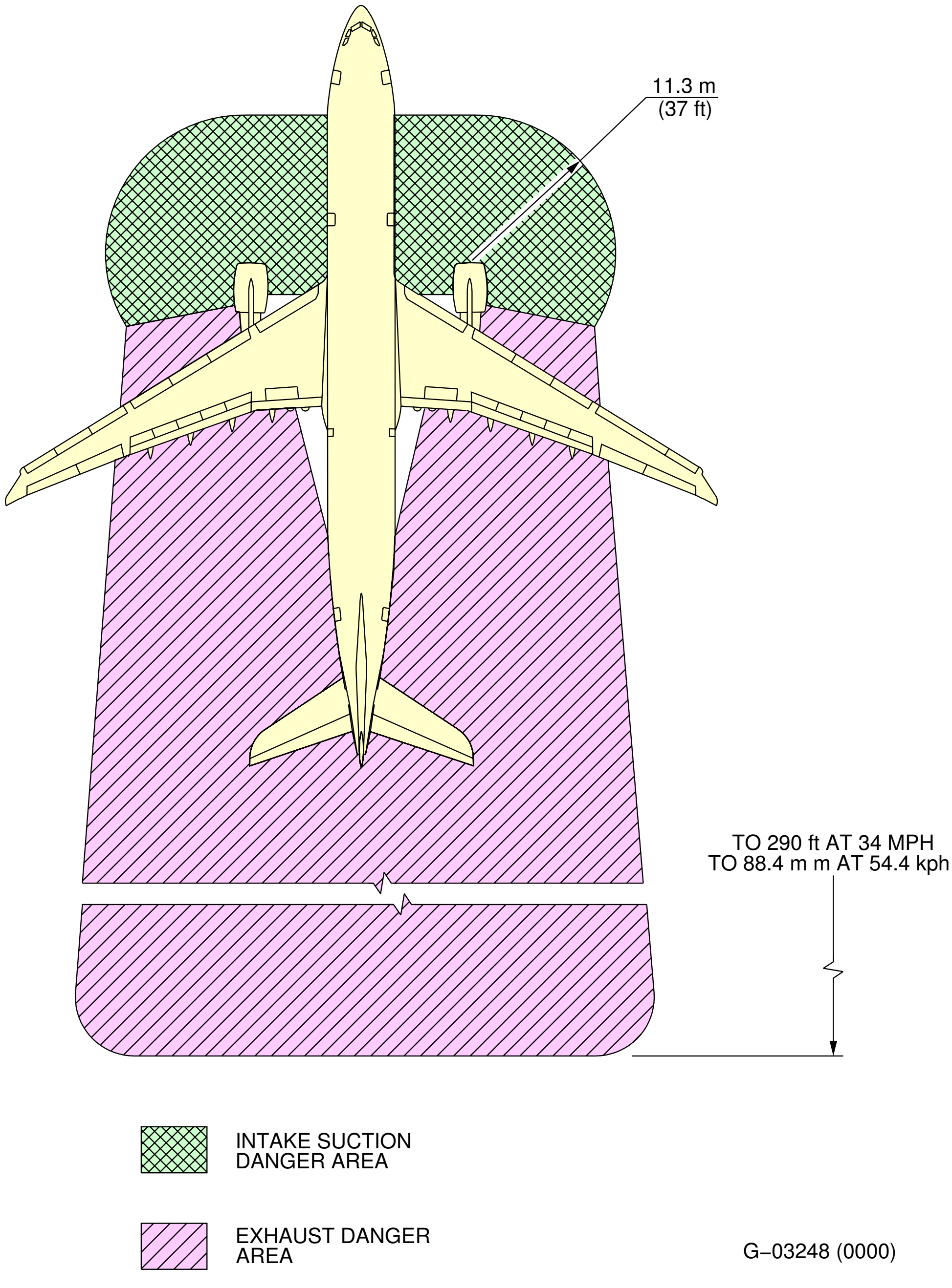
6-3-2 Breakaway Power

****ON A/C A330-200 A330-200F A330-300**

Breakaway Power

1. This section gives danger areas of the engines at breakaway conditions.

****ON A/C A330-200 A330-200F A330-300**



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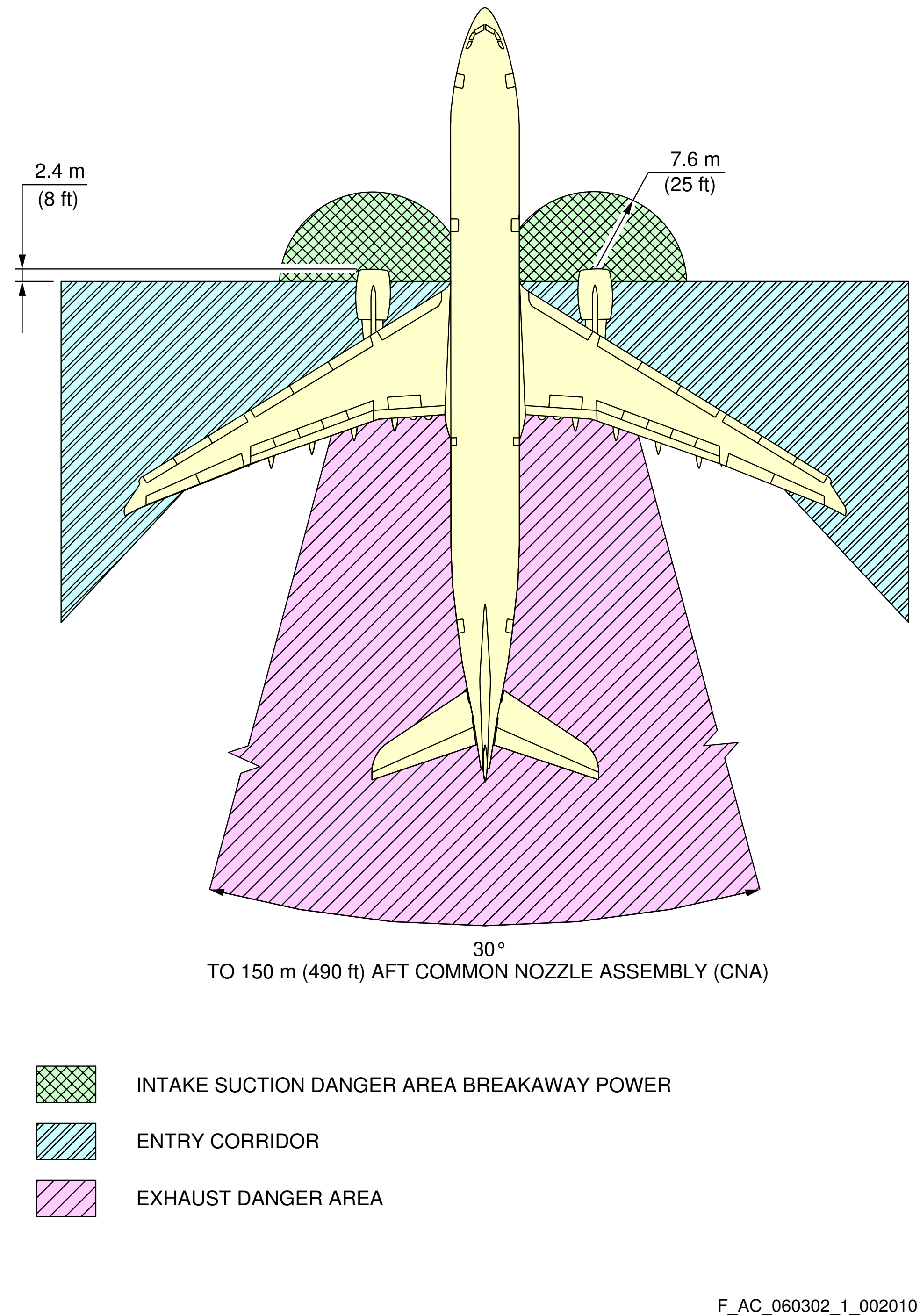
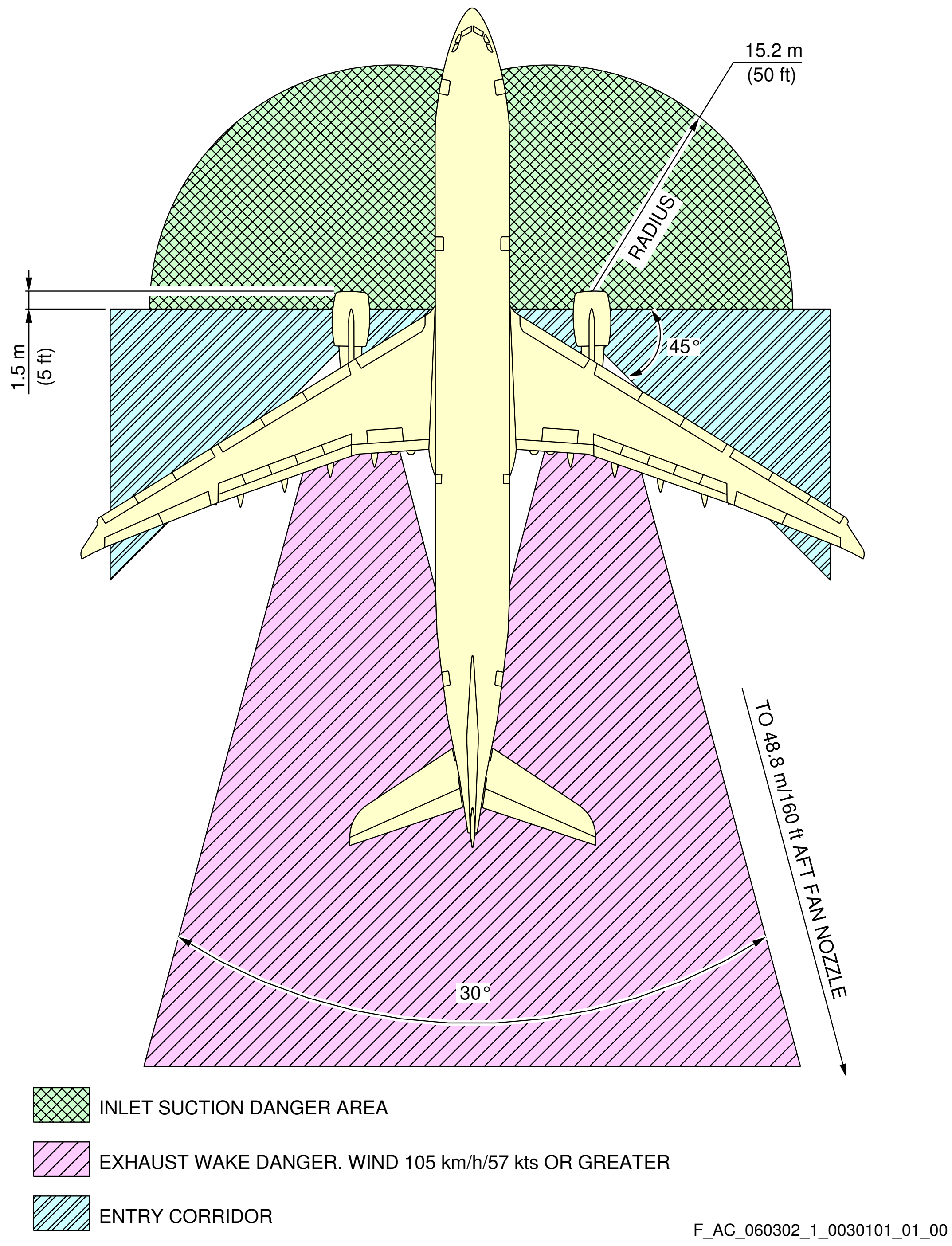
Danger Areas of Engines
PW 4000 series engine
FIGURE 1

**ON A/C A330-200 A330-200F A330-300



Danger Areas of Engines
RR Trent 700 series engine
FIGURE 2

**ON A/C A330-200 A330-300



Danger Areas of Engines
GE CF6-80E1 series engine
FIGURE 3

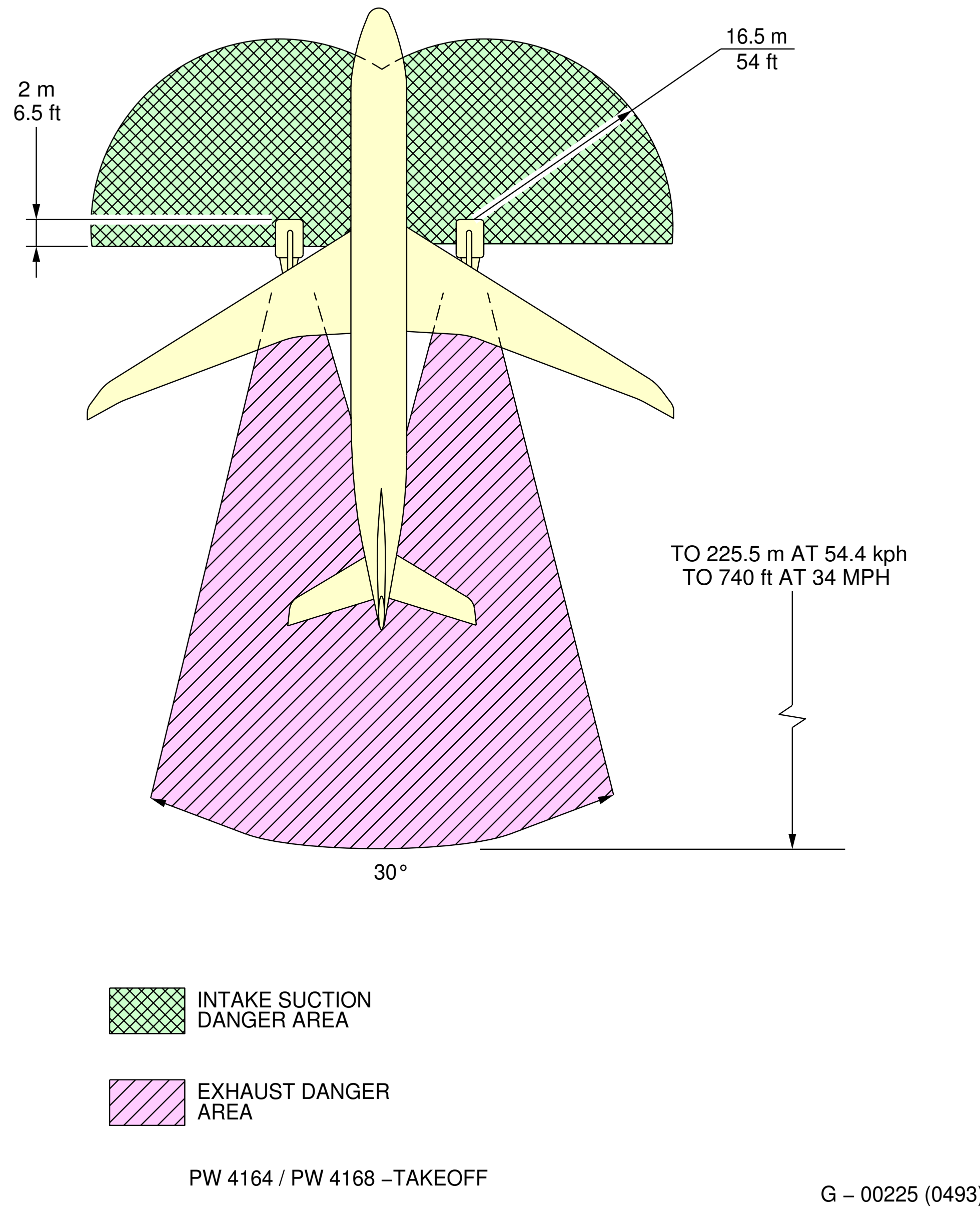
6-3-3 Takeoff Power

****ON A/C A330-200 A330-200F A330-300**

Takeoff Power

1. This section gives danger areas of the engines at max takeoff conditions

**ON A/C A330-200 A330-200F A330-300



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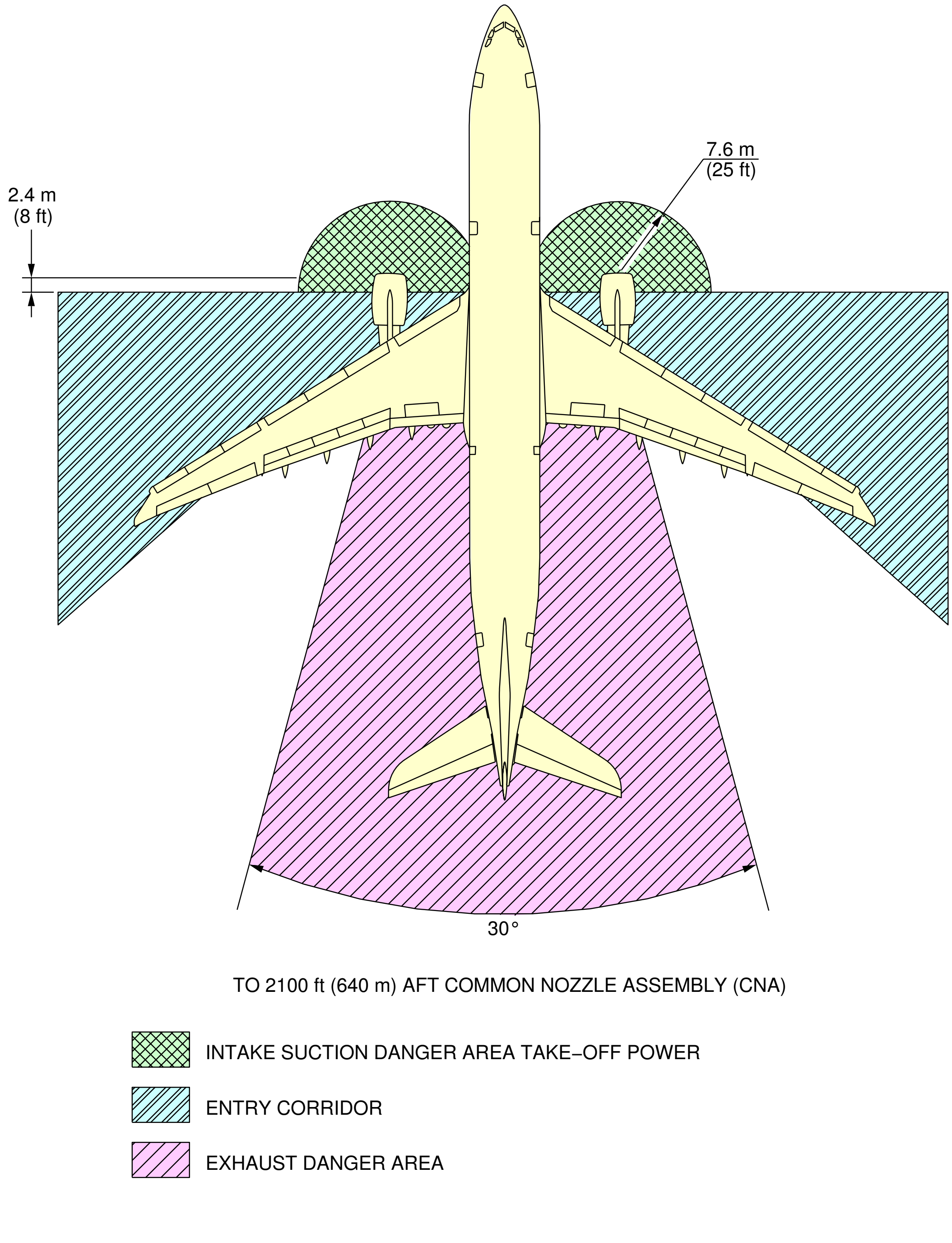
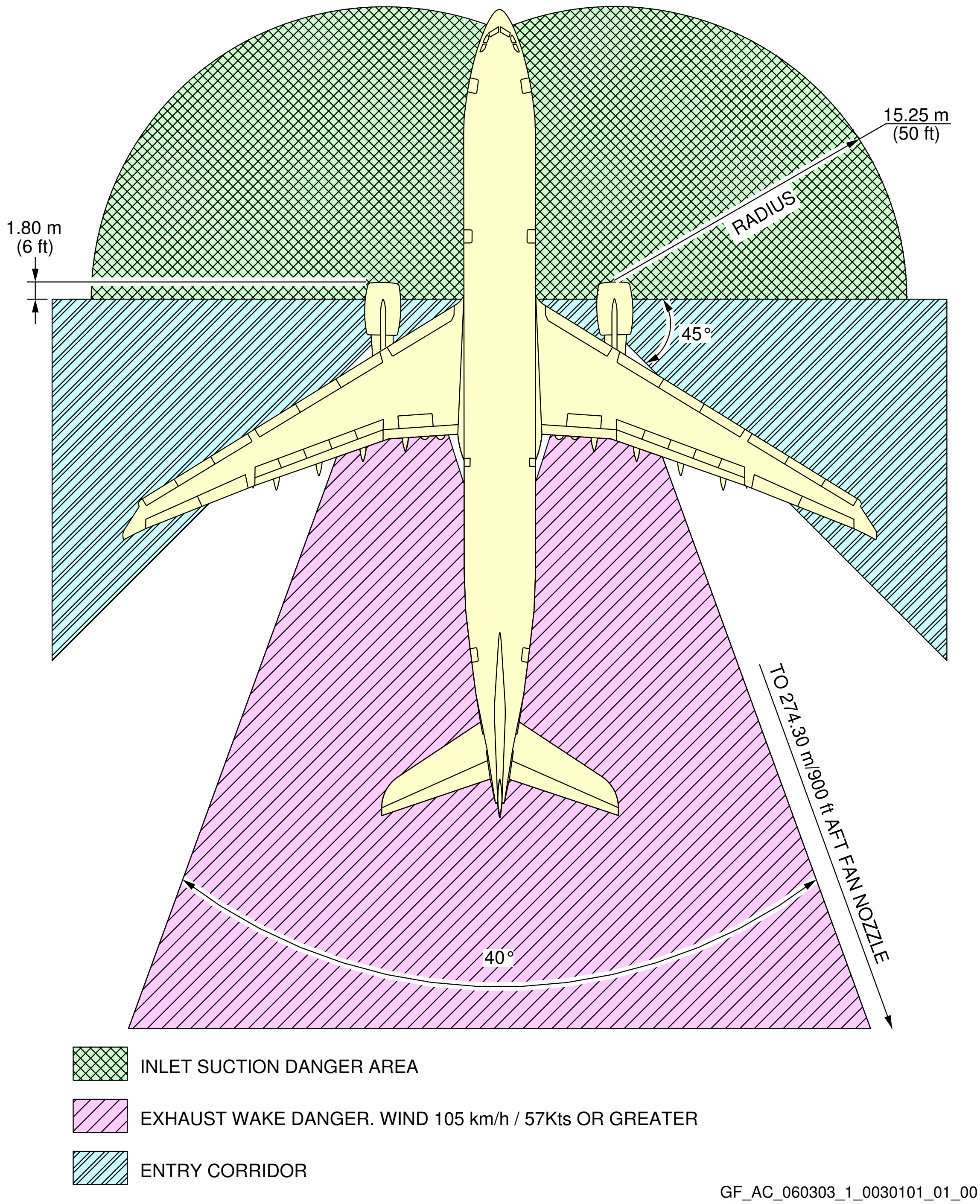
Danger Areas of Engines
PW 4000 series engine
FIGURE 1

****ON A/C A330-200 A330-200F A330-300**



Danger Areas of Engines
RR Trent 700 series engine
FIGURE 2

****ON A/C A330-200 A330-300**



Danger Areas of Engines
GE CF6-80E1 series engine
FIGURE 3

6-4-0 APU Exhaust Velocities and Temperatures

****ON A/C A330-200 A330-200F A330-300**

APU Exhaust Velocities and Temperatures

1. APU Exhaust Velocities and Temperatures.

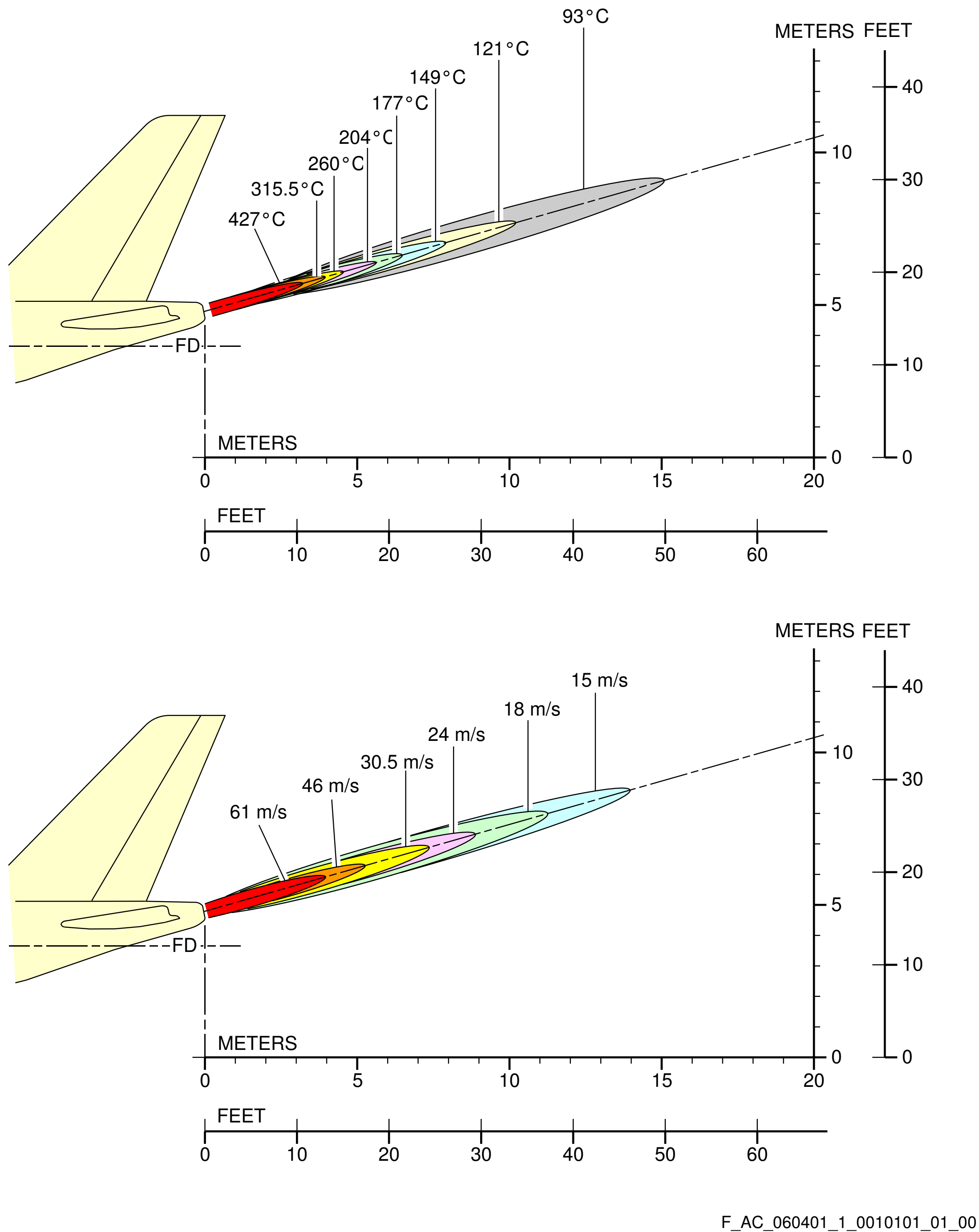
6-4-1 APU

****ON A/C A330-200 A330-200F A330-300**

APU - GARRETT

1. This section gives APU exhaust velocities and temperatures

**ON A/C A330-200 A330-200F A330-300



Exhaust Velocities and Temperatures
APU – GARRETT GTCP 331-350
FIGURE 1

PAVEMENT DATA

7-1-0 General Information

****ON A/C A330-200 A330-200F A330-300**

General Information

1. General Information

A brief description of the pavement charts that follow will help in airport planning.

To aid in the interpolation between the discrete values shown, each airplane configuration is shown with a minimum range of five loads on the main landing gear.

All curves on the charts represent data at a constant specified tire pressure with :
- the airplane loaded to the maximum ramp weight
- the CG at its maximum permissible aft position.

Pavement requirements for commercial airplanes are derived from the static analysis of loads imposed on the main landing gear struts.

Section 7-2-0 presents basic data on the landing gear footprint configuration, maximum ramp weights and tire sizes and pressures.

Section 7-3-0 shows the maximum vertical and horizontal pavement loads for certain critical conditions at the tire-ground interfaces.

Section 7-4-1 contains charts to find these loads throughout the stability limits of the airplane at rest on the pavement.

These main landing gear loads are used as the point of entry to the pavement design charts, which follow, interpolating load values where necessary.

All Load Classification Number (LCN) curves shown in Section 7-6-1 and Section 7-8-2 have been developed from a computer program based on data provided in International Civil Aviation Organisation (ICAO) document 7920-AN/865/2, Aerodrome Manual, Part 2, "Aerodrome Physical Characteristics", Second Edition, 1965.

The flexible pavement charts in Section 7-6-1 show LCN against equivalent single wheel load, and equivalent single wheel load against pavement thickness.

The rigid pavement charts in Section 7-8-2 shown LCN against equivalent single wheel load, and equivalent single wheel load against radius of relative stiffness.

Section 7-9-0 provides ACN data prepared according to the ACN/PCN system as referenced in ICAO Annex 14, "Aerodromes", Volume 1 "Aerodrome Design and Operations." Fourth Edition July 2004, incorporating Amendments 1 to 6.

The ACN/PCN system provides a standardized international airplane/pavement rating system replacing the various S, T, TT, LCN, AUW, ISWL, etc... rating systems used throughout the world.

ACN is the Aircraft Classification Number and PCN is the corresponding Pavement Classification Number.

An aircraft having an ACN equal to or less than the PCN can operate without restriction on the pavement.

Numerically the ACN is two times the derived single wheel load expressed in thousands of kilograms.

The derived single wheel load is defined as the load on a single tire inflated to 1.25 Mpa (181 psi) that would have the same pavement requirements as the aircraft.

Computationally the ACN/PCN the system uses PCA program PDILB for rigid pavements and S-77-1 for flexible pavements to calculate ACN values. The Airport Authority must decide on the method of pavement analysis and the results of their evaluation shown as follows :

PCN			
PAVEMENT TYPE	SUBGRADE CATEGORY	TIRE PRESSURE CATEGORY	EVALUATION METHOD
R – Rigid	A – High	W – No Limit	T – Technical
F – Flexible	B – Medium	X – To 1.5 Mpa (217 psi)	U – Using Aircraft
	C – Low	Y – To 1.0 Mpa (145 psi)	
	D – Ultra Low	Z – To 0.5 Mpa (73 psi)	

Section 7-9-1 shows the aircraft ACN values for flexible pavements.

The four subgrade categories are :
- A. High Strength CBR 15
- B. Medium Strength CBR 10
- C. Low Strength CBR 6
- D. Ultra Low Strength CBR 3

Section 7-9-2 shows the aircraft ACN for rigid pavements.

The four subgrade categories are :
- A. High Strength Subgrade k = 150 MN/m^3 (550 pci)
- B. Medium Strength Subgrade k = 80 MN/m^3 (300 pci)
- C. Low Strength Subgrade k = 40 MN/m^3 (150 pci)
- D. Ultra Low Strength Subgrade k = 20 MN/m^3 (75 pci)

A. Flexible Pavement

Section 7-5-1 uses procedures in Instruction Report No S-77-1 "Procedures for Development of CBR Design Curves", dated June 1977 and as modified according to the methods described in ICAO Aerodrome Design Manual, Part 3.

Pavements, 2nd Edition, 1983, Section 1.1 (The ACN-PCN Method), and utilizing the alpha factors approved by ICAO in October 2007.

The report was prepared by the U.S. Army Corps Engineers Waterways Experiment Station, Soils and Pavement Laboratory, Vicksburg, Mississippi.

The line showing 10 000 coverages is used to calculate Aircraft Classification Number (ACN).

The procedure that follows is used to develop flexible pavement design curves such as those shown in Section 7-5-1.
- With the scale for pavement thickness at the bottom and the scale for CBR at the top, an arbitrary line is drawn representing 10 000 coverages.
- Incremental values of the weight on the main landing gear are then plotted.
- Annual departure lines are drawn based on the load lines of the weight on the main landing gear that is shown on the graph.

B. Rigid pavement

Section 7-7-1 gives the rigid pavement design curves that have been prepared with the use of the Westergaard Equation. This is in general accordance with the procedures outlined in the Portland Cement Association publications, "Design of Concrete Airport Pavement", 1973 and "Computer Program for Airport Pavement Design", (Program PDILB), 1967 both by Robert G. Packard.

The procedure that follows is used to develop rigid pavement design curves such as those shown in Section 7-7-1.
- With the scale for pavement thickness on the left and the scale for allowable working stress on the right, an arbitrary line load line is drawn. This represents the main landing gear maximum weight to be shown.

- All values of the subgrade modulus (k values) are then plotted.
- Additional load lines for the incremental values of weight on the main landing gear are drawn on the basis of the curve for k = 80 MN/m^3 already shown on the graph.

7-2-0 Landing Gear Footprint

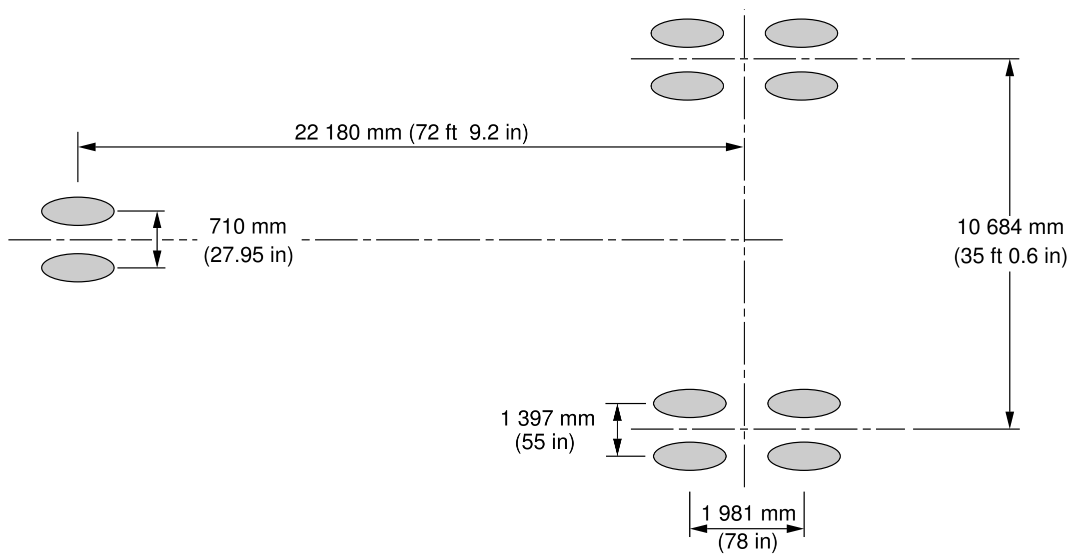
****ON A/C A330-200 A330-200F A330-300**

Landing Gear Footprint

1. This section gives the Landing Gear Footprint.

**ON A/C A330-200

MAXIMUM RAMP WEIGHT	192 900 kg (425 275 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 192 000 kg – A330–200 and MTOW 233 000 kg – A330–200
NOSE GEAR TIRE SIZE	1 050 x 395R16
NOSE GEAR TIRE PRESSURE	12.7 bar (184 psi)
WING GEAR TIRE SIZE	1 400 x 530R23 or 54 x 21–23 (bias)
WING GEAR TIRE PRESSURE	14.2 bar (206 psi)



NOTE: DIMENSIONS IN MILLIMETERS
(FEET AND INCHES IN BRACKETS).

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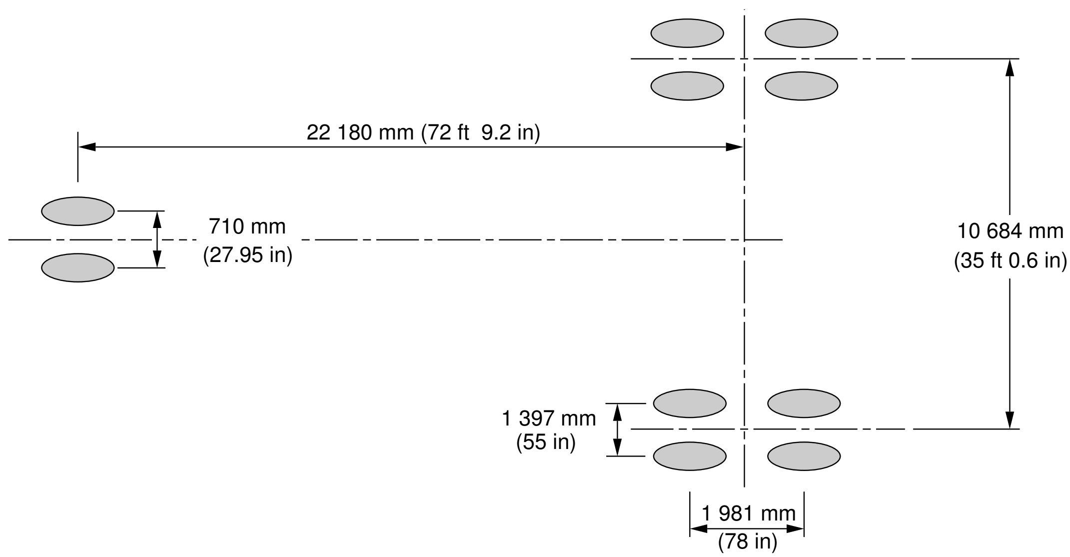
Landing Gear Footprint
MTOW 192 000 kg
FIGURE 1

**ON A/C A330-200

MAXIMUM RAMP WEIGHT	202 900 kg (447 325 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 233 000 kg – A330–200
NOSE GEAR TIRE SIZE	1 050 x 395R16
NOSE GEAR TIRE PRESSURE	12.7 bar (184 psi)
WING GEAR TIRE SIZE	1 400 x 530R23 or 54 x 21–23 (bias)
WING GEAR TIRE PRESSURE	14.2 bar (206 psi)



NOTE: DIMENSIONS IN MILLIMETERS
(FEET AND INCHES IN BRACKETS).

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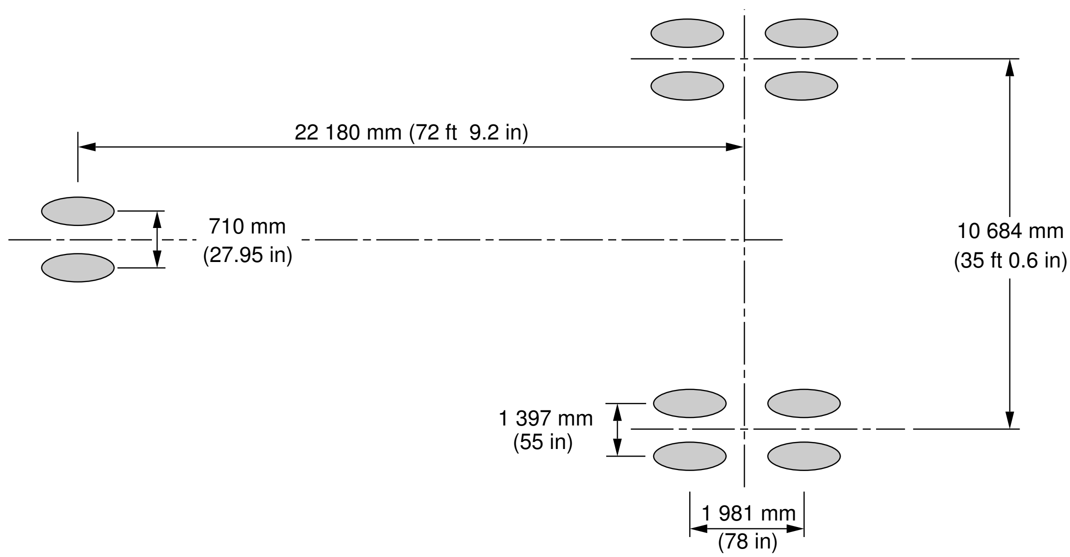
Landing Gear Footprint
MTOW 202 000 kg
FIGURE 2

**ON A/C A330-200

MAXIMUM RAMP WEIGHT	210 900 kg (464 950 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 210 000 kg – A330–200
NOSE GEAR TIRE SIZE	1 050 x 395R16
NOSE GEAR TIRE PRESSURE	12.7 bar (184 psi)
WING GEAR TIRE SIZE	1 400 x 530R23 or 54 x 21–23 (bias)
WING GEAR TIRE PRESSURE	14.2 bar (206 psi)



NOTE: DIMENSIONS IN MILLIMETERS
(FEET AND INCHES IN BRACKETS).

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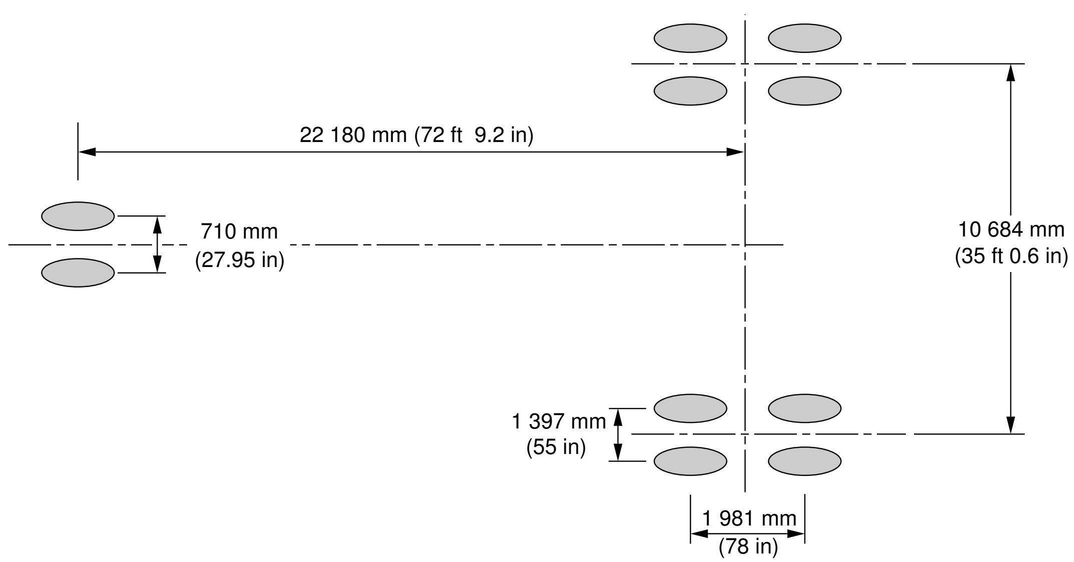
Landing Gear Footprint
MTOW 210 000 kg
FIGURE 3

**ON A/C A330-200

MAXIMUM RAMP WEIGHT	220 900 kg (487 000 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 233 000 kg – A330–200 and MTOW 233 000 kg – A330–200
NOSE GEAR TIRE SIZE	1 050 x 395R16
NOSE GEAR TIRE PRESSURE	12.7 bar (184 psi)
WING GEAR TIRE SIZE	1 400 x 530R23 or 54 x 21–23 (bias)
WING GEAR TIRE PRESSURE	14.2 bar (206 psi)



NOTE: DIMENSIONS IN MILLIMETERS
(FEET AND INCHES IN BRACKETS).

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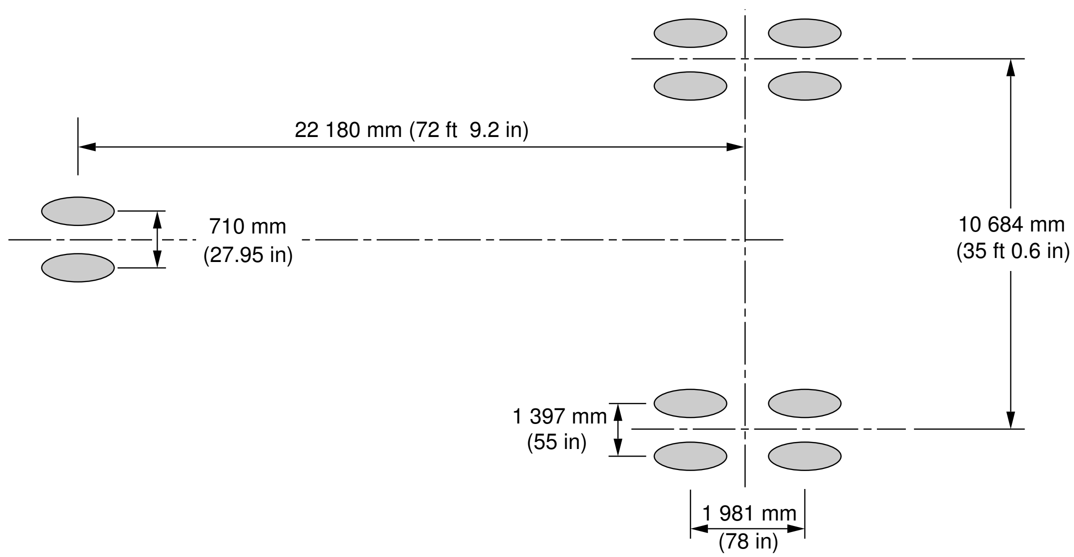
Landing Gear Footprint
MTOW 220 000 kg
FIGURE 4

**ON A/C A330-200

MAXIMUM RAMP WEIGHT	230 900 kg (509 050 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 233 000 kg – A330–200 and MTOW 233 000 kg – A330–200
NOSE GEAR TIRE SIZE	1 050 x 395R16
NOSE GEAR TIRE PRESSURE	12.7 bar (184 psi)
WING GEAR TIRE SIZE	1 400 x 530R23 or 54 x 21–23 (bias)
WING GEAR TIRE PRESSURE	14.2 bar (206 psi)



NOTE: DIMENSIONS IN MILLIMETERS
(FEET AND INCHES IN BRACKETS).

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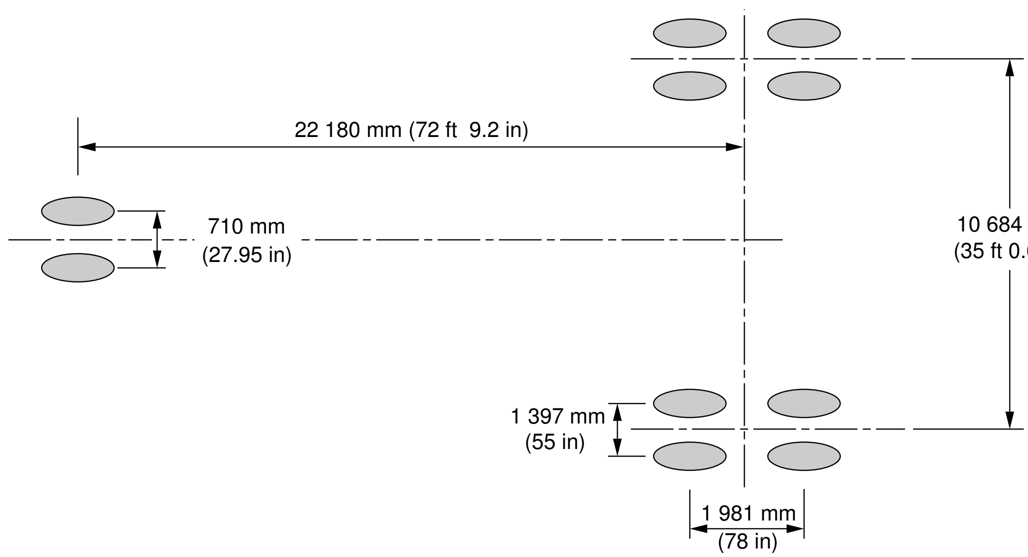
Landing Gear Footprint
MTOW 230 000 kg
FIGURE 5

**ON A/C A330-200

MAXIMUM RAMP WEIGHT	233 900 kg (515 650 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7−4−1 Figure: Landing Gear Loading on Pavement − MTOW 233 000 kg − A330−200 and MTOW 233 000 kg − A330−200
NOSE GEAR TIRE SIZE	1 050 x 395R16
NOSE GEAR TIRE PRESSURE	12.7 bar (184 psi)
WING GEAR TIRE SIZE	1 400 x 530R23 or 54 x 21−23 (bias)
WING GEAR TIRE PRESSURE	14.2 bar (206 psi)



NOTE: DIMENSIONS IN MILLIMETERS
(FEET AND INCHES IN BRACKETS).

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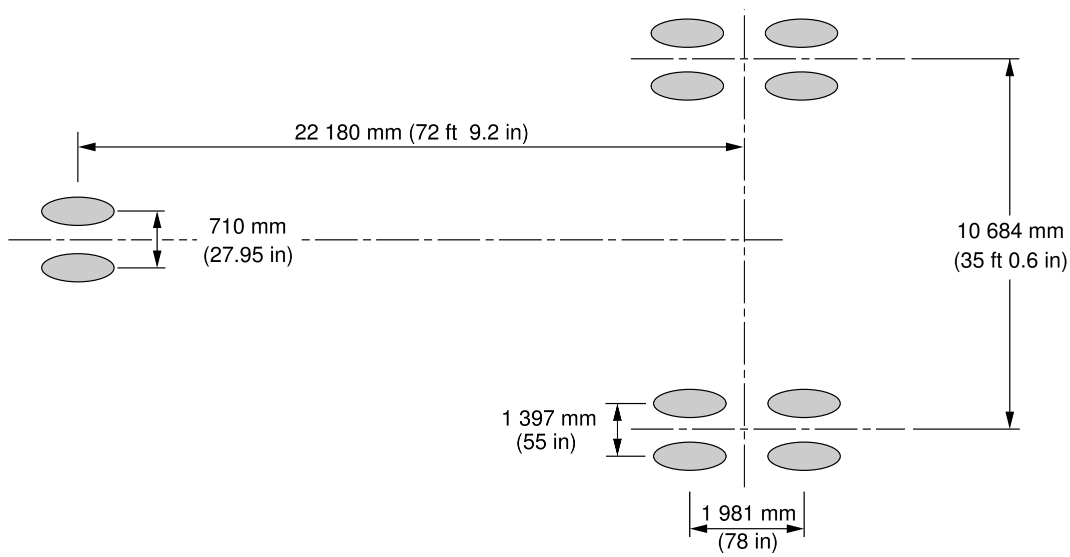
Landing Gear Footprint
MTOW 233 000 kg
FIGURE 6

**ON A/C A330-200F

MAXIMUM RAMP WEIGHT	227 900 kg (502 425 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7−4−1 Figure: Landing Gear Loading on Pavement − MTOW 227 000 kg − A330−200F
NOSE GEAR TIRE SIZE	1 050 x 395R16
NOSE GEAR TIRE PRESSURE	12.7 bar (184 psi)
WING GEAR TIRE SIZE	1 400 x 530R23 or 54 x 21−23 (bias)
WING GEAR TIRE PRESSURE	14.2 bar (206 psi)



NOTE: DIMENSIONS IN MILLIMETERS
(FEET AND INCHES IN BRACKETS).

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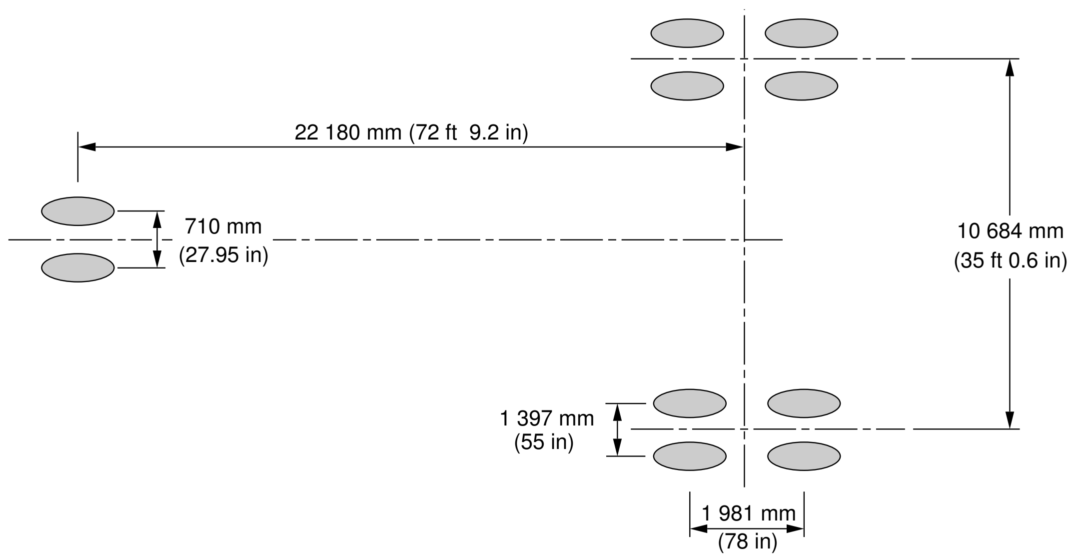
Landing Gear Footprint
MTOW 227 000 kg
FIGURE 7

**ON A/C A330-200F

MAXIMUM RAMP WEIGHT	233 900 kg (515 650 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 233 000 kg – A330–200F
NOSE GEAR TIRE SIZE	1 050 x 395R16
NOSE GEAR TIRE PRESSURE	12.7 bar (184 psi)
WING GEAR TIRE SIZE	1 400 x 530R23 or 54 x 21–23 (bias)
WING GEAR TIRE PRESSURE	14.2 bar (206 psi)



NOTE: DIMENSIONS IN MILLIMETERS
(FEET AND INCHES IN BRACKETS).

