A300F4-600

Airplane Characteristics For Airport Planning AC

AIRBUS S.A.S.
31707 BLAGNAC CEDEX, FRANCE
CUSTOMER SERVICES
TECHNICAL DATA SUPPORT AND SERVICES
PRINTED IN FRANCE

AN EADS COMPANY

Reference : C. AC **Issue :** Dec 93

A300F4-600

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

HIGHLIGHTS

REVISION 04 - DEC 01/09

This revision concerns introduction of new pages and corrections of pages.

Description of change.

SECTION	PAGE(s)	REASON FOR CHANGE
1.1	p 1	Update Mail address.
1.2	p 1 and p 2	Update Presentation.
2.1	p 1	Update Presentation.
	p 2	Update Presentation and added Weight Variants.
2.3	p 1	Added "Note".
	p 2	Update Illustration.
5.0	p 1	Added Page.
5.1	p 1	Update Text.
	p 2	Added Illustration.
5.2	p 1	Added Page - Terminal Operation.
5.4	p 10	Change 3/4 in. by Roylyn 1 in.
5.8	p 1 to p 6	Update Section and Added New Illustrations.
7.0	All pages	Revised All Chapter. New Illustrations and New Text.
8.1	p 1	Change Text.
9.1	p 1 and p 2	Update Illustration.
9.2	p 1 and p 2	Update Illustration.
9.3	p 1 and p 2	Deleted Section.
9.4	p 1 and p 2	Deleted Section.
9.5	p 1 and p 2	Deleted Section.
9.6	p 1 and p 2	Deleted Section.

A300F4-600

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

REVISION TRANSMITTAL SHEET

TO : ALL HOLDERS OF A300F4-600 AIRPLANE CHARACTERISTICS

R The revision, dated DEC 01/09 is attached and covers all the Airplane Characteristics, and the pavement data, which are identified in the highlights.

FILING INSTRUCTIONS

NOTE : Before introducing this revision make certain that previous revisions are incorporated.

- affected pages are listed on the "List of Effective Pages" and designated as follows :

  R = revised (to be replaced)
  D = deleted (to be removed)
  N = new (to be introduced)

- make certain that the content of the manual is in compliance with the List of Effective Pages.

- update the Record of Revisions page accordingly.

- file the Revision Transmittal Sheet separately.

- remove and destroy the pages which are affected by this revision.

REASON FOR ISSUE

The attached Highlights detail the reasons for issue.

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AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

RECORD OF REVISIONS

REV No.	ISSUE DATE	DATE INSERTED	BY	REV No.	ISSUE DATE	DATE INSERTED	BY
	DEC 30/93						
1	JAN 30/94						
2	FEB 28/94						
3	JUN 01/98						
R 4	DEC 01/09						

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AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

LIST OF EFFECTIVE PAGES

CHAPTER/ SECTION		PAGE	DATE
L.E.P.	R	1	Dec 01/09
L.E.P.	R	2	Dec 01/09
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T.O.C.	R	1	Dec 01/09
T.O.C.	R	2	Dec 01/09
T.O.C.	R	3	Dec 01/09
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6.1.3		1	Dec 30/93
6.1.4		1	Dec 30/93

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6.1.6		1	Dec 30/93
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7.2	N	2	Dec 01/09
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9.6.1	D	1	Dec 01/09
9.6.1	D	2	Dec 01/09

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A300F4-600

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

1.1 Purpose

The A300F4-600 AIRPLANE CHARACTERISTICS (AC) manual is issued for the A300F4-600 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.

CORRESPONDENCE

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31707 BLAGNAC CEDEX
FRANCE

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1.2 Introduction

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

Chapter 1 : SCOPE

Chapter 2 : AIRPLANE DESCRIPTION

This chapter contains general dimensional and other basic aircraft data concerning the A300F4-600.

It covers :
- aircraft dimensions and ground clearances,
- passengers 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 equipments.

It covers :
- location and connections of ground servicing equipments,
- engines starting pneumatic and preconditioned airflow requirements.

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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 temperature,
- 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 A300F4-600 new version with the associated size change.

Chapter 9 : SCALED DRAWING

This chapter contains different A300F4-600 scaled drawings.

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2.1 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.