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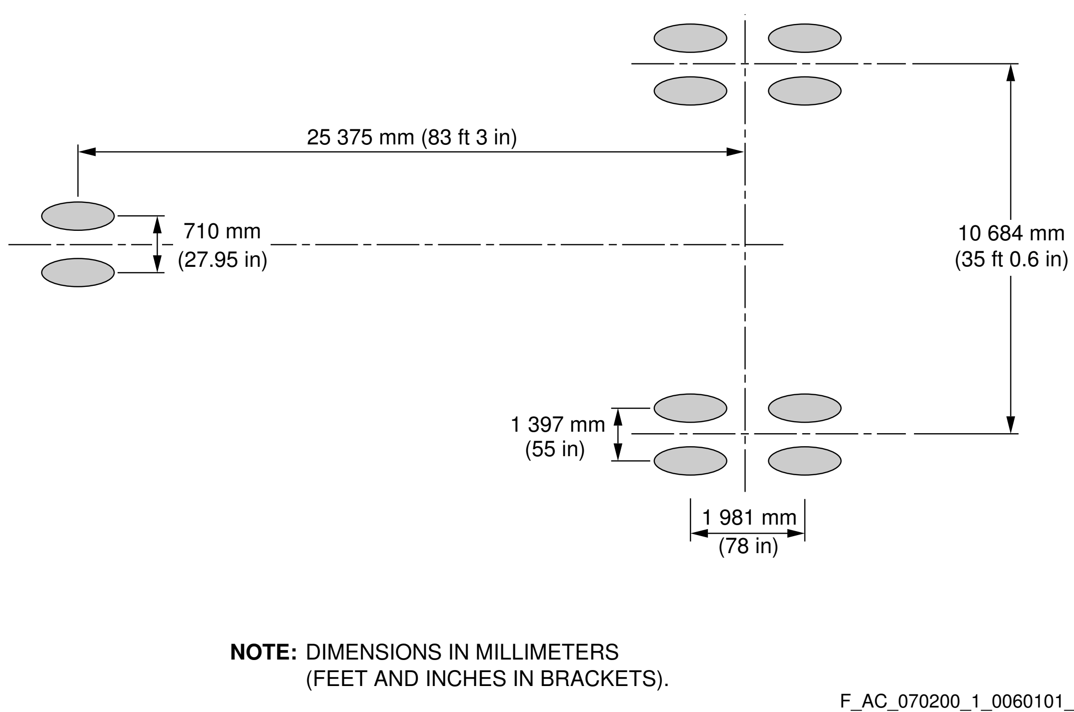
Landing Gear Footprint
MTOW 233 000 kg
FIGURE 8

**ON A/C A330-300

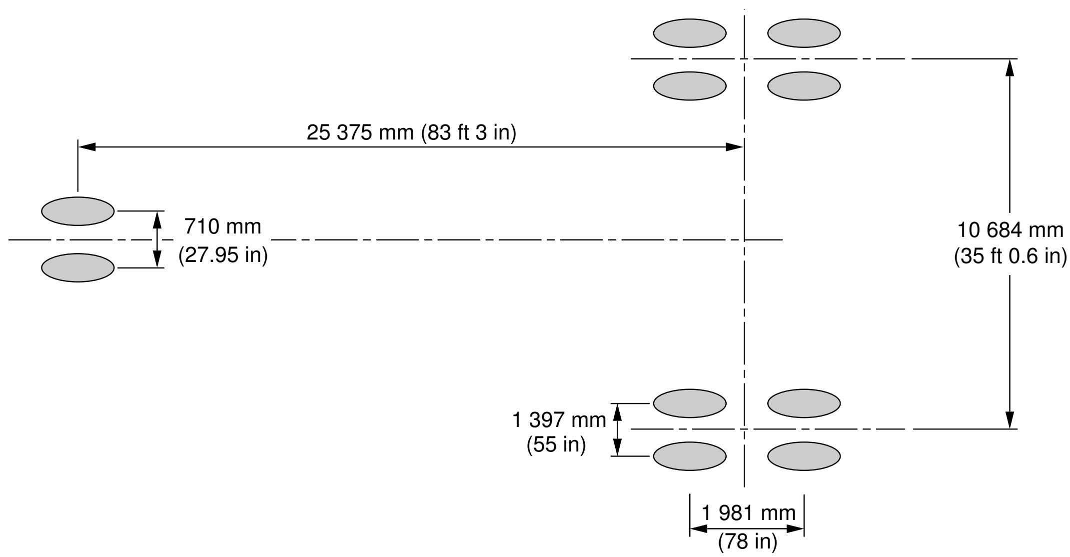
MAXIMUM RAMP WEIGHT	184 900 kg (407 625 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1– Figure: Landing Gear Loading on Pavement – MTOW 184 000 kg – A330–300
NOSE GEAR TIRE SIZE	1 050 x 395R16
NOSE GEAR TIRE PRESSURE	10.7 bar (155 psi)
WING GEAR TIRE SIZE	1 400 x 530R23 or 54 x 21–23 (bias)
WING GEAR TIRE PRESSURE	13.1 bar (190 psi)



Landing Gear Footprint
MTOW 184 000 kg
FIGURE 9

**ON A/C A330-300

MAXIMUM RAMP WEIGHT	205 900 kg (453 925 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1– Figure: Landing Gear Loading on Pavement – MTOW 218 000 kg – A330–300
NOSE GEAR TIRE SIZE	1 050 x 395R16
NOSE GEAR TIRE PRESSURE	10.9 bar (158 psi)
WING GEAR TIRE SIZE	1 400 x 530R23 or 54 x 21–23 (bias)
WING GEAR TIRE PRESSURE	13.3 bar (193 psi)



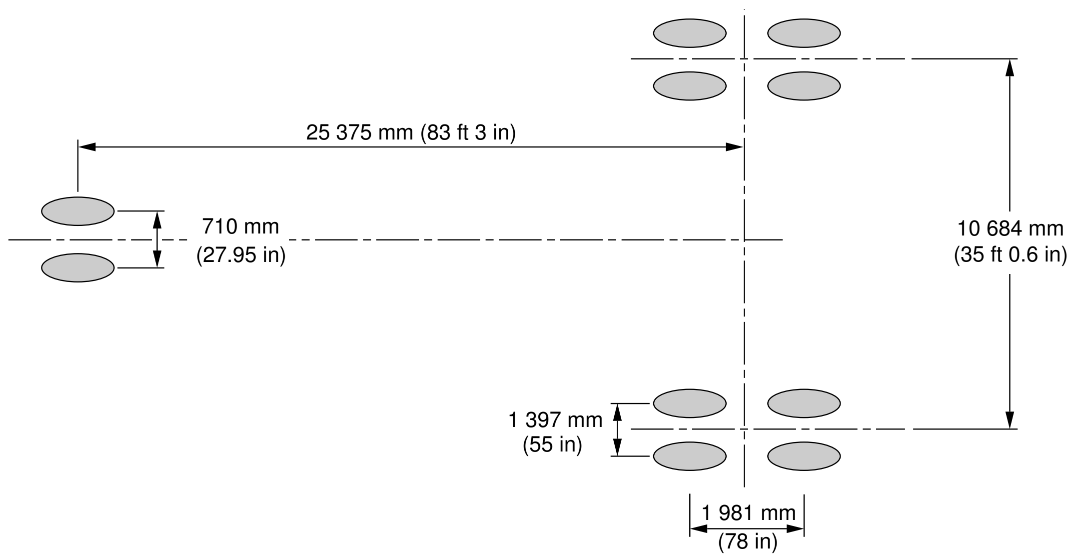
NOTE: DIMENSIONS IN MILLIMETERS
(FEET AND INCHES IN BRACKETS).

F_AC_070200_1_0190101_01_01

Landing Gear Footprint
MTOW 205 000 kg
FIGURE 10

**ON A/C A330-300

MAXIMUM RAMP WEIGHT	205 900 kg (453 925 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1– Figure: Landing Gear Loading on Pavement – MTOW 230 000 kg – A330–300
NOSE GEAR TIRE SIZE	1 050 x 395R16
NOSE GEAR TIRE PRESSURE	11.4 bar (165 psi)
WING GEAR TIRE SIZE	1 400 x 530R23 or 54 x 21–23 (bias)
WING GEAR TIRE PRESSURE	14.2 bar (206 psi)



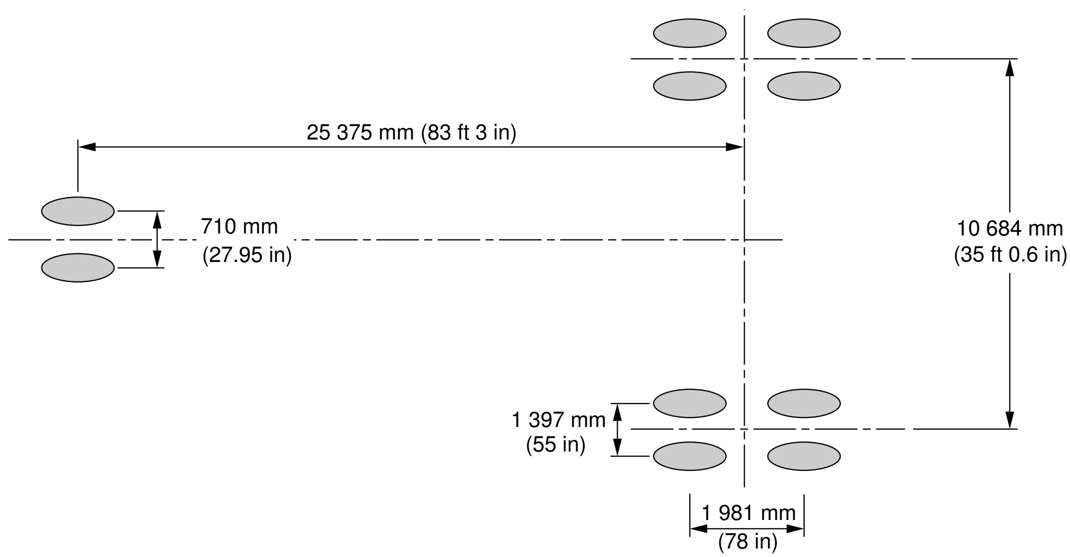
NOTE: DIMENSIONS IN MILLIMETERS
(FEET AND INCHES IN BRACKETS).

F_AC_070200_1_0200101_01_01

Landing Gear Footprint
MTOW 205 000 kg
FIGURE 11

**ON A/C A330-300

MAXIMUM RAMP WEIGHT	205 900 kg (453 925 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1– Figure: Landing Gear Loading on Pavement – MTOW 230 000 kg – A330–300
NOSE GEAR TIRE SIZE	1 050 x 395R16
NOSE GEAR TIRE PRESSURE	11.6 bar (168 psi)
WING GEAR TIRE SIZE	1 400 x 530R23 or 54 x 21–23 (bias)
WING GEAR TIRE PRESSURE	14.5 bar (210 psi)



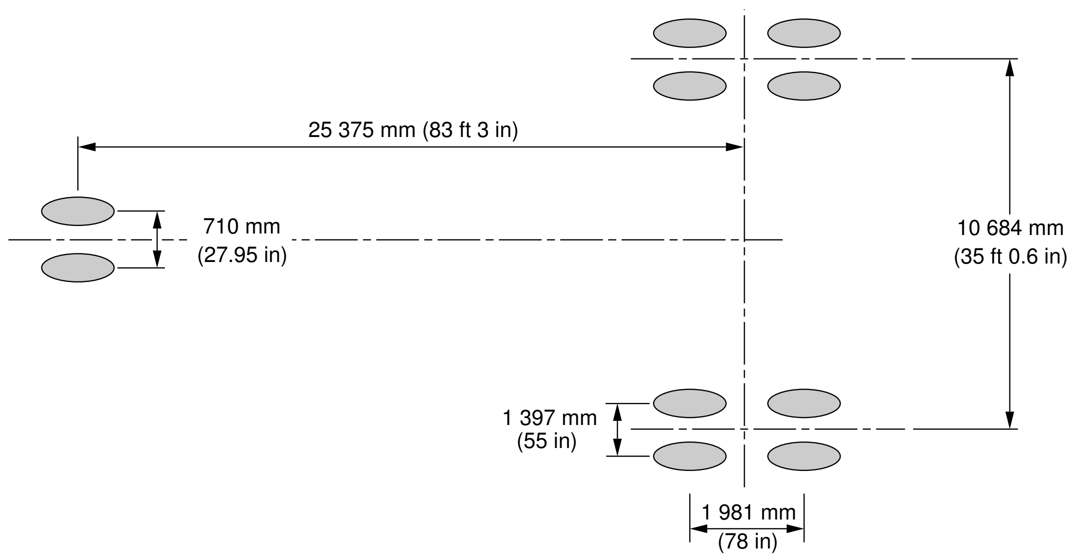
NOTE: DIMENSIONS IN MILLIMETERS
(FEET AND INCHES IN BRACKETS).

F_AC_070200_1_0210101_01_01

Landing Gear Footprint
MTOW 205 000 kg
FIGURE 12

**ON A/C A330-300

MAXIMUM RAMP WEIGHT	212 900 kg (469 375 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 212 000 kg – A330–300 and MTOW 215 000 kg – A330–300
NOSE GEAR TIRE SIZE	1 050 x 395R16
NOSE GEAR TIRE PRESSURE	10.7 bar (155 psi)
WING GEAR TIRE SIZE	1 400 x 530R23 or 54 x 21–23 (bias)
WING GEAR TIRE PRESSURE	13.1 bar (190 psi)



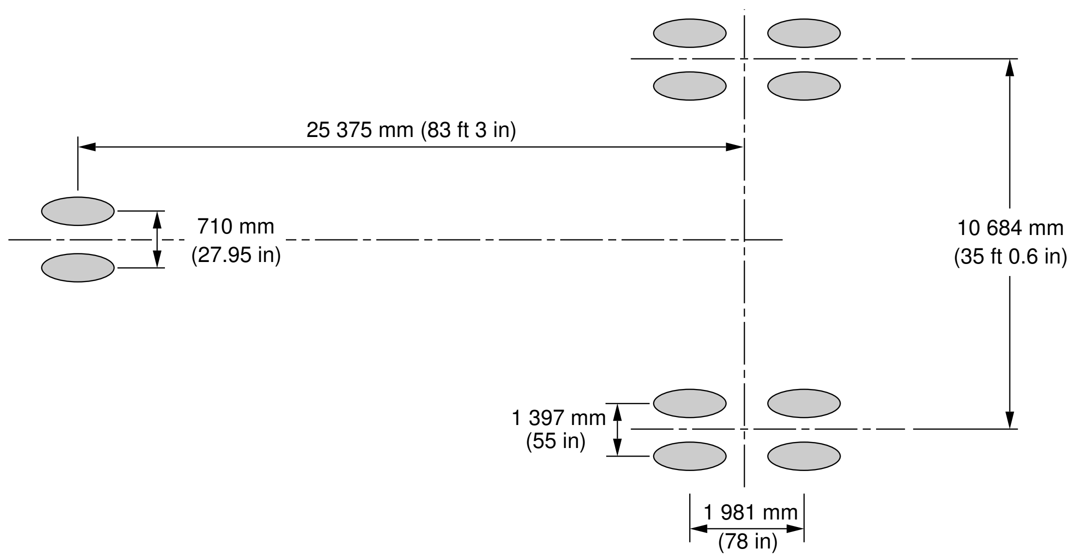
NOTE: DIMENSIONS IN MILLIMETERS
(FEET AND INCHES IN BRACKETS).

F_AC_070200_1_0070101_01_02

Landing Gear Footprint
MTOW 212 000 kg
FIGURE 13

**ON A/C A330-300

MAXIMUM RAMP WEIGHT	212 900 kg (469 375 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 215 000 kg – A330–300
NOSE GEAR TIRE SIZE	1 050 x 395R16
NOSE GEAR TIRE PRESSURE	10.9 bar (158 psi)
WING GEAR TIRE SIZE	1 400 x 530R23 or 54 x 21–23 (bias)
WING GEAR TIRE PRESSURE	13.3 bar (193 psi)



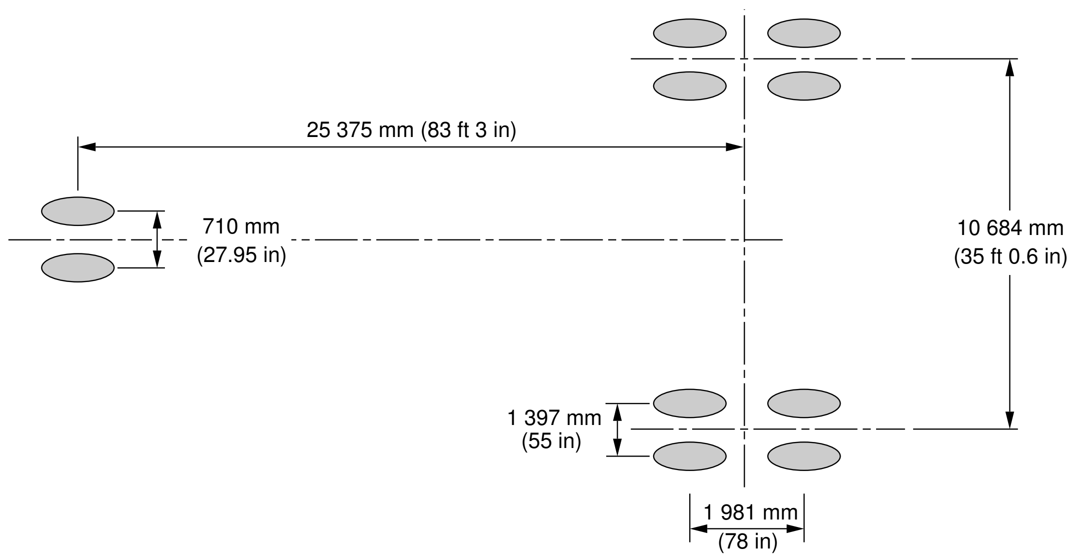
NOTE: DIMENSIONS IN MILLIMETERS
(FEET AND INCHES IN BRACKETS).

F_AC_070200_1_0220101_01_01

Landing Gear Footprint
MTOW 212 000 kg
FIGURE 14

**ON A/C A330-300

MAXIMUM RAMP WEIGHT	212 900 kg (469 375 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 215 000 kg – A330–300
NOSE GEAR TIRE SIZE	1 050 x 395R16
NOSE GEAR TIRE PRESSURE	11.6 bar (168 psi)
WING GEAR TIRE SIZE	1 400 x 530R23 or 54 x 21–23 (bias)
WING GEAR TIRE PRESSURE	14.5 bar (210 psi)



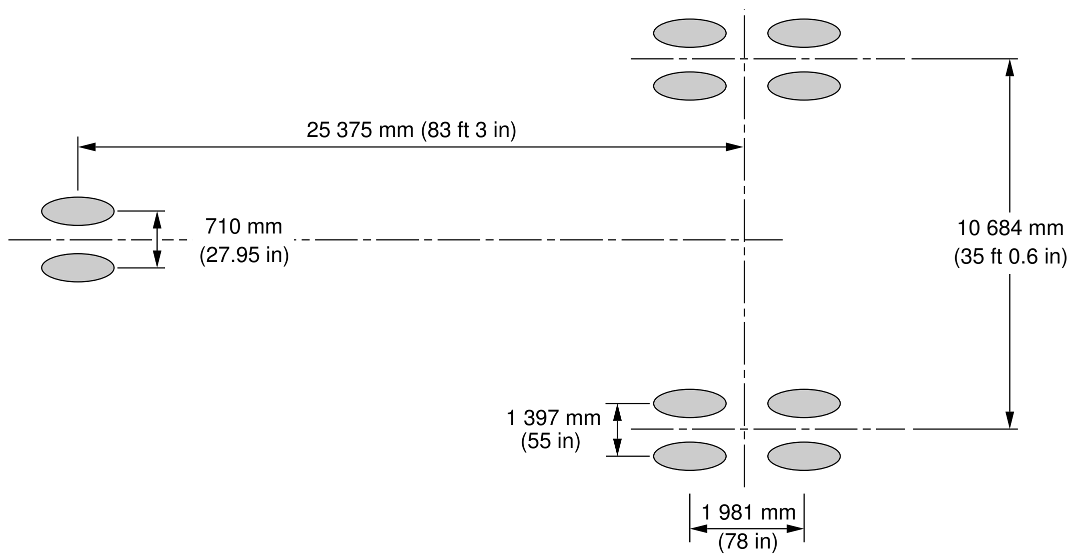
NOTE: DIMENSIONS IN MILLIMETERS
(FEET AND INCHES IN BRACKETS).

F_AC_070200_1_0230101_01_01

Landing Gear Footprint
MTOW 212 000 kg
FIGURE 15

**ON A/C A330-300

MAXIMUM RAMP WEIGHT	215 900 kg (475 975 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 215 000 kg – A330–300 and MTOW 215 000 kg – A330–300
NOSE GEAR TIRE SIZE	1 050 x 395R16
NOSE GEAR TIRE PRESSURE	10.9 bar (158 psi)
WING GEAR TIRE SIZE	1 400 x 530R23 or 54 x 21–23 (bias)
WING GEAR TIRE PRESSURE	13.3 bar (193 psi)



NOTE: DIMENSIONS IN MILLIMETERS
(FEET AND INCHES IN BRACKETS).

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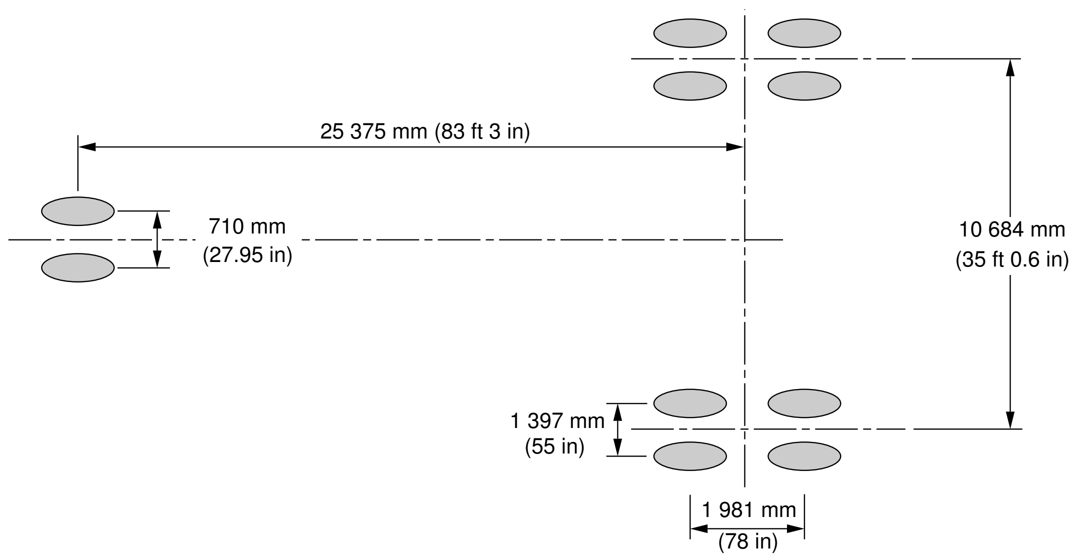
Landing Gear Footprint
MTOW 215 000 kg
FIGURE 16

**ON A/C A330-300

MAXIMUM RAMP WEIGHT	217 900 kg (480 375 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 217 000 kg – A330–300
NOSE GEAR TIRE SIZE	1 050 x 395R16
NOSE GEAR TIRE PRESSURE	10.9 bar (158 psi)
WING GEAR TIRE SIZE	1 400 x 530R23 or 54 x 21–23 (bias)
WING GEAR TIRE PRESSURE	13.3 bar (193 psi)



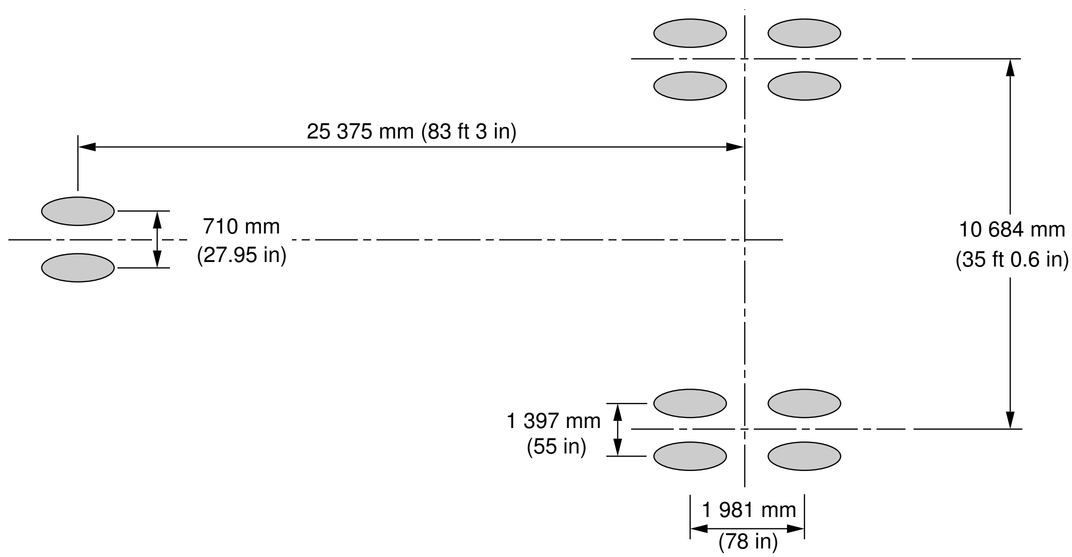
NOTE: DIMENSIONS IN MILLIMETERS
(FEET AND INCHES IN BRACKETS).

F_AC_070200_1_0080101_01_02

Landing Gear Footprint
MTOW 217 000 kg
FIGURE 17

**ON A/C A330-300

MAXIMUM RAMP WEIGHT	217 900 kg (480 375 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 217 000 kg – A330–300
NOSE GEAR TIRE SIZE	1 050 x 395R16
NOSE GEAR TIRE PRESSURE	11.4 bar (165 psi)
WING GEAR TIRE SIZE	1 400 x 530R23 or 54 x 21–23 (bias)
WING GEAR TIRE PRESSURE	14.2 bar (206 psi)



NOTE: DIMENSIONS IN MILLIMETERS
(FEET AND INCHES IN BRACKETS).

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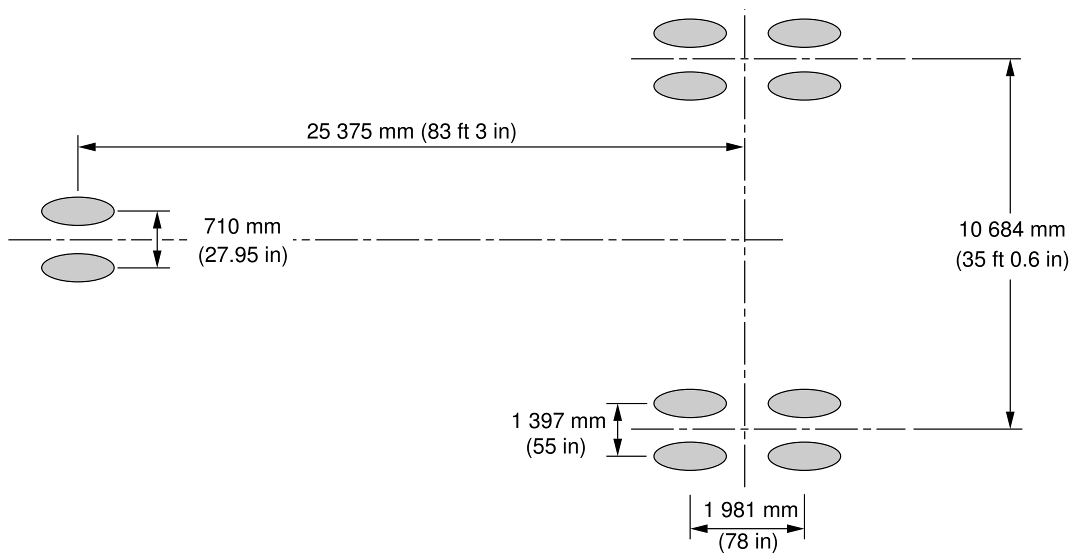
Landing Gear Footprint
MTOW 217 000 kg
FIGURE 18

**ON A/C A330-300

MAXIMUM RAMP WEIGHT	218 900 kg (486 600 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 218 000 kg – A330–300
NOSE GEAR TIRE SIZE	1 050 x 395R16
NOSE GEAR TIRE PRESSURE	10.9 bar (158 psi)
WING GEAR TIRE SIZE	1 400 x 530R23 or 54 x 21–23 (bias)
WING GEAR TIRE PRESSURE	13.3 bar (193 psi)



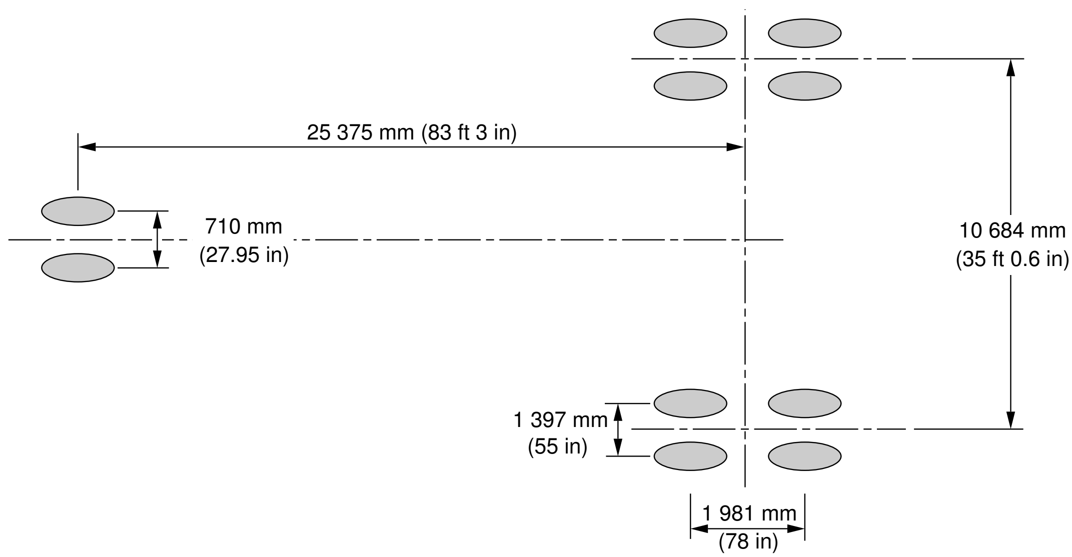
NOTE: DIMENSIONS IN MILLIMETERS
(FEET AND INCHES IN BRACKETS).

F_AC_070200_1_0260101_01_01

Landing Gear Footprint
MTOW 218 000 kg
FIGURE 19

**ON A/C A330-300

MAXIMUM RAMP WEIGHT	230 900 kg (509 050 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 230 000 kg – A330–300
NOSE GEAR TIRE SIZE	1 050 x 395R16
NOSE GEAR TIRE PRESSURE	11.4 bar (165 psi)
WING GEAR TIRE SIZE	1 400 x 530R23 or 54 x 21–23 (bias)
WING GEAR TIRE PRESSURE	14.2 bar (206 psi)



NOTE: DIMENSIONS IN MILLIMETERS
(FEET AND INCHES IN BRACKETS).

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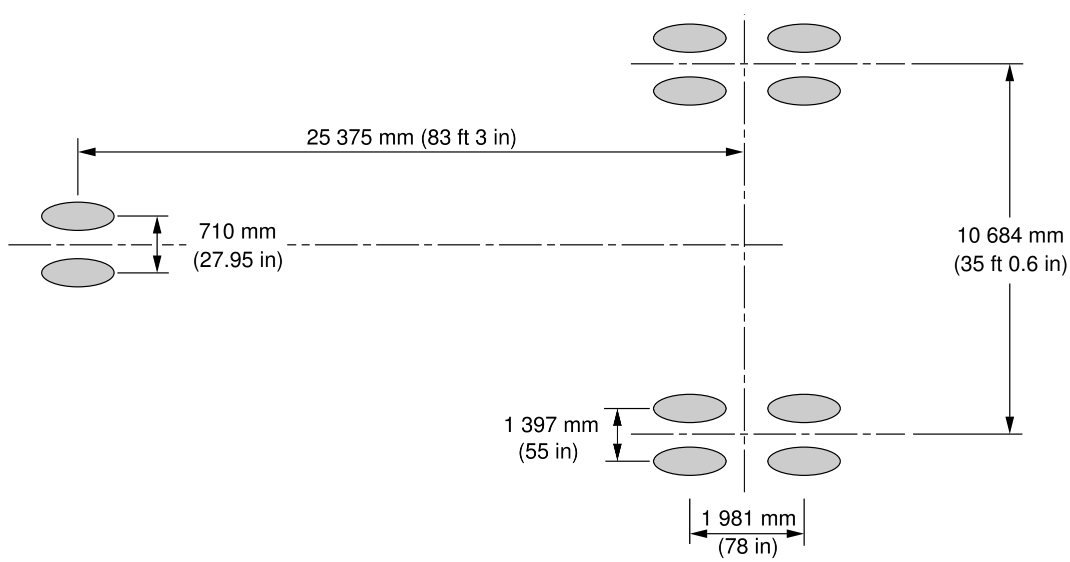
Landing Gear Footprint
MTOW 230 000 kg
FIGURE 20

**ON A/C A330-300

MAXIMUM RAMP WEIGHT	230 900 kg (509 050 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 230 000 kg – A330–300
NOSE GEAR TIRE SIZE	1 050 x 395R16
NOSE GEAR TIRE PRESSURE	11.6 bar (168 psi)
WING GEAR TIRE SIZE	1 400 x 530R23 or 54 x 21–23 (bias)
WING GEAR TIRE PRESSURE	14.5 bar (210 psi)



NOTE: DIMENSIONS IN MILLIMETERS
(FEET AND INCHES IN BRACKETS).

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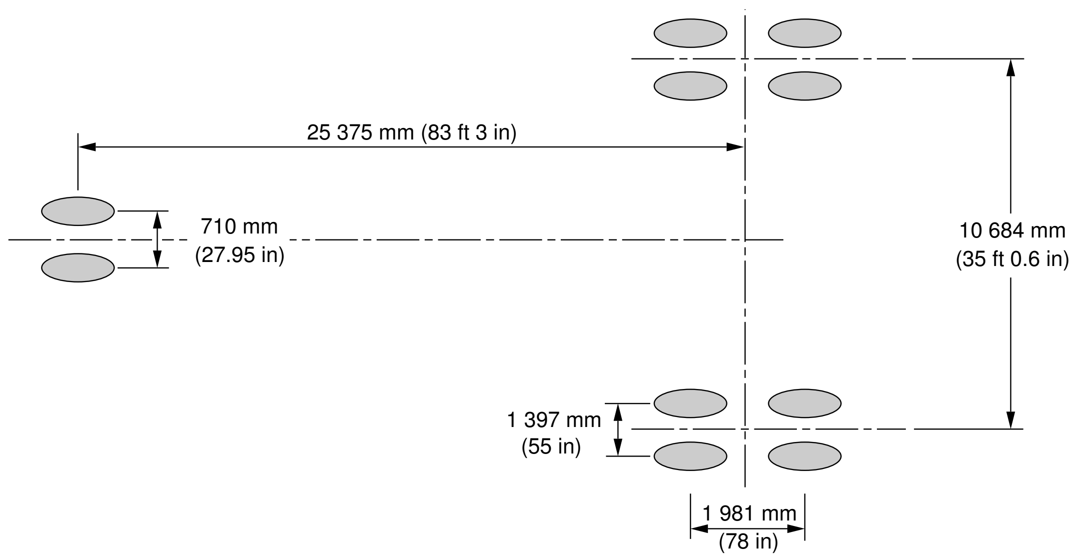
Landing Gear Footprint
MTOW 230 000 kg
FIGURE 21

**ON A/C A330-300

MAXIMUM RAMP WEIGHT	233 900 kg (515 650 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 233 000 kg – A330–300
NOSE GEAR TIRE SIZE	1 050 x 395R16
NOSE GEAR TIRE PRESSURE	11.6 bar (168 psi)
WING GEAR TIRE SIZE	1 400 x 530R23 or 54 x 21–23 (bias)
WING GEAR TIRE PRESSURE	14.5 bar (210 psi)



NOTE: DIMENSIONS IN MILLIMETERS
(FEET AND INCHES IN BRACKETS).

F_AC_070200_1_0280101_01_01

Landing Gear Footprint
MTOW 233 000 kg
FIGURE 22

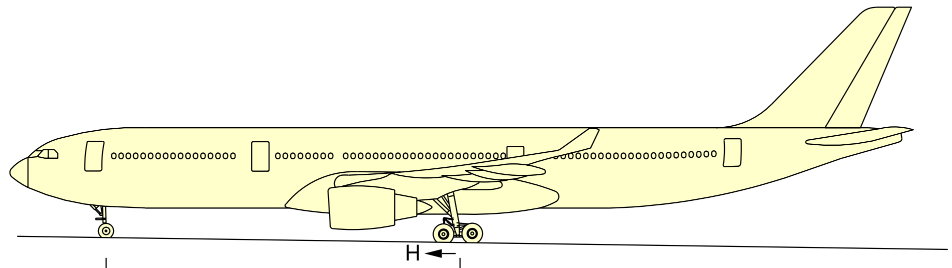
7-3-0 Maximum Pavement Loads

****ON A/C A330-200 A330-200F A330-300**

Maximum Pavement Loads

1. This section gives Maximum Pavement Loads

**ON A/C A330-200



1	2		3		4		5		6			
			VNG				VMG (PER STRUT)		H (PER STRUT)			
MODEL	MAXIMUM RAMP WEIGHT		STATIC LOAD AT MOST FWD C.G (1)		STATIC BRAKING @ 10 ft/s² DECELERATION		STATIC LOAD AT MAX AFT C.G (2)		STEADY BRAKING @ 10 ft/s² DECELERATION		AT INSTANTANEOUS BRAKING COEFFICIENT = 0.8	
	lb	kg	lb	kg	lb	kg	lb	Kg	lb	kg	lb	kg
–200	464 950	210 900	56 250	25 510	85 400	38 740	220 050	99 820	72 250	32 770	176 050	79 850
–200	447 325	202 900	54 150	24 560	82 275	37 320	211 900	96 120	69 525	31 530	169 525	76 900
–200	425 275	192 900	51 550	23 380	78 375	35 550	201 700	91 490	66 100	29 980	161 375	73 200

$V_{(NG)}$ MAXIMUM VERTICAL NOSE GEAR GROUND LOAD AT MOST FORWARD CG
$V_{(MG)}$ MAXIMUM VERTICAL MAIN GEAR GROUND LOAD AT MOST AFT CG
H MAXIMUM HORIZONTAL GROUND LOAD FROM BRAKING

(1) FWD CG = 18 % MAC

(2) MRW = 210 900 kg AFT CG = 38.1 % MAC
MRW = 202 900 kg AFT CG = 38.4 % MAC
MRW = 192 900 kg AFT CG = 38.8 % MAC

NOTE: ALL LOADS CALCULATED USING AIRPLANE MAXIMUM RAMP WEIGHT

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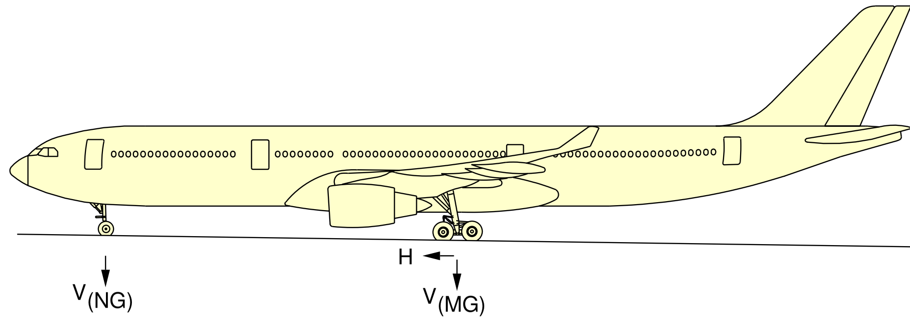
Maximum Pavement Loads
FIGURE 1

**ON A/C A330-200



1	2		3		4		5		6			
			VNG				VMG (PER STRUT)		H (PER STRUT)			
MODEL	MAXIMUM RAMP WEIGHT		STATIC LOAD AT MOST FWD C.G. (1)		STATIC BRAKING @ 10 ft/s² DECELERATION		STATIC LOAD AT MAX AFT C.G. (2)		STEADY BRAKING @ 10 ft/s² DECELERATION		AT INSTANTANEOUS BRAKING COEFFICIENT = 0.8	
	lb	kg	lb	kg	lb	kg	lb	Kg	lb	kg	lb	kg
–200	515 650	233 900	56 400	25 580	88 525	40 150	243 525	110 470	80 125	36 350	194 825	88 370
–200	509 050	230 900	56 375	25 570	88 100	39 960	240 475	109 080	79 100	35 880	192 400	87 270
–200	487 000	220 900	56 300	25 540	86 750	39 350	230 275	104 450	75 675	34 330	184 225	83 560

$V_{(NG)}$ MAXIMUM VERTICAL NOSE GEAR GROUND LOAD AT MOST FORWARD CG
$V_{(MG)}$ MAXIMUM VERTICAL MAIN GEAR GROUND LOAD AT MOST AFT CG
H MAXIMUM HORIZONTAL GROUND LOAD FROM BRAKING

(1) MRW = 233 900 kg FWD CG = 21.4 % MAC
MRW = 230 900 kg FWD CG = 21 % MAC
MRW = 220 900 kg FWD CG = 19.57 % MAC

(2) MRW = 233 900 kg AFT CG = 37.4 % MAC
MRW = 230 900 kg AFT CG = 37.5 % MAC
MRW = 220 900 kg AFT CG = 37.79 % MAC

NOTE: ALL LOADS CALCULATED USING AIRPLANE MAXIMUM RAMP WEIGHT

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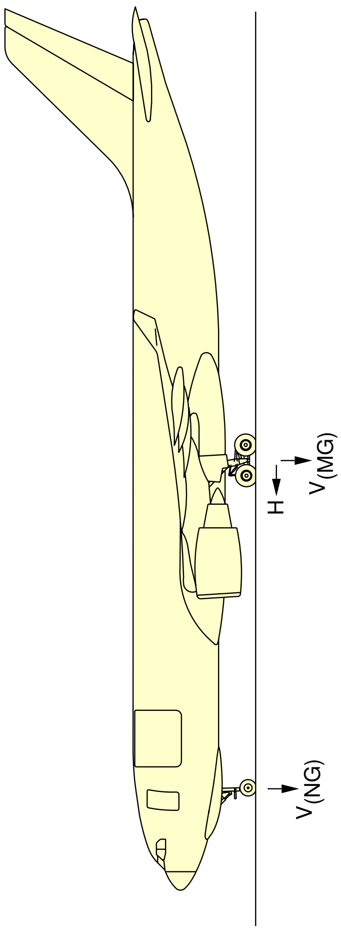
Maximum Pavement Loads
FIGURE 2

**ON A/C A330-200F



1	2		3		4		5		6			
			VNG				VMG (PER STRUT)		H (PER STRUT)			
MODEL	MAXIMUM RAMP WEIGHT		STATIC LOAD AT MOST FWD C.G. (1)		STATIC BRAKING @ 10 ft/s² DECELERATION		STATIC LOAD AT MAX AFT C.G. (2)		STEADY BRAKING @ 10 ft/s² DECELERATION		AT INSTANTANEOUS BRAKING COEFFICIENT = 0.8	
	lb	kg	lb	kg	lb	kg	lb	Kg	lb	kg	lb	kg
−200F	515 650	233 900	56 400	25 580	88 525	40 150	243 525	110 470	80 125	36 350	194 825	88 370
−200F	502 425	227 900	56 350	25 570	87 700	39 790	237 400	107 690	78 075	35 420	189 925	86 150

$V_{(NG)}$ MAXIMUM VERTICAL NOSE GEAR GROUND LOAD AT MOST FORWARD CG
$V_{(MG)}$ MAXIMUM VERTICAL MAIN GEAR GROUND LOAD AT MOST AFT CG
H MAXIMUM HORIZONTAL GROUND LOAD FROM BRAKING

(1) MRW = 233 900 kg FWD CG = 21.4 % MAC
MRW = 227 900 kg FWD CG = 20.58 % MAC

(2) MRW = 233 900 kg AFT CG = 37.4 % MAC
MRW = 227 900 kg AFT CG = 37.57 % MAC

NOTE: ALL LOADS CALCULATED USING AIRPLANE MAXIMUM RAMP WEIGHT

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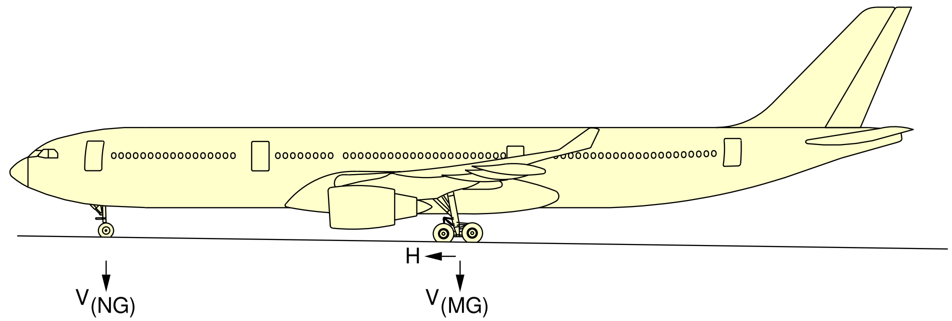
Maximum Pavement Loads
FIGURE 3

**ON A/C A330-300



1	2		3		4		5		6			
			VNG				VMG (PER STRUT)		H (PER STRUT)			
MODEL	MAXIMUM RAMP WEIGHT		STATIC LOAD AT MOST FWD C.G. (1)		STATIC BRAKING @ 10 ft/s² DECELERATION		STATIC LOAD AT MAX AFT C.G. (2)		STEADY BRAKING @ 10 ft/s² DECELERATION		AT INSTANTANEOUS BRAKING COEFFICIENT = 0.8	
	lb	kg	lb	kg	lb	kg	lb	Kg	lb	kg	lb	kg
–300	453 925	205 900	51 575	23 390	76 325	34 620	217 500	98 660	70 550	32 000	174 000	78 930
–300	407 625	184 900	46 400	21 050	68 825	31 210	195 550	88 700	63 350	28 730	156 450	70 960

$V_{(NG)}$ MAXIMUM VERTICAL NOSE GEAR GROUND LOAD AT MOST FORWARD CG
$V_{(MG)}$ MAXIMUM VERTICAL MAIN GEAR GROUND LOAD AT MOST AFT CG
H MAXIMUM HORIZONTAL GROUND LOAD FROM BRAKING

(1) FWD CG = 15 % MAC

(2) MRW = 205 900 kg AFT CG = 39.6 % MAC
MRW = 184 900 kg AFT CG = 40.1 % MAC

NOTE: ALL LOADS CALCULATED USING AIRPLANE MAXIMUM RAMP WEIGHT

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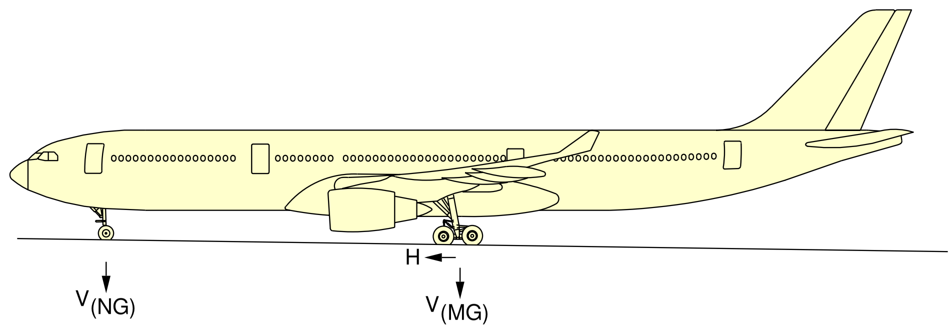
Maximum Pavement Loads
FIGURE 4

**ON A/C A330-300



1	2		3		4		5		6			
			VNG				VMG (PER STRUT)		H (PER STRUT)			
MODEL	MAXIMUM RAMP WEIGHT		STATIC LOAD AT MOST FWD C.G. (1)		STATIC BRAKING @ 10 ft/s² DECELERATION		STATIC LOAD AT MAX AFT C.G. (2)		STEADY BRAKING @ 10 ft/s² DECELERATION		AT INSTANTANEOUS BRAKING COEFFICIENT = 0.8	
	lb	kg	lb	kg	lb	kg	lb	Kg	lb	kg	lb	kg
–300	480 375	217 900	52 950	24 020	79 075	35 860	229 875	104 270	74 650	33 860	183 900	83 420
–300	475 975	215 900	54 025	24 500	79 900	36 240	227 825	103 340	73 975	33 550	182 250	82 670
–300	469 375	212 900	53 275	24 170	78 825	35 760	222 800	101 060	72 950	33 090	178 250	80 850

$V_{(NG)}$ MAXIMUM VERTICAL NOSE GEAR GROUND LOAD AT MOST FORWARD CG
$V_{(MG)}$ MAXIMUM VERTICAL MAIN GEAR GROUND LOAD AT MOST AFT CG
H MAXIMUM HORIZONTAL GROUND LOAD FROM BRAKING

(1) MRW = 217 900 kg FWD CG = 16.11 % MAC
MRW = 215 900 kg/212 900 kg FWD CG = 15 % MAC

(2) MRW = 217 900 kg AFT CG = 39.12 % MAC
MRW = 215 900 kg AFT CG = 39.2 % MAC
MRW = 212 900 kg AFT CG = 36.5 % MAC

NOTE: ALL LOADS CALCULATED USING AIRPLANE MAXIMUM RAMP WEIGHT

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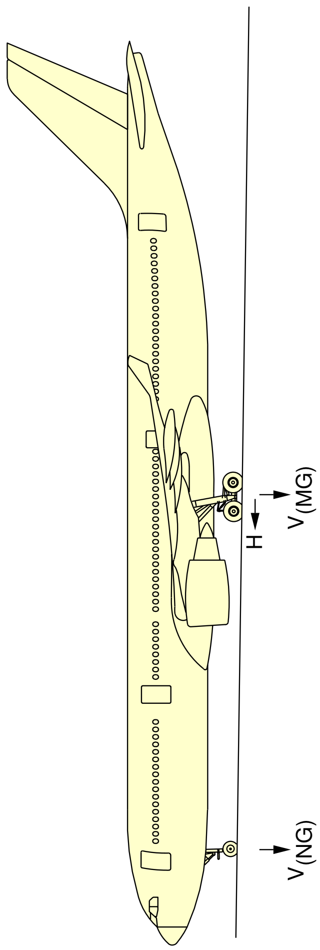
Maximum Pavement Loads
FIGURE 5

**ON A/C A330-300



1	2		3		4		5		6			
			VNG				VMG (PER STRUT)		H (PER STRUT)			
MODEL	MAXIMUM RAMP WEIGHT		STATIC LOAD AT MOST FWD C.G. (1)		STATIC BRAKING @ 10 ft/s² DECELERATION		STATIC LOAD AT MAX AFT C.G. (2)		STEADY BRAKING @ 10 ft/s² DECELERATION		AT INSTANTANEOUS BRAKING COEFFICIENT = 0.8	
	lb	kg	lb	kg	lb	kg	lb	Kg	lb	kg	lb	kg
-300	515 650	233 900	53 525	24 270	81 625	37 020	246 325	111 730	80 125	36 350	197 050	89 380
-300	509 050	230 900	53 425	24 240	81 200	36 830	243 225	110 330	79 100	35 880	194 575	88 260
-300	482 600	218 900	54 750	24 840	80 975	36 730	230 925	104 750	75 000	34 020	184 750	83 800

$V_{(NG)}$ MAXIMUM VERTICAL NOSE GEAR GROUND LOAD AT MOST FORWARD CG
$V_{(MG)}$ MAXIMUM VERTICAL MAIN GEAR GROUND LOAD AT MOST AFT CG
H MAXIMUM HORIZONTAL GROUND LOAD FROM BRAKING

(1) MRW = 233 900 kg FWD CG = 18.4 % MAC
MRW = 230 900 kg FWD CG = 18 % MAC
MRW = 218 900 kg FWD CG = 15 % MAC

(2) MRW = 233 900 kg AFT CG = 38.6 % MAC
MRW = 230 900 kg AFT CG = 38.7 % MAC
MRW = 218 900 kg AFT CG = 39.1 % MAC

NOTE: ALL LOADS CALCULATED USING AIRPLANE MAXIMUM RAMP WEIGHT

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Maximum Pavement Loads
FIGURE 6

7-4-0 Landing Gear Loading on Pavement

****ON A/C A330-200 A330-200F A330-300**

Landing Gear Loading on Pavement

****ON A/C A330-200**

1. General

In the example shown in Section 7-4-1, Figure: Landing Gear Loading on Pavement - MTOW 192 000 kg - A330-200
The Gross Aircraft Weight is 145 000 kg (319 670 lb) and the percentage of weight on the Main Landing Gear is 94.9 %.
For these conditions the total weight on the Main Landing Gear Group is 137 600 kg (303 245 lb).

****ON A/C A330-200F**

2. General

In the example shown in Section 7-4-1, Figure: Landing Gear Loading on Pavement - MTOW 227 000 kg - A330-200F
The Gross Aircraft Weight is 190 000 kg (418 880 lb) and the percentage of weight on the Main Landing Gear is 94.5 %.
For these conditions the total weight on the Main Landing Gear Group is 179 560 kg (395 860 lb).

****ON A/C A330-300**

3. General

In the example shown in Section 7-4-1, Figure: Landing Gear Loading on Pavement - MTOW 184 000 kg - A330-300
The Gross Aircraft Weight is 145 000 kg (319 670 lb) and the percentage of weight on the Main Landing Gear is 95.95 %.
For these conditions the total weight on the Main Landing Gear Group is 139 120 kg (306 705 lb).

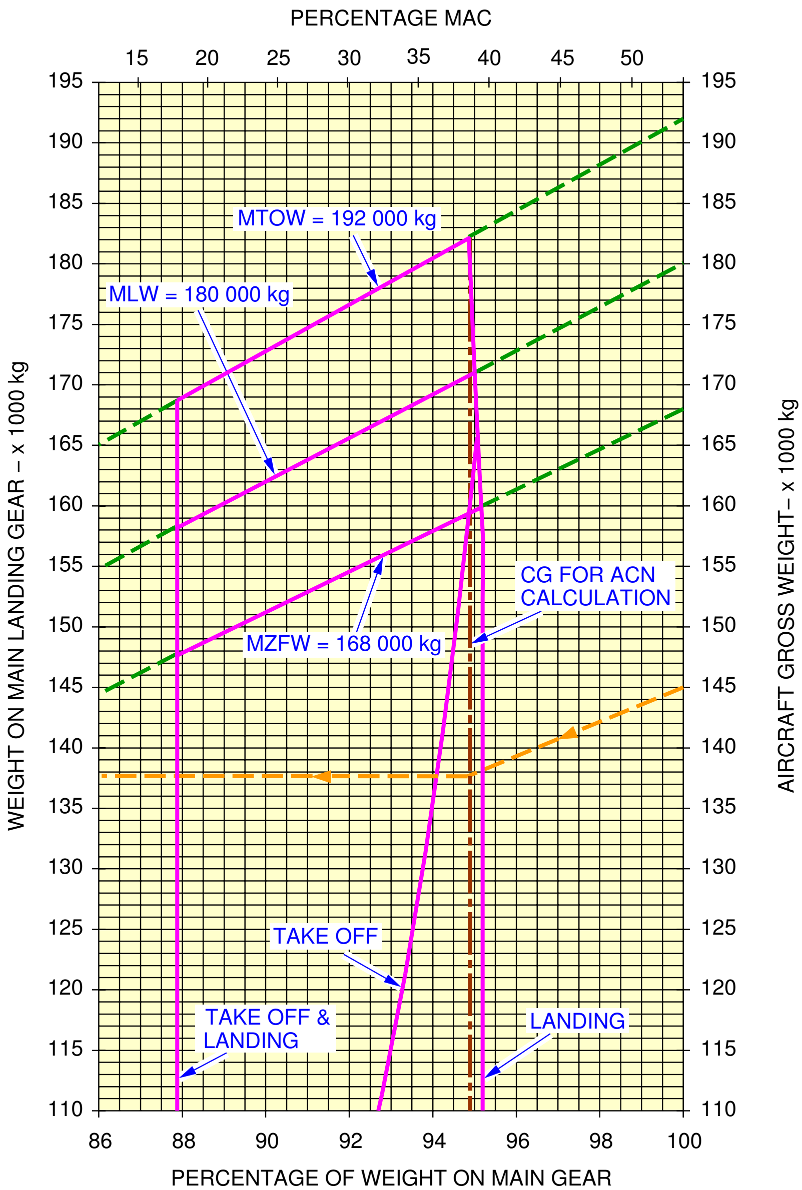
7-4-1 Landing Gear Loading on Pavement

****ON A/C A330-200 A330-200F A330-300**

Landing Gear Loading on Pavement

1. This section gives Landing Gear Loading on Pavement

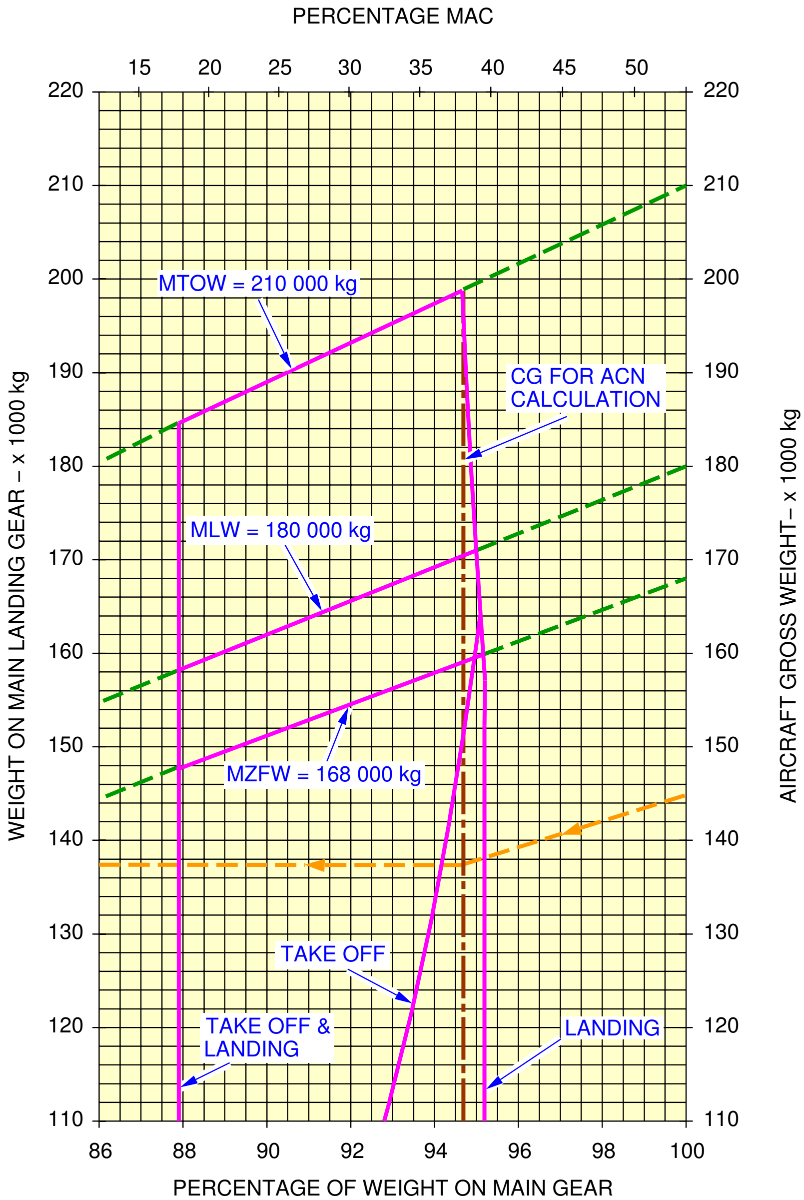
**ON A/C A330-200



F_AC_070401_1_0010101_01_02

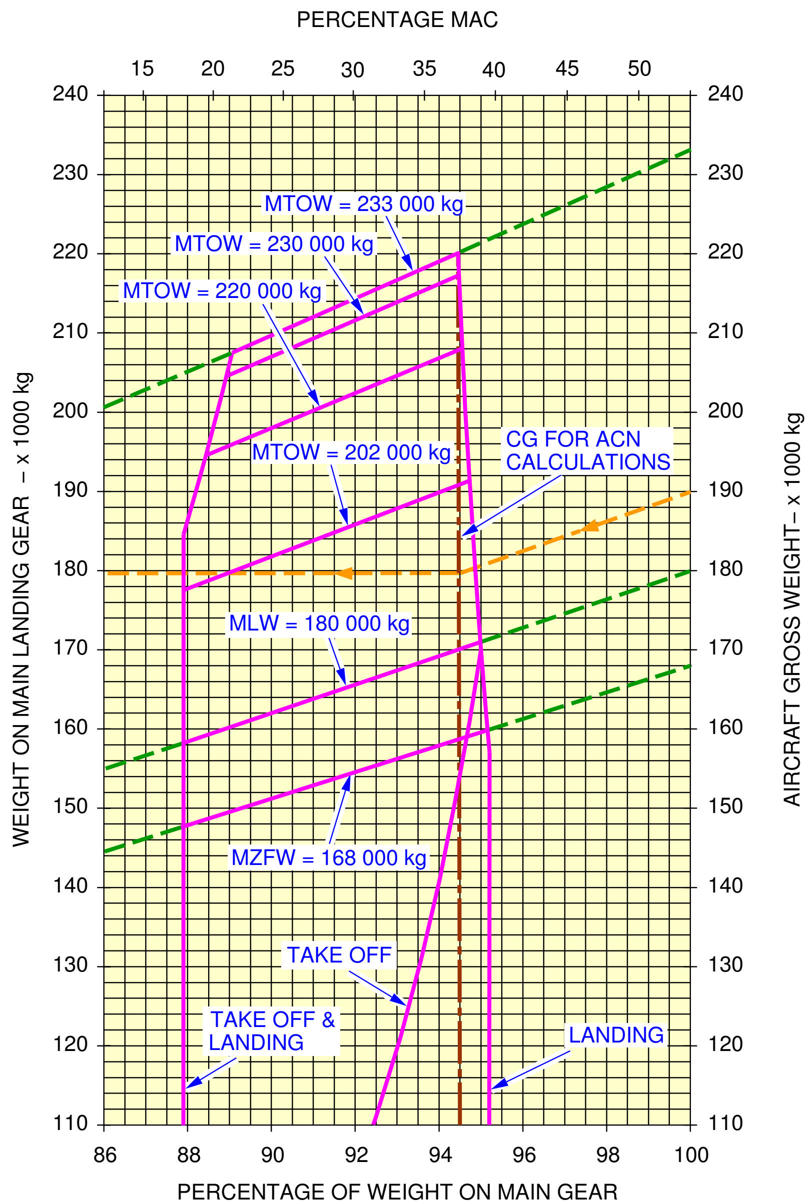
Landing Gear Loading on Pavement
MTOW 192 000 kg
FIGURE 1

**ON A/C A330-200



Landing Gear Loading on Pavement
MTOW 210 000 kg
FIGURE 2

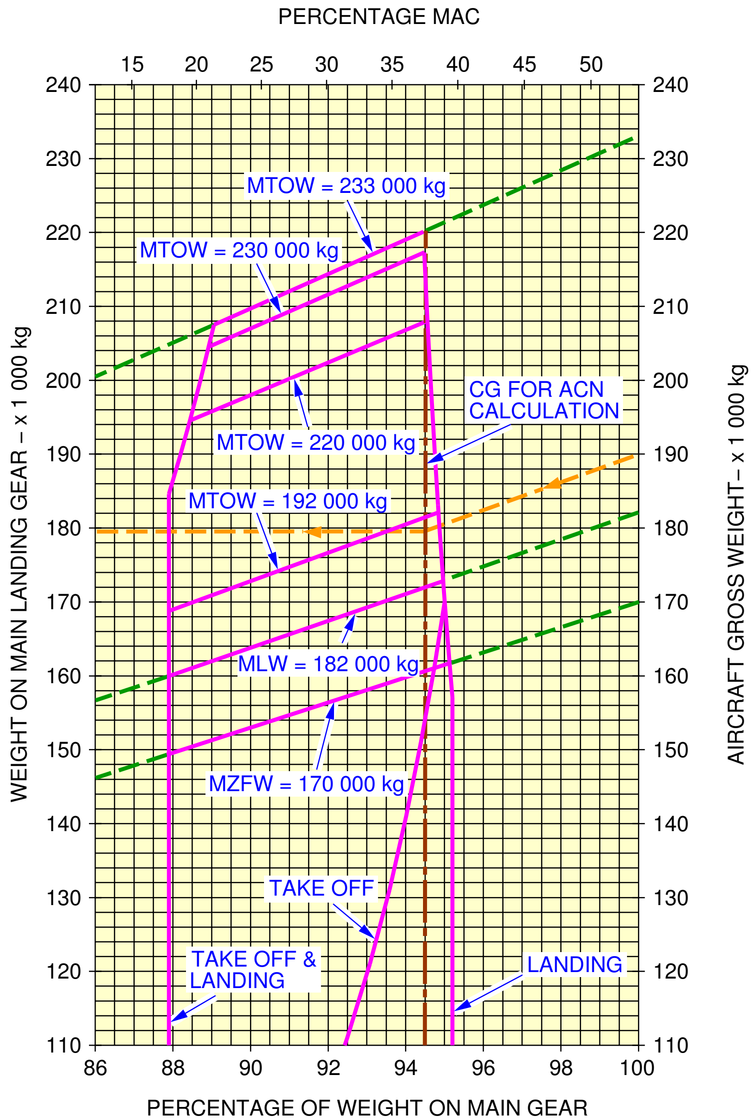
**ON A/C A330-200



F_AC_070401_1_0030101_01_02

Landing Gear Loading on Pavement
MTOW 233 000 kg
FIGURE 3

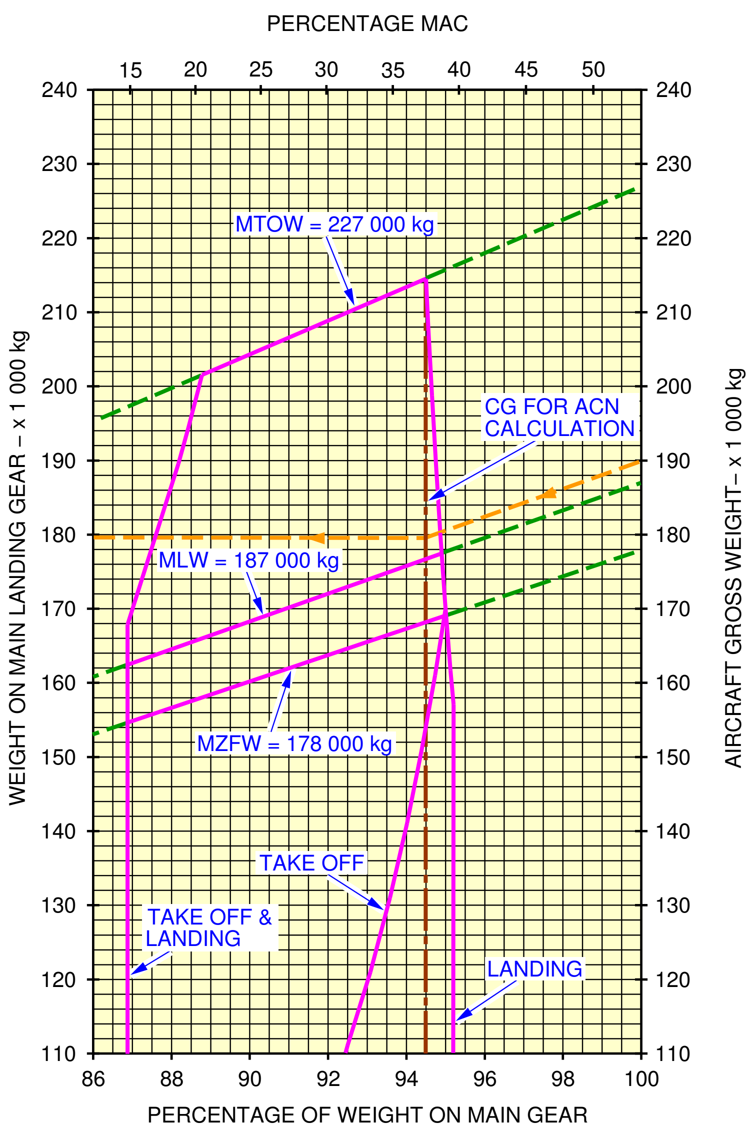
****ON A/C A330-200**



F_AC_070401_1_0040101_01_03

Landing Gear Loading on Pavement
MTOW 233 000 kg
FIGURE 4

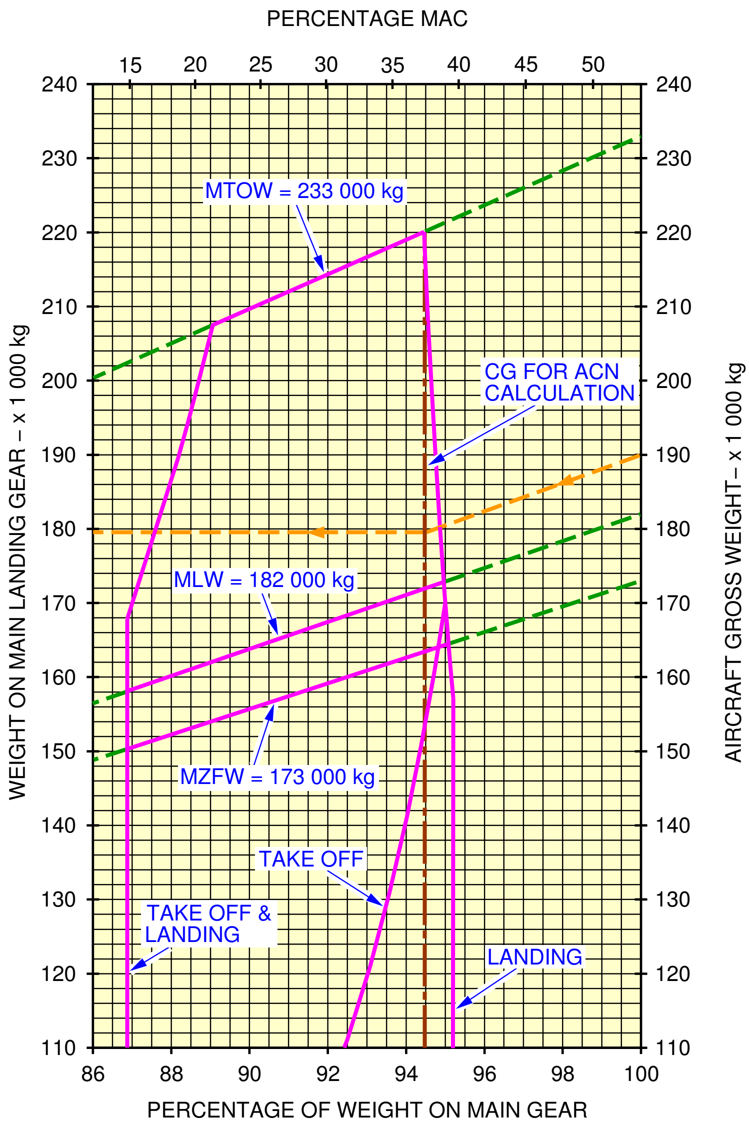
**ON A/C A330-200F



F_AC_070401_1_0140101_01_02

Landing Gear Loading on Pavement
MTOW 227 000 kg
FIGURE 5

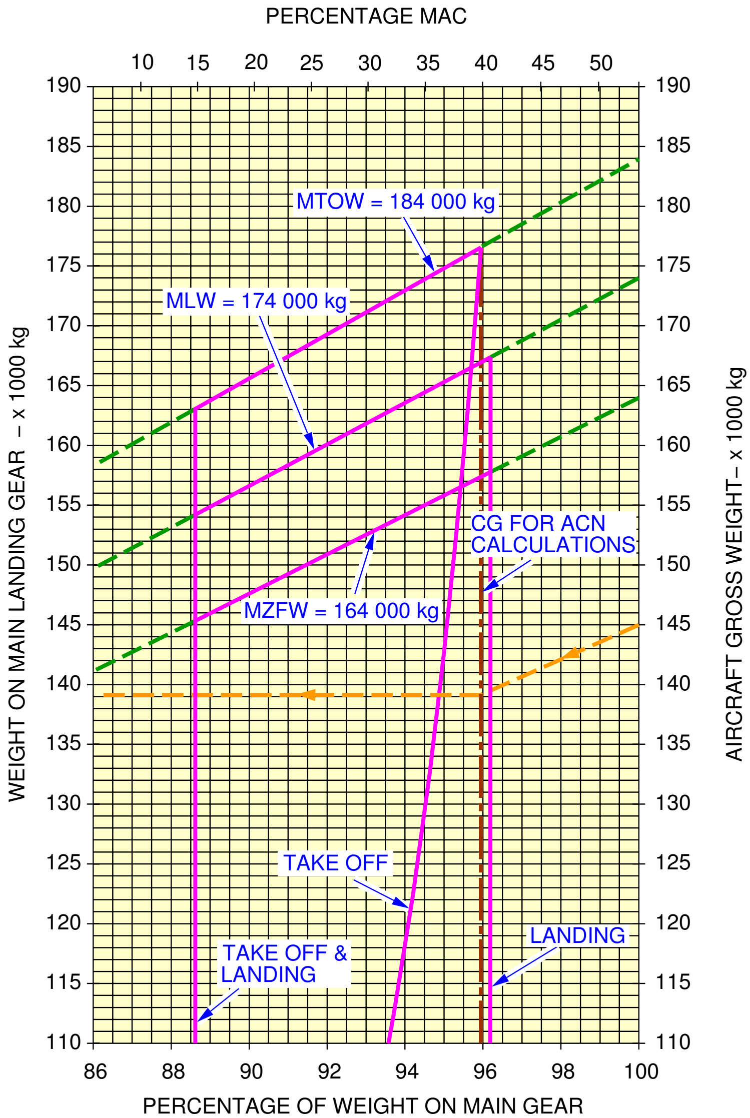
**ON A/C A330-200F



F_AC_070401_1_0150101_01_02

Landing Gear Loading on Pavement
MTOW 233 000 kg
FIGURE 6

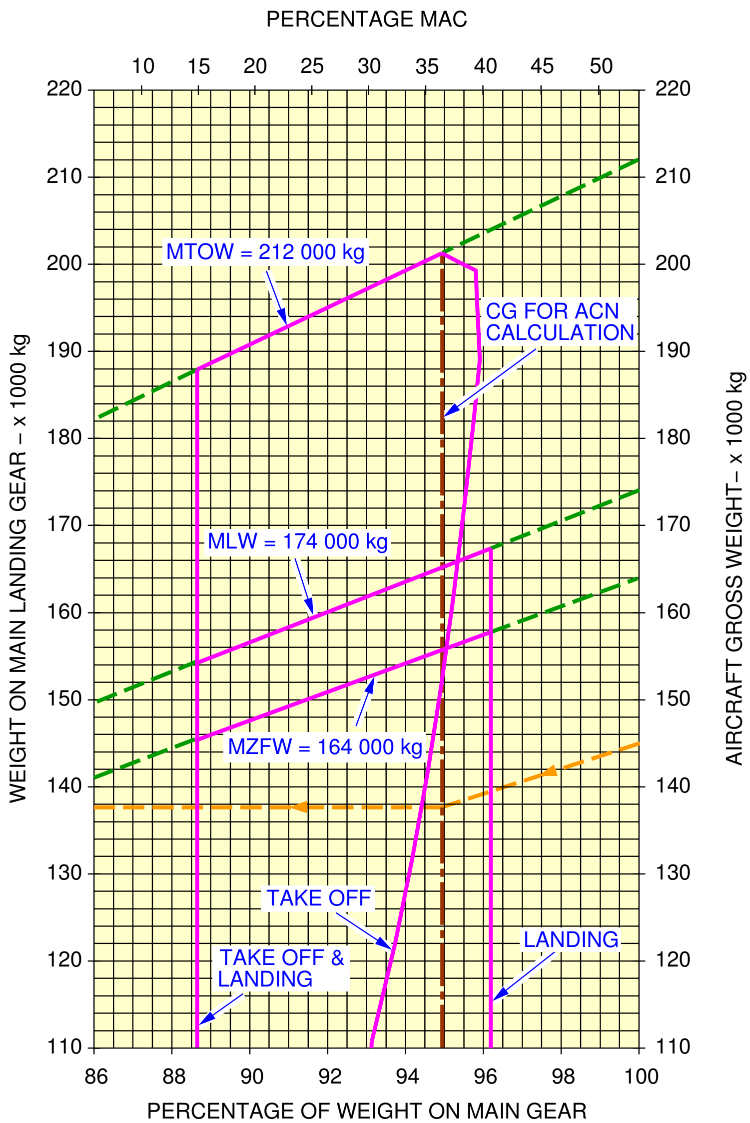
**ON A/C A330-300



F_AC_070401_1_0050101_01_01

Landing Gear Loading on Pavement
MTOW 184 000 kg
FIGURE 7

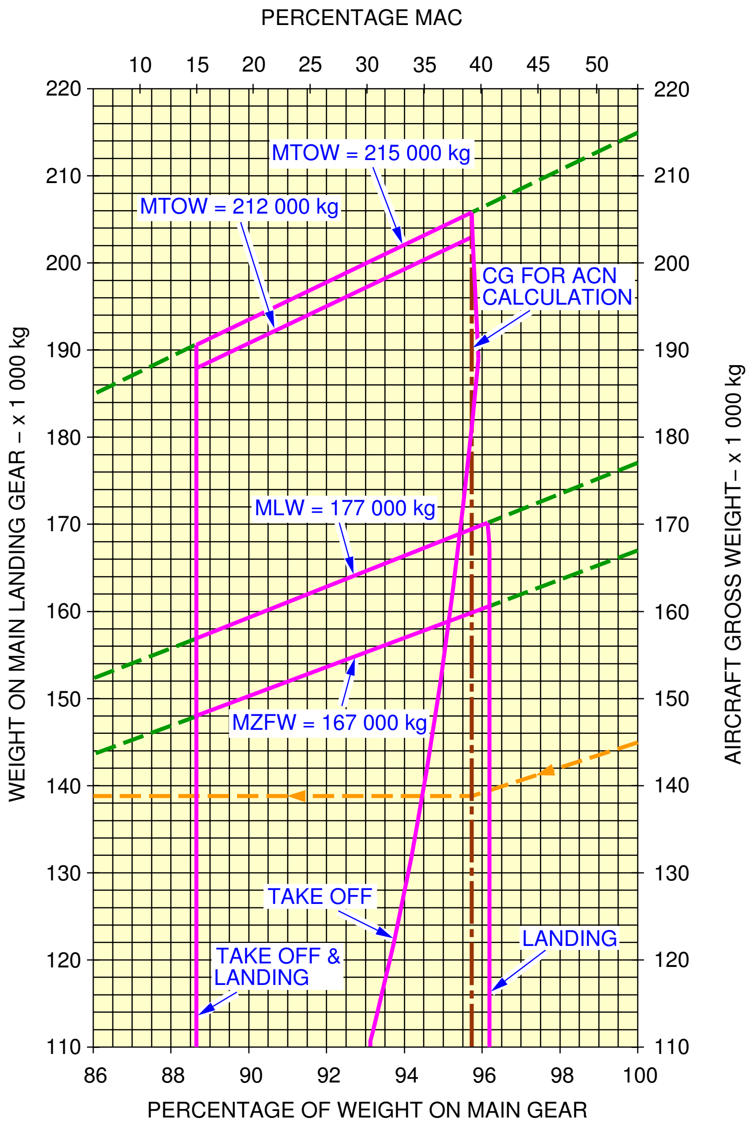
**ON A/C A330-300



F_AC_070401_1_0060101_01_01

Landing Gear Loading on Pavement
MTOW 212 000 kg
FIGURE 8

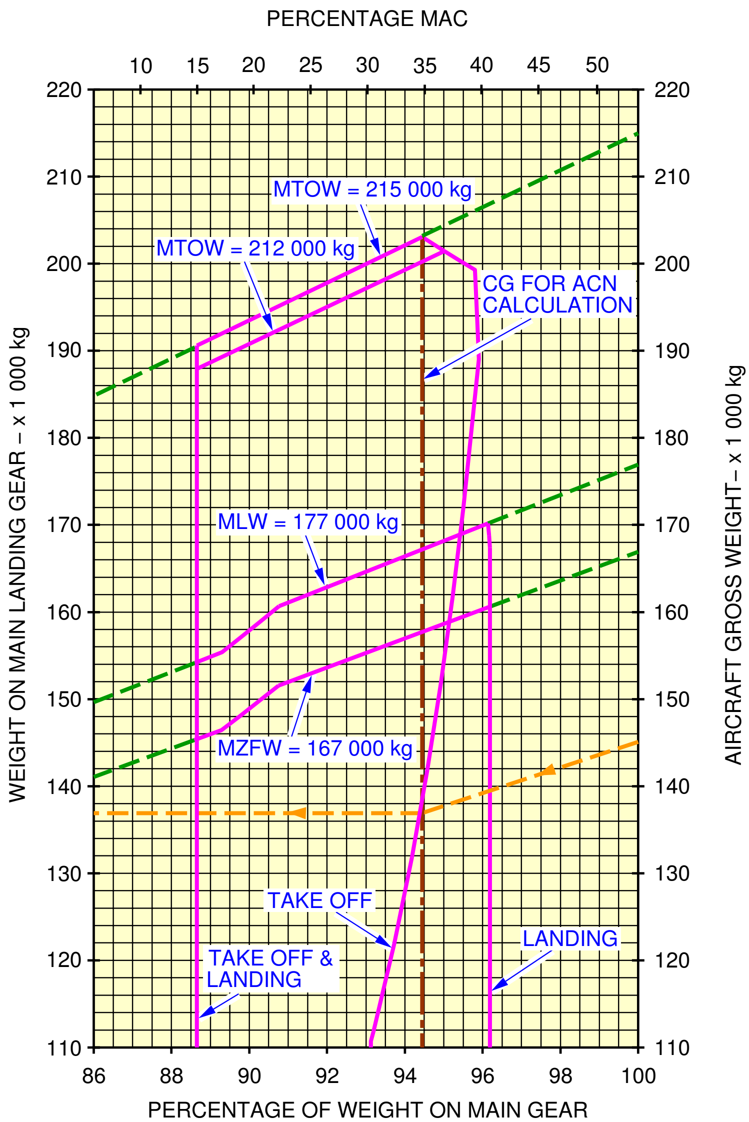
**ON A/C A330-300



F_AC_070401_1_0070101_01_01

Landing Gear Loading on Pavement
MTOW 215 000 kg
FIGURE 9

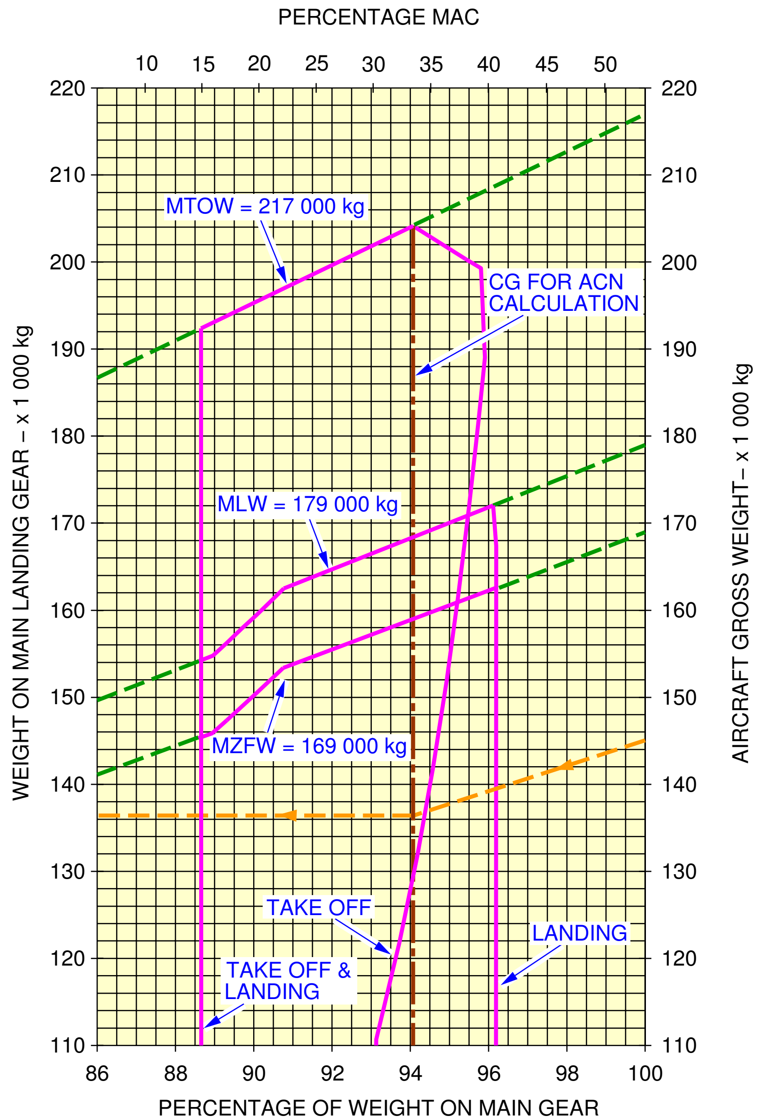
**ON A/C A330-300



F_AC_070401_1_0080101_01_02

Landing Gear Loading on Pavement
MTOW 215 000 kg
FIGURE 10

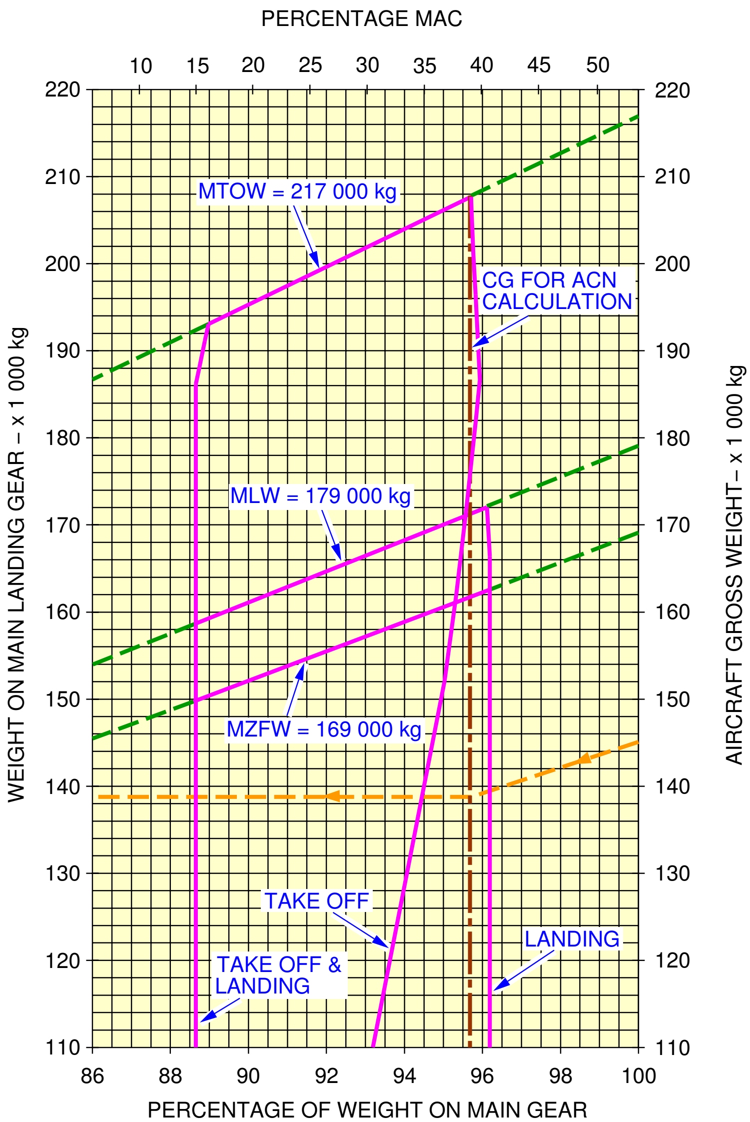
**ON A/C A330-300



F_AC_070401_1_0090101_01_01

Landing Gear Loading on Pavement
MTOW 217 000 kg
FIGURE 11

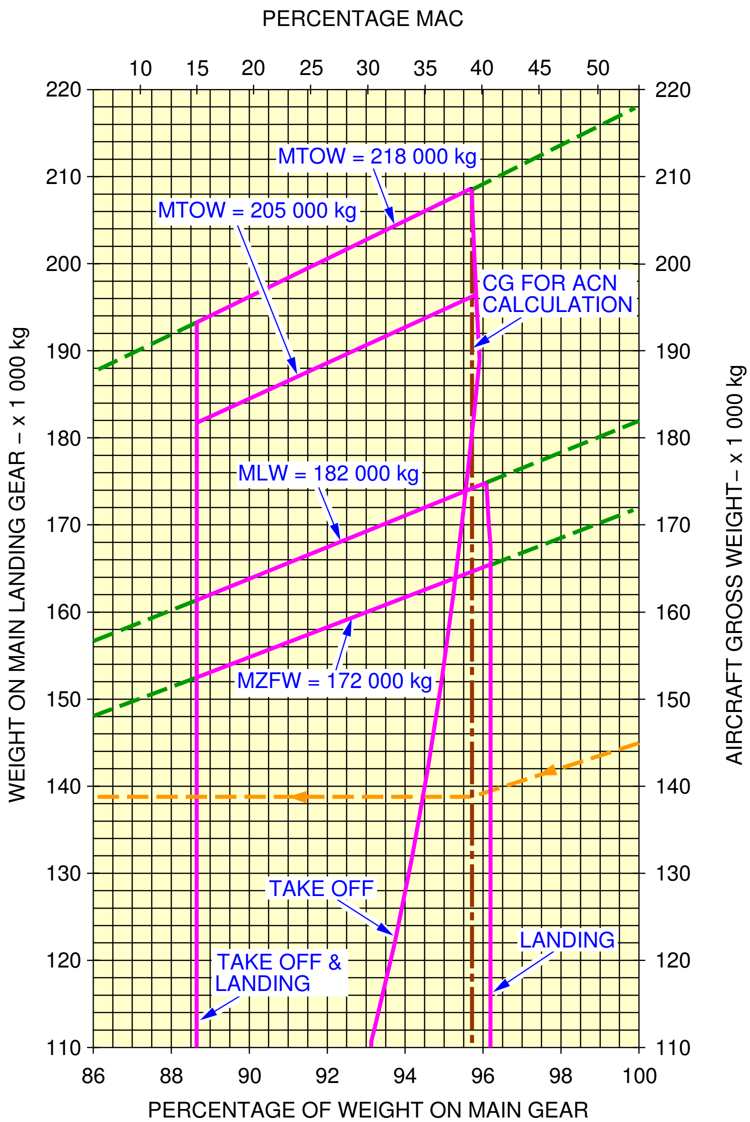
**ON A/C A330-300



F_AC_070401_1_0100101_01_01

Landing Gear Loading on Pavement
MTOW 217 000 kg
FIGURE 12

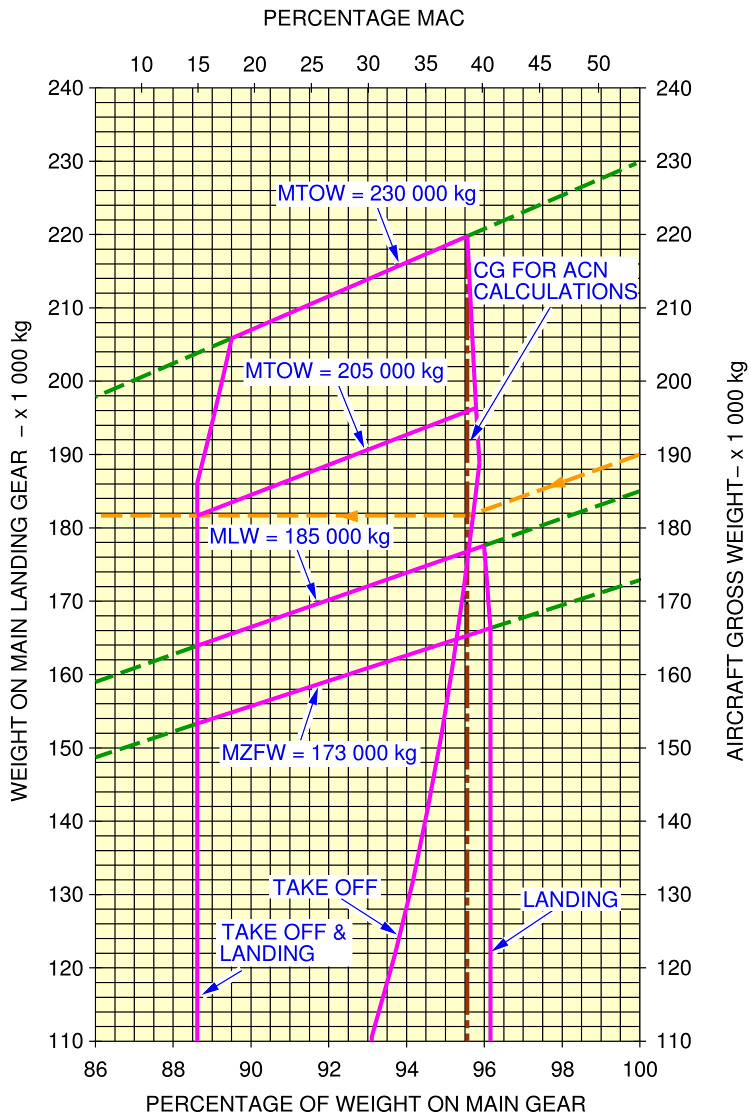
**ON A/C A330-300



F_AC_070401_1_0110101_01_01

Landing Gear Loading on Pavement
MTOW 218 000 kg
FIGURE 13

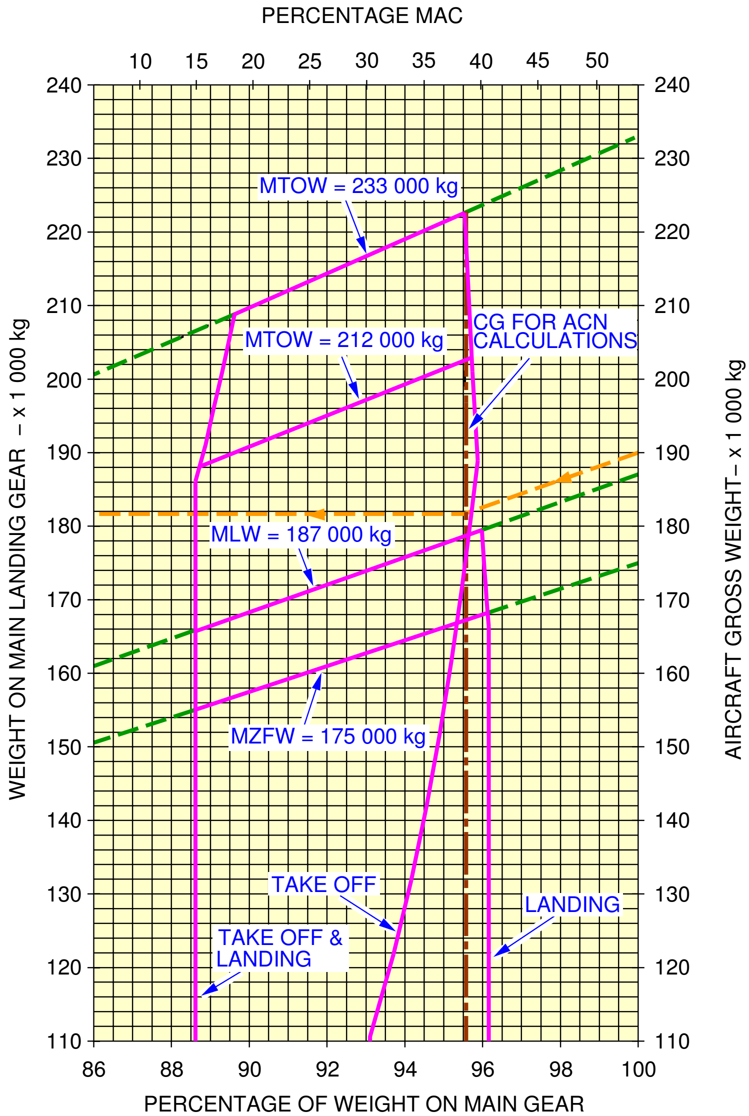
**ON A/C A330-300



F_AC_070401_1_0120101_01_01

Landing Gear Loading on Pavement
MTOW 230 000 kg
FIGURE 14

**ON A/C A330-300



Landing Gear Loading on Pavement
MTOW 233 000 kg
FIGURE 15

7-5-0 Flexible Pavement Requirements - U.S. Army Corps of Engineers Design Method

****ON A/C A330-200 A330-200F A330-300**

Flexible Pavement Requirements - US Army Corps of Engineers Design Method

****ON A/C A330-200**

1. General

To find a Flexible Pavement Thickness, the Subgrade Strength (CBR), the Annual Departure Level and the weight on one Main Landing must be known.

In the example shown in Section 7-5-1 Figure : Flexible Pavement Requirements - MTOW 233 000 kg - A330-200

- A "CBR" value of 10
- An Annual Departure level of 3 000
- And the load on one Main Landing Gear of 80 000 kg (176 370 lb)
- The required Flexible Pavement Thickness is 49 cm (19.25 inches).

The line showing 10 000 Coverages is used to calculate Aircraft Classification Number (ACN).

****ON A/C A330-200F**

2. General

To find a Flexible Pavement Thickness, the Subgrade Strength (CBR), the Annual Departure Level and the weight on one Main Landing must be known.

In the example shown in Section 7-5-1 Figure : Flexible Pavement Requirements - MTOW 233 000 kg - A330-200F

- A "CBR" value of 10
- An Annual Departure level of 3 000
- And the load on one Main Landing Gear of 80 000 kg (176 370 lb)
- The required Flexible Pavement Thickness is 49 cm (19.25 inches).

The line showing 10 000 Coverages is used to calculate Aircraft Classification Number (ACN).

****ON A/C A330-300**

3. General

To find a Flexible Pavement Thickness, the Subgrade Strength (CBR), the Annual Departure Level and the weight on one Main Landing must be known.

In the example shown in Section 7-5-1 Figure : Flexible Pavement Requirements - MTOW 212 000 kg - A330-300

- A "CBR" value of 10
- An Annual Departure level of 3 000
- And the load on one Main Landing Gear of 80 000 kg (176 370 lb)
- The required Flexible Pavement Thickness is 49 cm (19.25 inches).

The line showing 10 000 Coverages is used to calculate Aircraft Classification Number (ACN).