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AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

		AIRPLANE VERSION A300F4-600 R		
		WV000 (Basic)	WV006	WV009
Maximum Taxi Weight (MTW)	kg	171 400	166 000	168 900
	lb	377 871	365 966	372 360
Maximum Takeoff Weight (MTOW)	kg	170 500	165 100	168 000
	lb	375 887	363 982	370 376
Maximum Landing Weight (MLW)	kg	140 000	140 600	143 300
	lb	308 646	309 969	315 922
Maximum Zero Fuel Weight (MZFW)	kg	130 000	133 800	136 500
	lb	308 646	294 978	300 930
Estimated Operational Empty Weight (OEW)	GE CF6-80 Engines	82 046 kg (180 880 lb)		
	PW4000 Engines	81 707 kg (180 132 lb)		81 707 kg (180 132 lb)
Estimated Maximum Payload GE CF6-80	kg	47 954	51 754	54 454
	lb	105 720	114 097	120 050
Estimated Maximum Payload PW4000	kg	48 293		54 793
	lb	106 467		120 797
Standard Seating Capacity	Single-class	4		
Usable Fuel Capacity	l	68 160		
	US Gallons	18 005		
	Kg (d=0.785)	53 505		
	lb	117 958		
Cockpit Volume	m3	12		
	ft3	424		
Main Deck Cargo Compartment Volume	m3	540		
	ft3	19 069		
Usuable Cargo Compartment Volume (1)	m3	158		
	ft3	5 579		

(1) Volume of Cargo Compartments : Fwd Cargo Compartment : 76 m3 (2 683 ft3)
Aft Cargo Hold Compartment : 61 m3 (2 154 ft3)
Bulk Cargo Compartment : 21 m3 (741 ft3)

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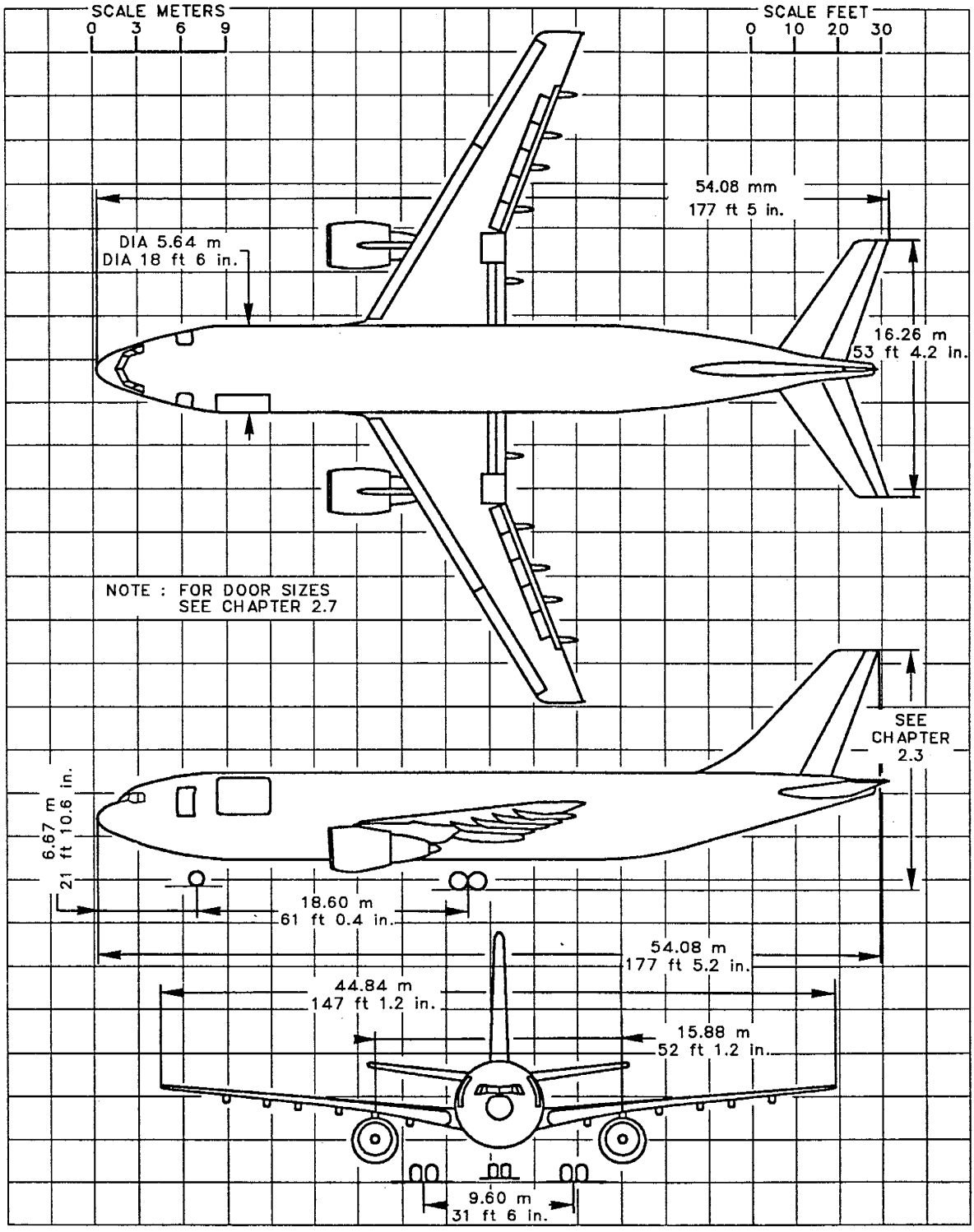