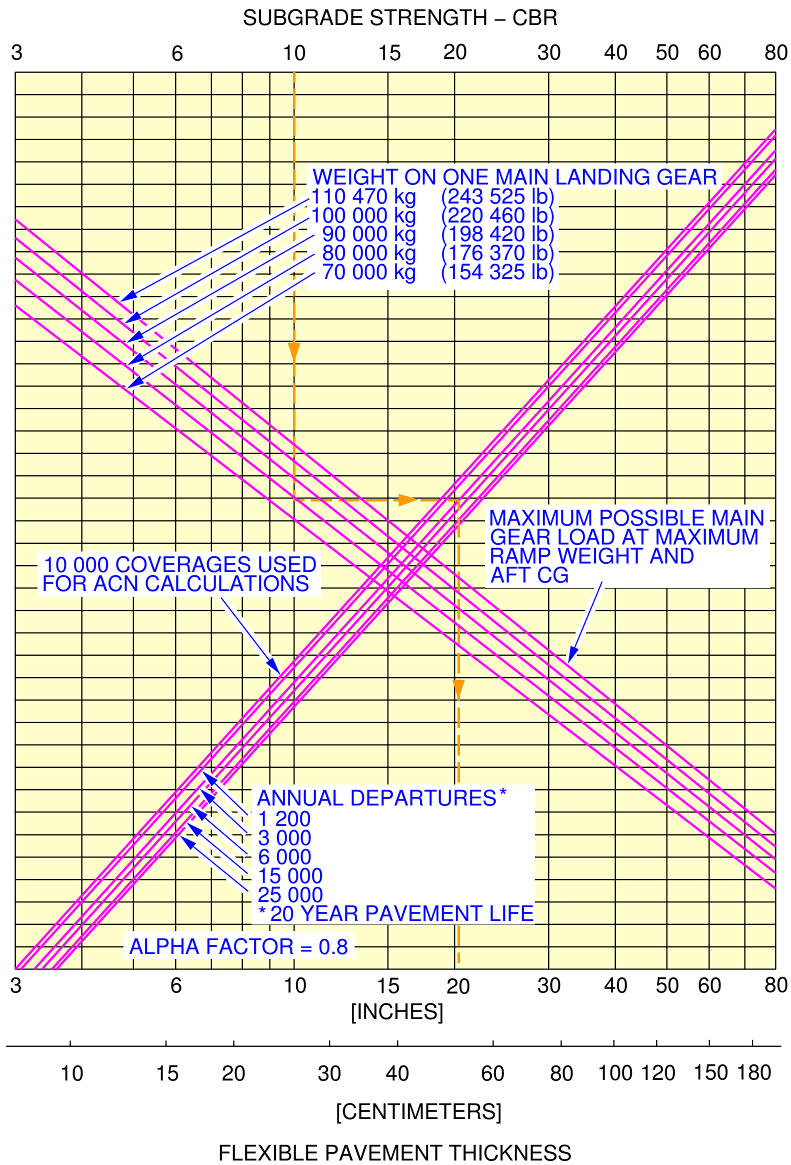
7-5-1 Flexible Pavement Requirements - U.S. Army Corps of Engineers Design Method S-77-1

****ON A/C A330-200 A330-200F A330-300**

Flexible Pavement Requirements - US Army Corps of Engineers Design Method

1. This section gives Flexible Pavement Requirements.

**ON A/C A330-200

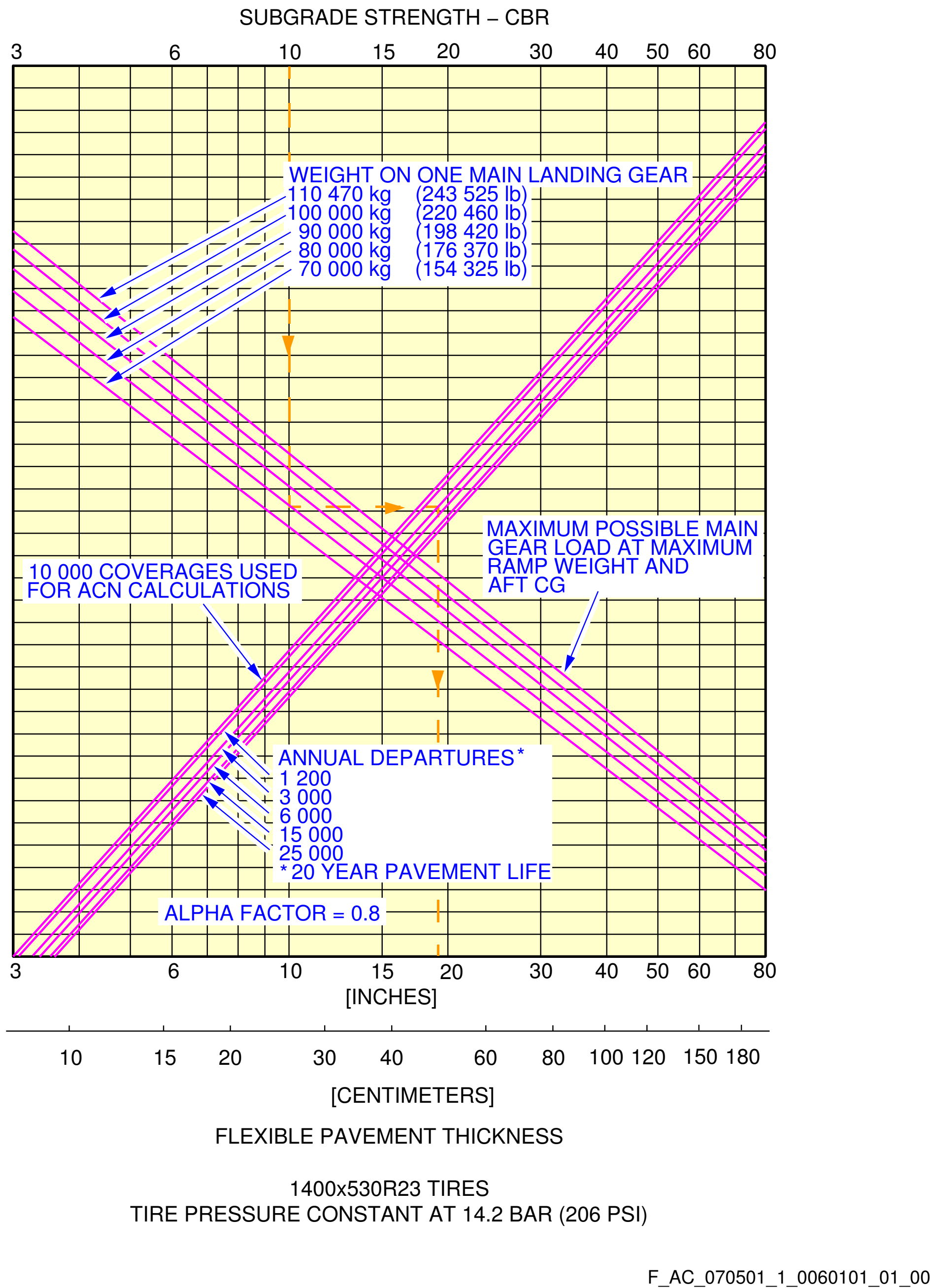


1400x530R23 TIRES
TIRE PRESSURE CONSTANT AT 14.2 BAR (206 PSI)

F_AC_070501_1_0010101_01_01

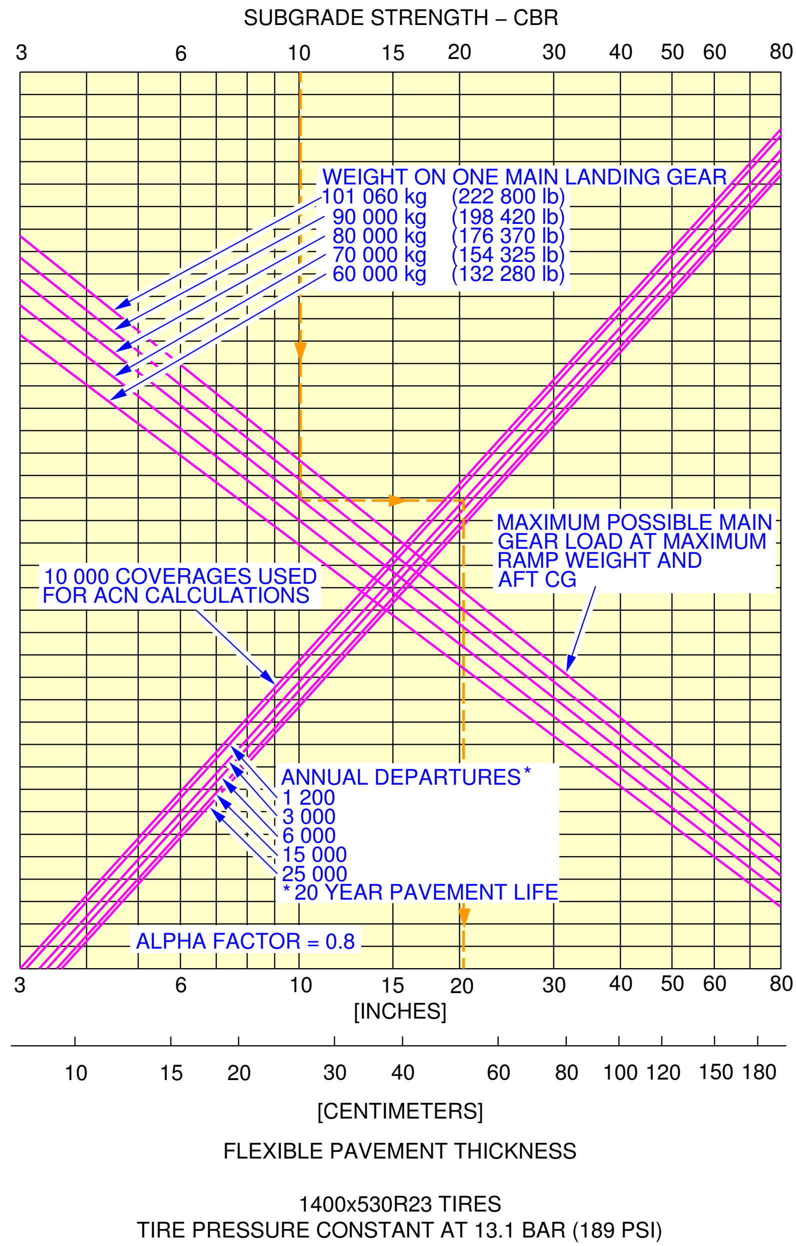
Flexible Pavement Requirements
MTOW 233 000 kg
FIGURE 1

**ON A/C A330-200F



Flexible Pavement Requirements
MTOW 233 000 kg
FIGURE 2

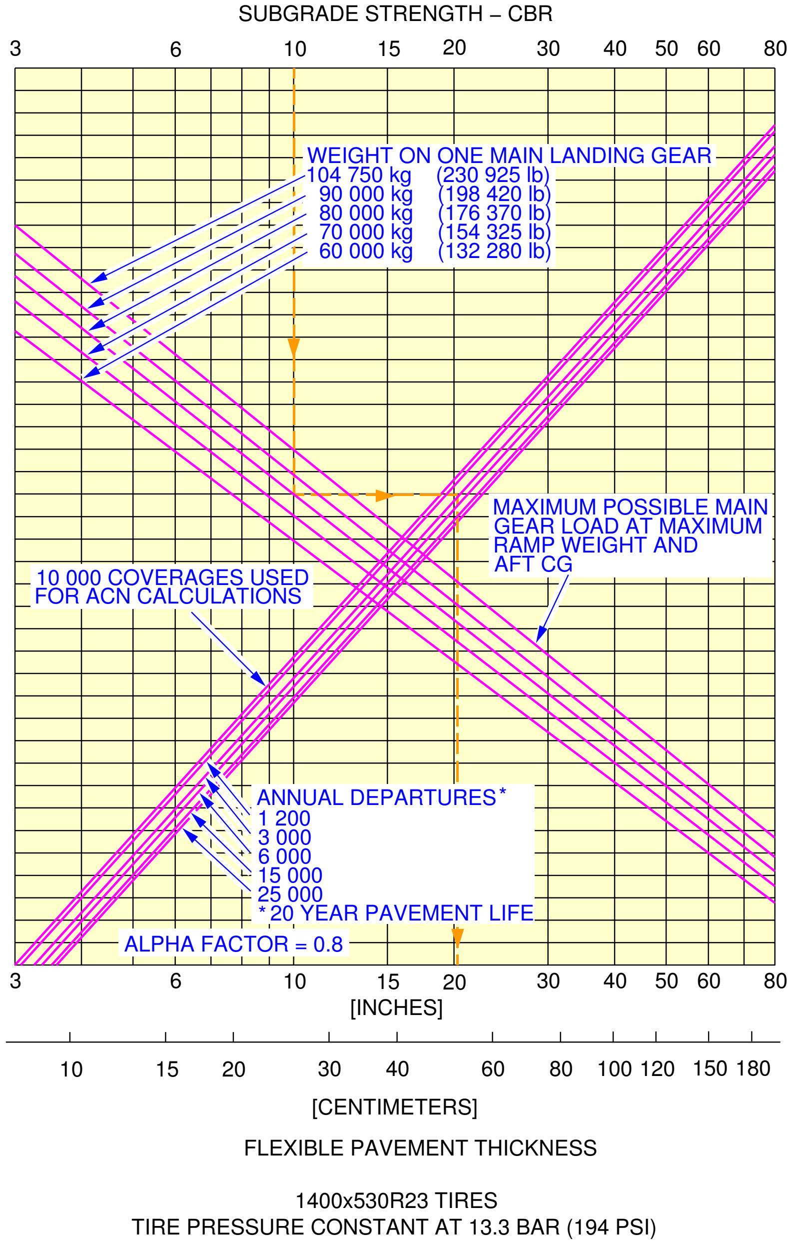
**ON A/C A330-300



F_AC_070501_1_0020101_01_01

Flexible Pavement Requirements
MTOW 212 000 kg
FIGURE 3

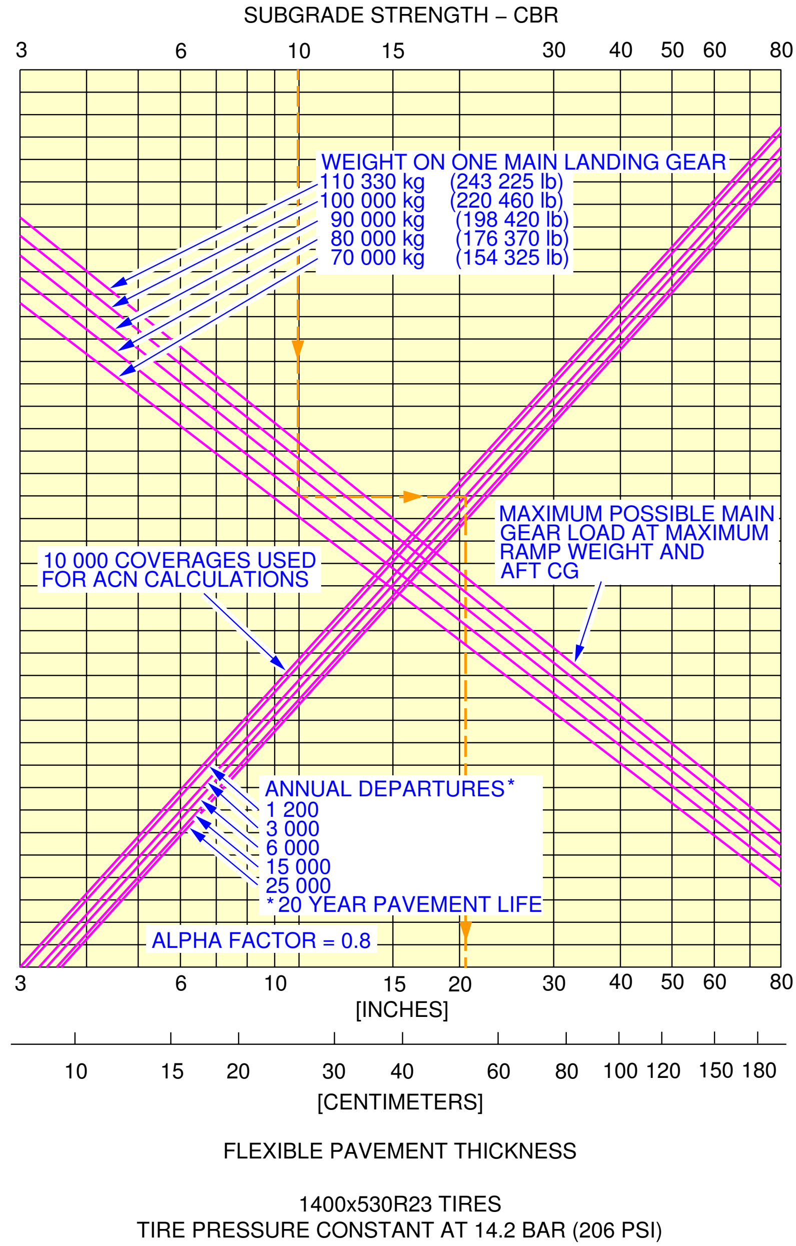
**ON A/C A330-300



F_AC_070501_1_0030101_01_01

Flexible Pavement Requirements
MTOW 218 000 kg
FIGURE 4

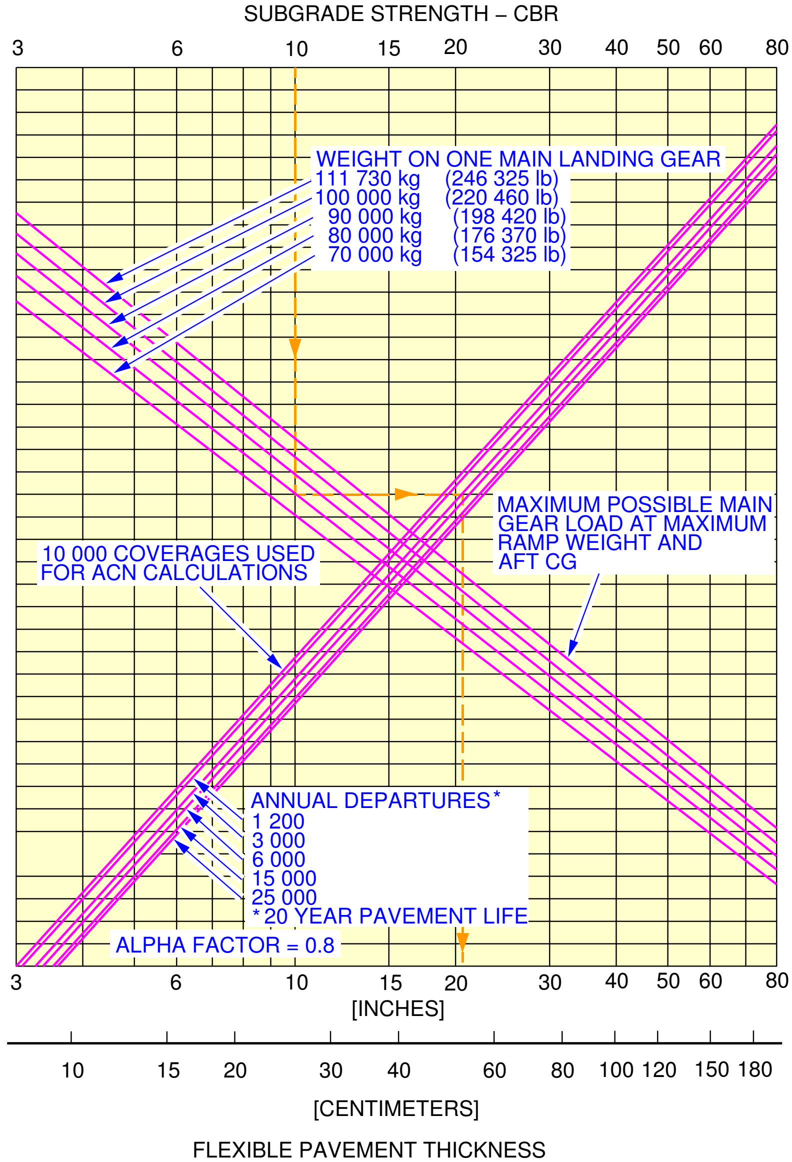
**ON A/C A330-300



F_AC_070501_1_0040101_01_01

Flexible Pavement Requirements
MTOW 230 000 kg
FIGURE 5

**ON A/C A330-300



F_AC_070501_1_0050101_01_01

Flexible Pavement Requirements
MTOW 233 000 kg
FIGURE 6

7-6-0 Flexible Pavement Requirements - LCN Conversion

****ON A/C A330-200 A330-200F A330-300**

Flexible Pavement Requirements - LCN Conversion

****ON A/C A330-200**

1. General

To find the airplane weight that a Flexible Pavement can support, the LCN of the pavement and the thickness (h) must be known.

In the example shown in Section 7-6-1, Figure: Flexible Pavement Requirements LCN - MTOW 233 000 kg - A330-200

The thickness "h" is shown at 762 mm (30 in.) with an LCN of 108.

For these conditions the weight on one Main Landing Gear is 100 000 kg (220 460 lb).

****ON A/C A330-200F**

2. General

To find the airplane weight that a Flexible Pavement can support, the LCN of the pavement and the thickness (h) must be known.

In the example shown in Section 7-6-1, Figure: Flexible Pavement Requirements LCN - MTOW 233 000 kg - A330-200F

The thickness "h" is shown at 762 mm (30 in.) with an LCN of 108.

For these conditions the weight on one Main Landing Gear is 100 000 kg (220 460 lb).

****ON A/C A330-300**

3. General

To find the airplane weight that a Flexible Pavement can support, the LCN of the pavement and the thickness (h) must be known.

In the example shown in Section 7-6-1, Figure: Flexible Pavement Requirements LCN - MTOW 212 000 kg - A330-300

The thickness "h" is shown at 762 mm (30 in.) with an LCN of 94.

For these conditions the weight on one Main Landing Gear is 90 000 kg (198 416 lb).

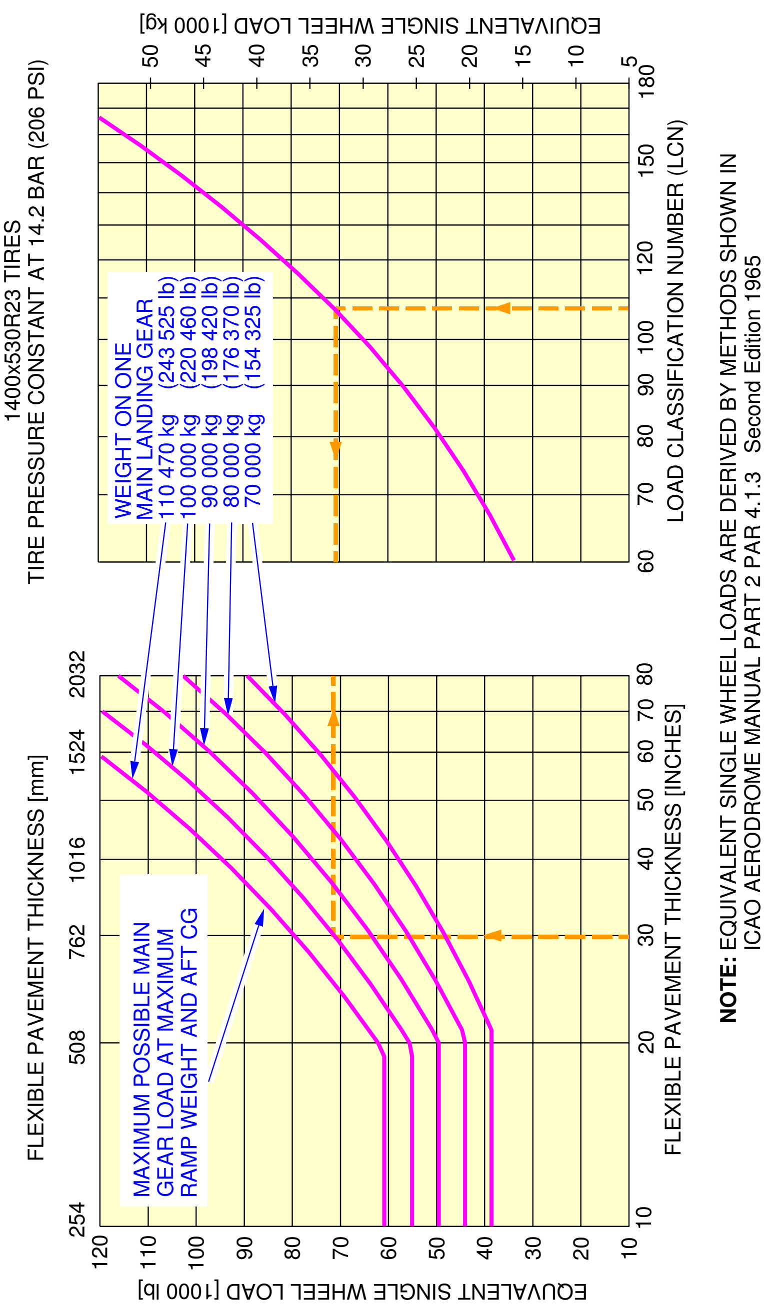
7-6-1 Flexible Pavement Requirements - LCN Conversion

****ON A/C A330-200 A330-200F A330-300**

Flexible Pavement Requirements - LCN Conversion

1. This section gives Flexible Pavement Requirements - LCN Conversion.

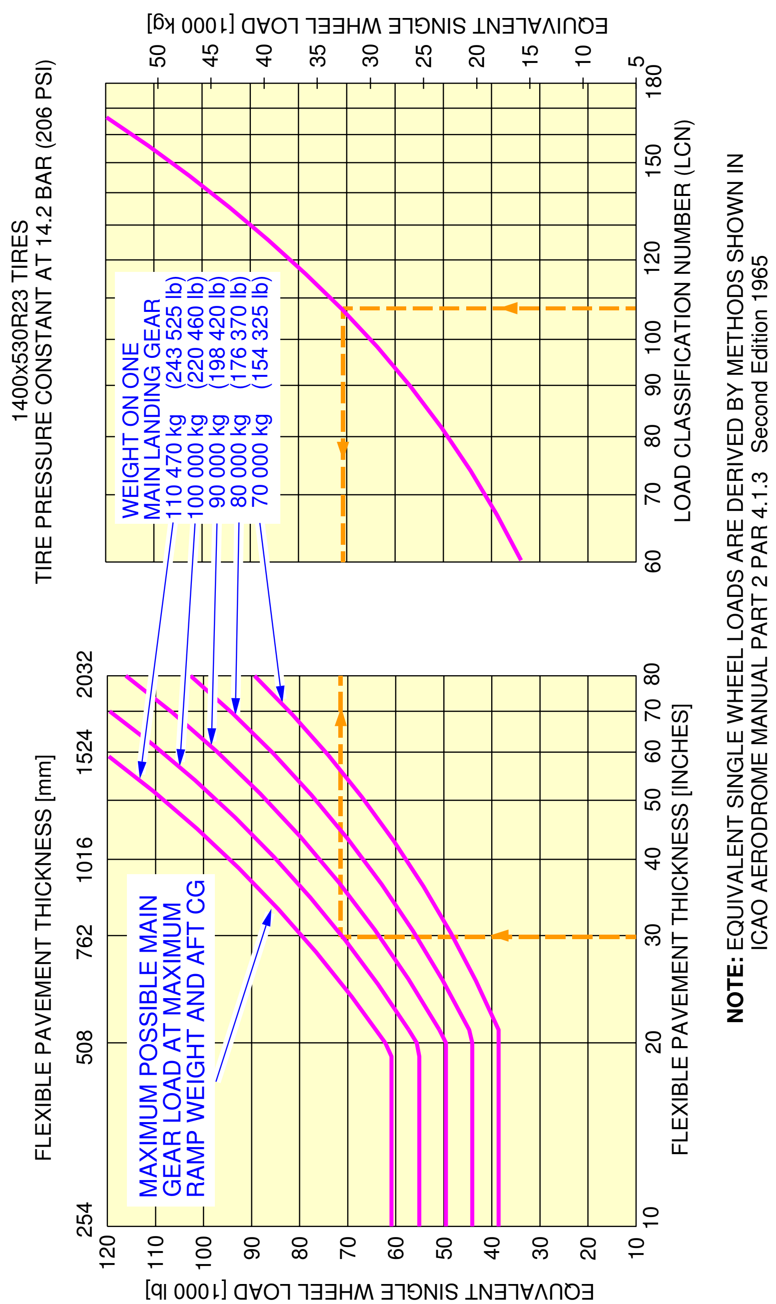
**ON A/C A330-200



F_AC_070601_1_0010101_01_01

Flexible Pavement Requirements
MTOW 233 000 kg
FIGURE 1

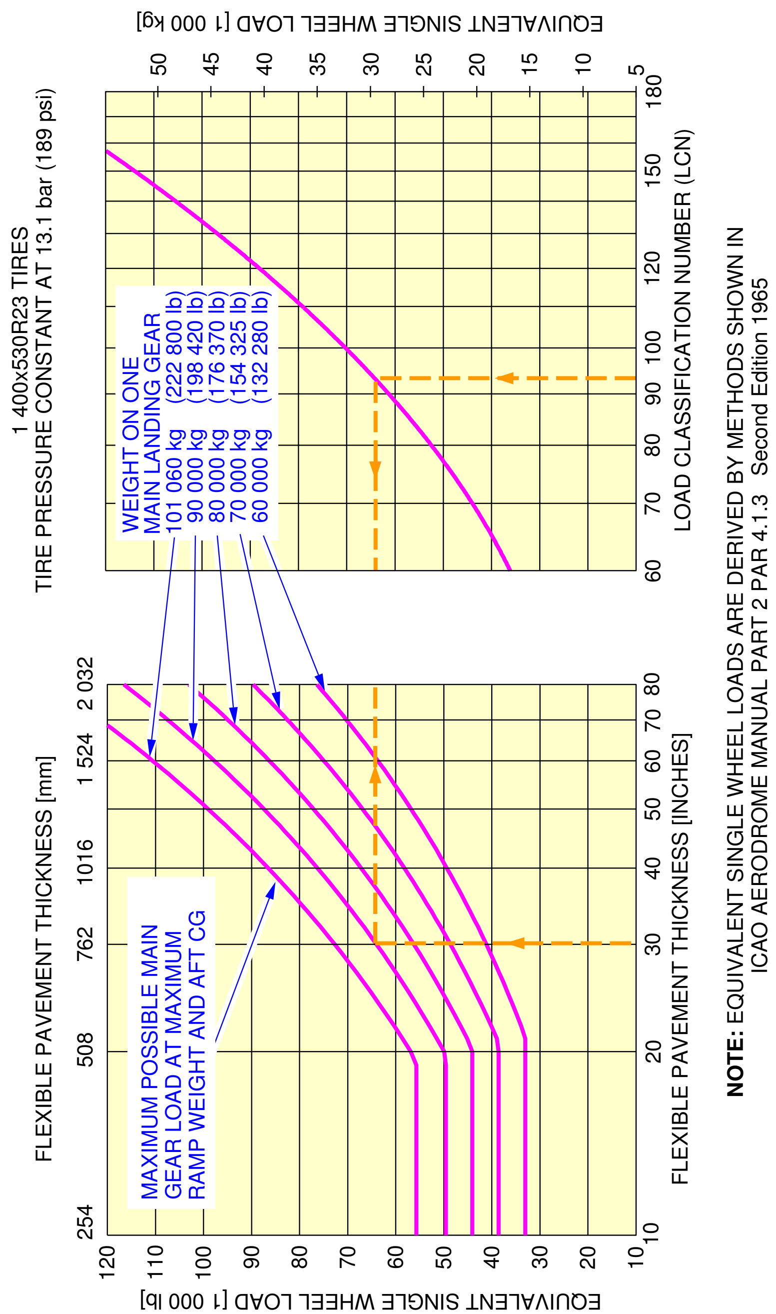
**ON A/C A330-200F



F_AC_070601_1_0060101_01_00

Flexible Pavement Requirements
MTOW 233 000 kg
FIGURE 2

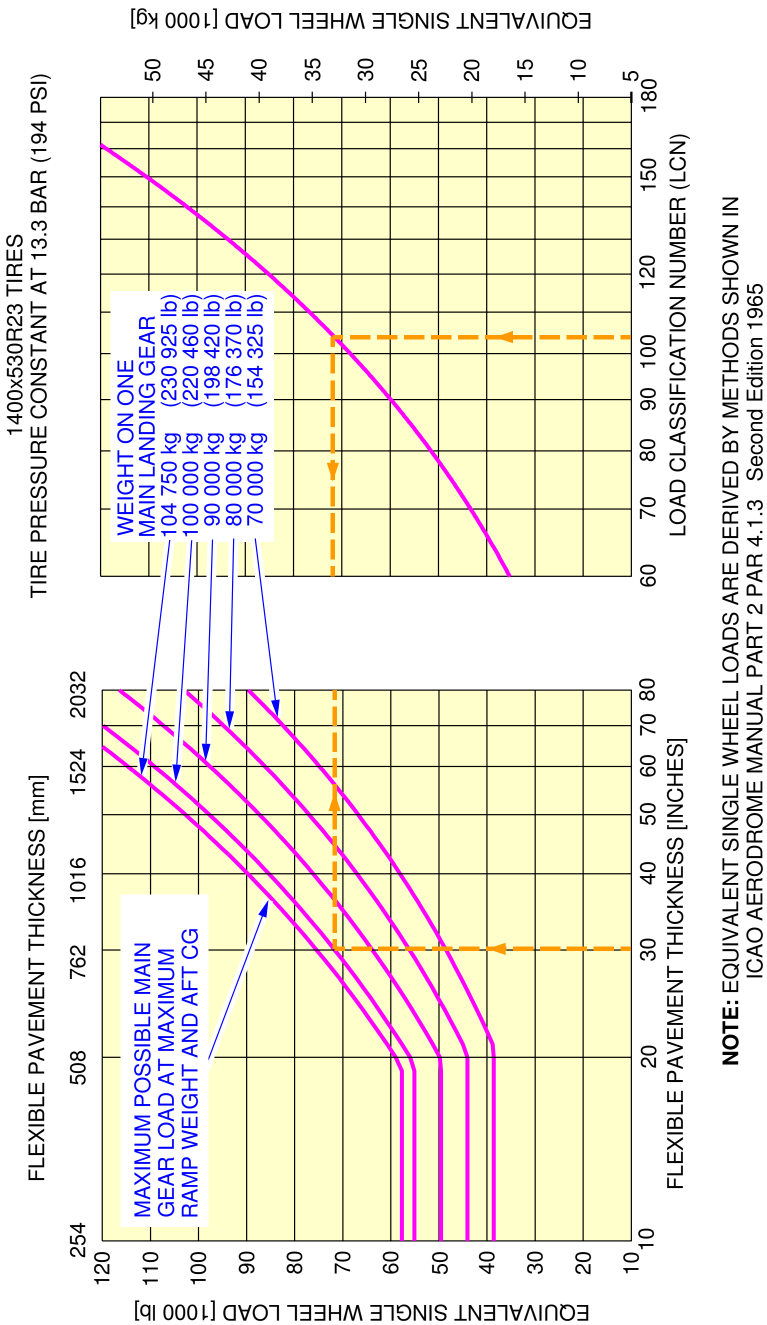
**ON A/C A330-300



F_AC_070601_1_0020101_01_02

Flexible Pavement Requirements
MTOW 212 000 kg
FIGURE 3

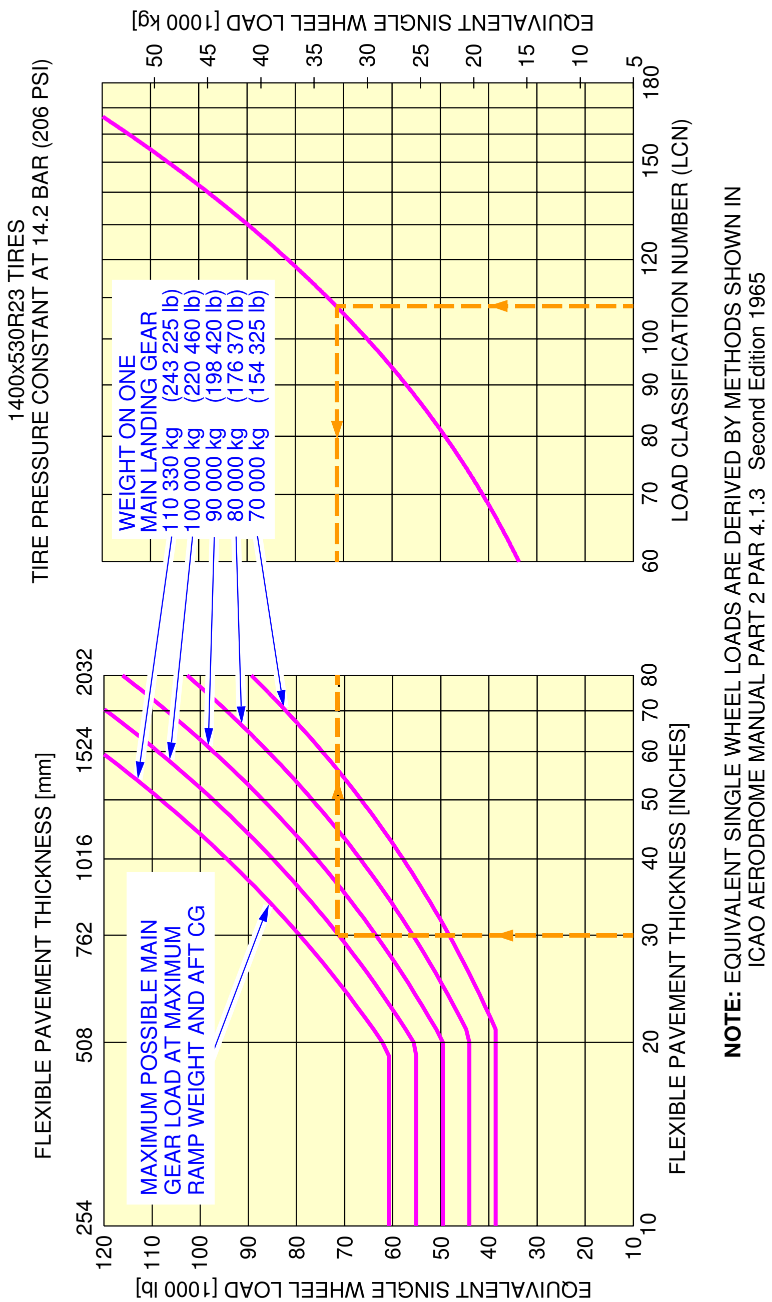
**ON A/C A330-300



F_AC_070601_1_0030101_01_01

Flexible Pavement Requirements
MTOW 218 000 kg
FIGURE 4

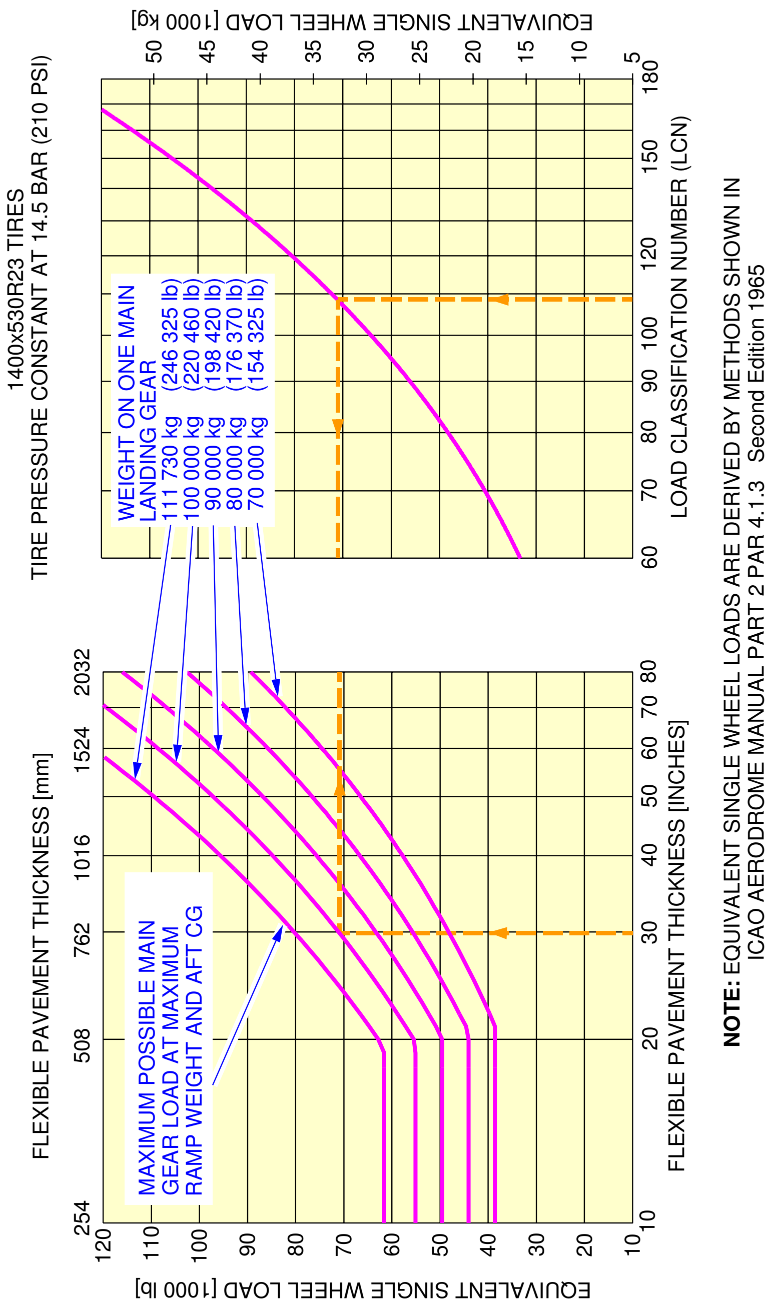
****ON A/C A330-300**



F_AC_070601_1_0040101_01_01

Flexible Pavement Requirements
MTOW 230 000 kg
FIGURE 5

****ON A/C A330-300**



F_AC_070601_1_0050101_01_01

Flexible Pavement Requirements
MTOW 233 000 kg
FIGURE 6

7-7-0 Rigid Pavement Requirements - Portland Cement Association Design Method

****ON A/C A330-200 A330-200F A330-300**

Rigid Pavement Requirements - Portland Cement Association Design Method

****ON A/C A330-200**

1. General

To determine a Rigid Pavement Thickness, the Subgrade Modulus (k), the allowable working stress and the weight on one Main Landing Gear must be known.

In the example shown in Section 7-7-1 Figure: Rigid Pavement Requirements - MTOW 233 000 kg - A330-200
- a "k" value of 150 MN/m^3 (550 lb/in^3)
- an allowable working stress of 39 kg/cm^2 (550 lb/in^2)
- the load on one Main Landing Gear of 80 000 kg (176 370 lb) the required Rigid Pavement Thickness is 22 cm (8.6 inches).

****ON A/C A330-200F**

2. General

To determine a Rigid Pavement Thickness, the Subgrade Modulus (k), the allowable working stress and the weight on one Main Landing Gear must be known.

In the example shown in Section 7-7-1 Figure: Rigid Pavement Requirements - MTOW 233 000 kg - A330-200F
- a "k" value of 150 MN/m^3 (550 lb/in^3)
- an allowable working stress of 39 kg/cm^2 (550 lb/in^2)
- the load on one Main Landing Gear of 80 000 kg (176 370 lb) the required Rigid Pavement Thickness is 22 cm (8.6 inches).

****ON A/C A330-300**

3. General

To determine a Rigid Pavement Thickness, the Subgrade Modulus (k), the allowable working stress and the weight on one Main Landing Gear must be known.

In the example shown in Section 7-7-1 Figure: Rigid Pavement Requirements - MTOW 212 000 kg - A330-300
- a "k" value of 150 MN/m^3 (550 lb/in^3)

- an allowable working stress of 39 kg/cm^2 (550 lb/in^2)
- the load on one Main Landing Gear of 80 000 kg (176 370 lb) the required Rigid Pavement Thickness is 22 cm (8.6 inches).

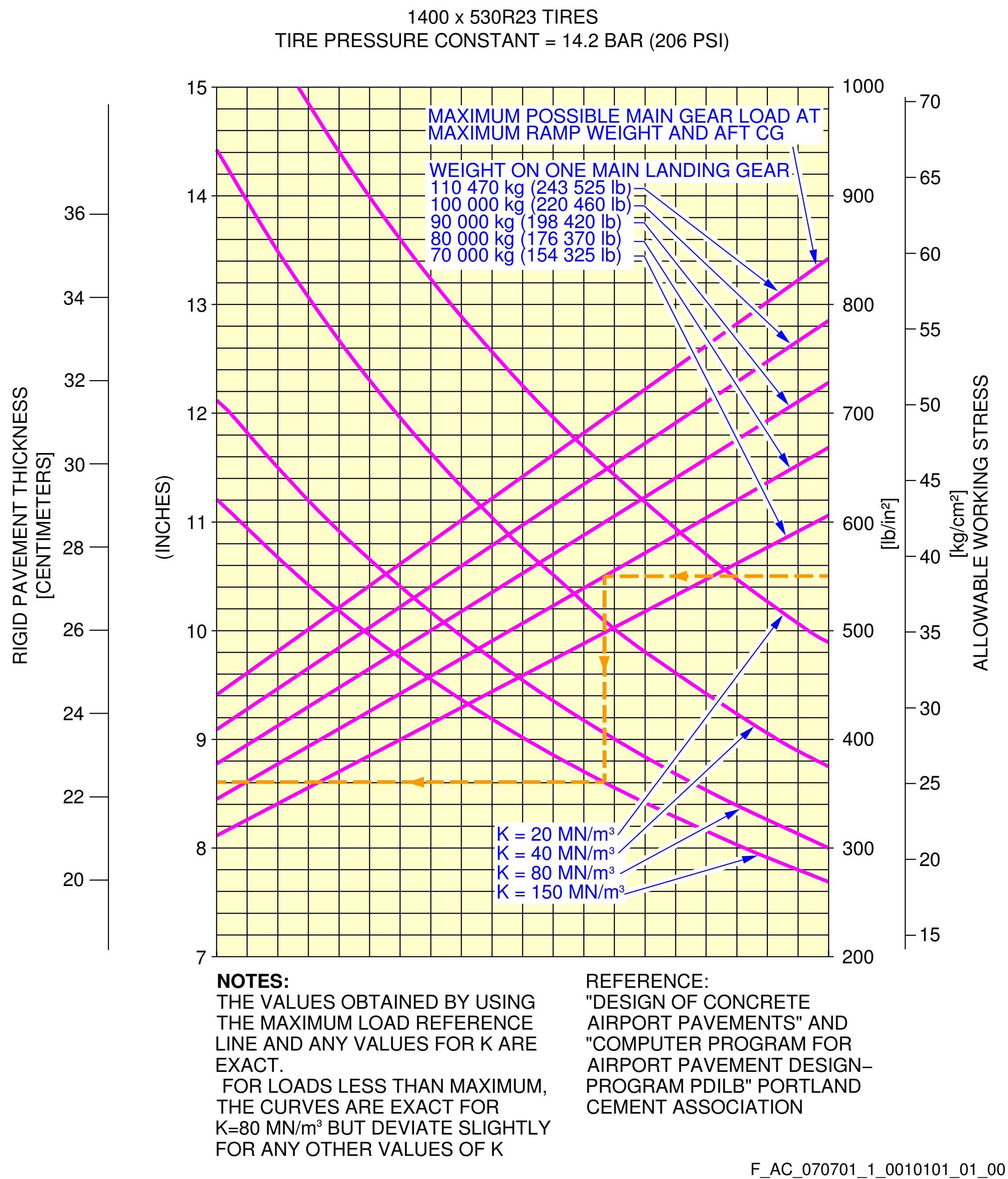
7-7-1 Rigid Pavement Requirements - Portland Cement Association Design Method

****ON A/C A330-200 A330-200F A330-300**

Rigid Pavement Requirements - Portland Cement Association Design Method

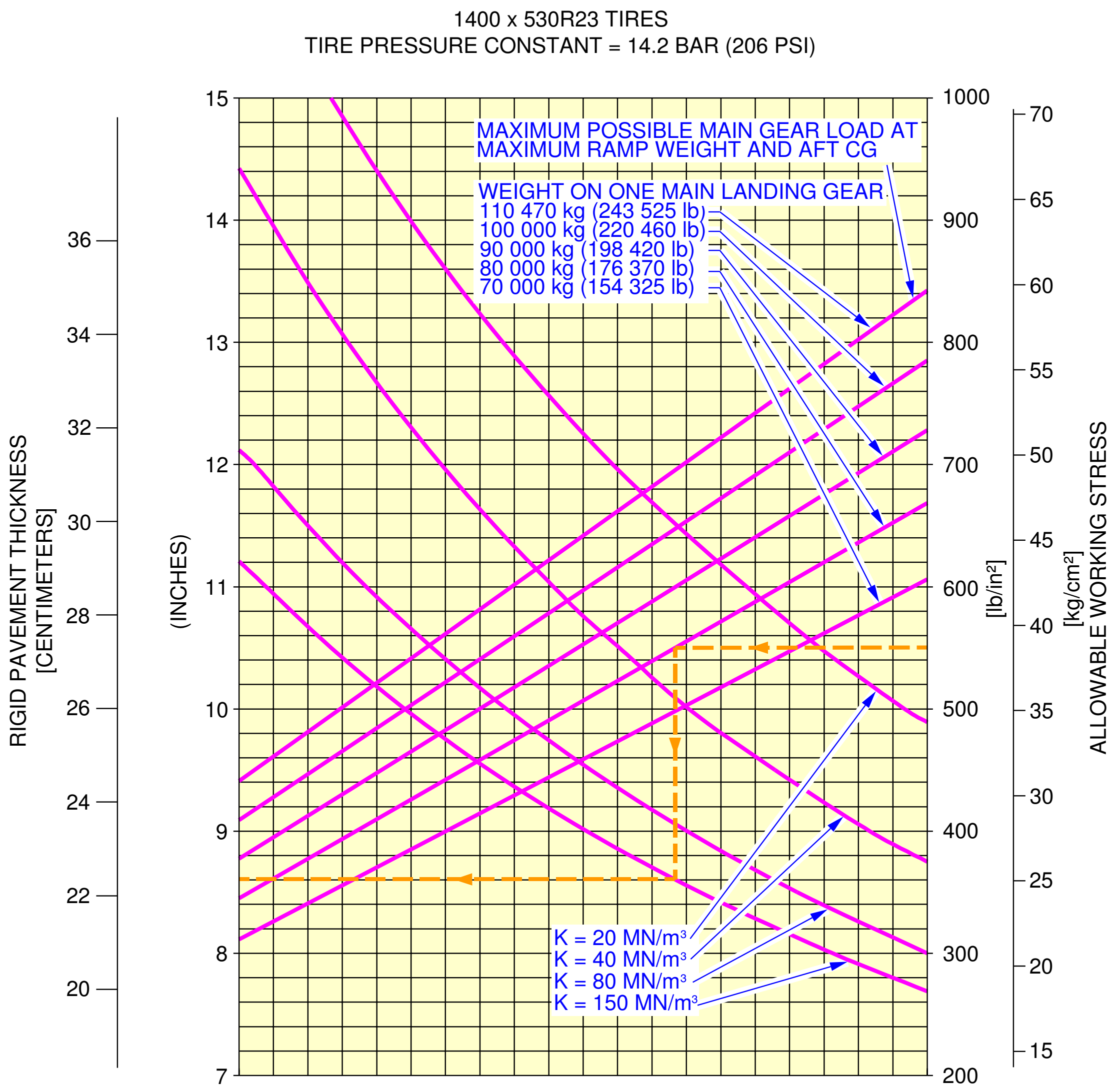
1. This section gives Rigid Pavement Requirements.

**ON A/C A330-200



Rigid Pavement Requirements
MTOW 233 000 kg
FIGURE 1

**ON A/C A330-200F



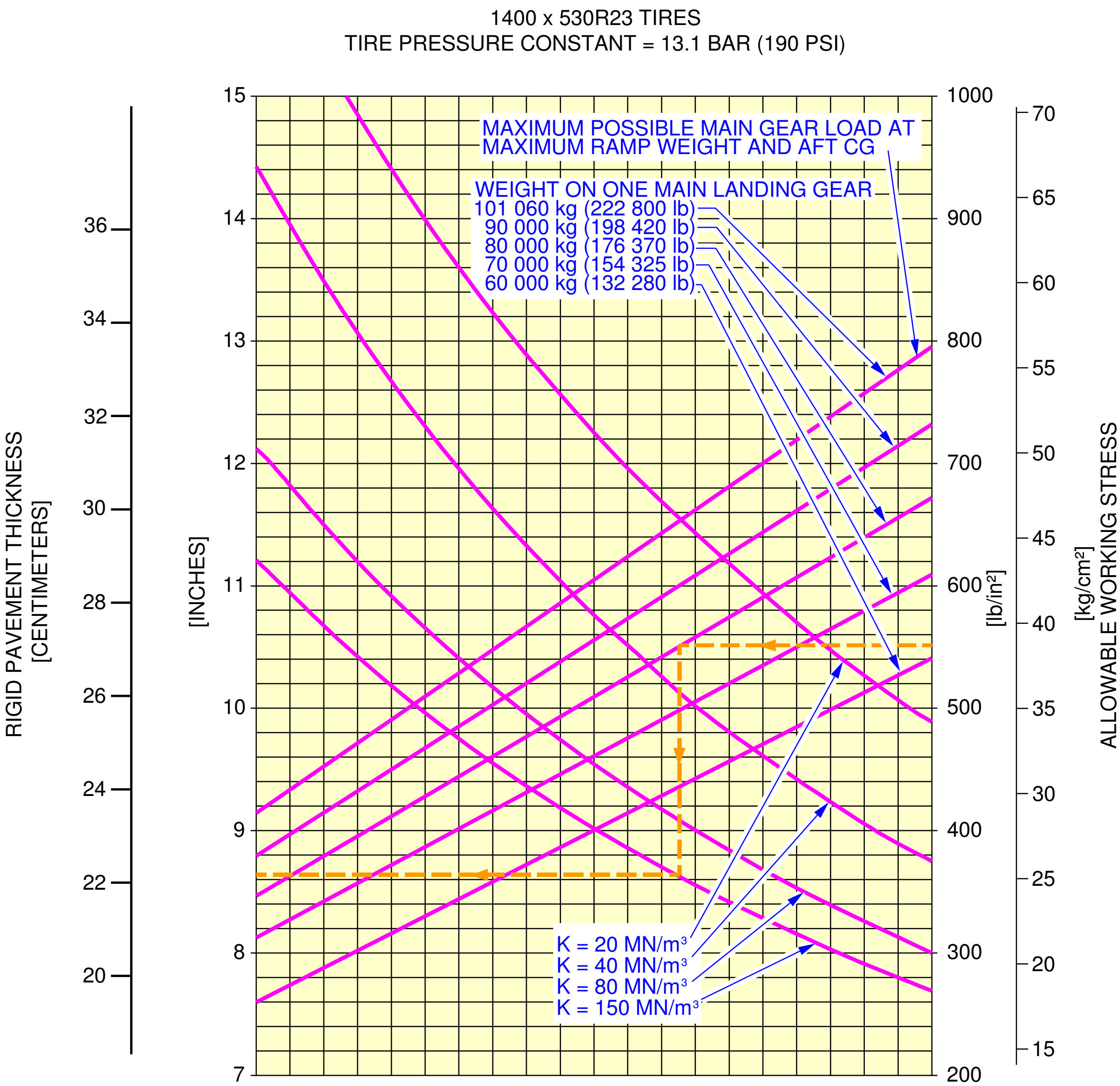
NOTES:
THE VALUES OBTAINED BY USING THE MAXIMUM LOAD REFERENCE LINE AND ANY VALUES FOR K ARE EXACT.
FOR LOADS LESS THAN MAXIMUM, THE CURVES ARE EXACT FOR K=80 MN/m³ BUT DEVIATE SLIGHTLY FOR ANY OTHER VALUES OF K

REFERENCE:
"DESIGN OF CONCRETE AIRPORT PAVEMENTS" AND "COMPUTER PROGRAM FOR AIRPORT PAVEMENT DESIGN– PROGRAM PDILB" PORTLAND CEMENT ASSOCIATION

F_AC_070701_1_0060101_01_00

Rigid Pavement Requirements
MTOW 233 000 kg
FIGURE 2

**ON A/C A330-300



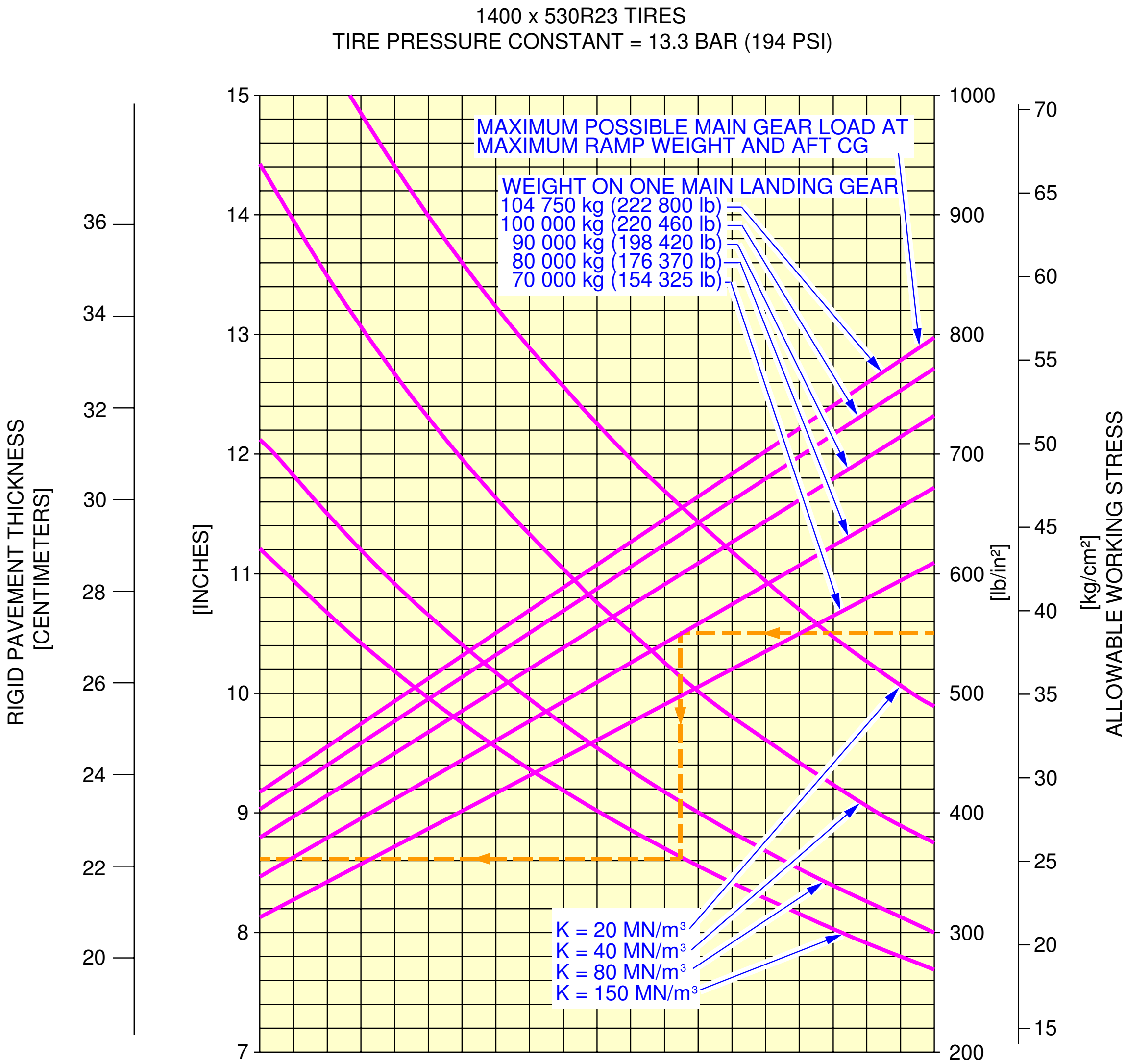
NOTES:
THE VALUES OBTAINED BY USING THE MAXIMUM LOAD REFERENCE LINE AND ANY VALUES FOR K ARE EXACT.
FOR LOADS LESS THAN MAXIMUM, THE CURVES ARE EXACT FOR K=80 MN/m³ BUT DEVIATE SLIGHTLY FOR ANY OTHER VALUES OF K

REFERENCE:
"DESIGN OF CONCRETE AIRPORT PAVEMENTS" AND "COMPUTER PROGRAM FOR AIRPORT PAVEMENT DESIGN – PROGRAM PDILB" PORTLAND CEMENT ASSOCIATION

F_AC_070701_1_0020101_01_00

Rigid Pavement Requirements
MTOW 212 000 kg
FIGURE 3

**ON A/C A330-300



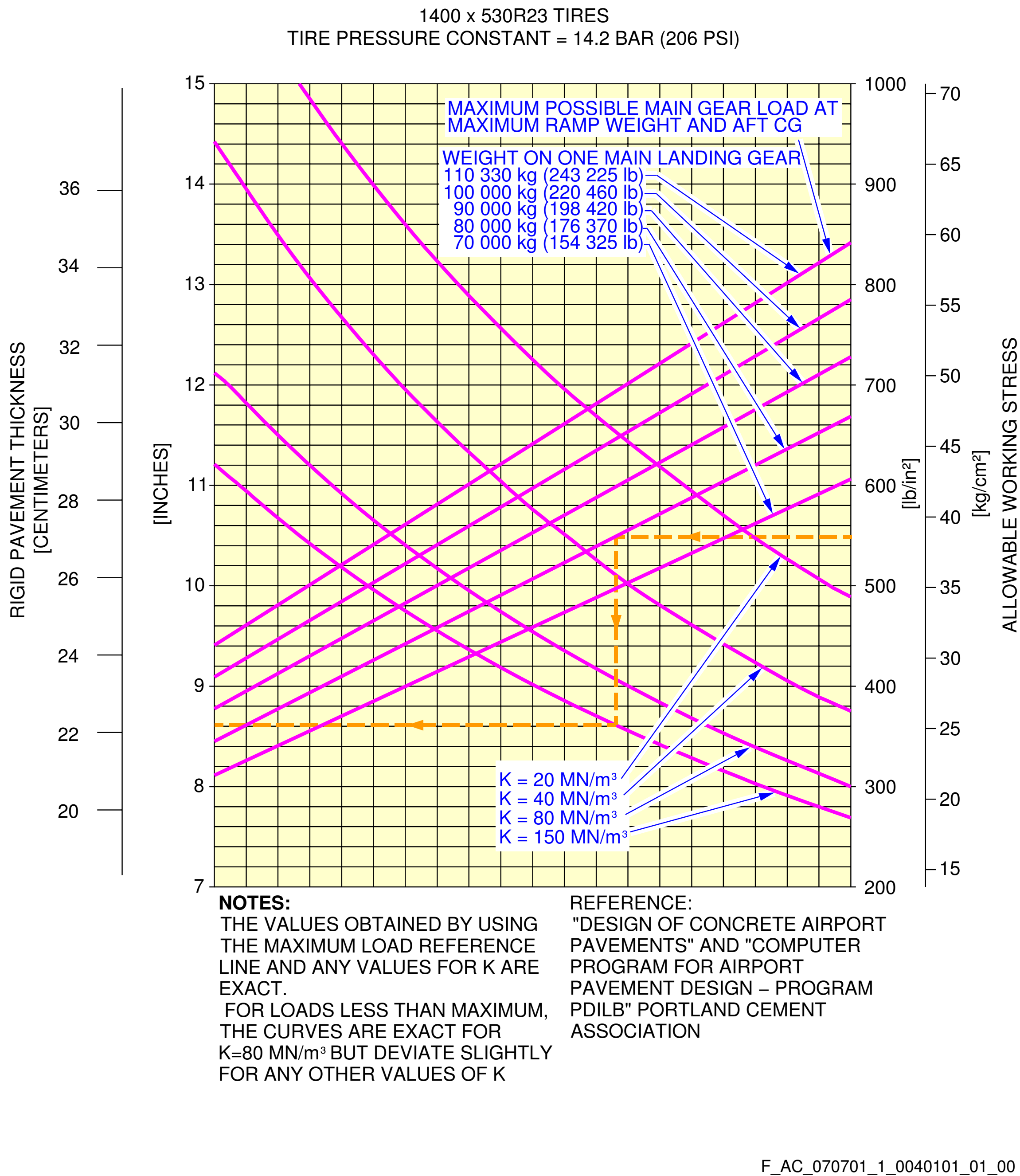
NOTES:
THE VALUES OBTAINED BY USING THE MAXIMUM LOAD REFERENCE LINE AND ANY VALUES FOR K ARE EXACT.
FOR LOADS LESS THAN MAXIMUM, THE CURVES ARE EXACT FOR K=80 MN/m³ BUT DEVIATE SLIGHTLY FOR ANY OTHER VALUES OF K

REFERENCE:
"DESIGN OF CONCRETE AIRPORT PAVEMENTS" AND "COMPUTER PROGRAM FOR AIRPORT PAVEMENT DESIGN – PROGRAM PDILB" PORTLAND CEMENT ASSOCIATION

F_AC_070701_1_0030101_01_00

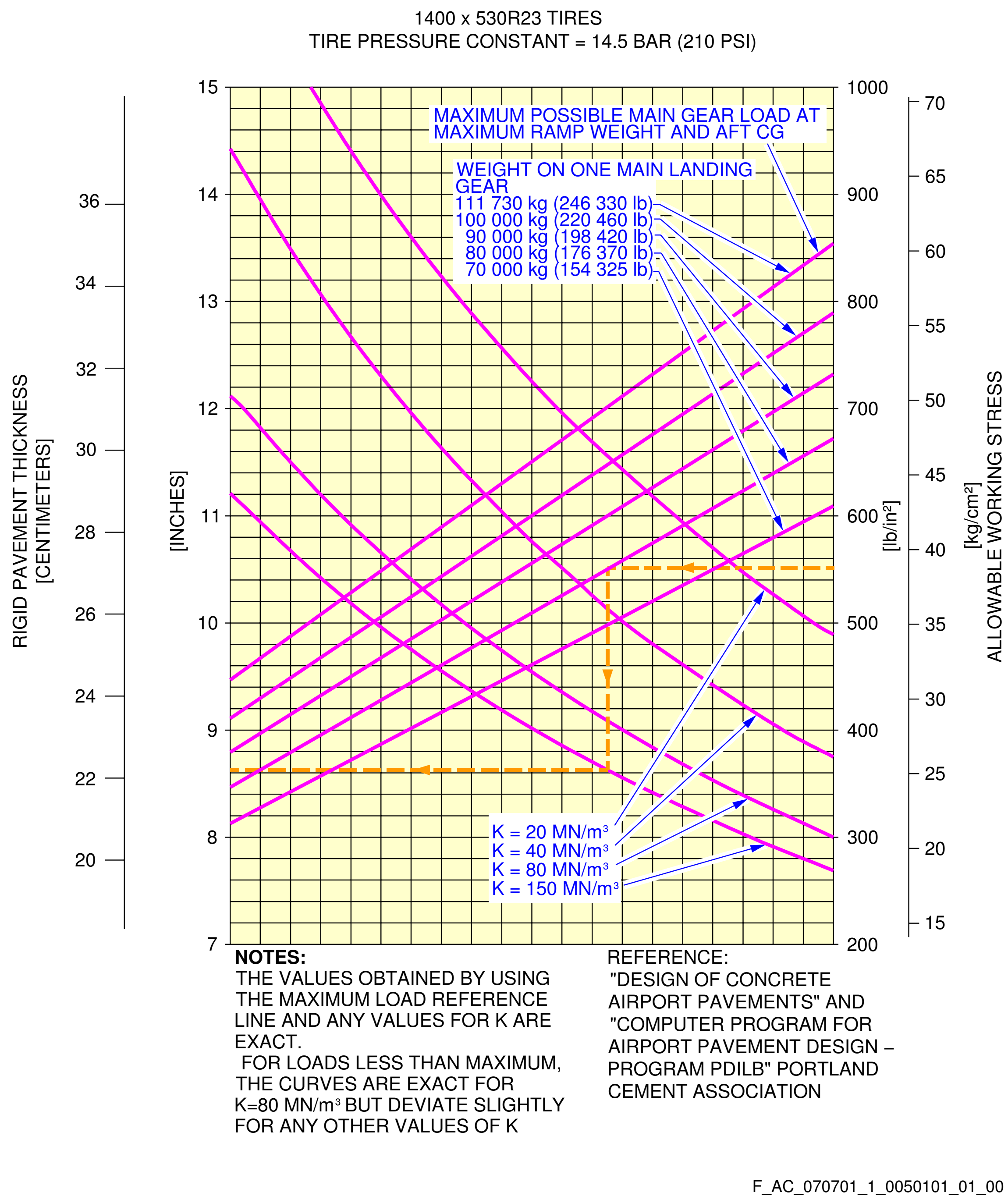
Rigid Pavement Requirements
MTOW 218 000 kg
FIGURE 4

**ON A/C A330-300



Rigid Pavement Requirements
MTOW 230 000 kg
FIGURE 5

**ON A/C A330-300



Rigid Pavement Requirements
MTOW 233 000 kg
FIGURE 6

7-8-0 Rigid Pavement Requirements - LCN Conversion

****ON A/C A330-200 A330-200F A330-300**

Rigid Pavement Requirements - LCN Conversion

****ON A/C A330-200**

1. General

To determine the airplane weight that a Rigid Pavement can support, the LCN of the pavement and the Radius of Relative Stiffness (L) must be known.

In the example shown in Section 7-8-2, Figure: Rigid Pavement Requirements LCN - MTOW 233 000 kg - A330-200

The Radius of Relative Stiffness is shown at 1016 mm (40 in.) with an LCN of 96

For these conditions the weight on one Main Landing Gear is 100 000 kg (220 462 lb)

****ON A/C A330-200F**

2. General

To determine the airplane weight that a Rigid Pavement can support, the LCN of the pavement and the Radius of Relative Stiffness (L) must be known.

In the example shown in Section 7-8-2, Figure: Rigid Pavement Requirements LCN - MTOW 233 000 kg - A330-200F

The Radius of Relative Stiffness is shown at 1016 mm (40 in.) with an LCN of 96

For these conditions the weight on one Main Landing Gear is 100 000 kg (220 462 lb)

****ON A/C A330-300**

3. General

To determine the airplane weight that a Rigid Pavement can support, the LCN of the pavement and the Radius of Relative Stiffness (L) must be known.

In the example shown in Section 7-8-2, Figure: Rigid Pavement Requirements LCN - MTOW 212 000 kg - A330-300

The Radius of Relative Stiffness is shown at 1016 mm (40 in.) with an LCN of 83

For these conditions the weight on one Main Landing Gear is 90 000 kg (198 420 lb).

7-8-1 Radius of Relative Stiffness

****ON A/C A330-200 A330-200F A330-300**

Radius of Relative Stiffness

1. This section gives Radius of Relative Stiffness.

**ON A/C A330-200 A330-200F A330-300

RADIUS OF RELATIVE STIFFNESS (L)
VALUES IN INCHES

$$L = \sqrt[4]{\frac{Ed^3}{12\,(1-\mu^2)\,k}} = 24.1652\,\sqrt[4]{\frac{d^3}{k}}$$

WHERE E = Young's Modulus = 4×10^6 psi

k = Subgrade Modulus, Lbf/in^3

d = Rigid Pavement Thickness, inches

μ = Poisson's Ratio = 0.15

d	K=75	K=100	K=150	K=200	K=250	K=300	K=350	K=400	K=550
6.0	31.48	29.30	26.47	24.63	23.30	22.26	21.42	20.72	19.13
6.5	33.43	31.11	28.11	26.16	24.74	23.64	22.74	22.00	20.31
7.0	35.34	32.89	29.72	27.65	26.15	24.99	24.04	23.25	21.47
7.5	37.22	34.63	31.29	29.12	27.54	26.32	25.32	24.49	22.61
8.0	39.06	36.35	32.85	30.57	28.91	27.62	26.58	25.70	23.74
8.5	40.88	38.04	34.37	31.99	30.25	28.91	27.81	26.90	24.84
9.0	42.67	39.71	35.88	33.39	31.58	30.17	29.03	28.08	25.93
9.5	44.43	41.35	37.36	34.77	32.89	31.42	30.23	29.24	27.00
10.0	46.18	42.97	38.83	36.14	34.17	32.65	31.42	30.39	28.06
10.5	47.90	44.57	40.28	37.48	35.45	33.87	32.59	31.52	29.11
11.0	49.60	46.16	41.71	38.81	36.71	35.07	33.75	32.64	30.14
11.5	51.28	47.72	43.12	40.13	37.95	36.26	34.89	33.74	31.16
12.0	52.94	49.27	44.52	41.43	39.18	37.44	36.02	34.84	32.17
12.5	54.59	50.80	45.90	42.72	40.40	38.60	37.14	35.92	33.17
13.0	56.22	52.32	47.27	43.99	41.61	39.75	38.25	36.99	34.16
13.5	57.83	53.82	48.63	45.26	42.80	40.89	39.35	38.06	35.14
14.0	59.43	55.31	49.98	46.51	43.98	42.02	40.44	39.11	36.12
14.5	61.02	56.78	51.31	47.75	45.16	43.15	41.51	40.15	37.08
15.0	62.59	58.25	52.63	48.98	46.32	44.26	42.58	41.19	38.03
15.5	64.15	59.70	53.94	50.20	47.47	45.36	43.64	42.21	38.98
16.0	65.69	61.13	55.24	51.41	48.62	46.45	44.70	43.23	39.92
16.5	67.23	62.56	56.53	52.61	49.75	47.54	45.74	44.24	40.85
17.0	68.75	63.98	57.81	53.80	50.88	48.61	46.77	45.24	41.78
17.5	70.26	65.38	59.08	54.98	52.00	49.68	47.80	46.23	42.70
18.0	71.76	66.78	60.34	56.15	53.11	50.74	48.82	47.22	43.61
19.0	74.73	69.54	62.84	58.48	55.31	52.84	50.84	49.17	45.41
20.0	77.66	72.27	65.30	60.77	57.47	54.91	52.84	51.10	47.19
21.0	80.55	74.96	67.74	63.04	59.62	56.96	54.81	53.01	48.95
22.0	83.41	77.63	70.14	65.28	61.73	58.98	56.75	54.89	50.69
23.0	86.24	80.26	72.52	67.49	63.83	60.98	58.68	56.75	52.41
24.0	89.04	82.86	74.87	69.68	65.90	62.96	60.58	58.59	54.11
25.0	91.81	85.44	77.20	71.84	67.95	64.92	62.46	60.41	55.79

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Radius of relative stiffness
(Reference : Portland Cement Association)
FIGURE 1

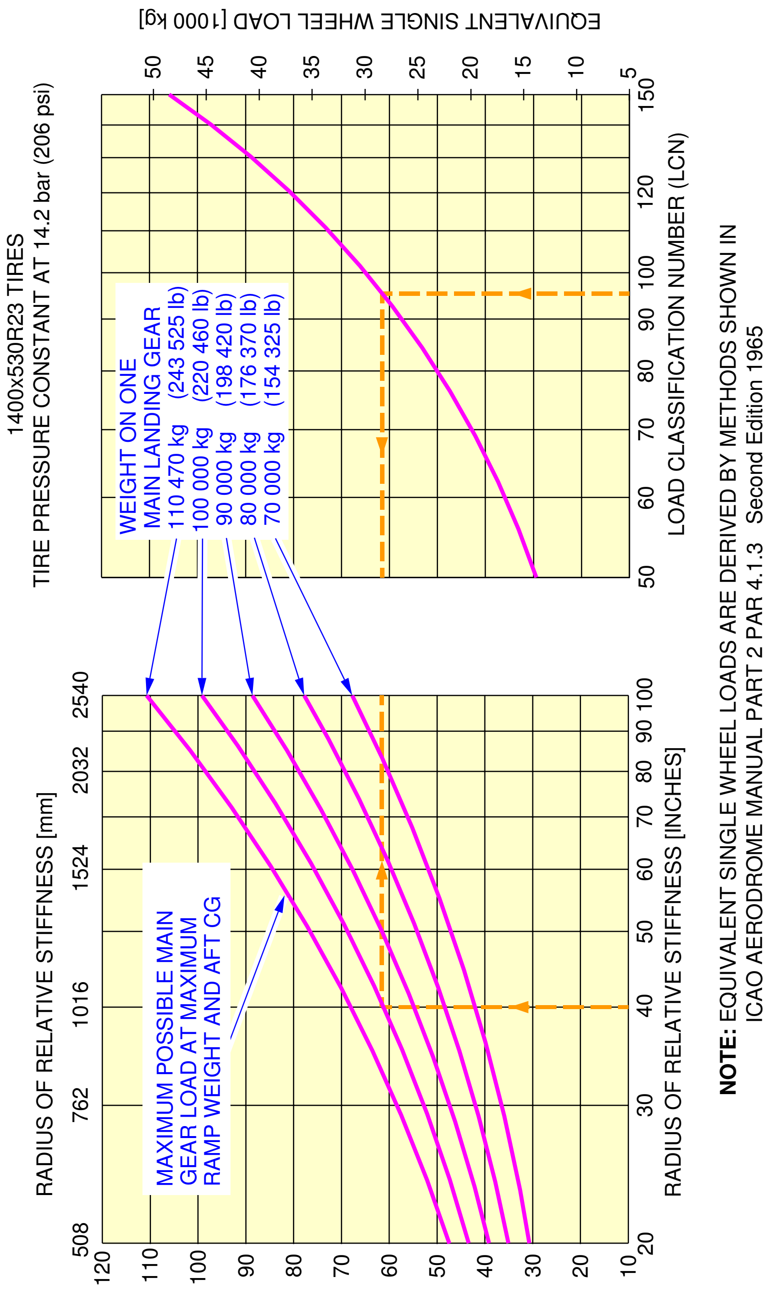
7-8-2 Rigid Pavement Requirements - LCN Conversion

**ON A/C A330-200 A330-200F A330-300

Rigid Pavement Requirements - LCN Conversion

1. This section gives Rigid Pavement Requirements - LCN Conversion.

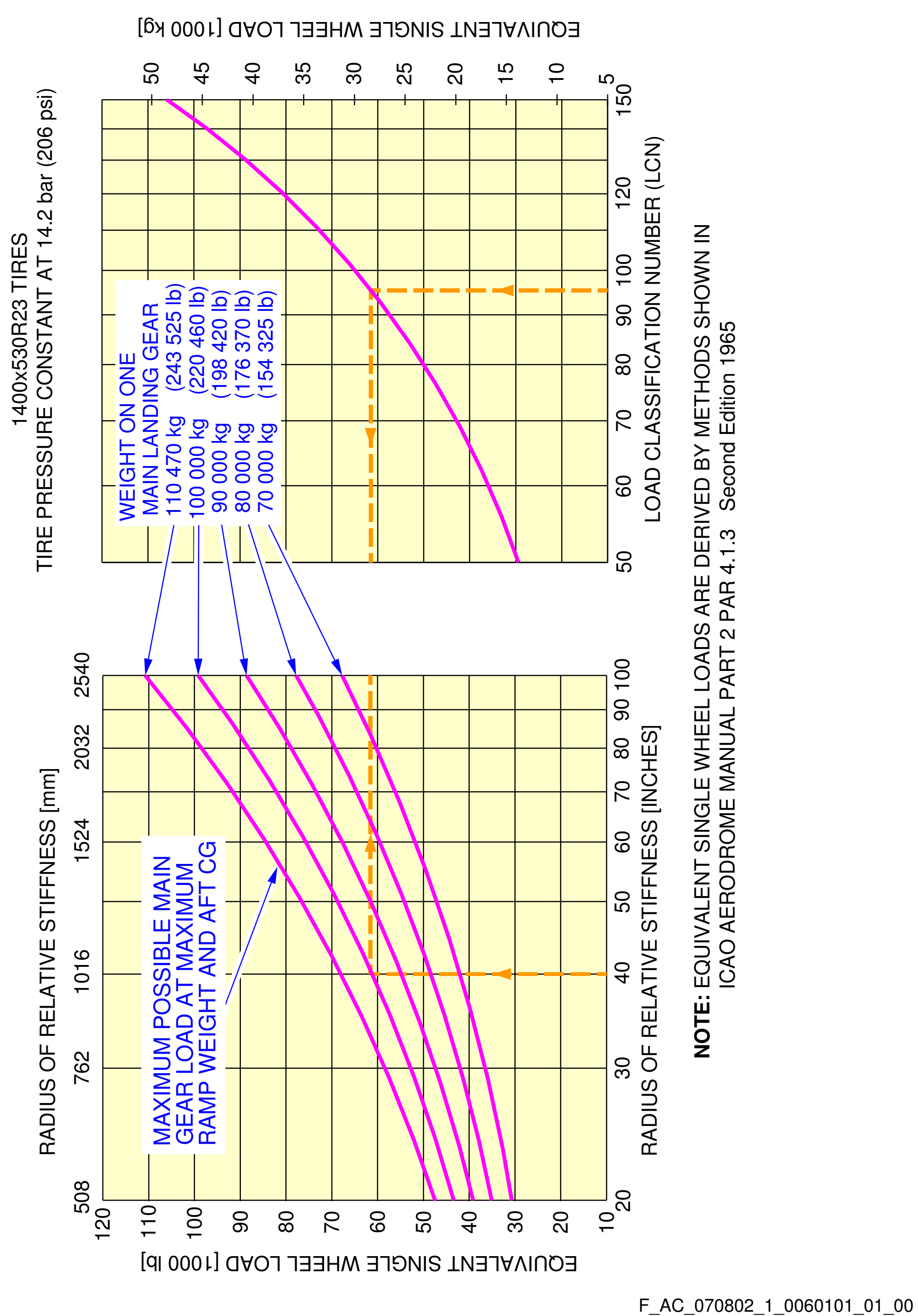
**ON A/C A330-200



F_AC_070802_1_0010101_01_01

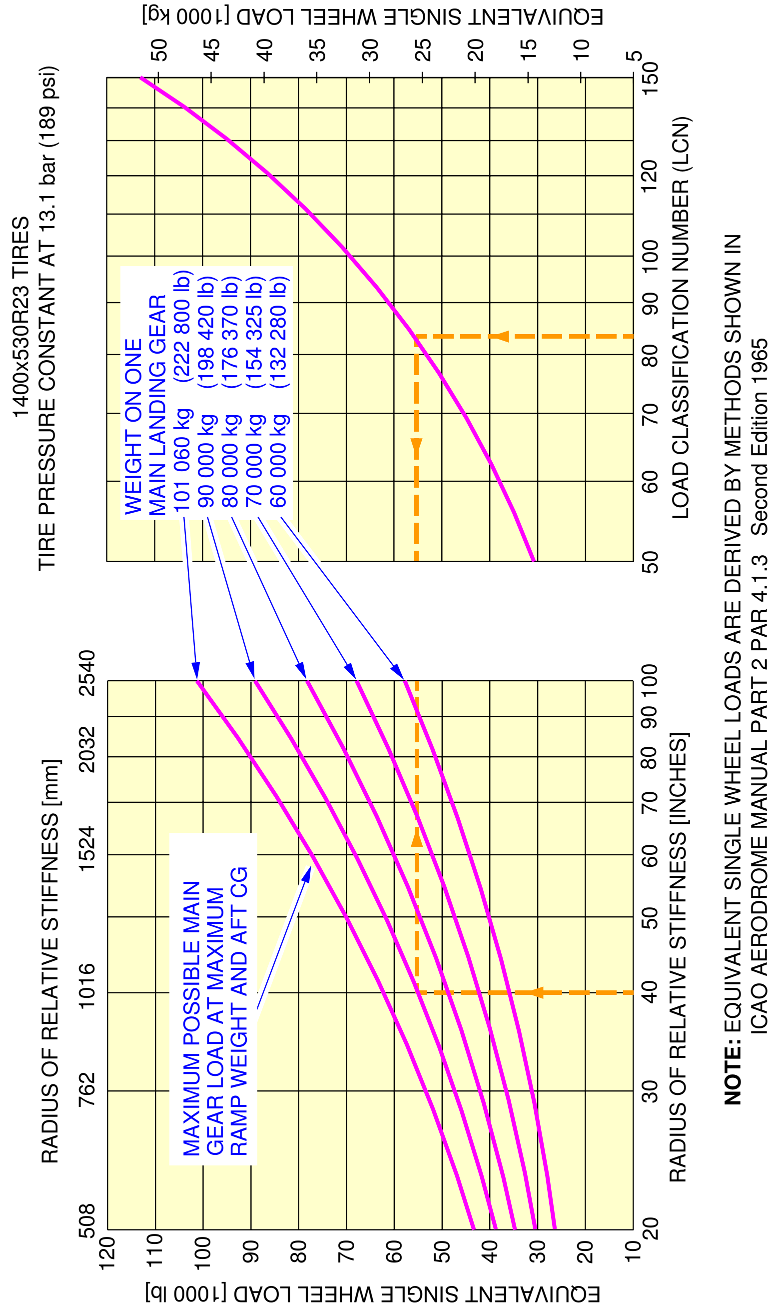
Rigid Pavement Requirements LCN
MTOW 233 000 kg
FIGURE 1

**ON A/C A330-200F



Rigid Pavement Requirements LCN
MTOW 233 000 kg
FIGURE 2

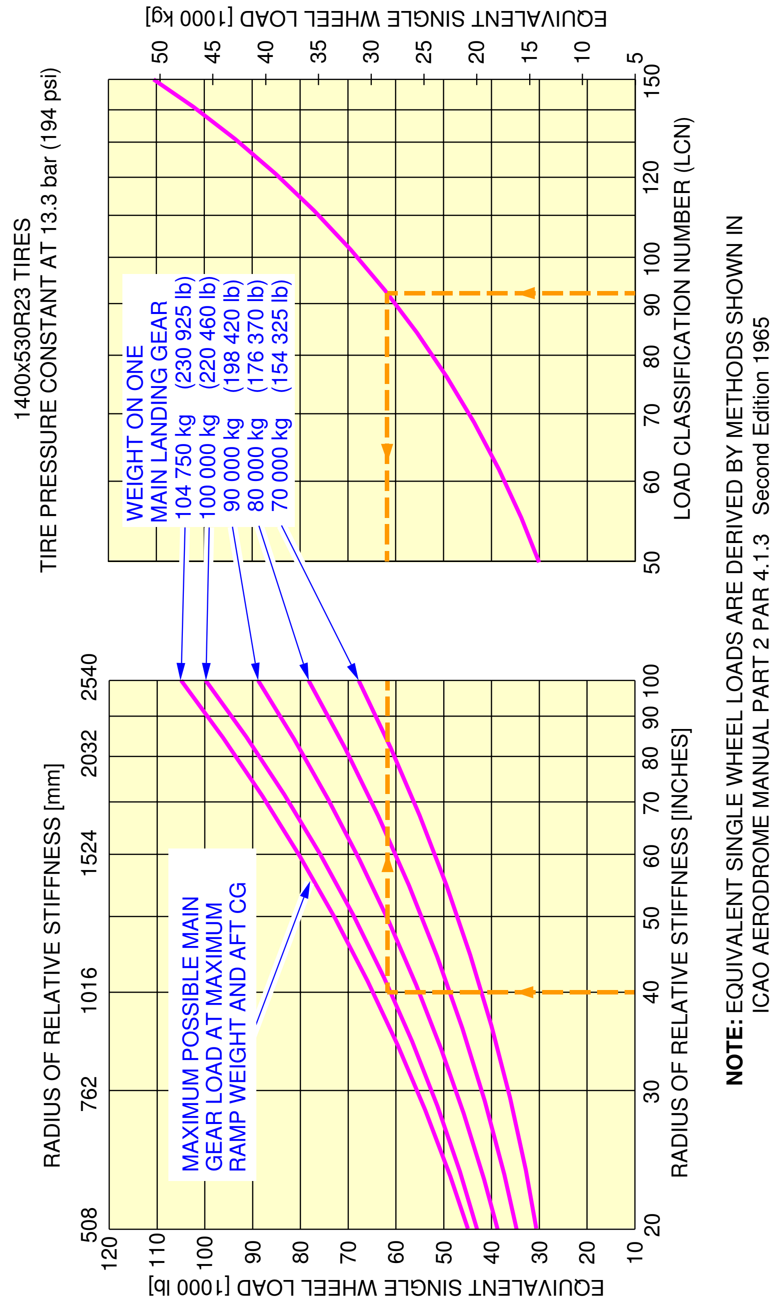
**ON A/C A330-300



F_AC_070802_1_0020101_01_01

Rigid Pavement Requirements LCN
MTOW 212 000 kg
FIGURE 3

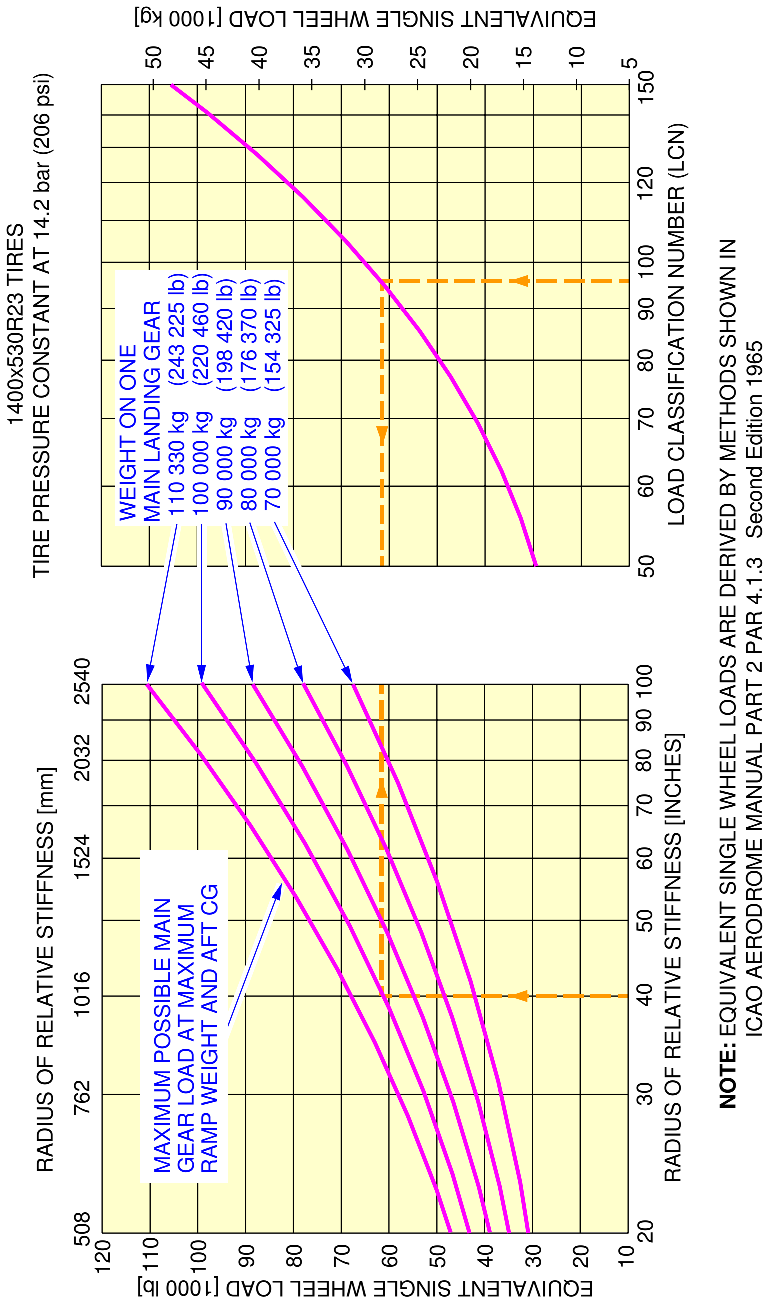
**ON A/C A330-300



F_AC_070802_1_0030101_01_01

Rigid Pavement Requirements LCN
MTOW 218 000 kg
FIGURE 4

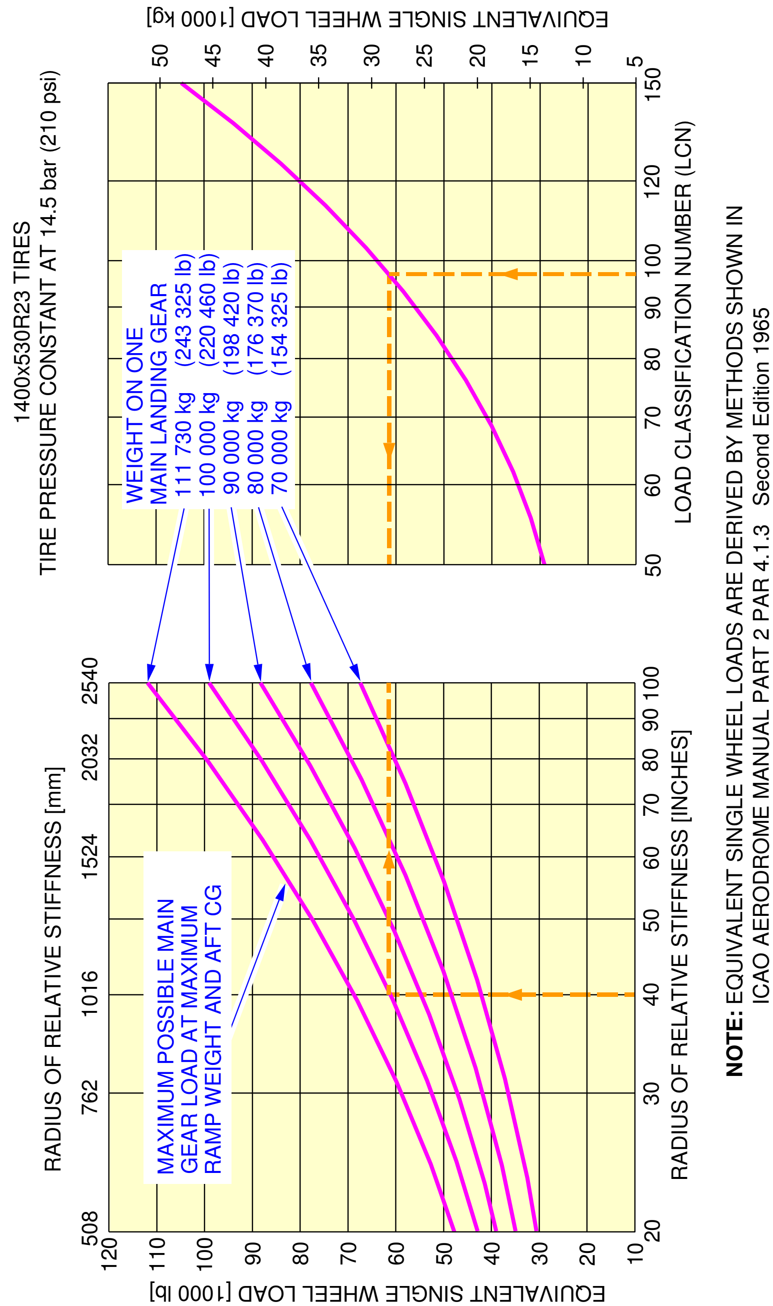
**ON A/C A330-300



F_AC_070802_1_0040101_01_01

Rigid Pavement Requirements LCN
MTOW 230 000 kg
FIGURE 5

**ON A/C A330-300



F_AC_070802_1_0050101_01_01

Rigid Pavement Requirements LCN
MTOW 233 000 kg
FIGURE 6

7-8-3 Radius of Relative Stiffness (Other values of E and L)

****ON A/C A330-200 A330-200F A330-300**

Radius of Relative Stiffness (Other values of "E" and "μ")

1. General

The table of Chapter 7-8-1, Figure: Radius of Relative Stiffness, presents "L" values based on Young's Modulus (E) of 4 000 000 psi and Poisson's Ratio (μ) of 0.15.

To find "L" values based on other values of "E" and "μ",
See Section 7-8-4, Figure: Radius of Relative Stiffness (Other values of "E" and "μ")

For example, to find an "L" value based on an "E" of 3 000 000 psi, the "E" factor of 0.931 is multiplied by the "L" value found in table of Section 7-8-1, Figure: Radius of Relative Stiffness.

The effect of variations of "μ" on the "L" value is treated in a similar manner.

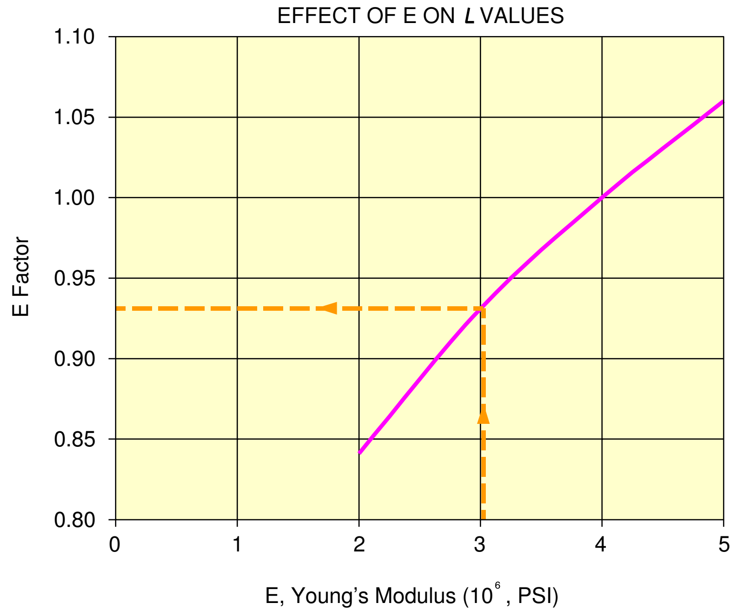
7-8-4 Radius of Relative Stiffness

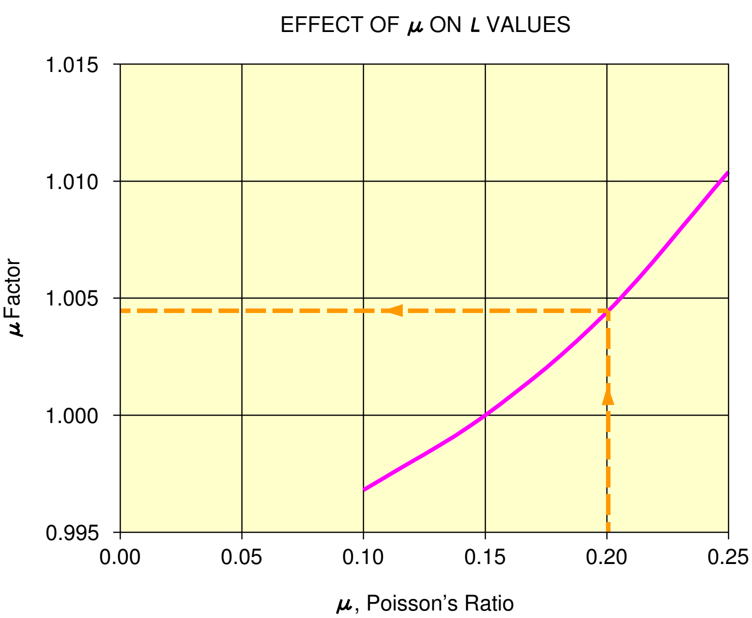
****ON A/C A330-200 A330-200F A330-300**

Radius of Relative Stiffness

1. This section gives Radius of Relative Stiffness.

**ON A/C A330-200 A330-200F A330-300





NOTE: BOTH CURVES ON THIS PAGE ARE USED TO ADJUST THE " L " VALUES OF TABLE 7–8–1

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Radius of Relative Stiffness
(Effect E and μ ON "L" values)
FIGURE 1

7-9-0 ACN/PCN Reporting System - Flexible and Rigid Pavements

****ON A/C A330-200 A330-200F A330-300**

ACN/PCN Reporting System - Flexible and Rigid Pavements

****ON A/C A330-200**

1. General

To find the ACN of an aircraft on flexible or rigid pavement, the aircraft gross weight and the subgrade strength must be known.

In the example shown in Section 7-9-1, Figure: Aircraft Classification Number - Flexible Pavement - MTOW 192 000 kg - A330-200

- For an Aircraft Gross Weight of 180 000 kg (396 830 lb) and low subgrade strength (code C), the ACN for the flexible pavement is 51.

In the example shown in Section 7-9-2, Figure: Aircraft Classification Number - Rigid Pavement - MTOW 192 000 kg - A330-200

- For an Aircraft Gross Weight of 180 000 kg (396 830 lb) and low subgrade strength (code C), the ACN for the rigid pavement is 52.

NOTE : An aircraft with an ACN equal to or less than the reported PCN can operate on that pavement, subject to any limitation on the tire pressure.
(Ref : ICAO Aerodrome Design Manual Part 3 Chapter 1 Second Edition 1983).

****ON A/C A330-200F**

2. General

To find the ACN of an aircraft on flexible or rigid pavement, the aircraft gross weight and the subgrade strength must be known.

In the example shown in Section 7-9-1, Figure: Aircraft Classification Number - Flexible Pavement - MTOW 227 000 kg - A330-200F

- For an Aircraft Gross Weight of 200 000 kg (440 924 lb) and low subgrade strength (code C), the ACN for the flexible pavement is 58.

In the example shown in Section 7-9-2, Figure: Aircraft Classification Number - Rigid Pavement - MTOW 227 000 kg - A330-200F

- For an Aircraft Gross Weight of 200 000 kg (440 924 lb) and low subgrade strength (code C), the ACN for the rigid pavement is 59.

NOTE : An aircraft with an ACN equal to or less than the reported PCN can operate on that pavement, subject to any limitation on the tire pressure.
(Ref : ICAO Aerodrome Design Manual Part 3 Chapter 1 Second Edition 1983).

****ON A/C A330-300**

3. General

To find the ACN of an aircraft on flexible or rigid pavement, the aircraft gross weight and the subgrade strength must be known.

In the example shown in Section 7-9-1, Figure: Aircraft Classification Number - Flexible Pavement - MTOW 184 000 kg - A330-300

- For an Aircraft Gross Weight of 170 000 kg (374 786 lb) and low subgrade strength (code C), the ACN for the flexible pavement is 47.

In the example shown in Section 7-9-2, Figure: Aircraft Classification Number - Rigid Pavement - MTOW 184 000 kg - A330-300

- For an Aircraft Gross Weight of 170 000 kg (374 786 lb) and low subgrade strength (code C), the ACN for the rigid pavement is 47.5.

NOTE : An aircraft with an ACN equal to or less than the reported PCN can operate on that pavement, subject to any limitation on the tire pressure.
(Ref : ICAO Aerodrome Design Manual Part 3 Chapter 1 Second Edition 1983).

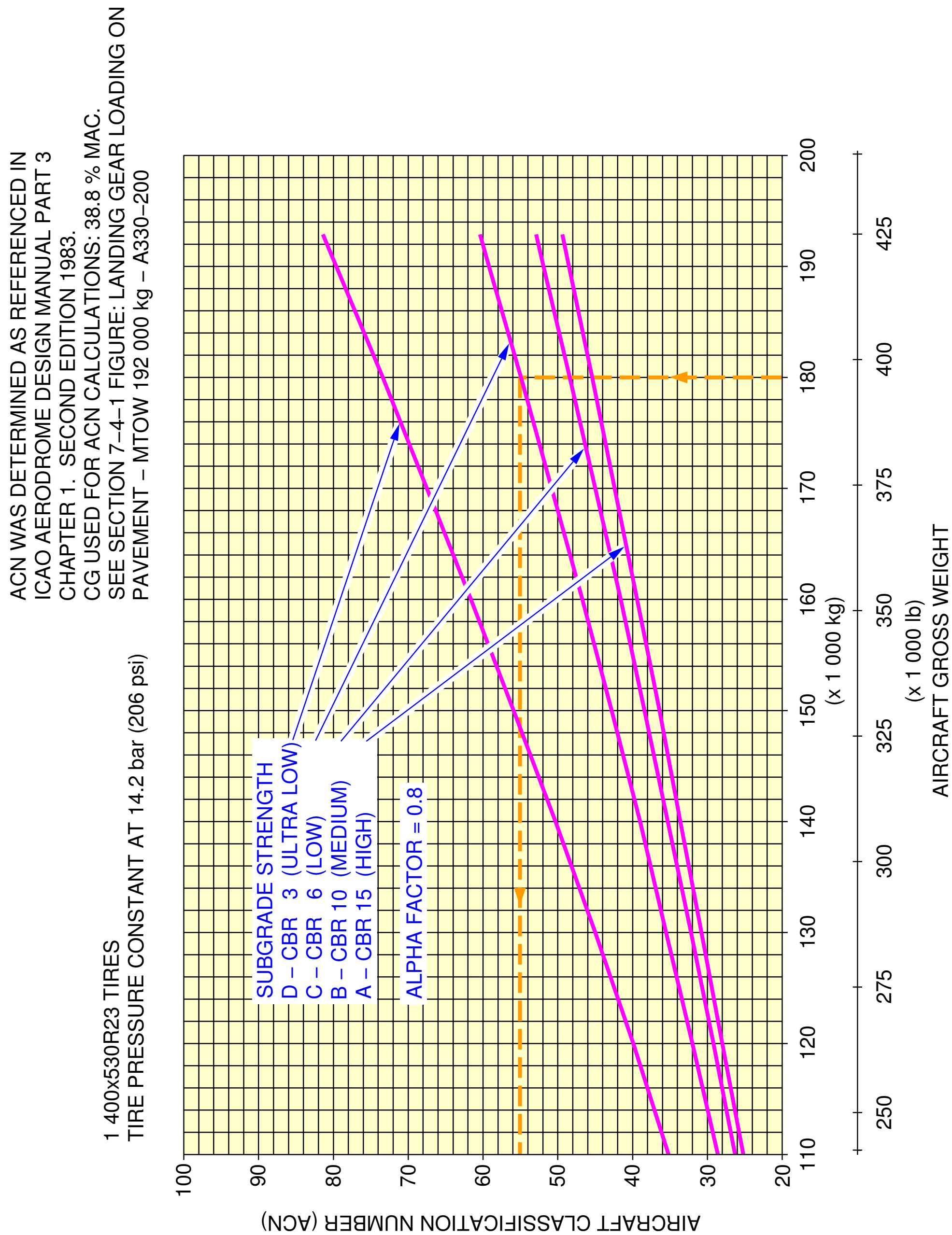
7-9-1 Aircraft Classification Number - Flexible Pavement

****ON A/C A330-200 A330-200F A330-300**

<u>Aircraft Classification Number - Flexible Pavement</u>

1. This section gives the Aircraft Classification Number - Flexible Pavement.

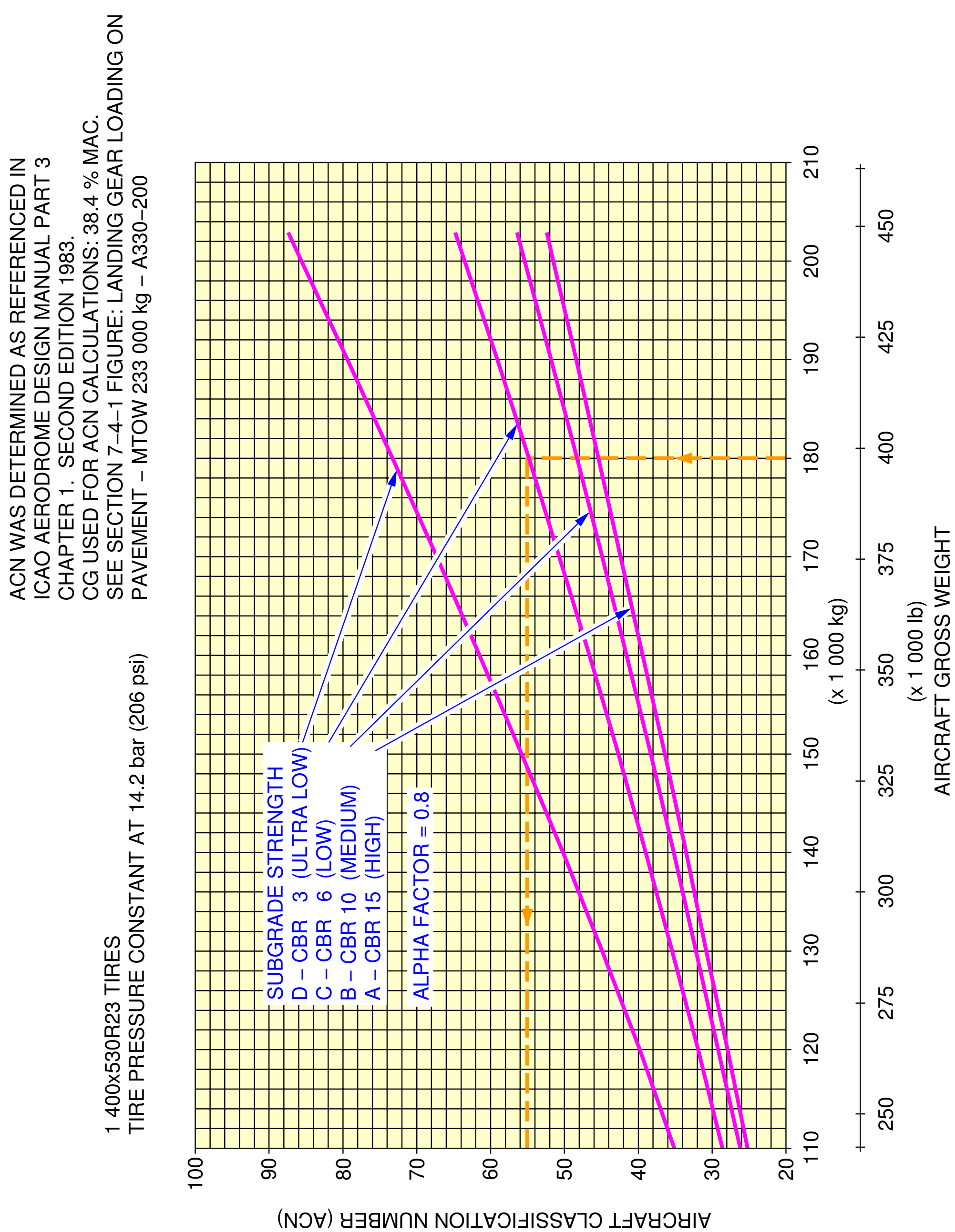
**ON A/C A330-200



F_AC_070901_1_0010101_01_03

Aircraft Classification Number – Flexible Pavement
MTOW 192 000 kg
FIGURE 1

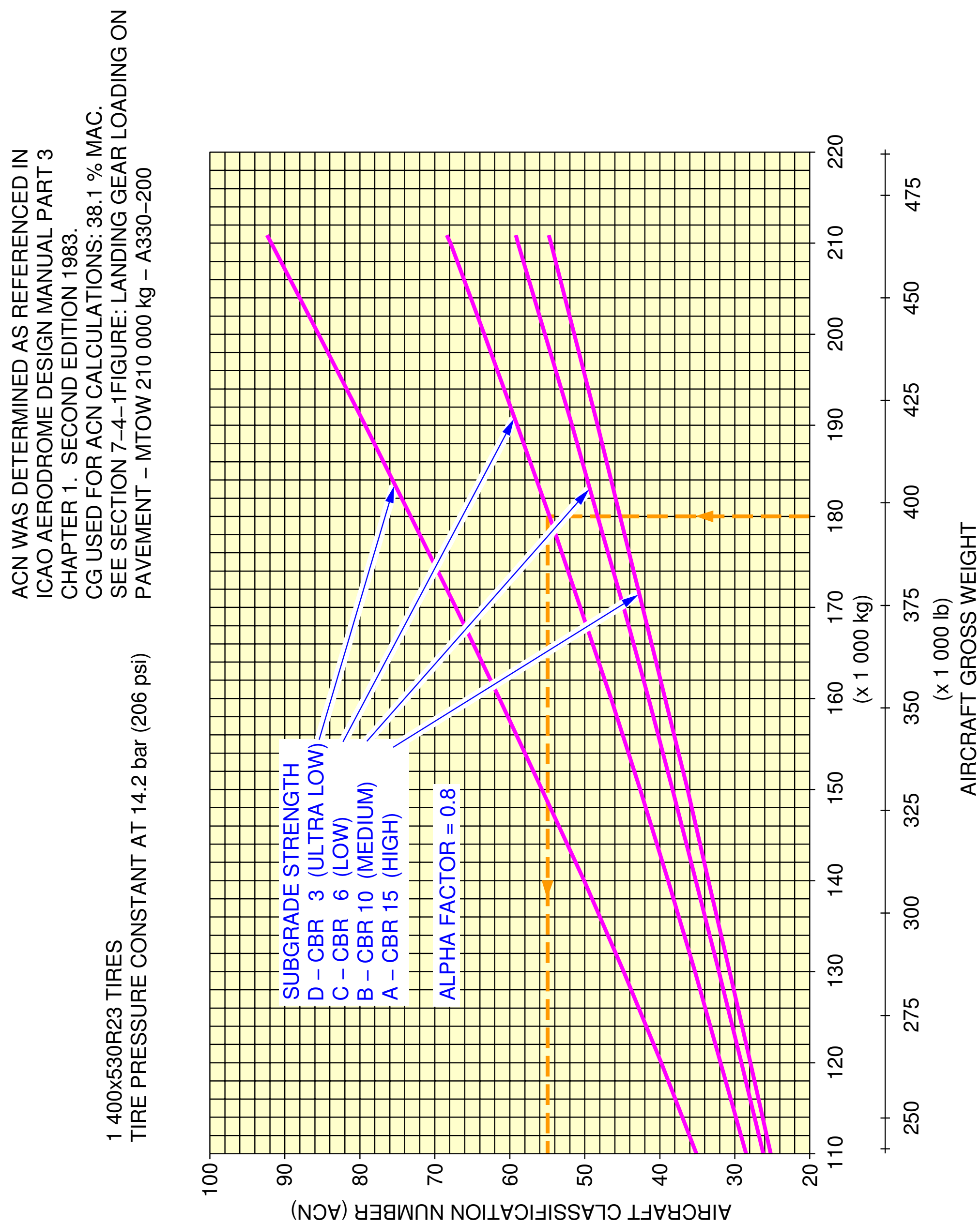
**ON A/C A330-200



F_AC_070901_1_0020101_01_03

Aircraft Classification Number – Flexible Pavement
MTOW 202 000 kg
FIGURE 2

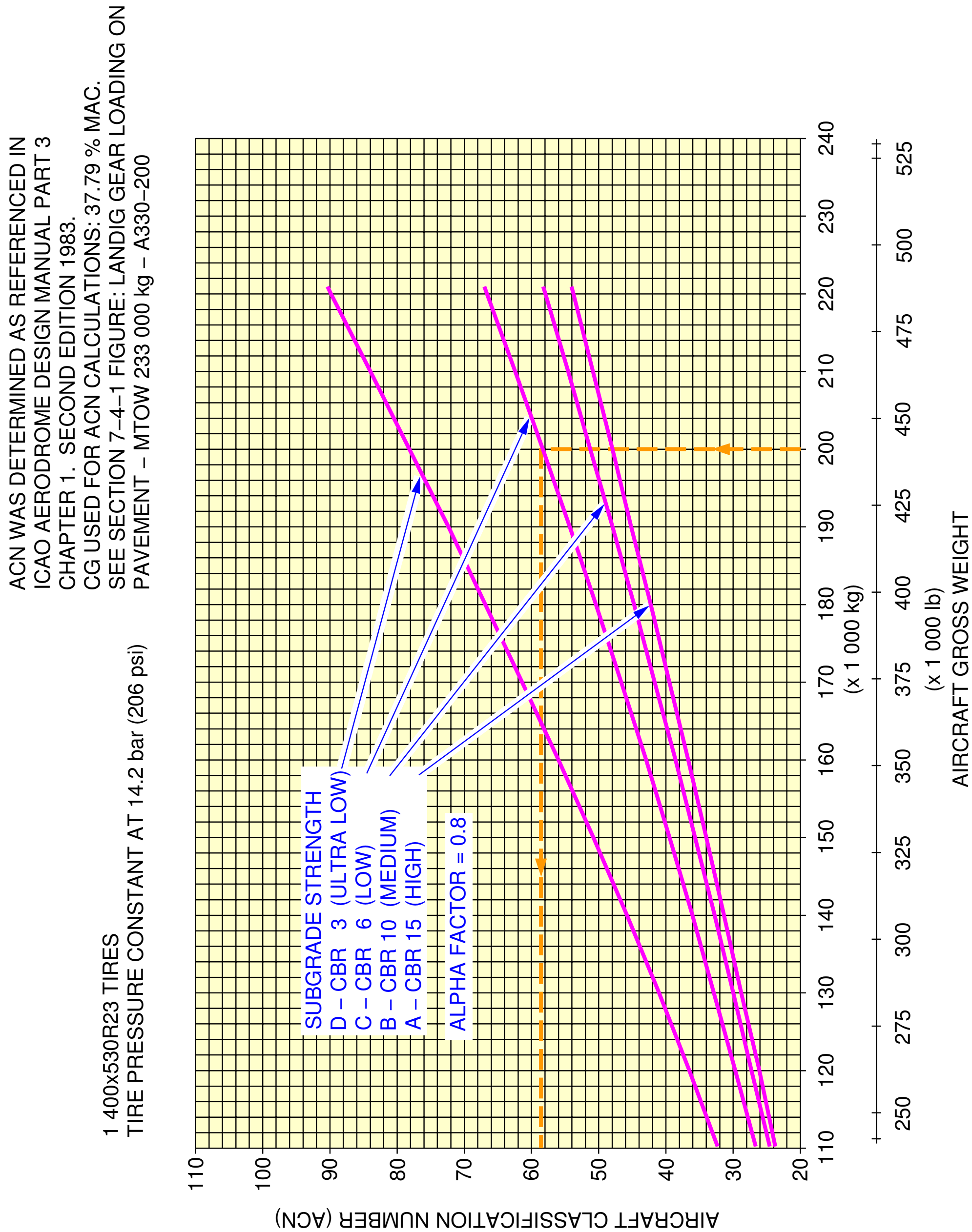
**ON A/C A330-200



F_AC_070901_1_0030101_01_03

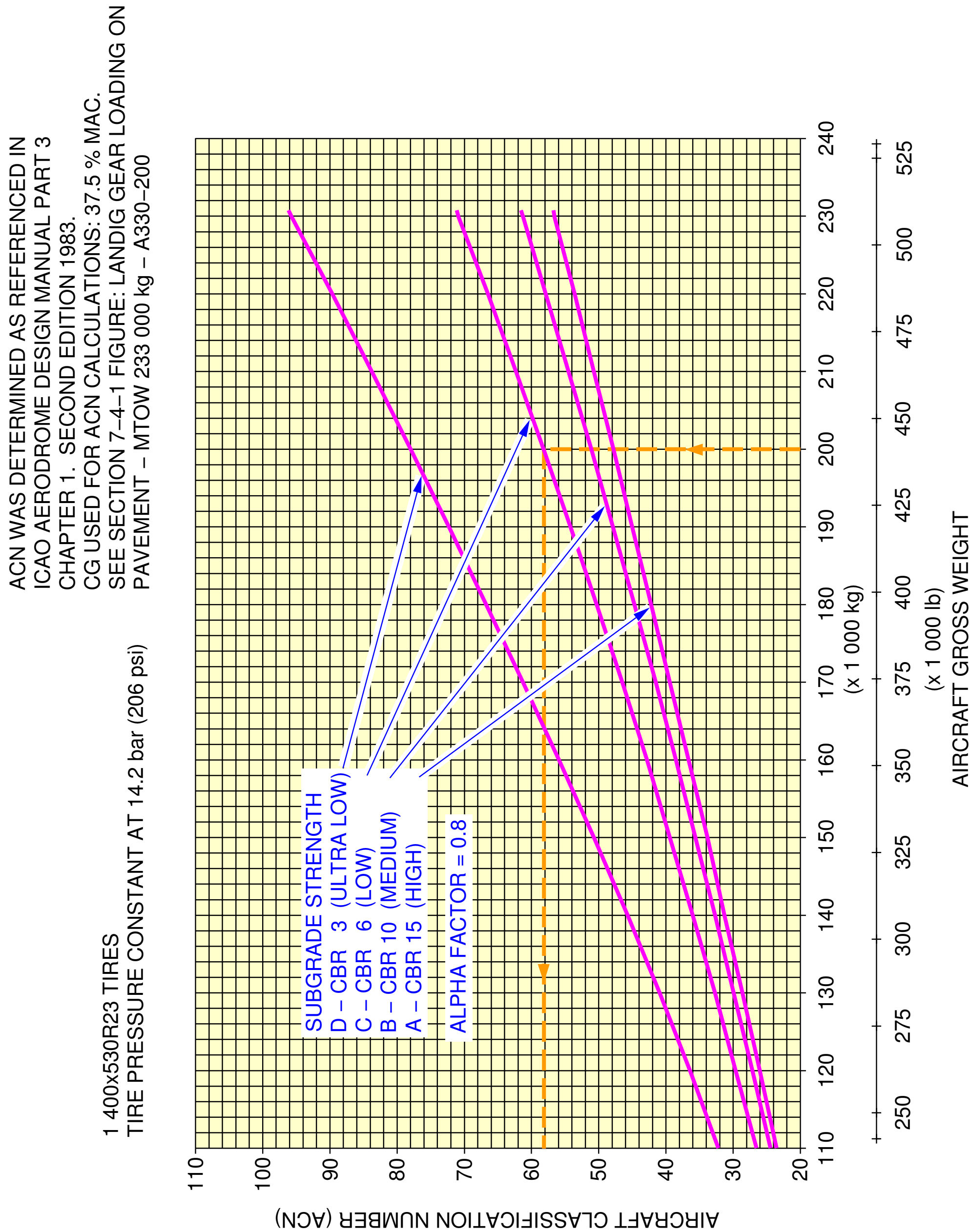
Aircraft Classification Number – Flexible Pavement
MTOW 210 000 kg
FIGURE 3

**ON A/C A330-200



Aircraft Classification Number − Flexible Pavement
MTOW 220 000 kg
FIGURE 4

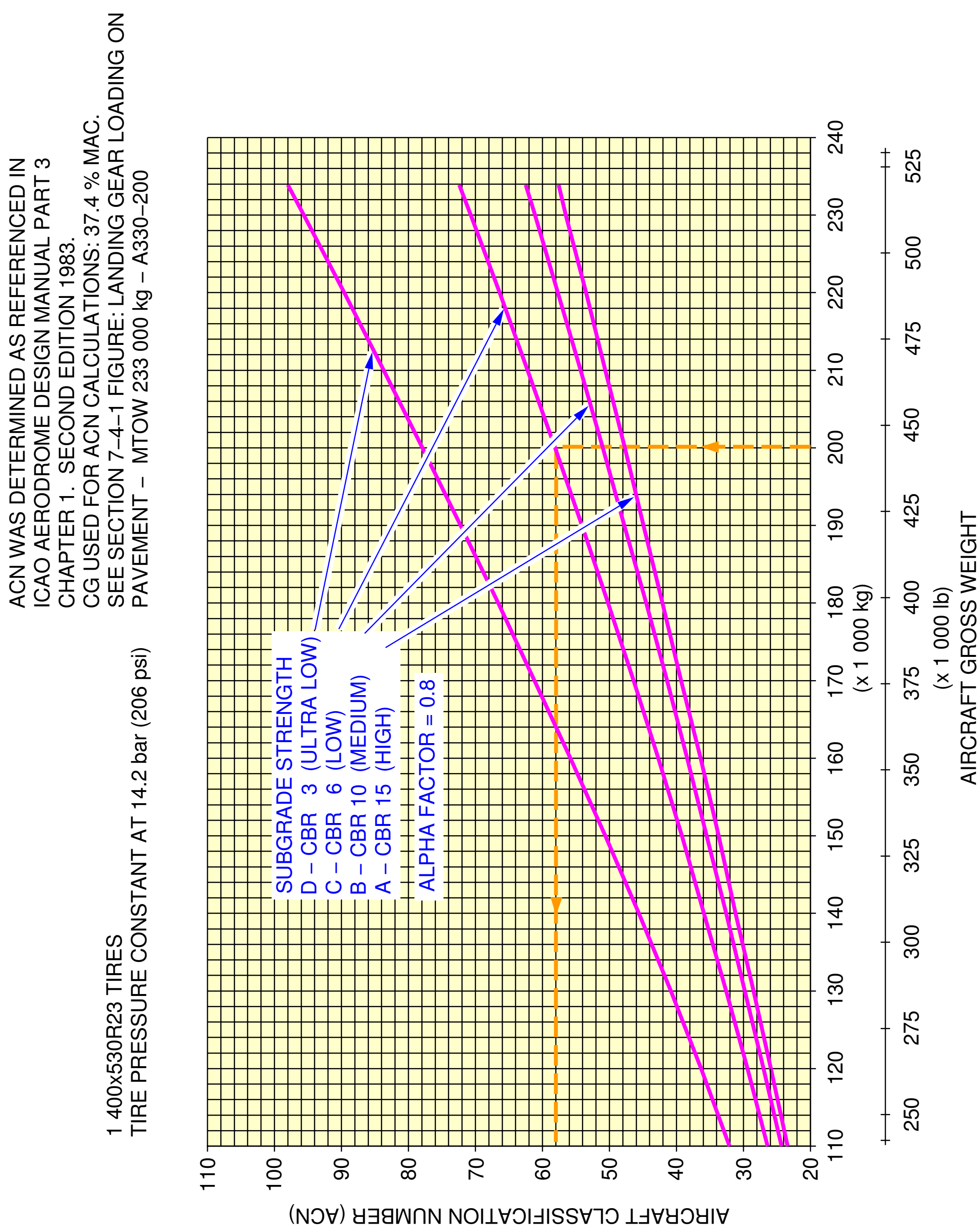
**ON A/C A330-200



F_AC_070901_1_0050101_01_03

Aircraft Classification Number – Flexible Pavement
MTOW 230 000 kg
FIGURE 5

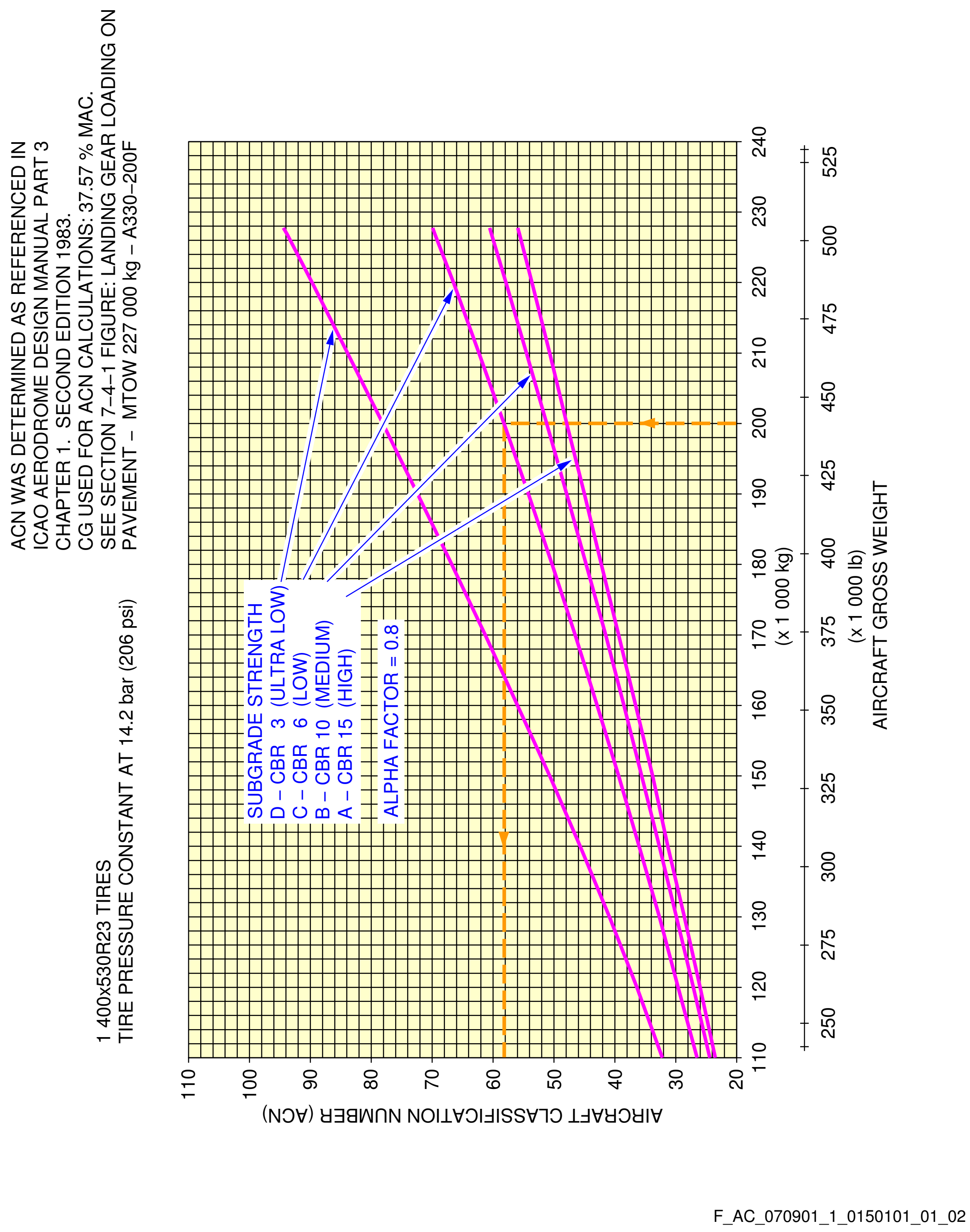
**ON A/C A330-200



F_AC_070901_1_0060101_01_03

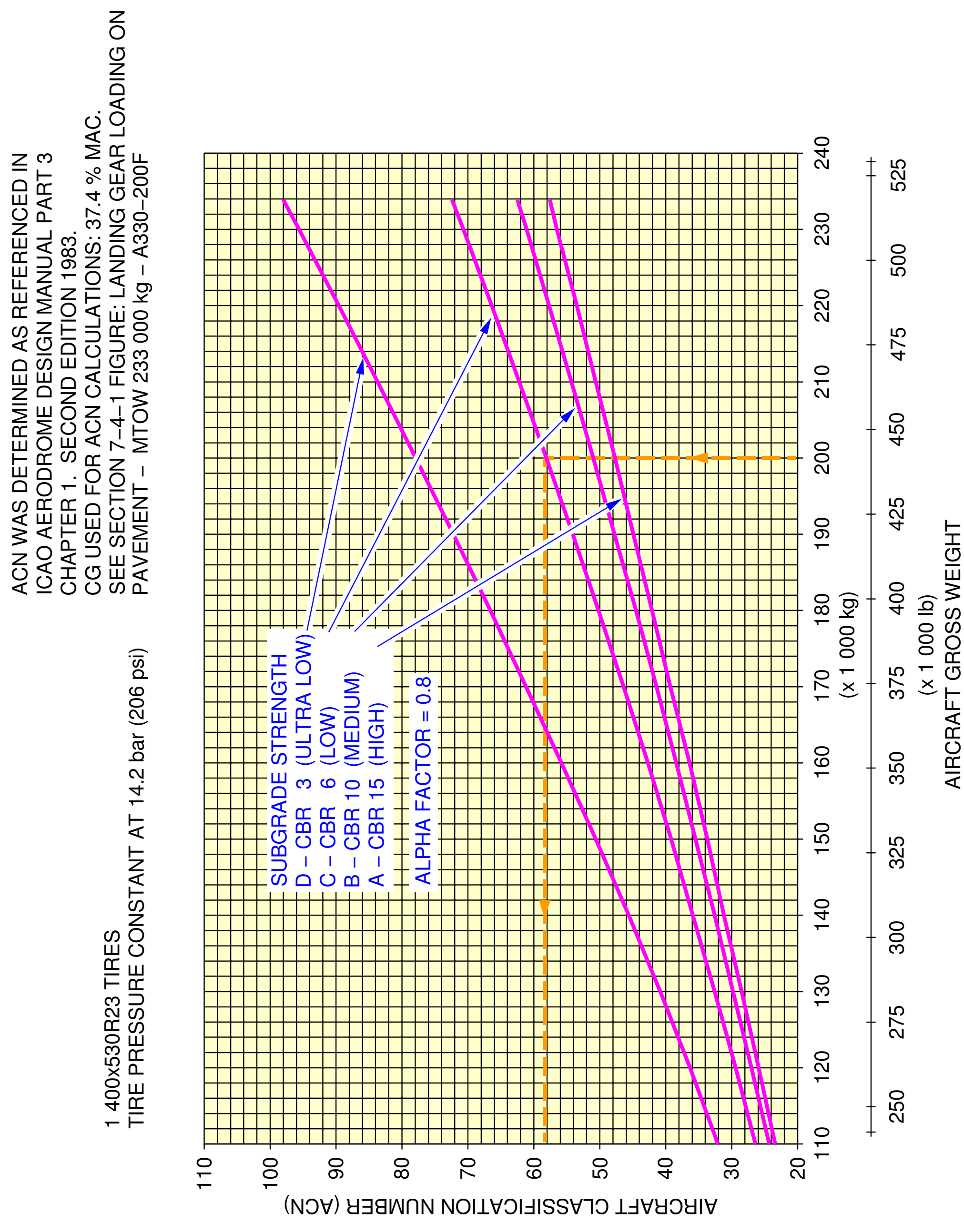
Aircraft Classification Number – Flexible Pavement
MTOW 233 000 kg
FIGURE 6

**ON A/C A330-200F



Aircraft Classification Number – Flexible Pavement
MTOW 227 000 kg
FIGURE 7

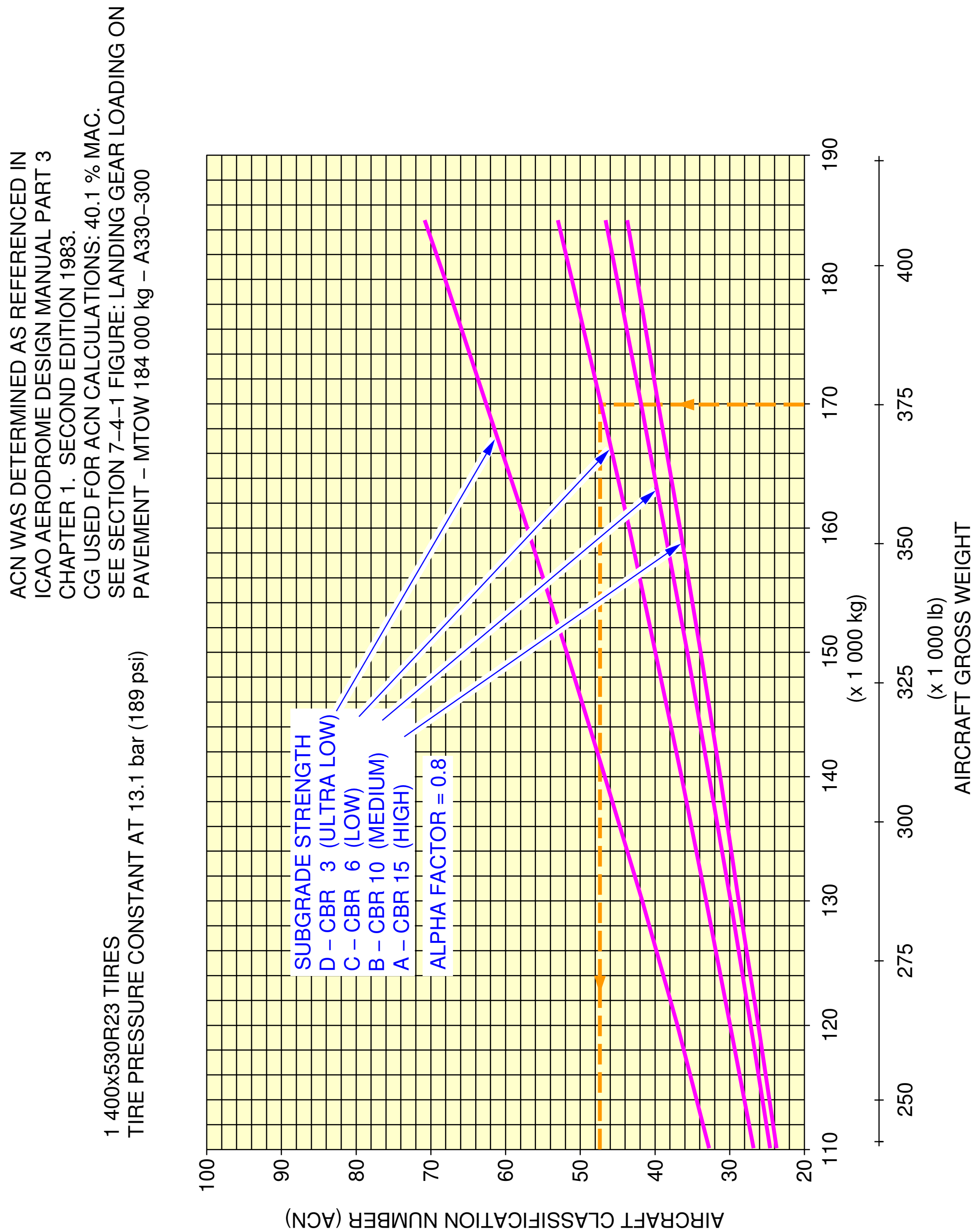
**ON A/C A330-200F



F_AC_070901_1_0160101_01_02

Aircraft Classification Number − Flexible Pavement
MTOW 233 000 kg
FIGURE 8

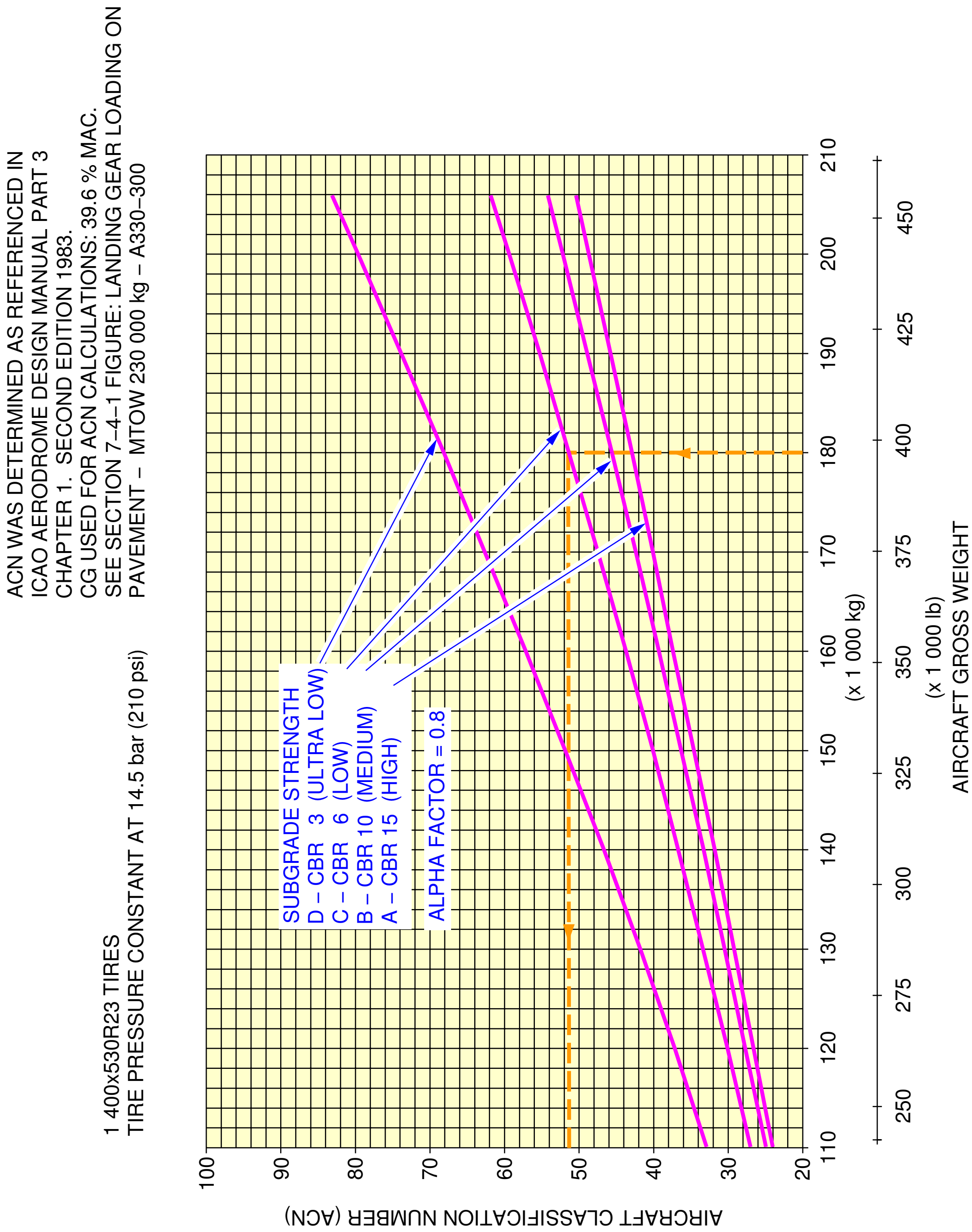
**ON A/C A330-300



F_AC_070901_1_0070101_01_03

Aircraft Classification Number – Flexible Pavement
MTOW 184 000 kg
FIGURE 9

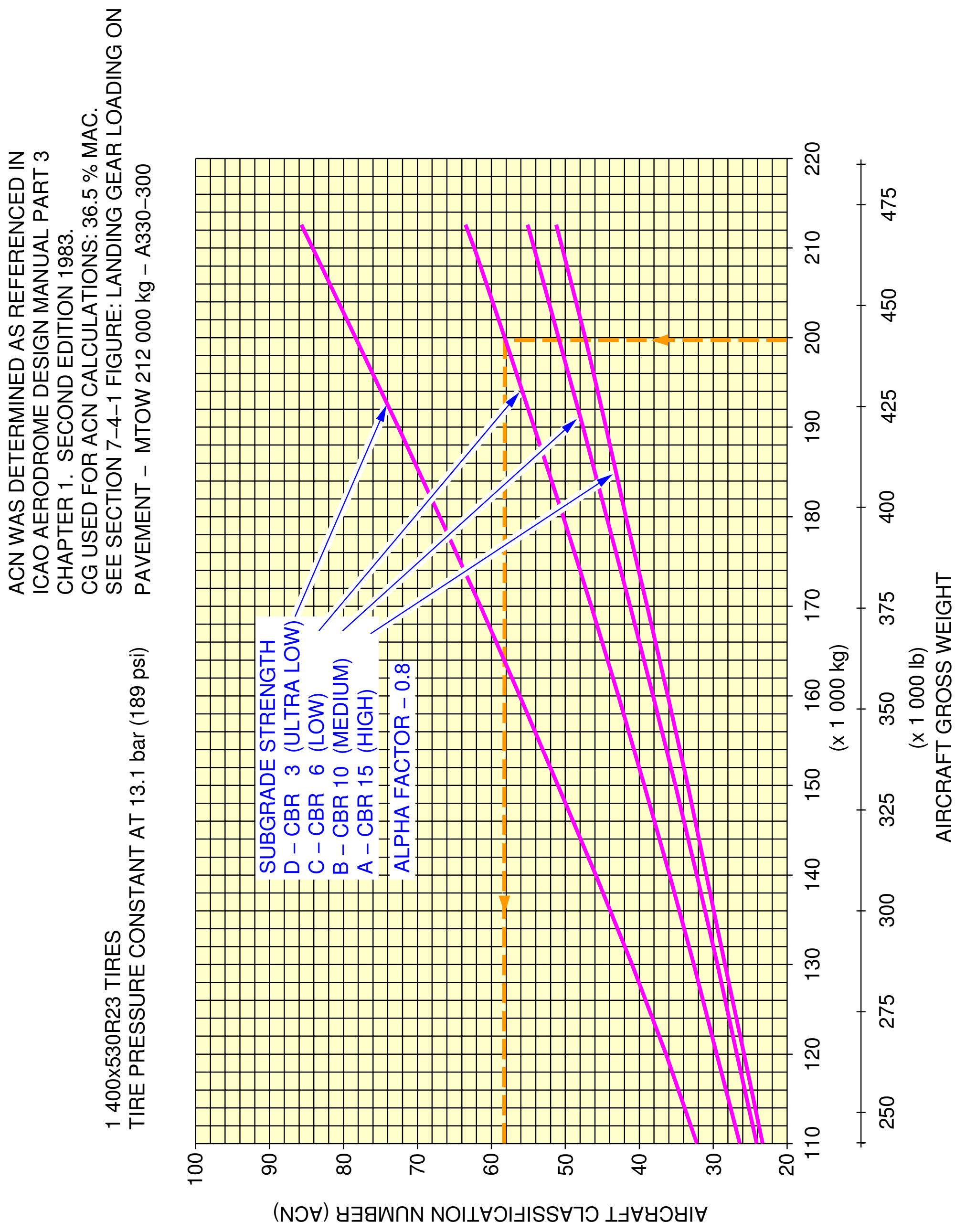
**ON A/C A330-300



F_AC_070901_1_0080101_01_03

Aircraft Classification Number – Flexible Pavement
MTOW 205 000 kg
FIGURE 10

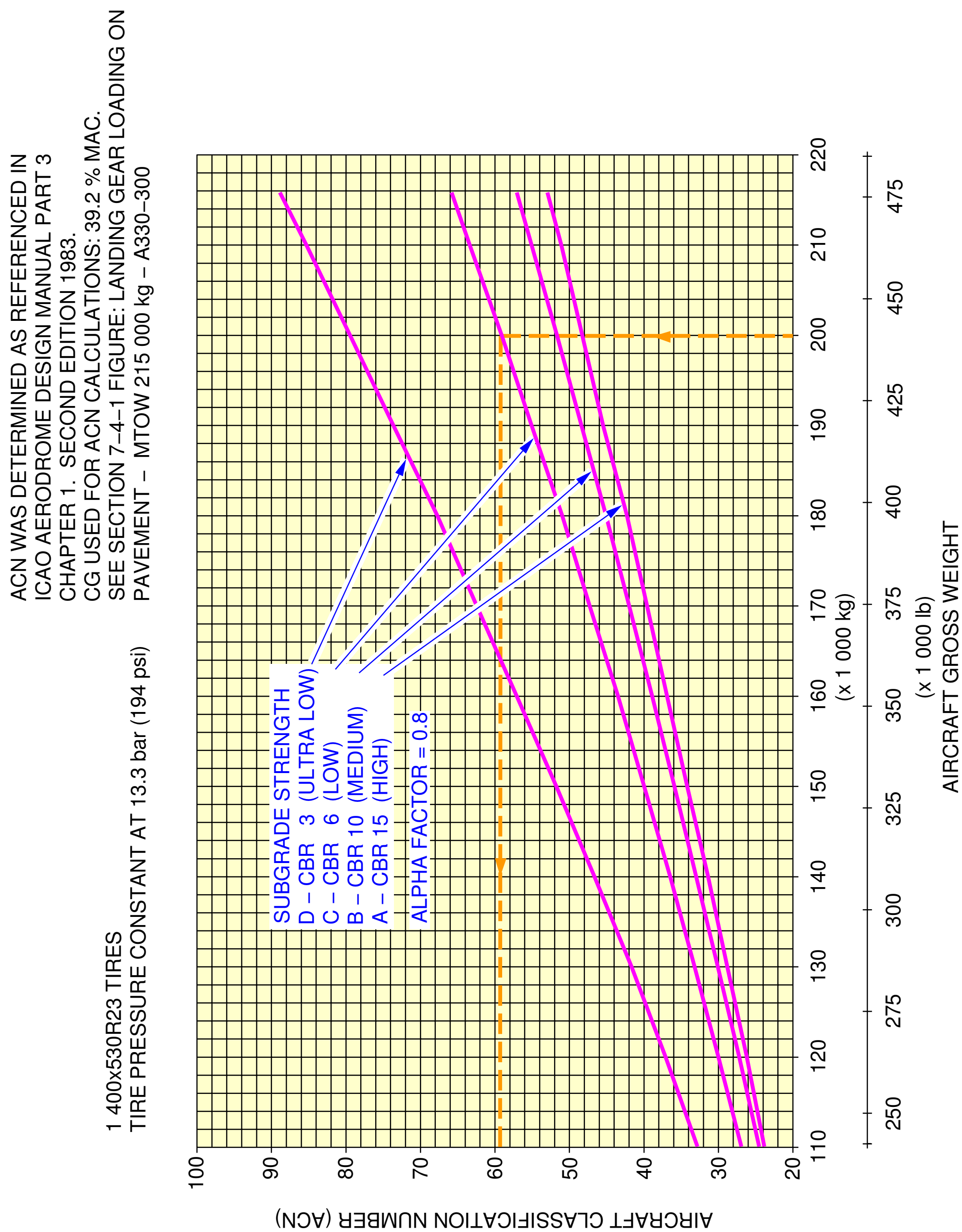
**ON A/C A330-300



F_AC_070901_1_0090101_01_03

Aircraft Classification Number – Flexible Pavement
MTOW 212 000 kg
FIGURE 11

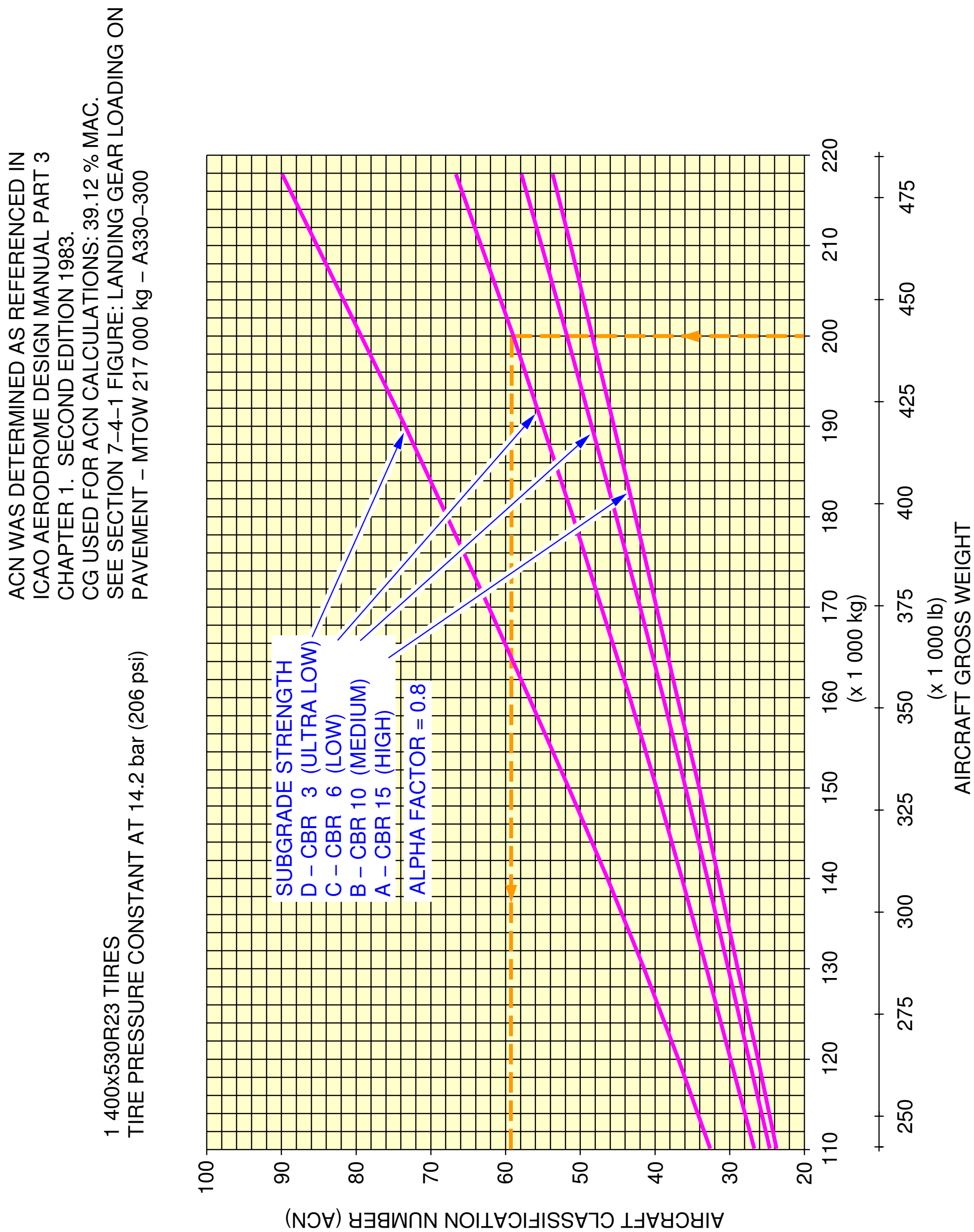
**ON A/C A330-300



F_AC_070901_1_0100101_01_03

Aircraft Classification Number − Flexible Pavement
MTOW 215 000 kg
FIGURE 12

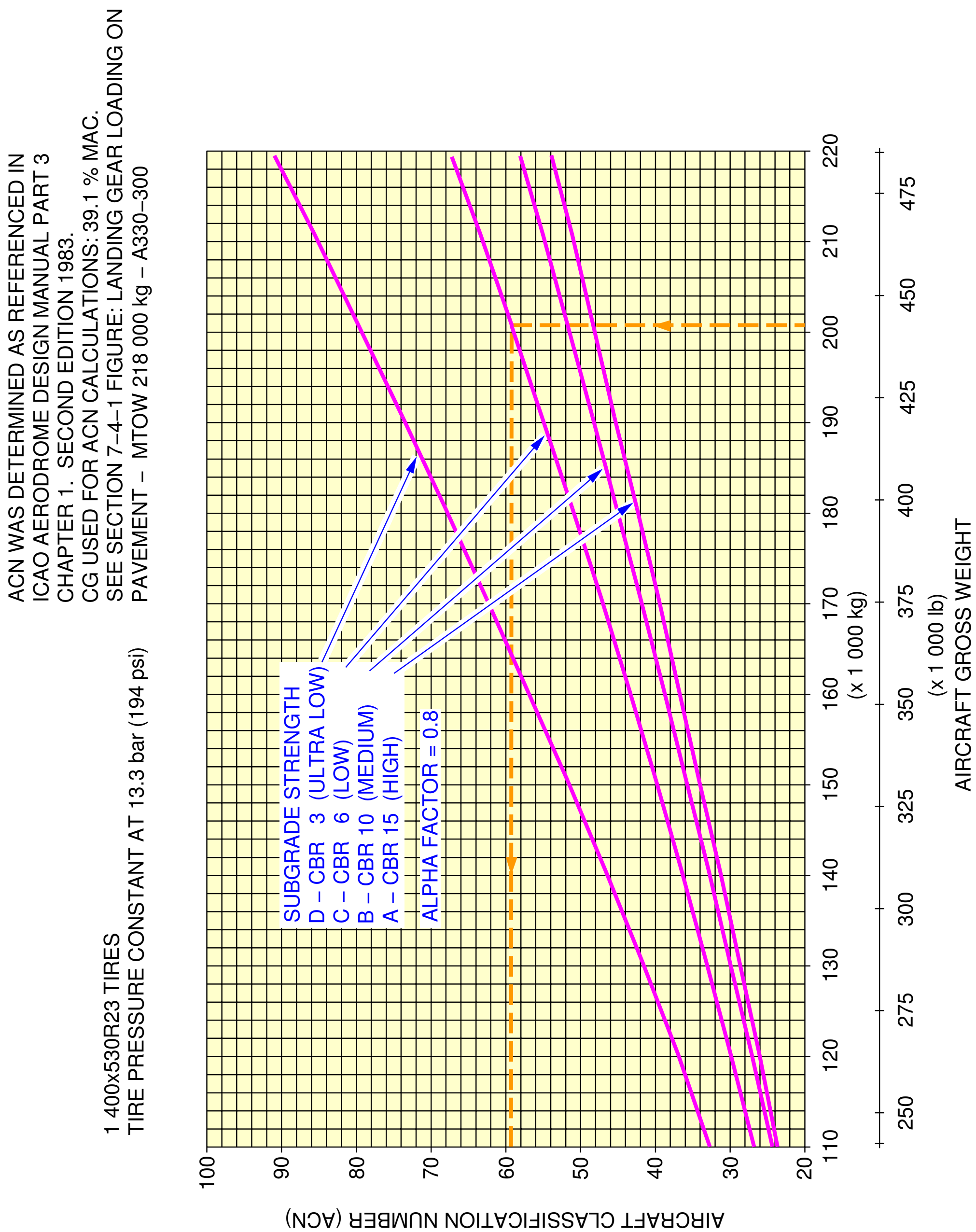
****ON A/C A330-300**



F_AC_070901_1_0110101_01_03

Aircraft Classification Number – Flexible Pavement
MTOW 217 000 kg
FIGURE 13

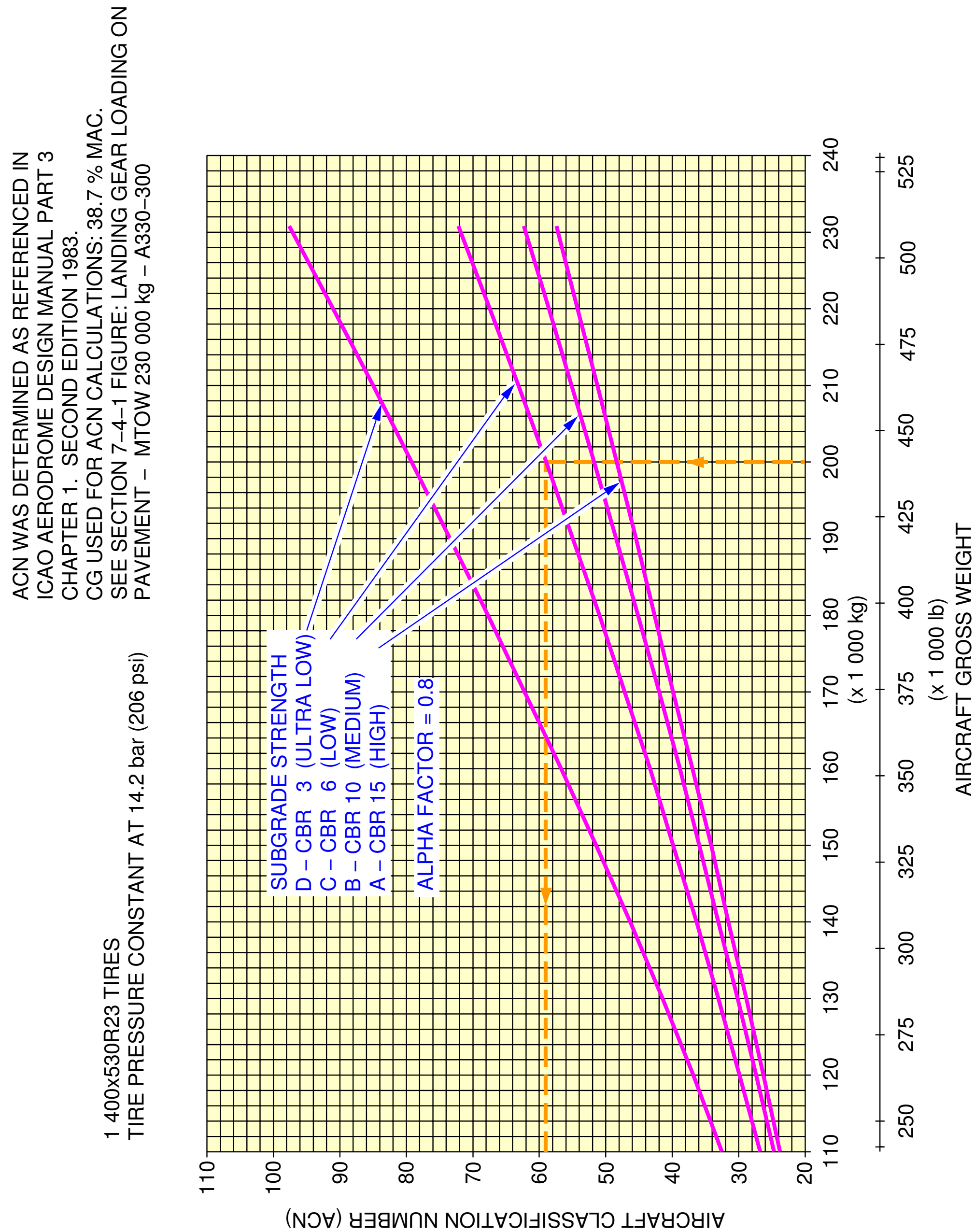
****ON A/C A330-300**



F_AC_070901_1_0120101_01_03

Aircraft Classification Number – Flexible Pavement
MTOW 218 000 kg
FIGURE 14

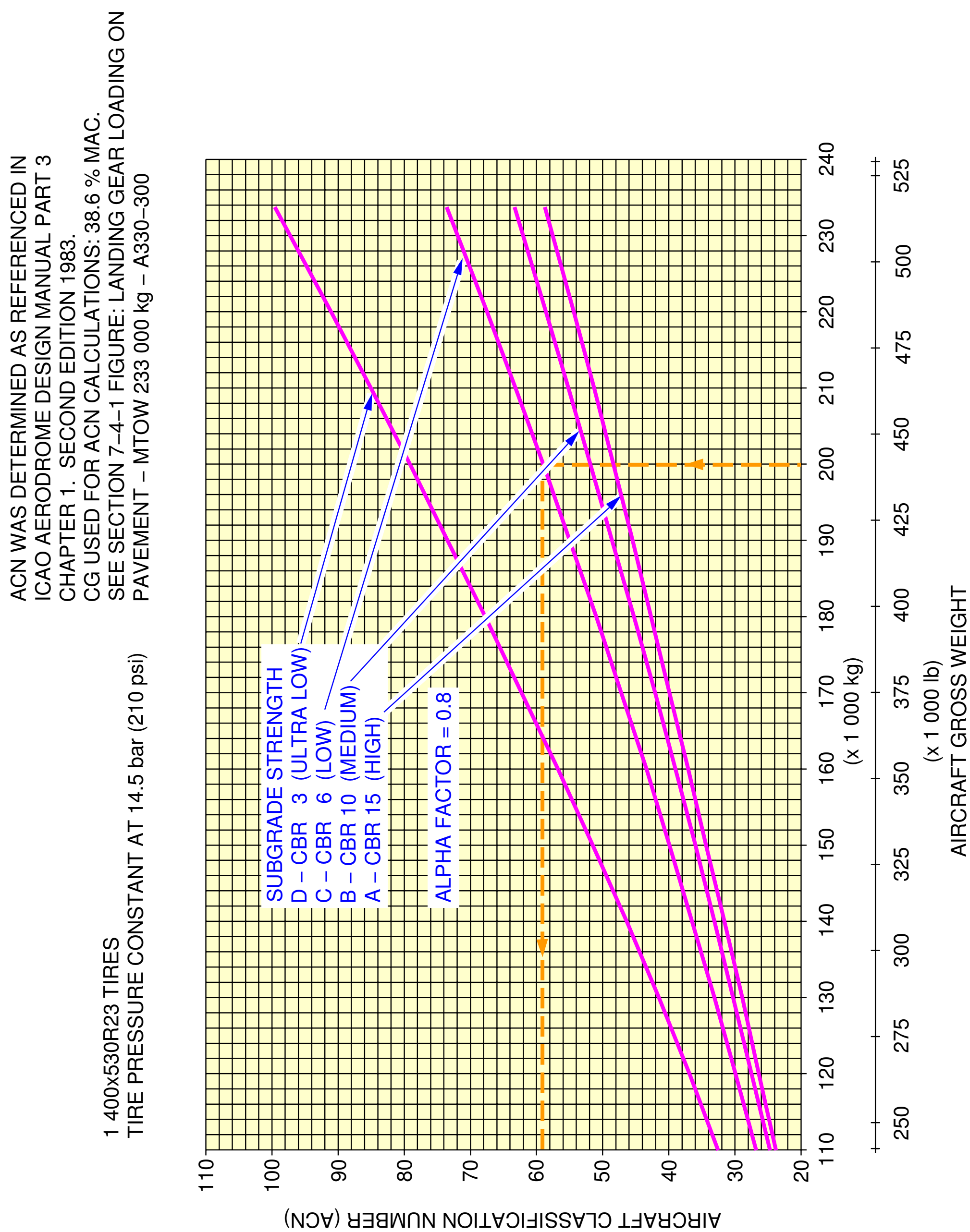
**ON A/C A330-300



F_AC_070901_1_0130101_01_03

Aircraft Classification Number – Flexible Pavement
MTOW 230 000 kg
FIGURE 15

****ON A/C A330-300**



F_AC_070901_1_0140101_01_03

Aircraft Classification Number – Flexible Pavement
MTOW 233 000 kg
FIGURE 16

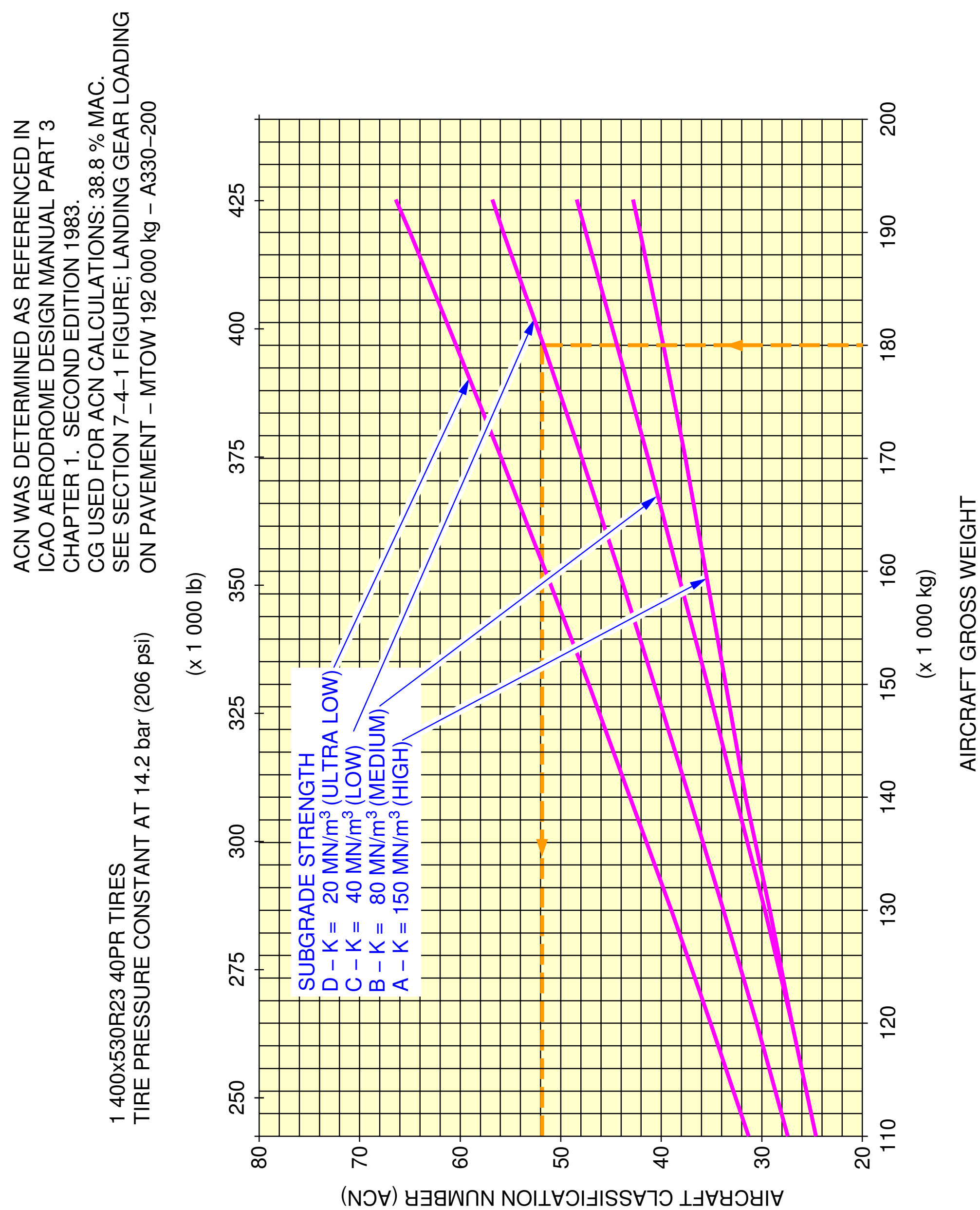
7-9-2 Aircraft Classification Number - Rigid Pavement

****ON A/C A330-200 A330-200F A330-300**

<u>Aircraft Classification Number - Rigid Pavement</u>

1. This section gives the Aircraft Classification Number - Rigid Pavement.

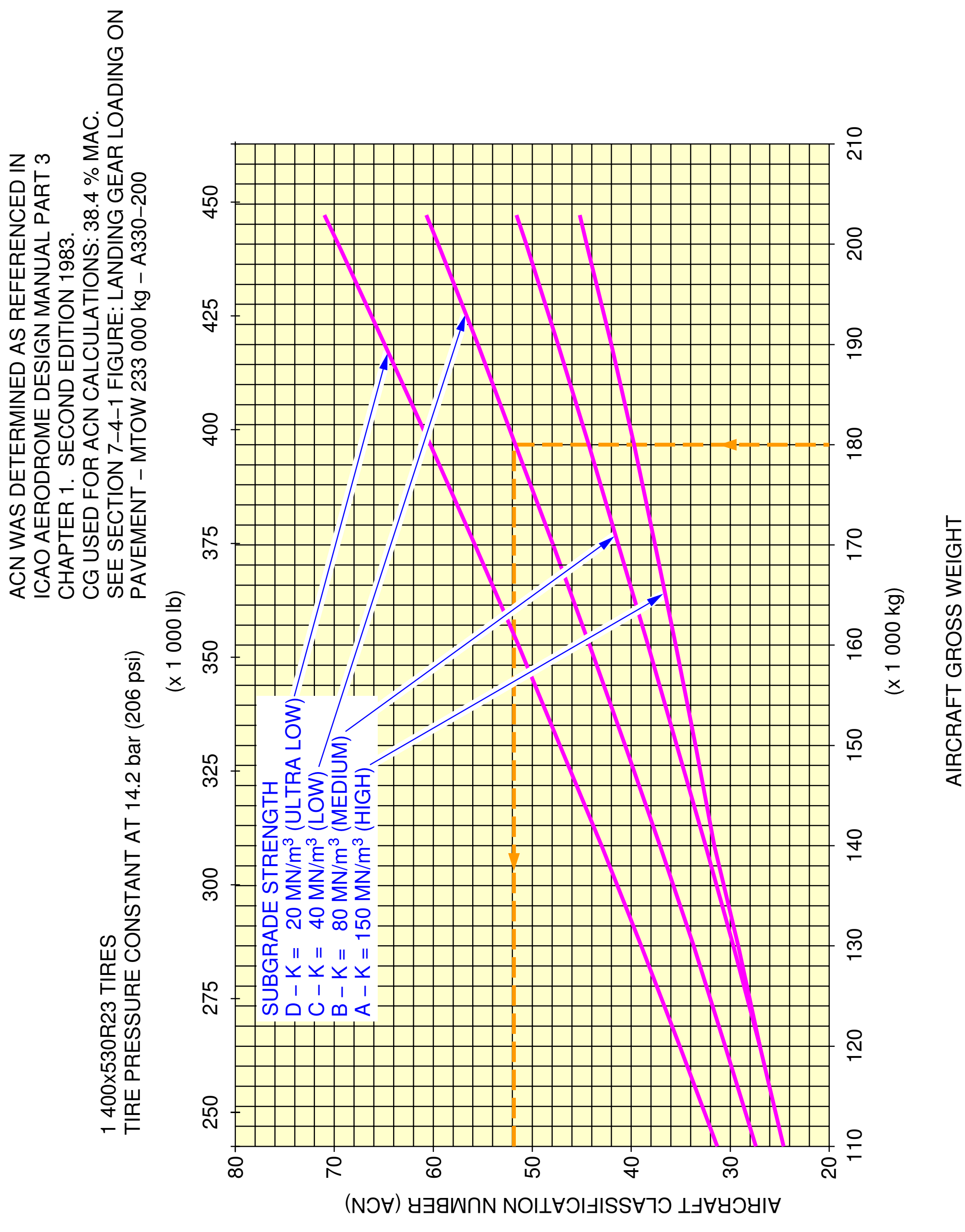
**ON A/C A330-200



F_AC_070902_1_0010101_01_02

Aircraft Classification Number − Rigid Pavement
MTOW 192 000 kg
FIGURE 1

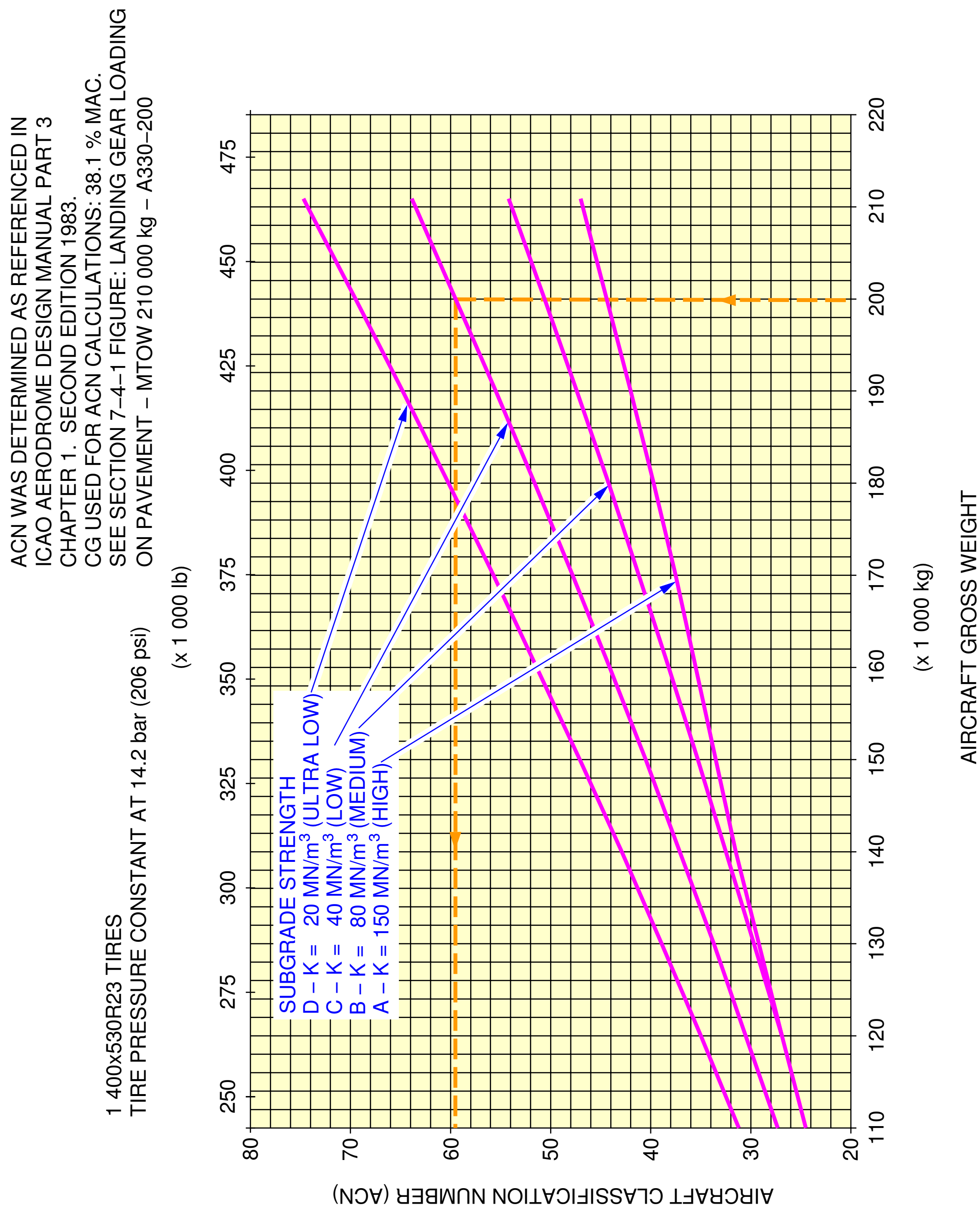
**ON A/C A330-200



F_AC_070902_1_0020101_01_02

Aircraft Classification Number – Rigid Pavement
MTOW 202 000 kg
FIGURE 2

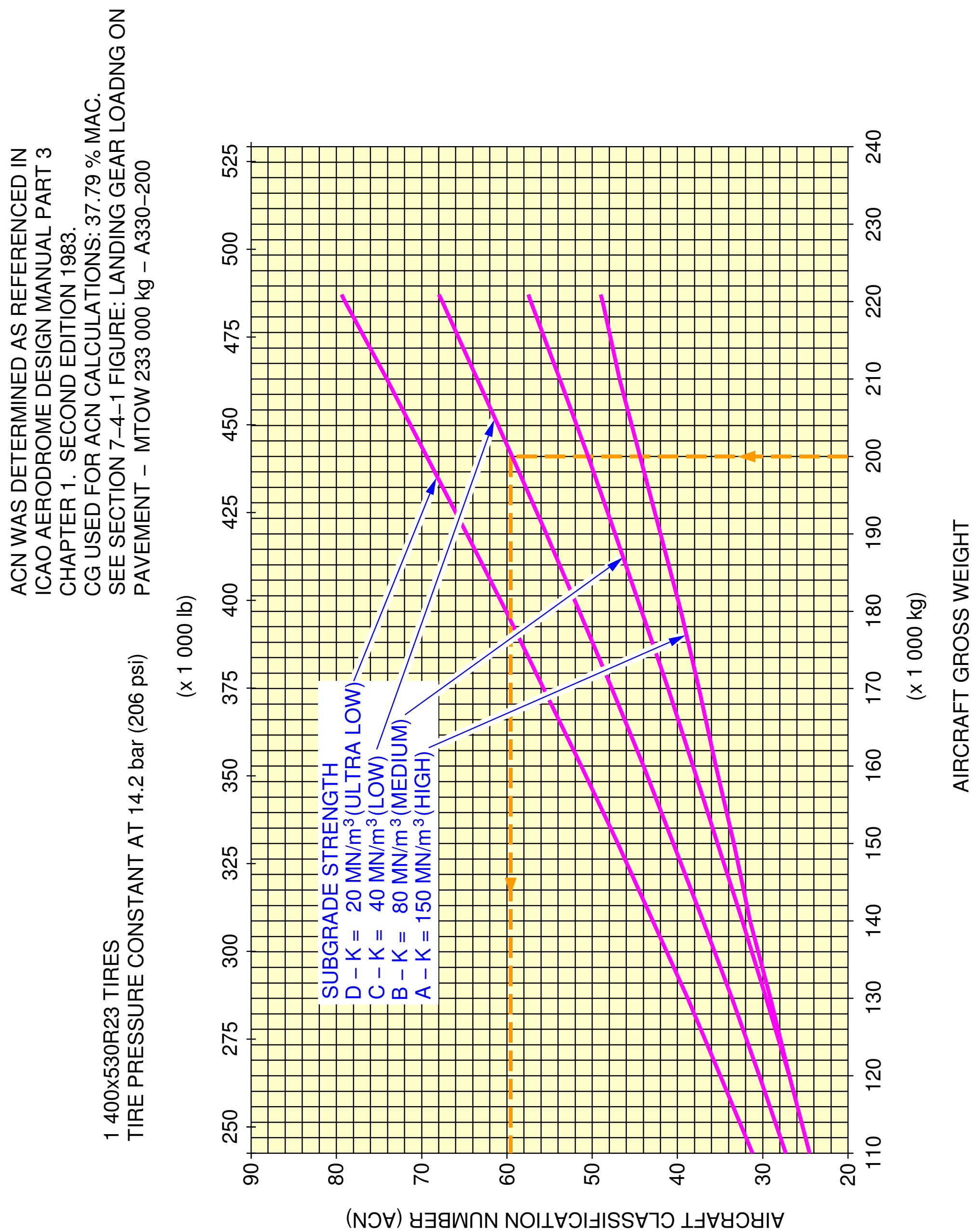
**ON A/C A330-200



F_AC_070902_1_0030101_01_02

Aircraft Classification Number – Rigid Pavement
MTOW 210 000 kg
FIGURE 3

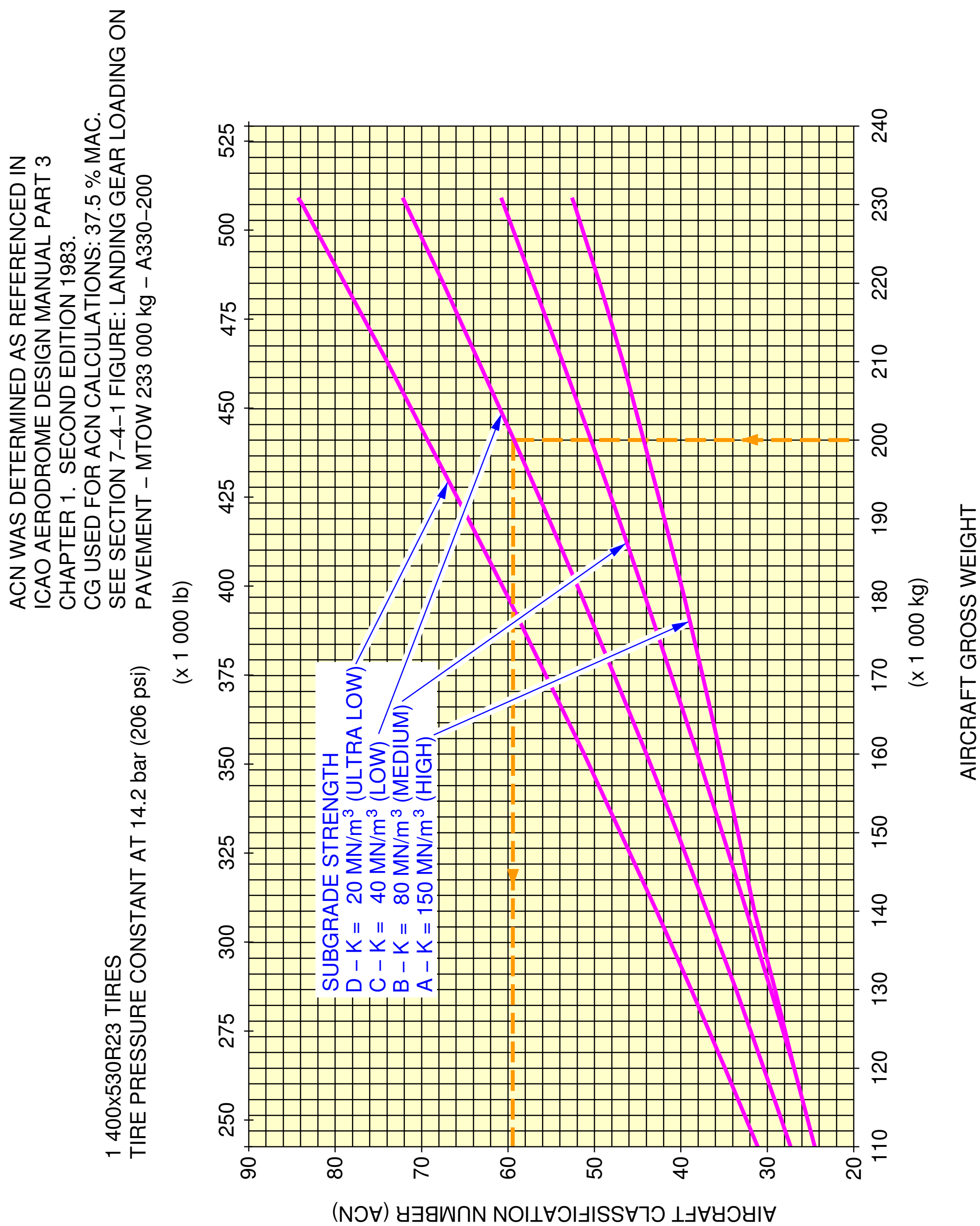
**ON A/C A330-200



F_AC_070902_1_0040101_01_02

Aircraft Classification Number – Rigid Pavement
MTOW 220 000 kg
FIGURE 4

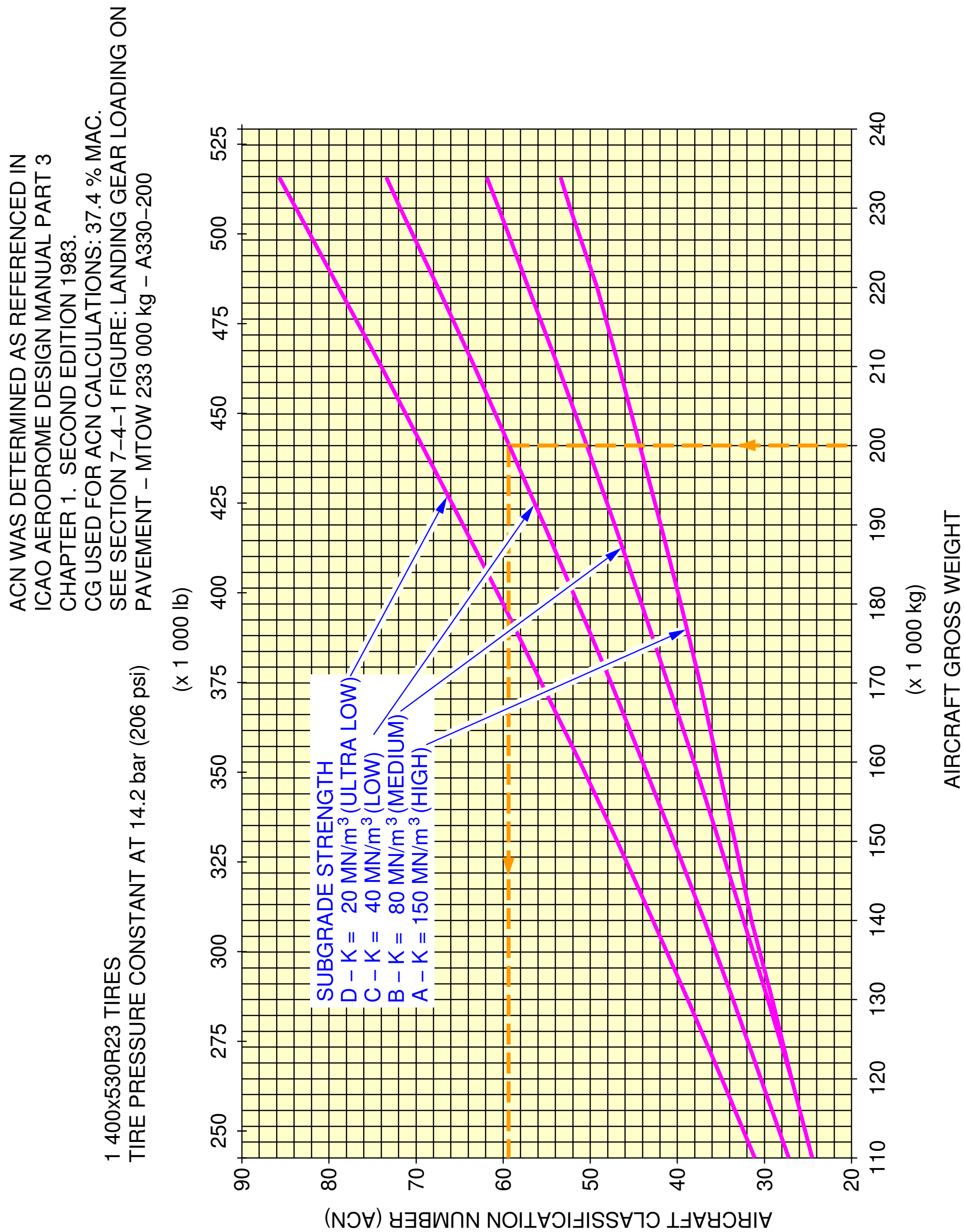
**ON A/C A330-200



F_AC_070902_1_0050101_01_02

Aircraft Classification Number – Rigid Pavement
MTOW 230 000 kg
FIGURE 5

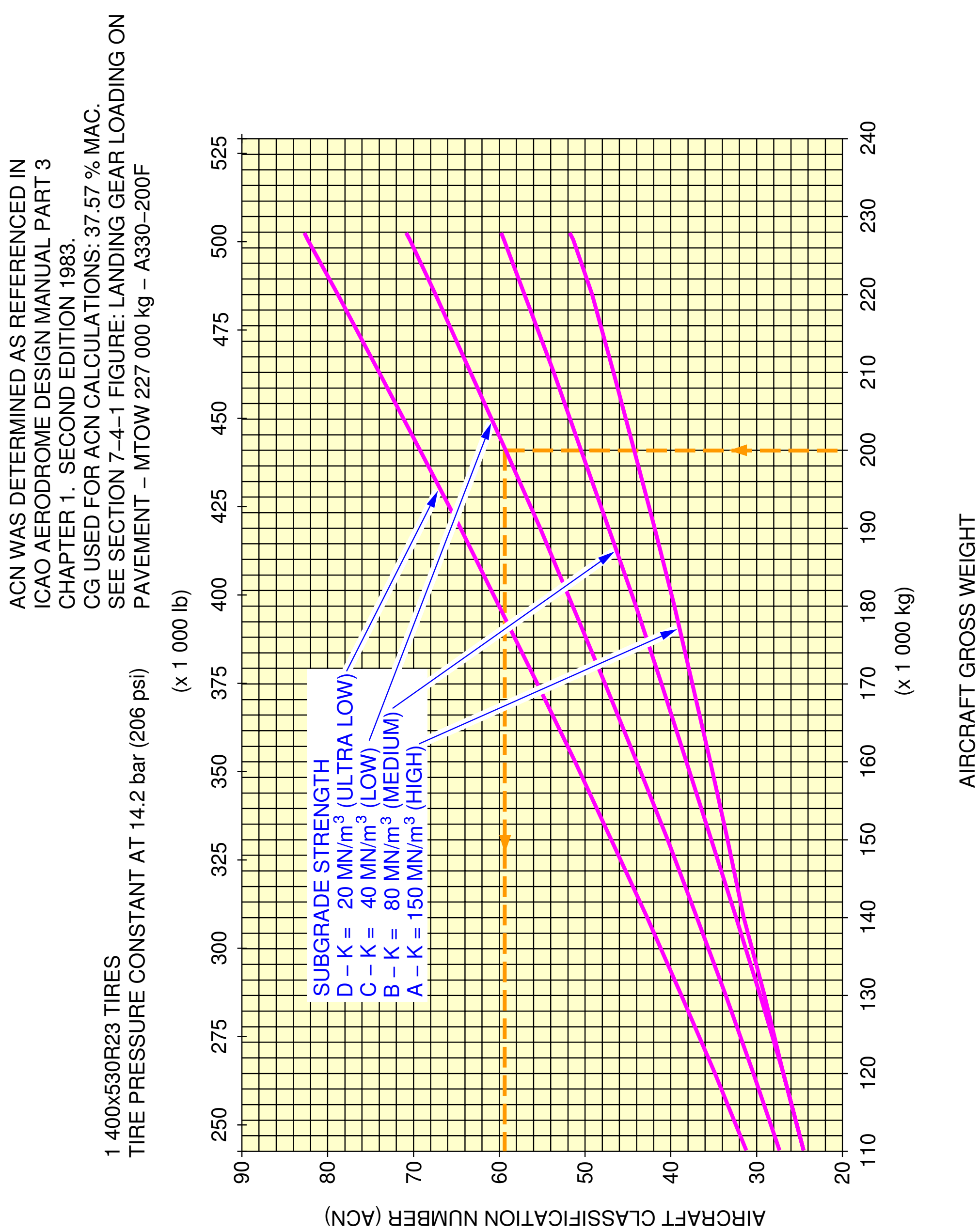
**ON A/C A330-200



F_AC_070902_1_0060101_01_02

Aircraft Classification Number – Rigid Pavement
MTOW 233 000 kg
FIGURE 6

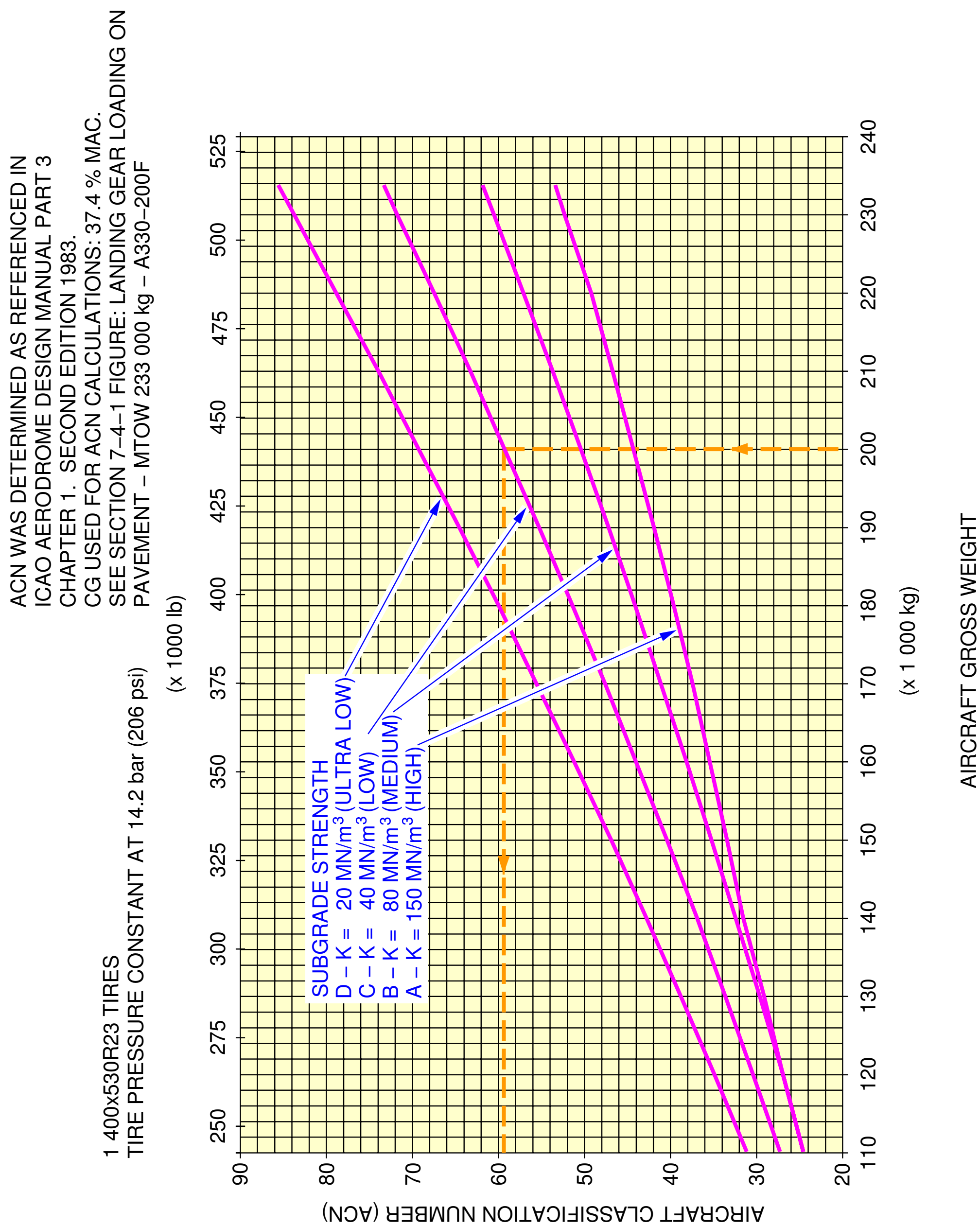
**ON A/C A330-200F



F_AC_070902_1_0150101_01_01

Aircraft Classification Number – Rigid Pavement
MTOW 227 000 kg
FIGURE 7

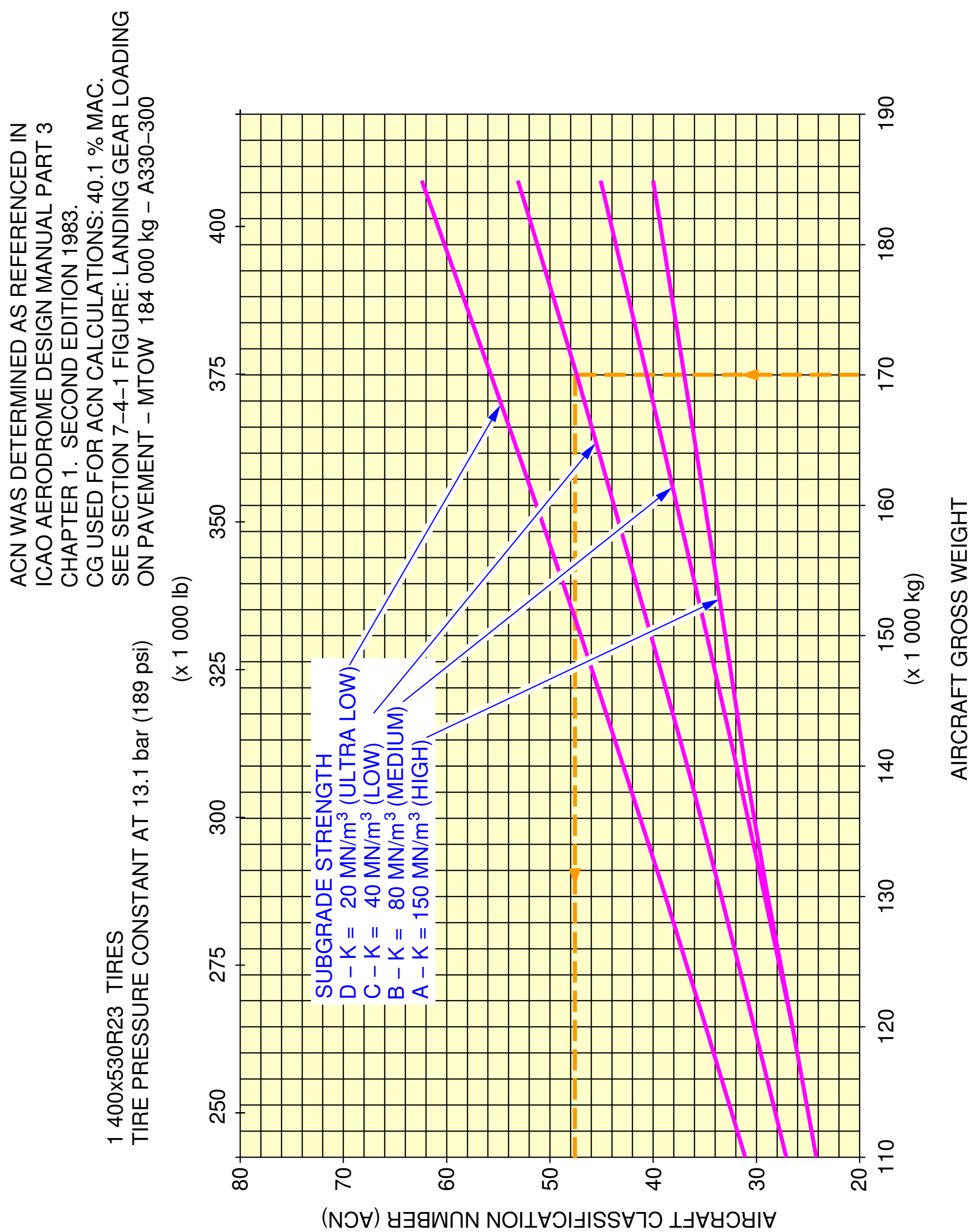
**ON A/C A330-200F



F_AC_070902_1_0160101_01_01

Aircraft Classification Number – Rigid Pavement
MTOW 233 000 kg
FIGURE 8

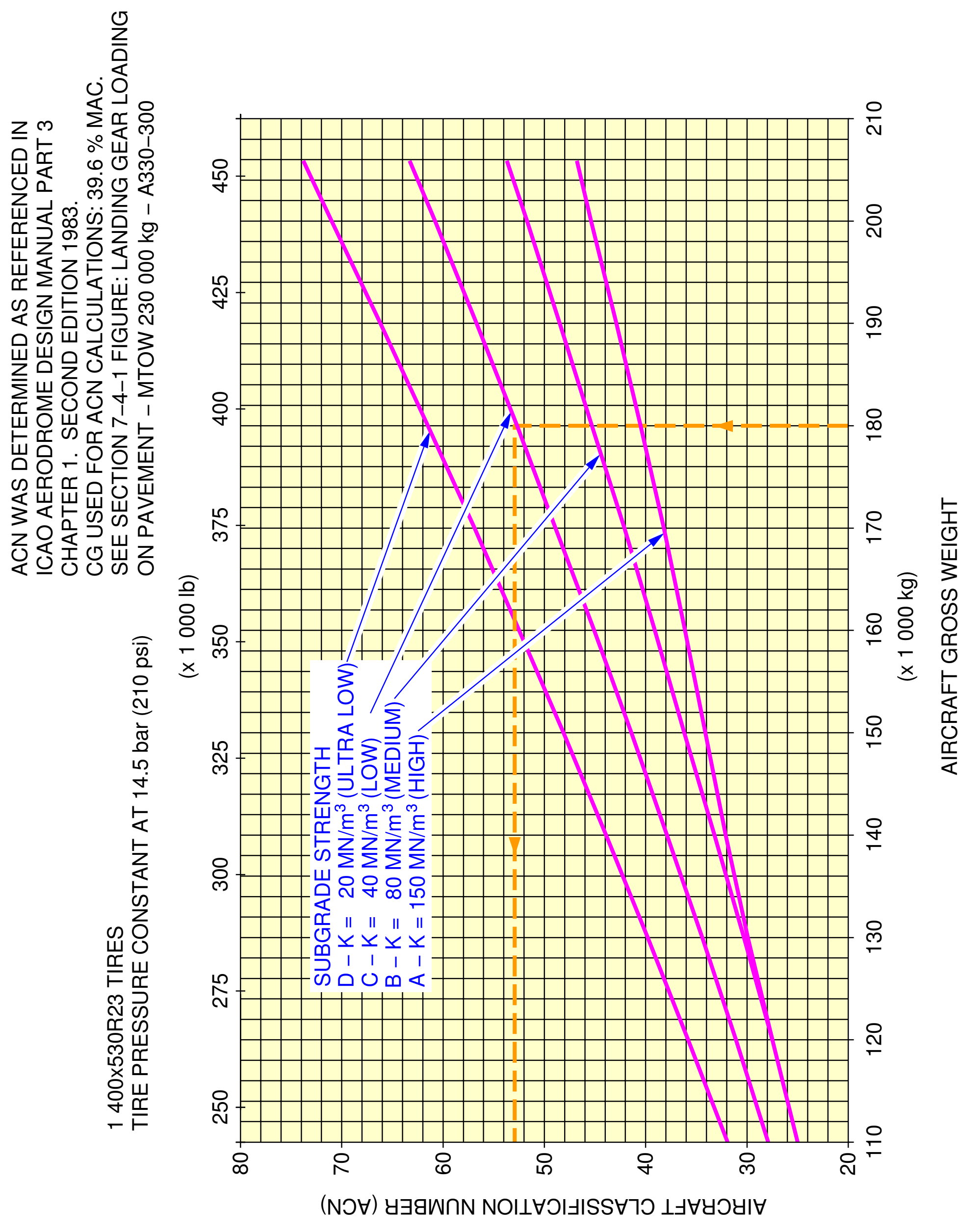
**ON A/C A330-300



F_AC_070902_1_0070101_01_02

Aircraft Classification Number – Rigid Pavement
MTOW 184 000 kg
FIGURE 9

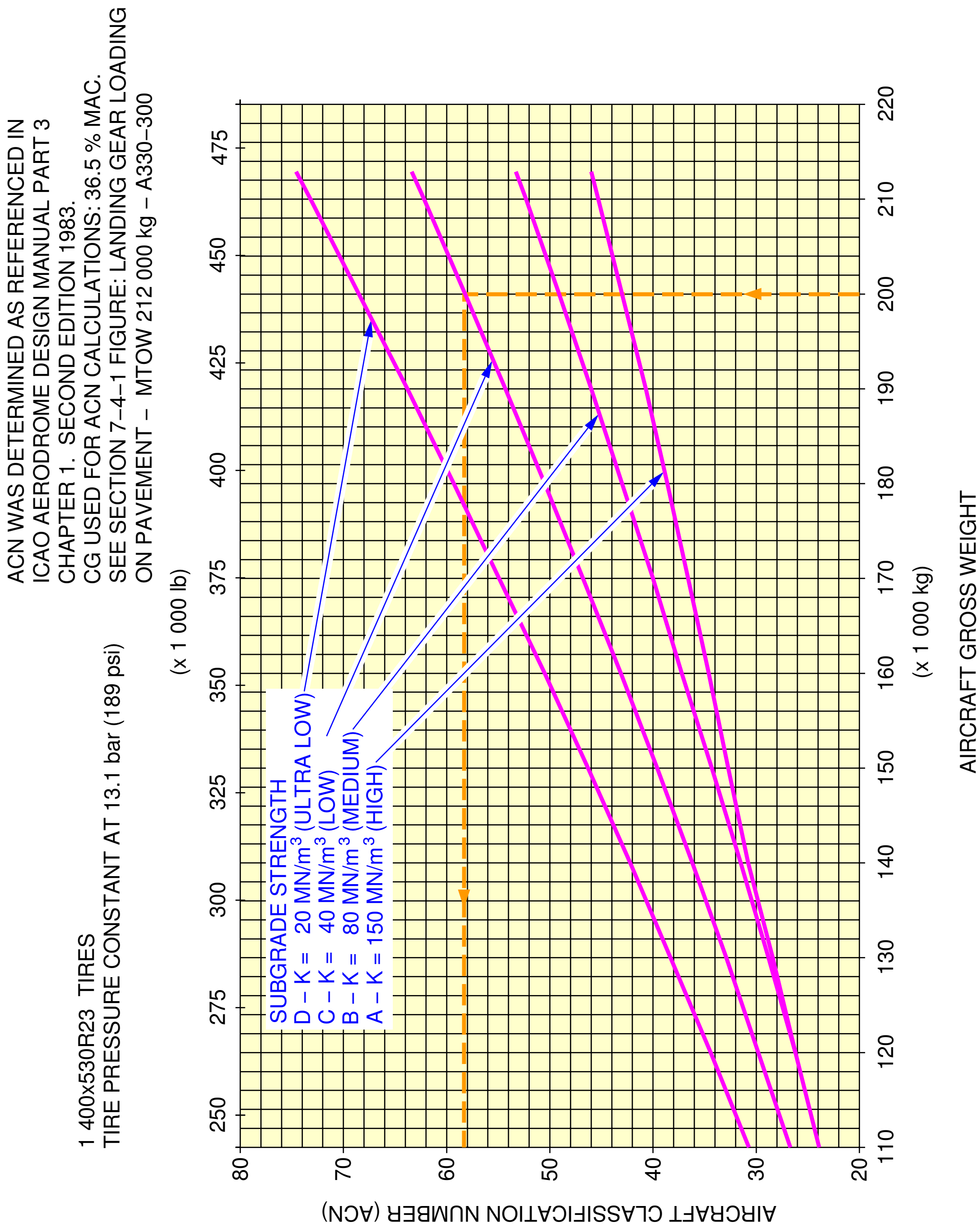
**ON A/C A330-300



F_AC_070902_1_0080101_01_02

Aircraft Classification Number – Rigid Pavement
MTOW 205 000 kg
FIGURE 10

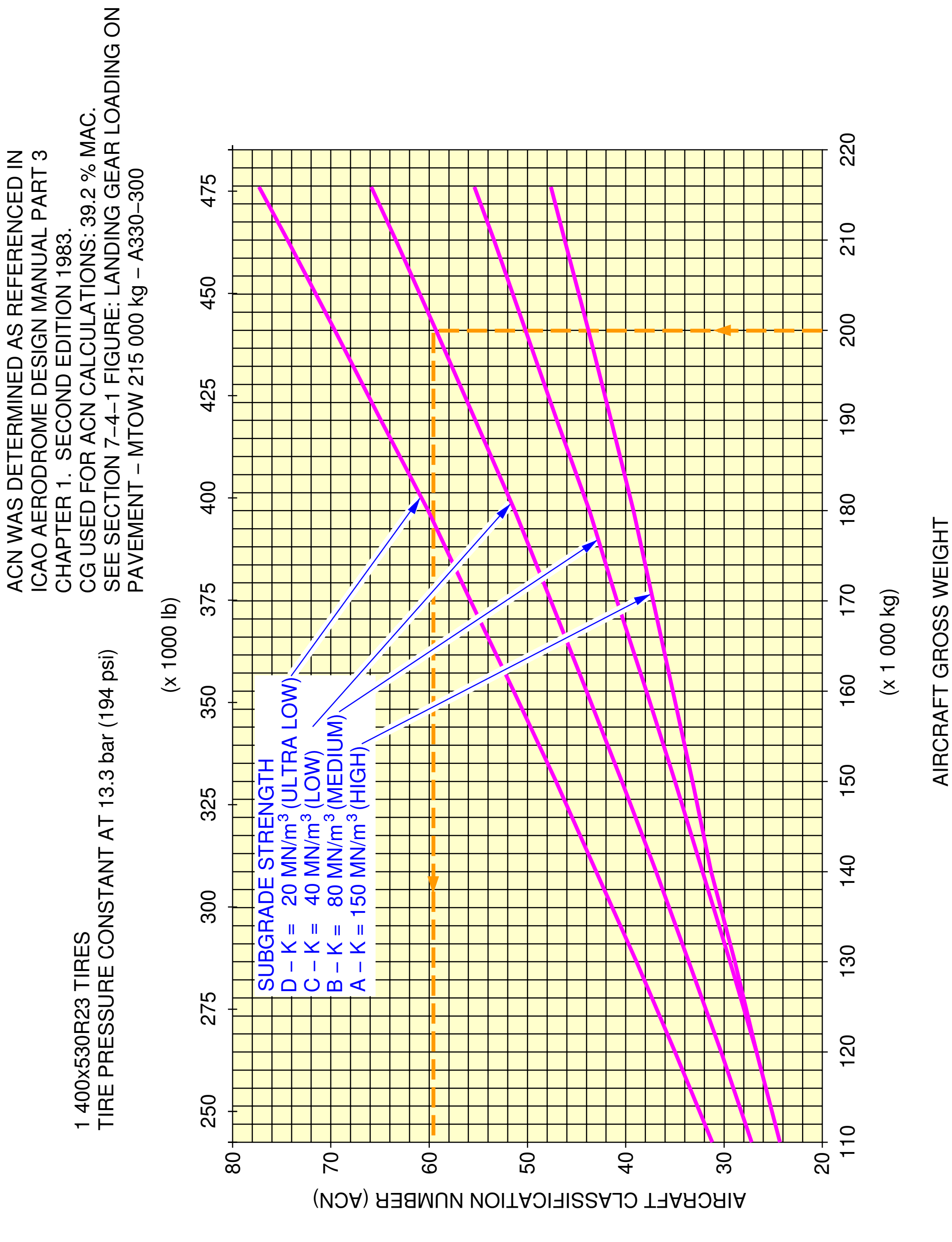
**ON A/C A330-300



F_AC_070902_1_0090101_01_02

Aircraft Classification Number − Rigid Pavement
MTOW 212 000 kg
FIGURE 11

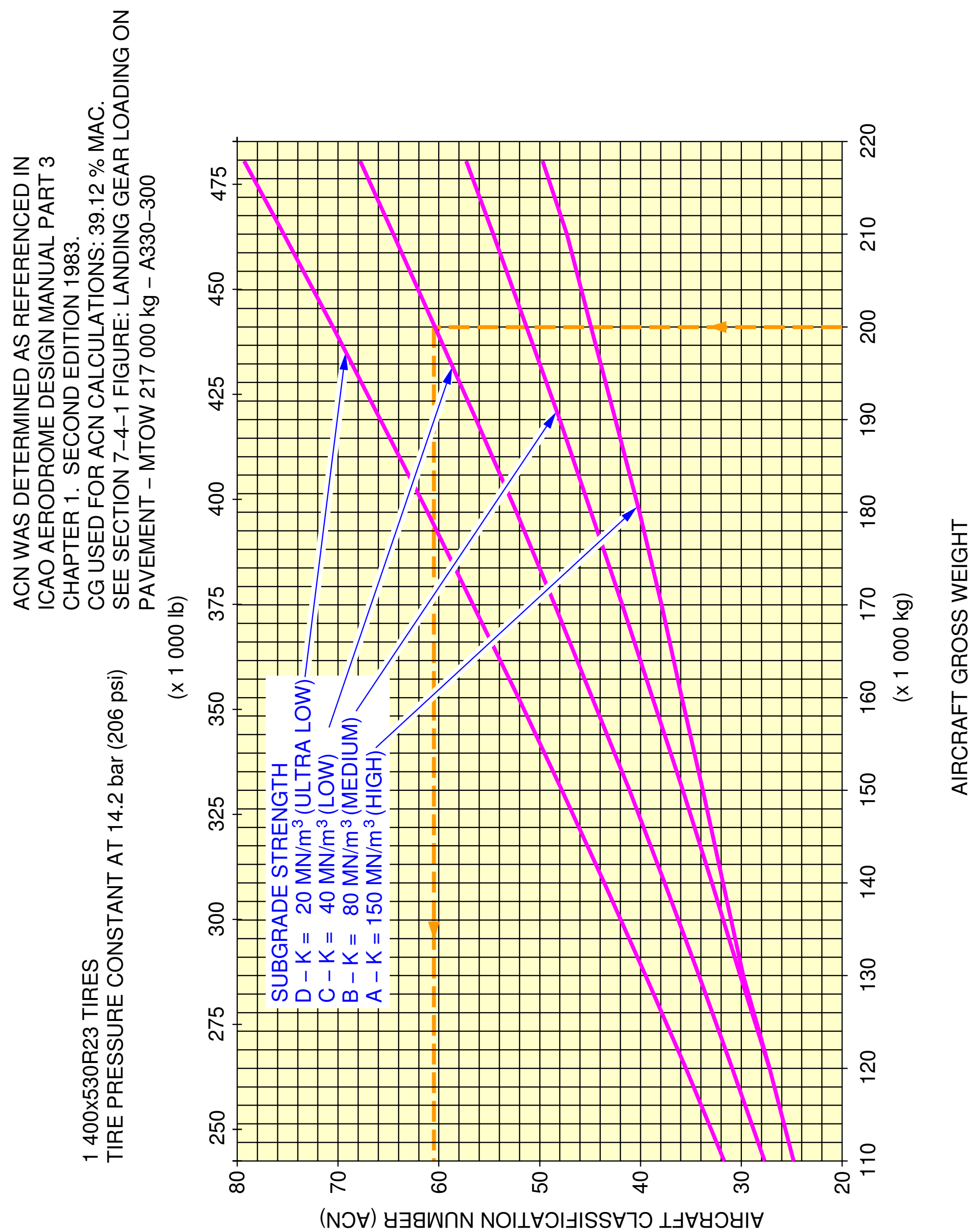
**ON A/C A330-300



F_AC_070902_1_0100101_01_02

Aircraft Classification Number – Rigid Pavement
MTOW 215 000 kg
FIGURE 12

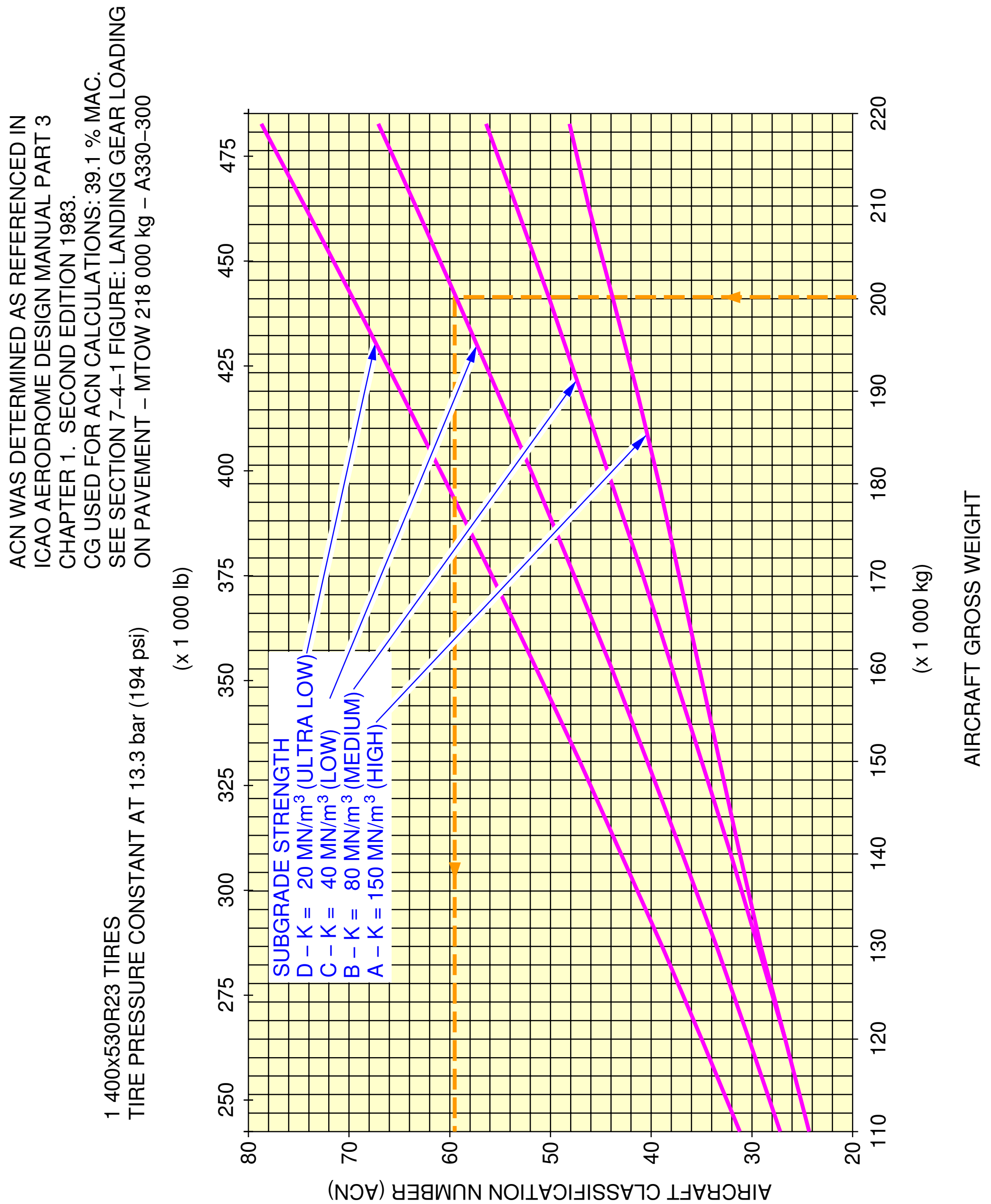
**ON A/C A330-300



F_AC_070902_1_0110101_01_02

Aircraft Classification Number − Rigid Pavement
MTOW 217 000 kg
FIGURE 13

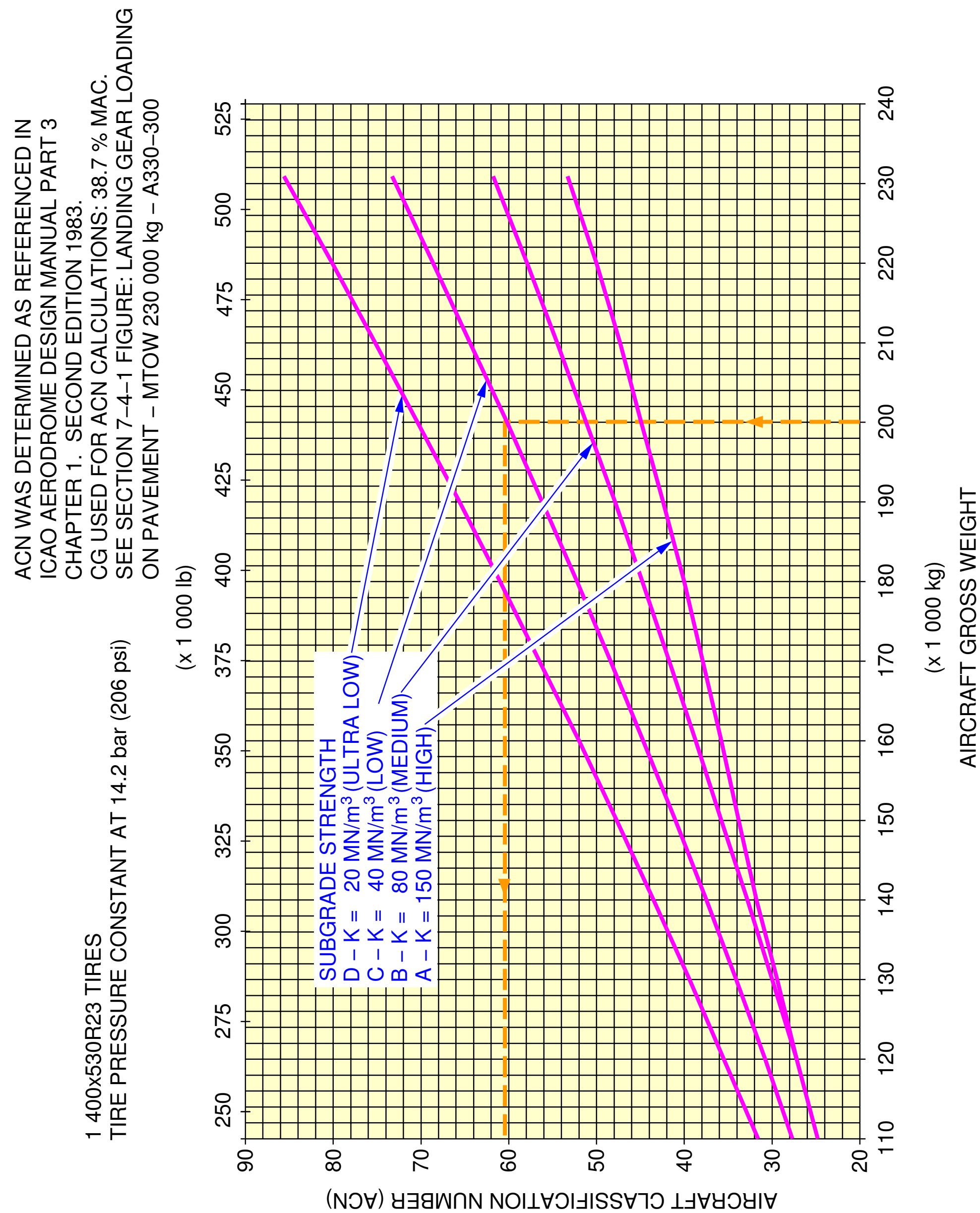
**ON A/C A330-300



F_AC_070902_1_0120101_01_02

Aircraft Classification Number − Rigid Pavement
MTOW 218 000 kg
FIGURE 14

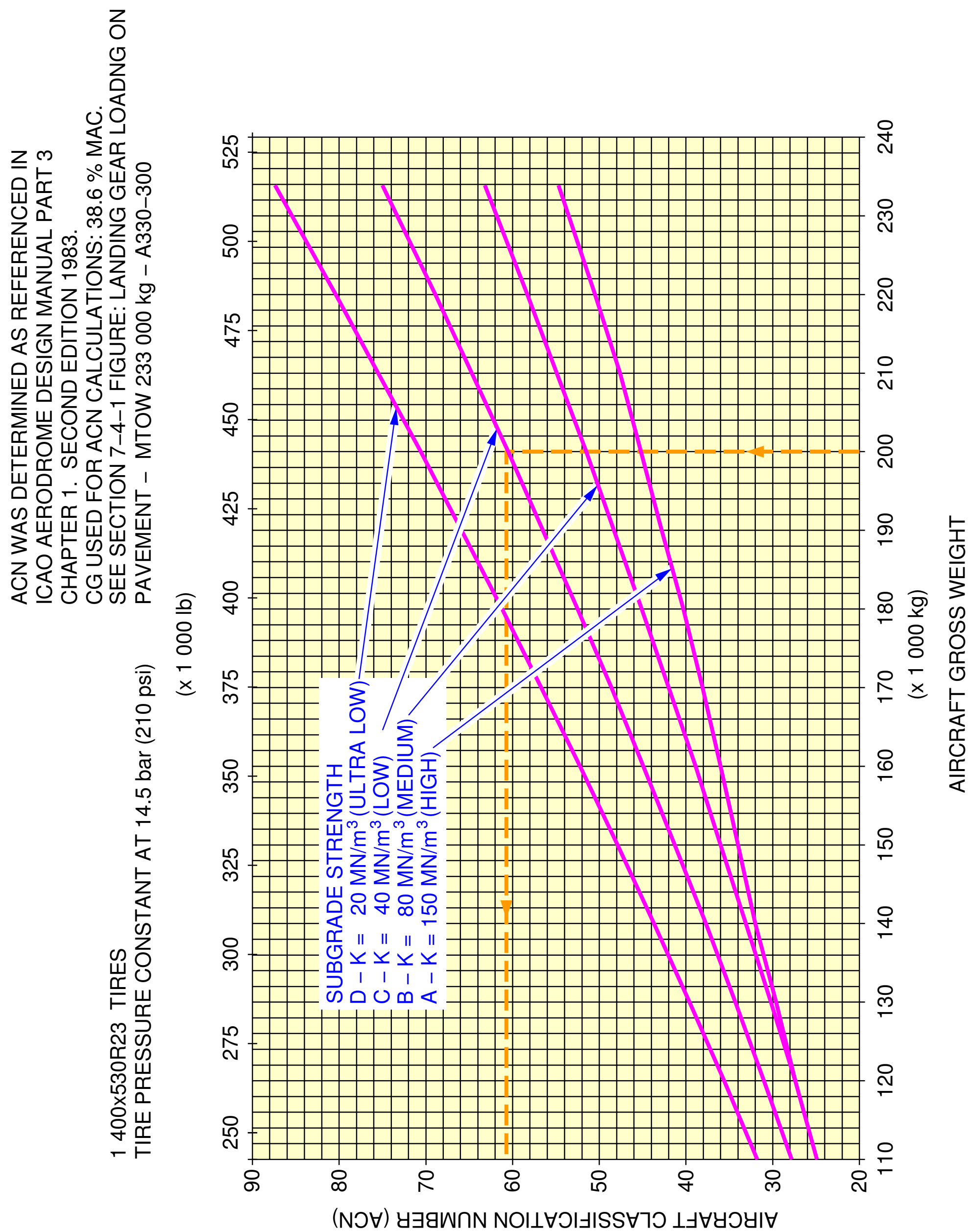
**ON A/C A330-300



F_AC_070902_1_0130101_01_02

Aircraft Classification Number − Rigid Pavement
MTOW 230 000 kg
FIGURE 15

**ON A/C A330-300



F_AC_070902_1_0140101_01_02

Aircraft Classification Number – Rigid Pavement
MTOW 233 000 kg
FIGURE 16

DERIVATIVE AIRPLANES

8-1-0 Possible Future Derivative Airplane

****ON A/C A330-200 A330-200F A330-300**

Possible Future Derivative Airplane

1. General

Other versions of the A330 airplane are being studied to satisfy customer requests.

In the future, this program could have new versions:
- Additional passenger capacity,
- Additional cargo modularity,
- New design version,
- Different range or payload.

If these new aircraft definitions are developed, the design and weight will be considered in accordance with airport facilities.

SCALED DRAWINGS

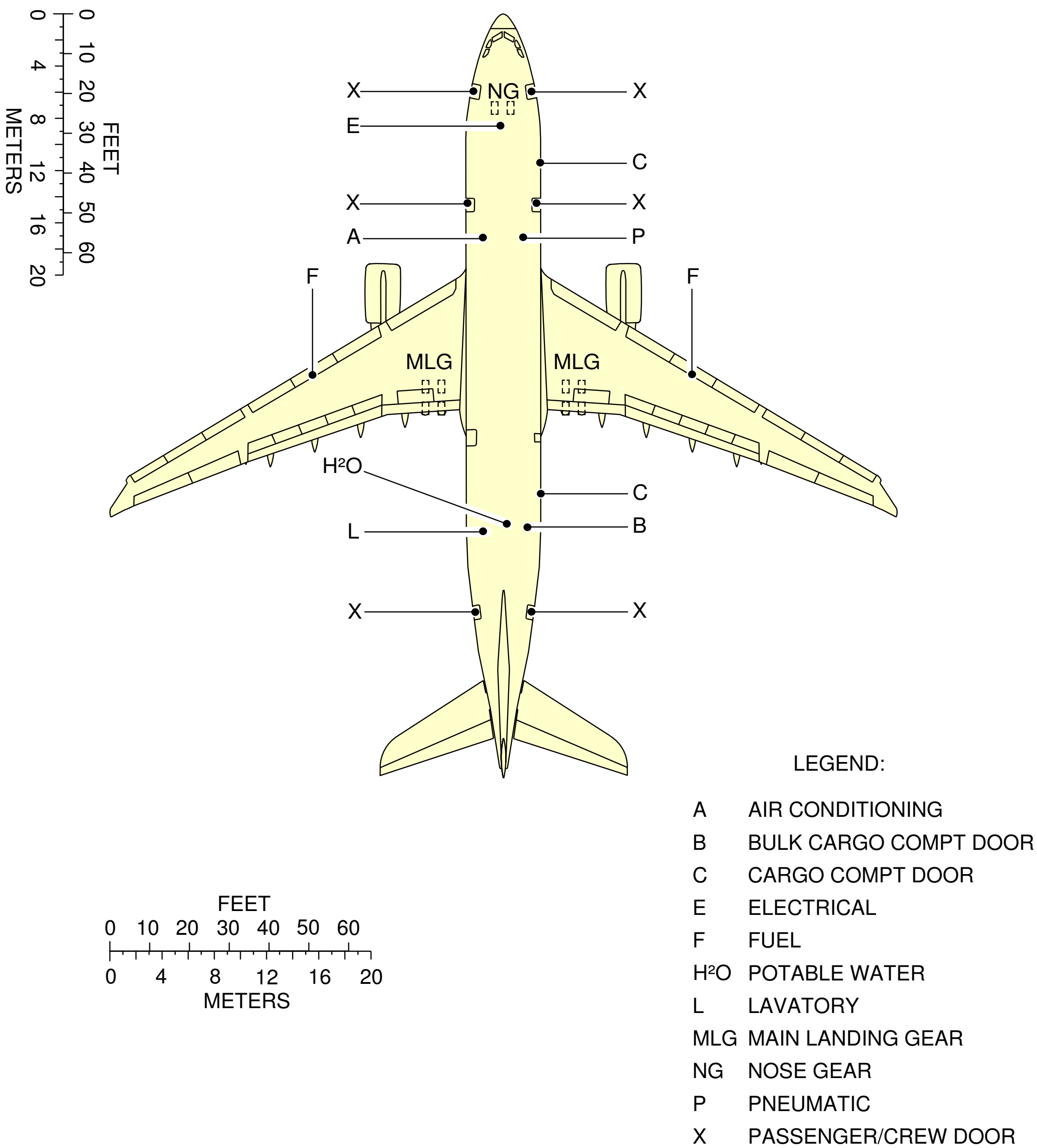
9-1-0 Scaled Drawing 1 in. = 500 ft.

ON A/C A330-200 A330-200F A330-300

Scaled Drawing 1 in. = 50 ft.

1. This section provides the Scaled Drawing - 1 in. = 50 ft.

**ON A/C A330-200

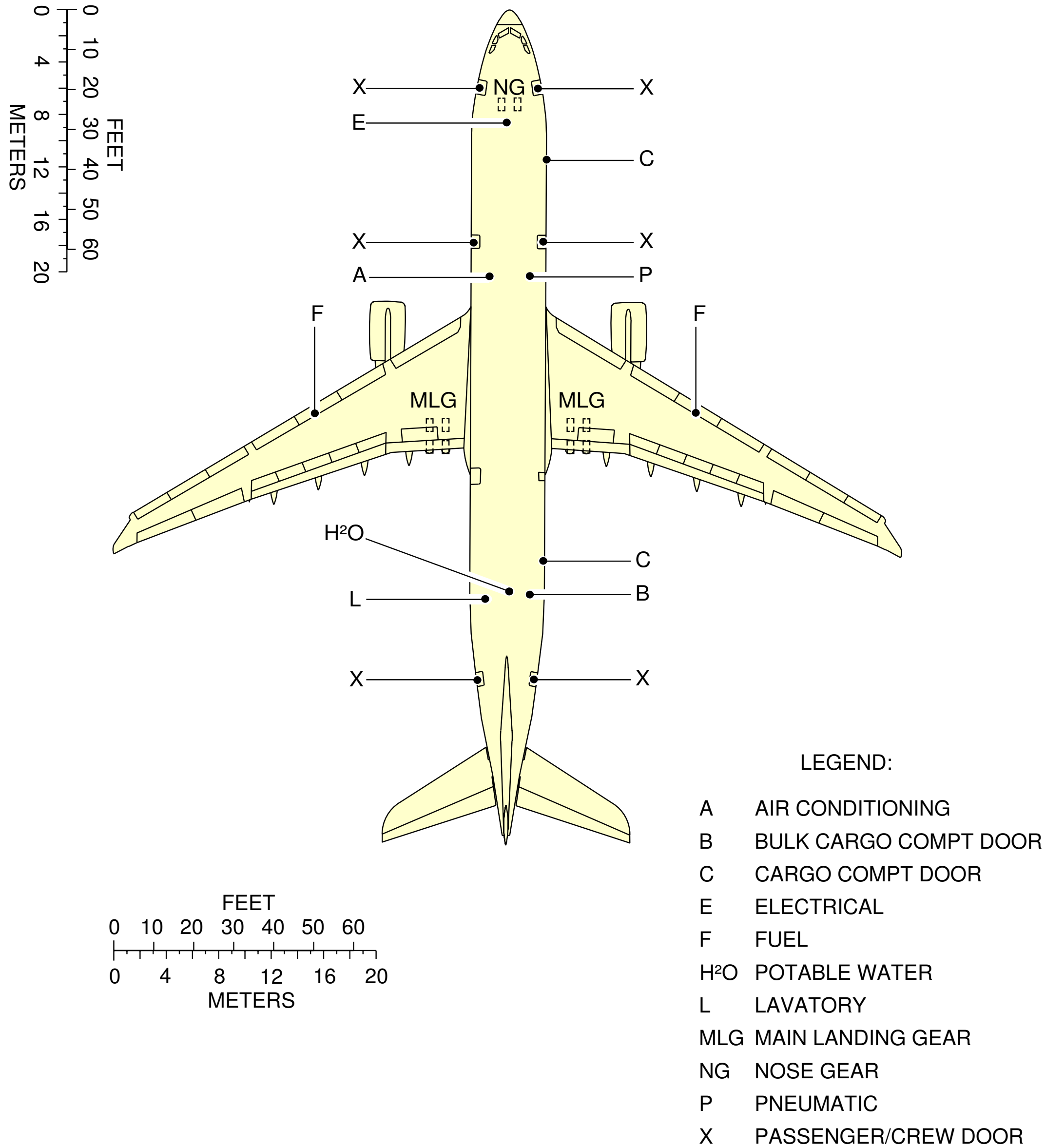


NOTE: WHEN PRINTING THIS DRAWING, MAKE SURE TO ADJUST FOR PROPER SCALING

F_AC_090100_1_0010101_01_01

Scaled Drawing
1 in. = 50 ft.
FIGURE 1

**ON A/C A330-300

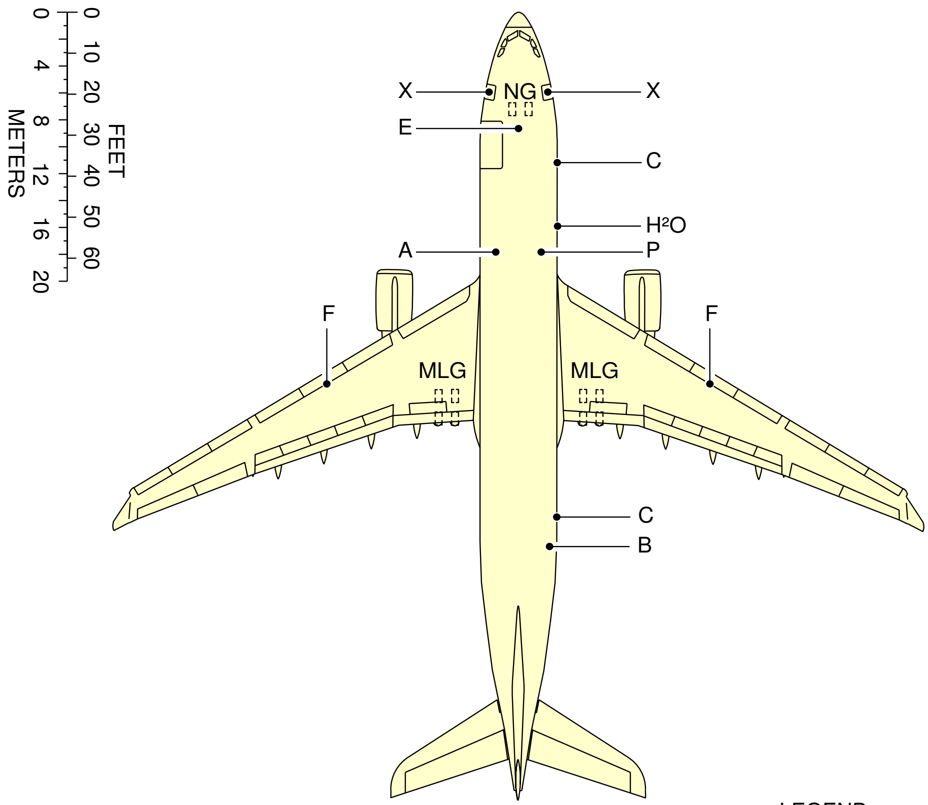


NOTE: WHEN PRINTING THIS DRAWING, MAKE SURE TO ADJUST FOR PROPER SCALING

F_AC_090100_1_0050101_01_00

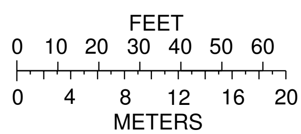
Scaled Drawing
1 in. = 50 ft.
FIGURE 2

**ON A/C A330-200F



LEGEND:

A	AIR CONDITIONING
B	BULK CARGO COMPT DOOR
C	CARGO COMPT DOOR
E	ELECTRICAL
F	FUEL
H^2O	POTABLE WATER
MLG	MAIN LANDING GEAR
NG	NOSE GEAR
P	PNEUMATIC
X	PASSENGER/CREW DOOR

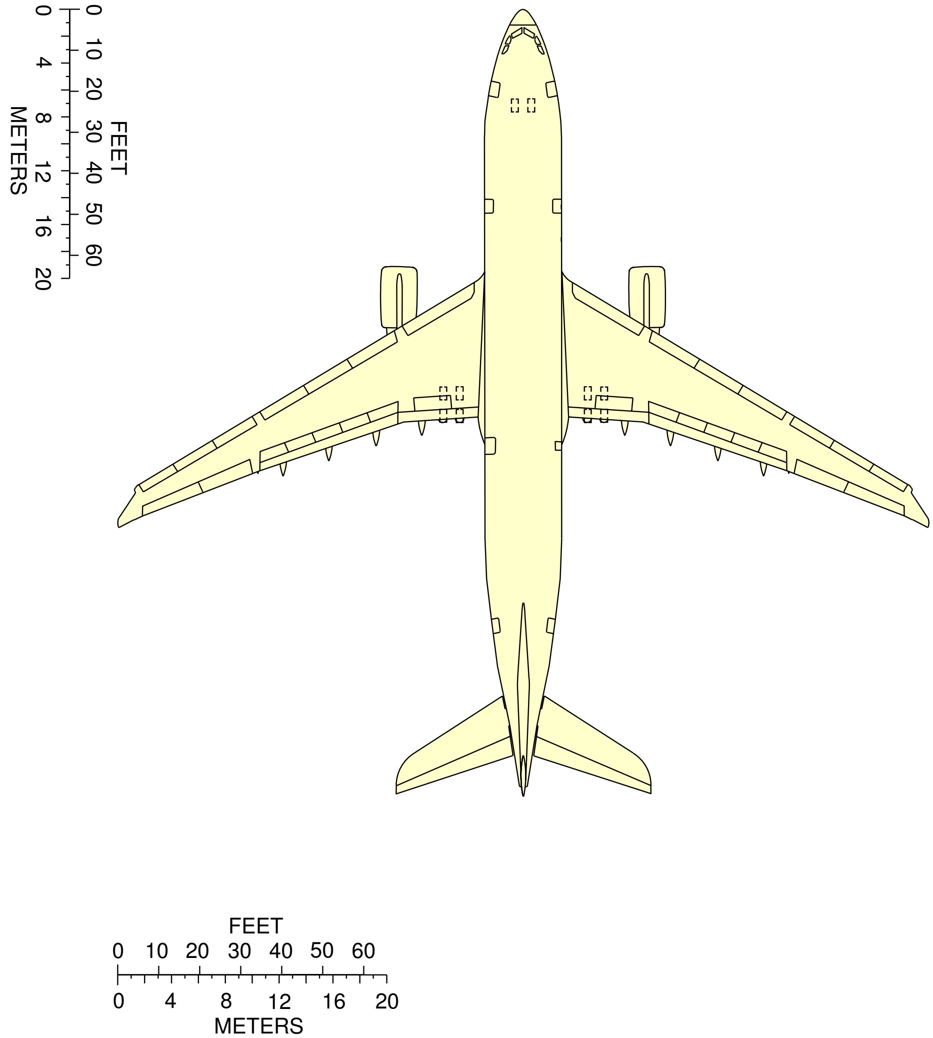


NOTE: WHEN PRINTING THIS DRAWING, MAKE SURE TO ADJUST FOR PROPER SCALING

F_AC_090100_1_0030101_01_01

Scaled Drawing
1 in. = 50 ft.
FIGURE 3

**ON A/C A330-200

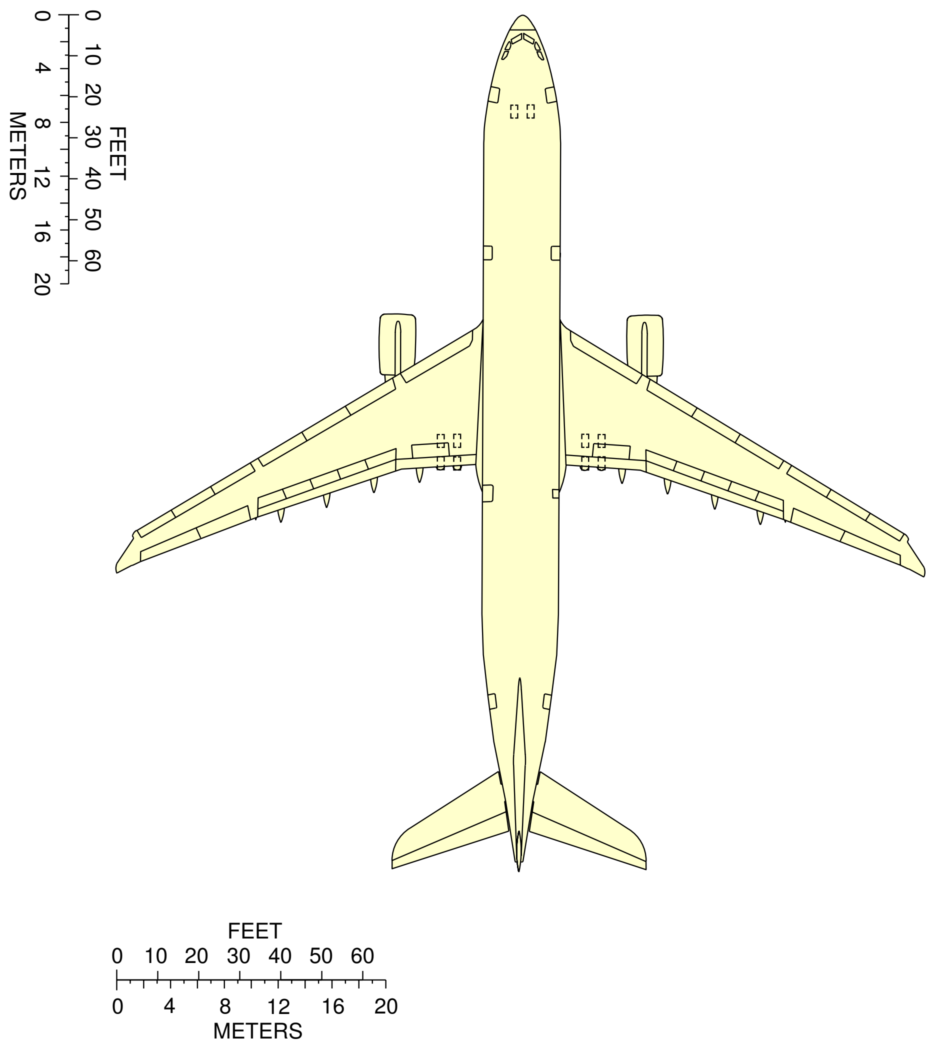


NOTE: WHEN PRINTING THIS DRAWING, MAKE SURE TO ADJUST FOR PROPER SCALING

F_AC_090100_1_0020101_01_01

Scaled Drawing
1 in. = 50 ft.
FIGURE 4

**ON A/C A330-300

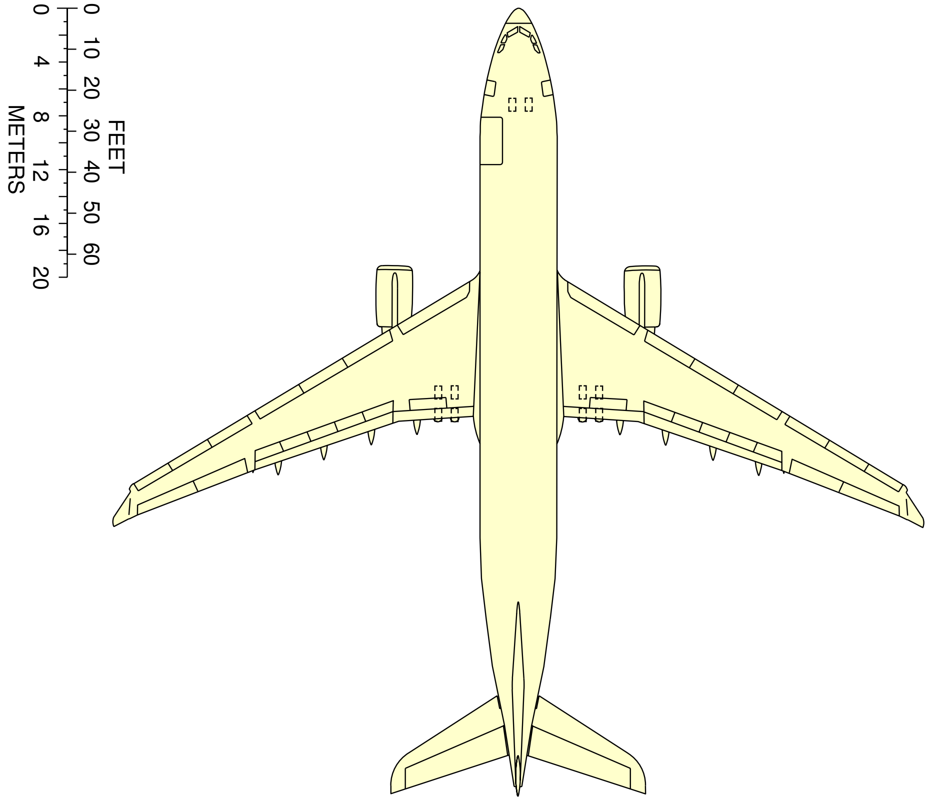


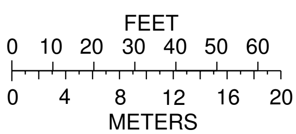
NOTE: WHEN PRINTING THIS DRAWING, MAKE SURE TO ADJUST FOR PROPER SCALING

F_AC_090100_1_0060101_01_00

Scaled Drawing
1 in. = 50 ft.
FIGURE 5

**ON A/C A330-200F





NOTE: WHEN PRINTING THIS DRAWING, MAKE SURE TO ADJUST FOR PROPER SCALING

F_AC_090100_1_0040101_01_01

Scaled Drawing
1 in. = 50 ft.
FIGURE 6

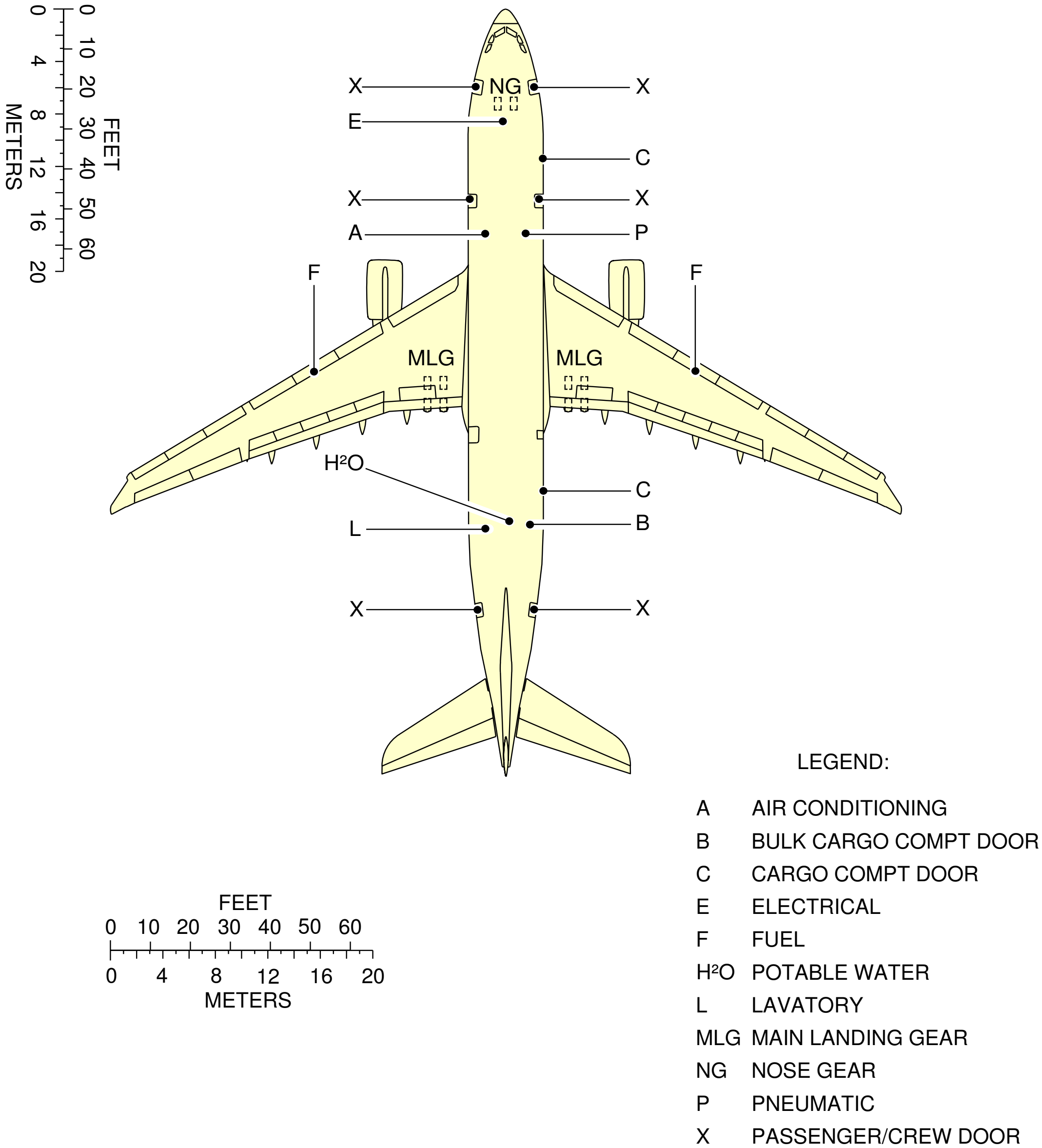
9-2-0 Scaled Drawing 1 cm. = 500 cm.

****ON A/C A330-200 A330-200F A330-300**

Scaled Drawing 1 cm. = 500 cm.

1. This section provides the Scaled Drawing - 1 cm. = 500 cm.

**ON A/C A330-200

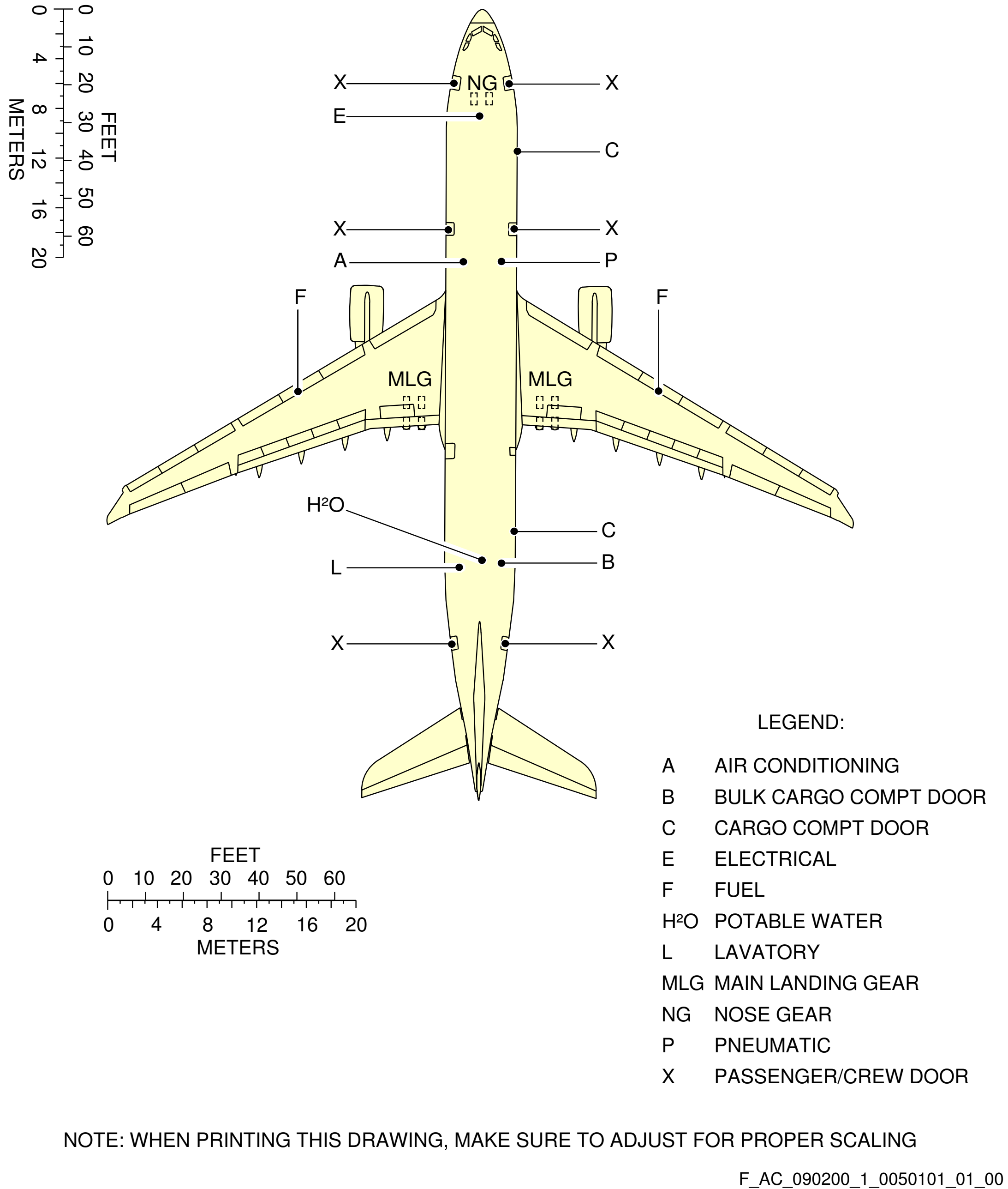


NOTE: WHEN PRINTING THIS DRAWING, MAKE SURE TO ADJUST FOR PROPER SCALING

F_AC_090200_1_0010101_01_01

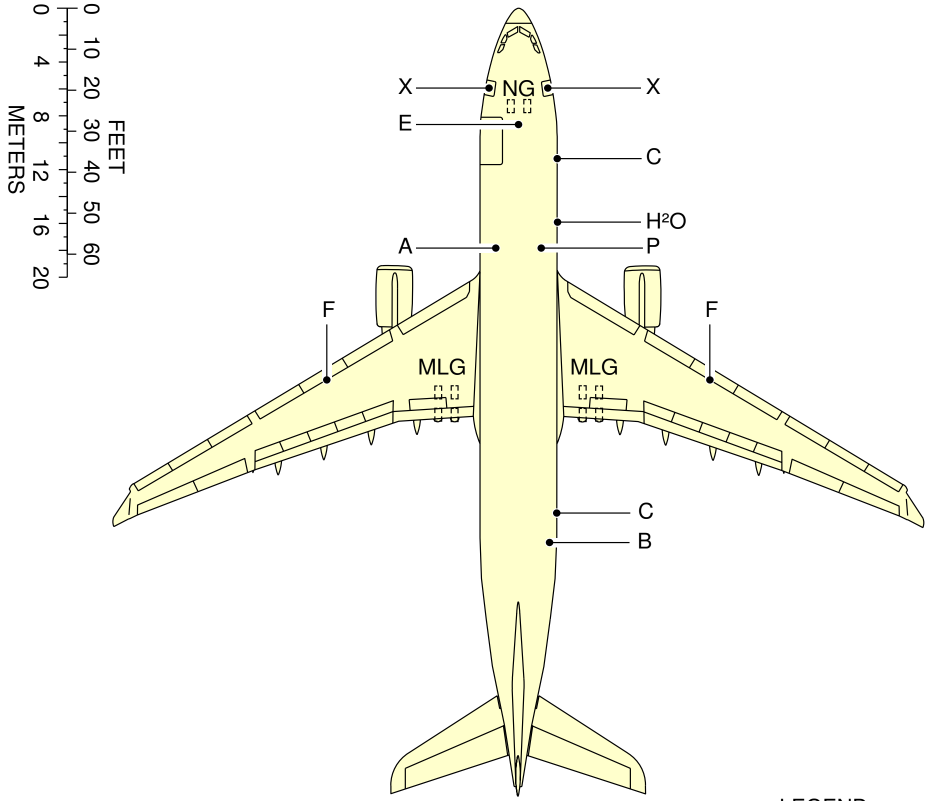
Scaled Drawing
1 cm. = 500 cm.
FIGURE 1

**ON A/C A330-300



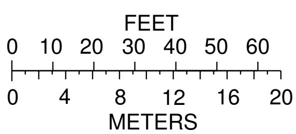
Scaled Drawing
1 cm. = 500 cm.
FIGURE 2

**ON A/C A330-200F



LEGEND:

A	AIR CONDITIONING
B	BULK CARGO COMPT DOOR
C	CARGO COMPT DOOR
E	ELECTRICAL
F	FUEL
H^2O	POTABLE WATER
MLG	MAIN LANDING GEAR
NG	NOSE GEAR
P	PNEUMATIC
X	PASSENGER/CREW DOOR

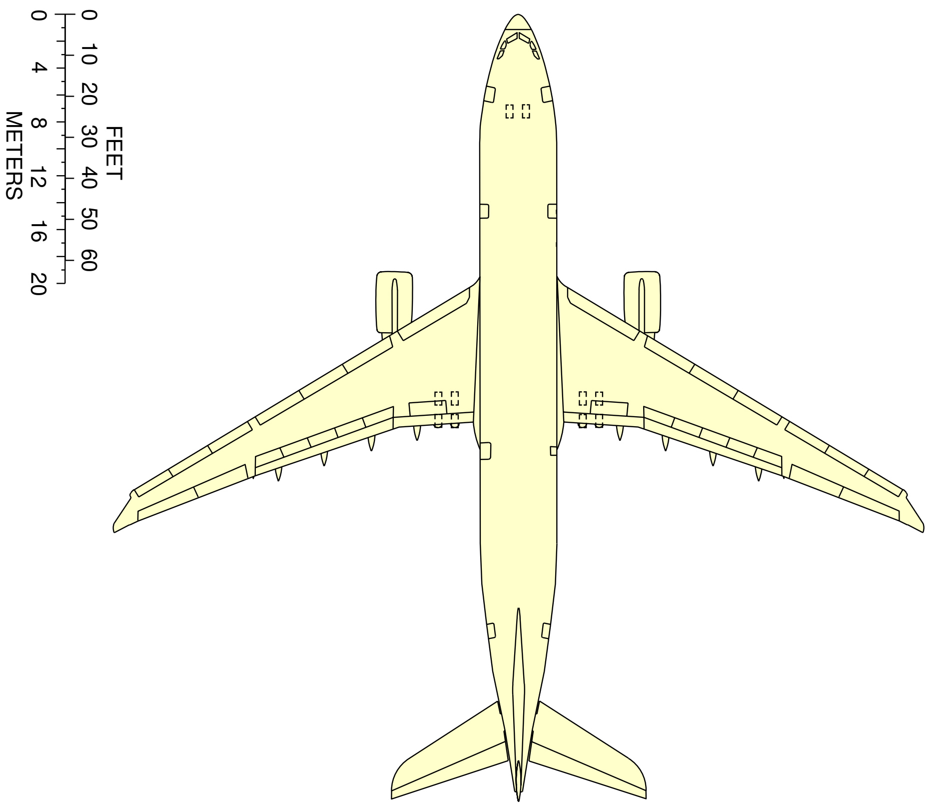


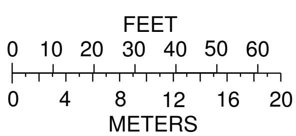
NOTE: WHEN PRINTING THIS DRAWING, MAKE SURE TO ADJUST FOR PROPER SCALING

F_AC_090200_1_0030101_01_01

Scaled Drawing
1 cm. = 500 cm.
FIGURE 3

**ON A/C A330-200



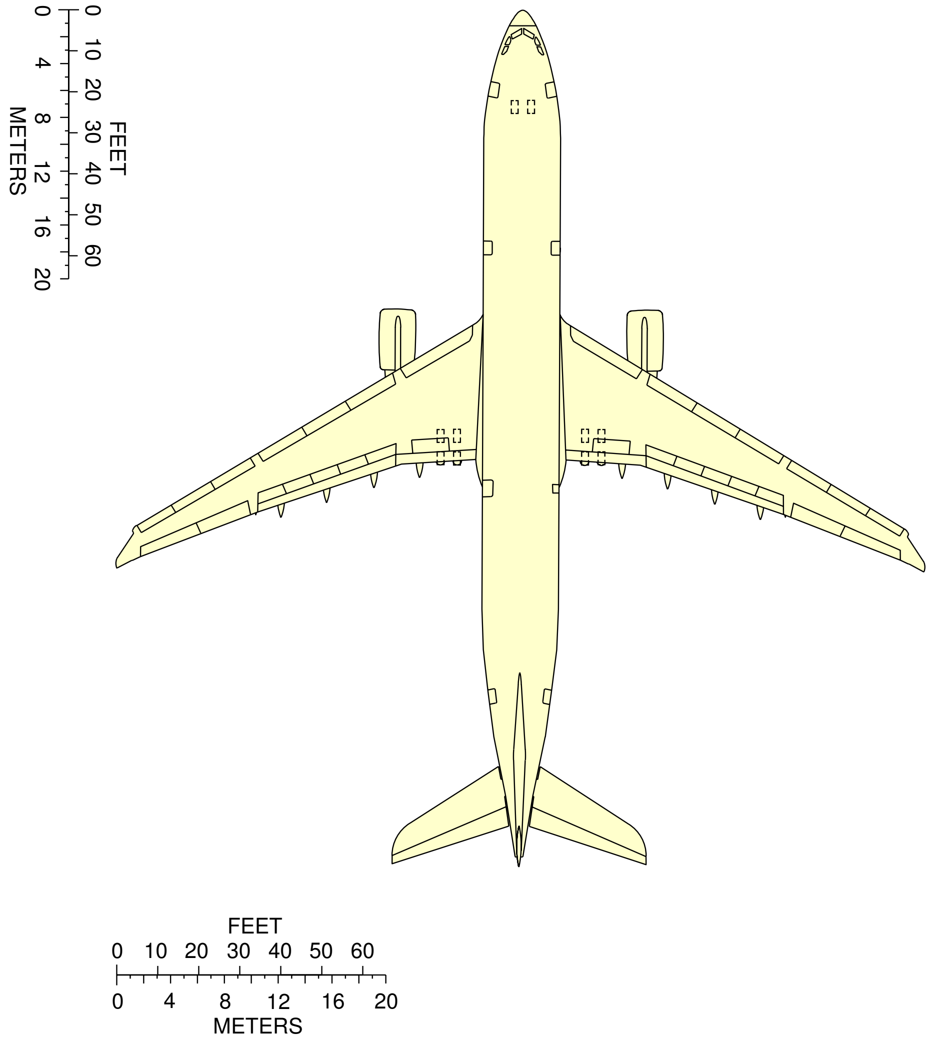


NOTE: WHEN PRINTING THIS DRAWING, MAKE SURE TO ADJUST FOR PROPER SCALING

F_AC_090200_1_0020101_01_01

Scaled Drawing
1 cm. = 500 cm.
FIGURE 4

**ON A/C A330-300

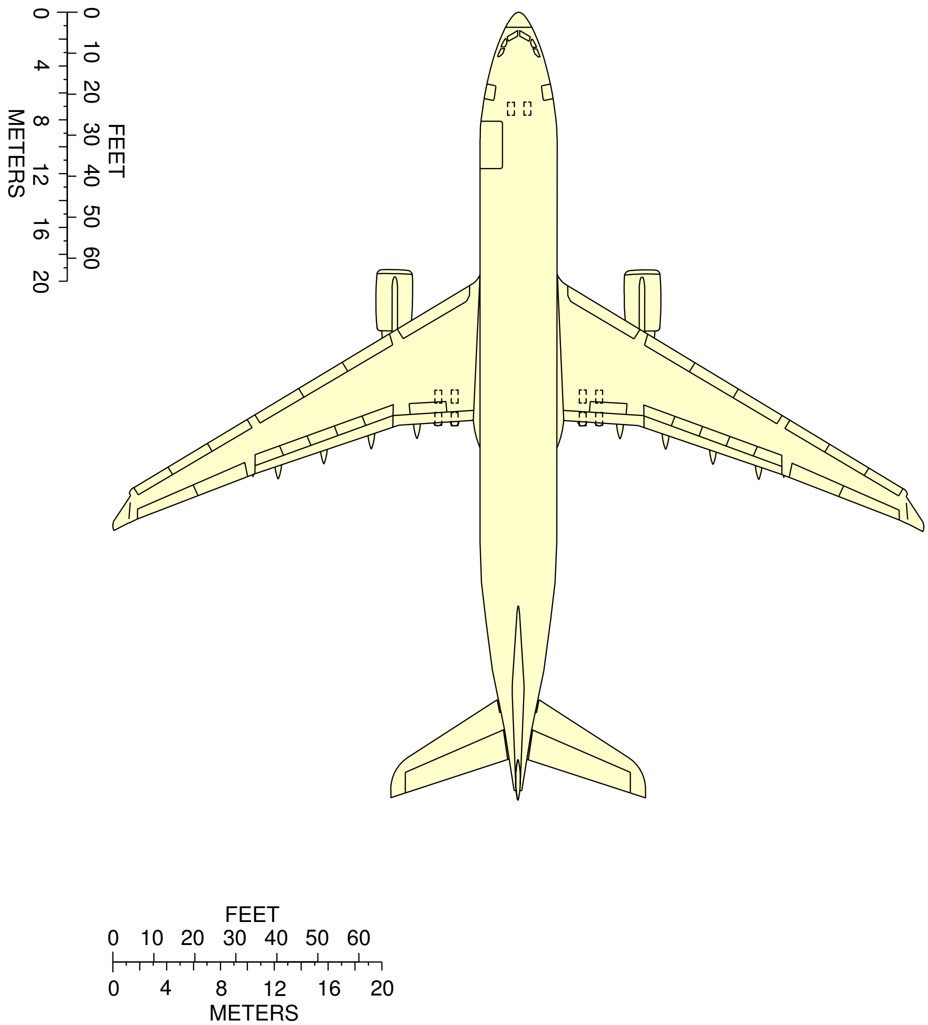


NOTE: WHEN PRINTING THIS DRAWING, MAKE SURE TO ADJUST FOR PROPER SCALING

F_AC_090200_1_0060101_01_00

Scaled Drawing
1 cm. = 500 cm.
FIGURE 5

**ON A/C A330-200F



NOTE: WHEN PRINTING THIS DRAWING, MAKE SURE TO ADJUST FOR PROPER SCALING

F_AC_090200_1_0040101_01_01

Scaled Drawing
1 cm. = 500 cm.
FIGURE 6