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GENERAL AIRPLANE DIMENSIONS
MODEL A300F4-600

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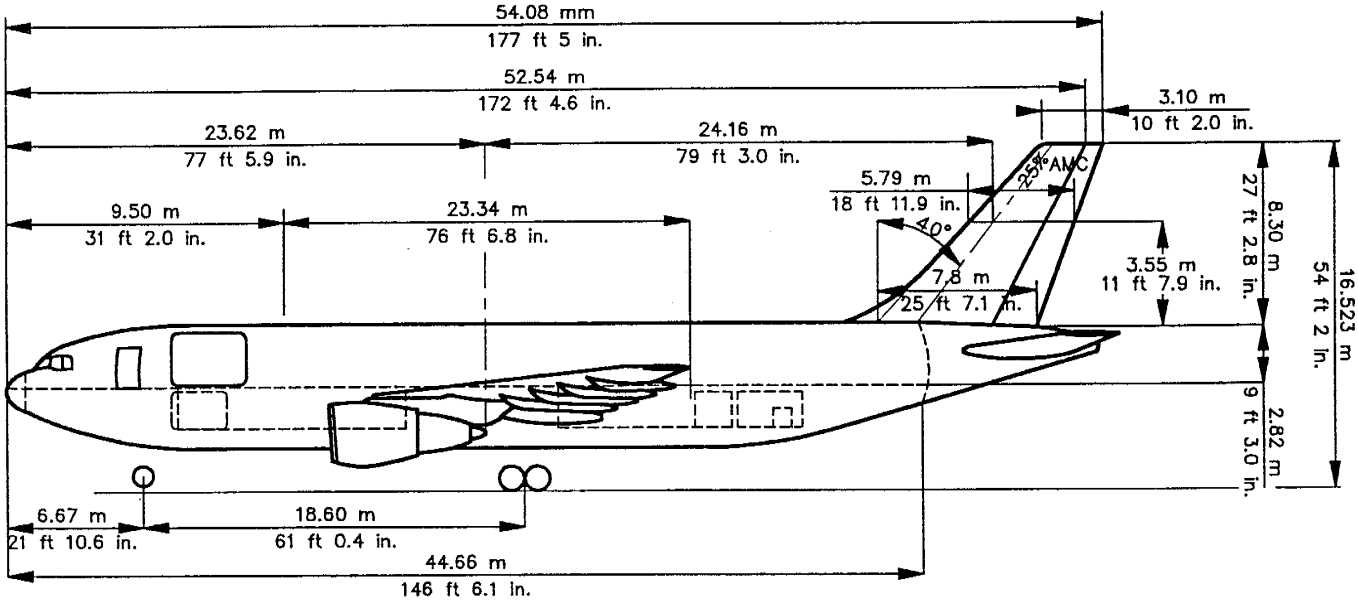

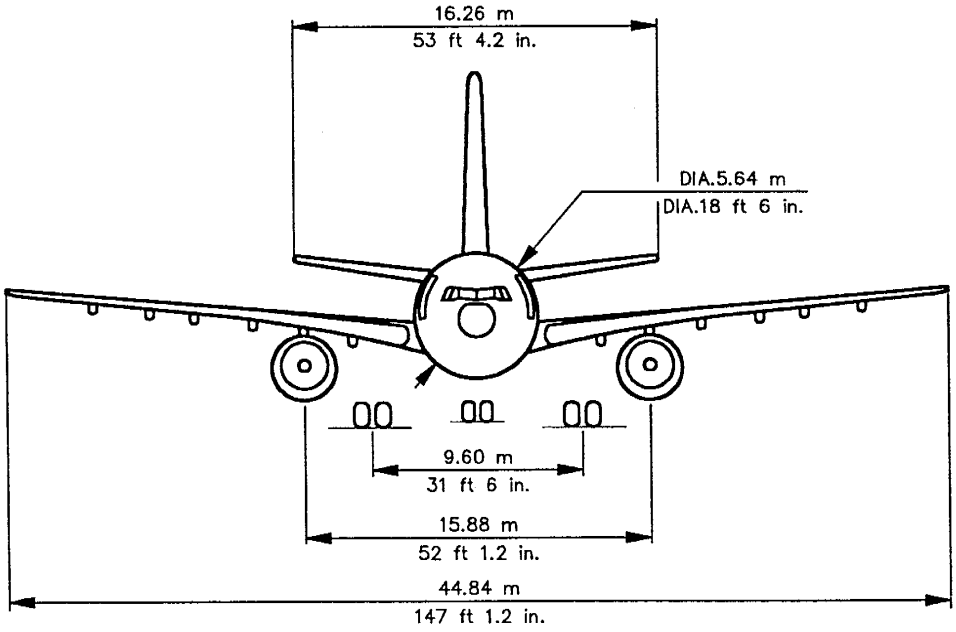

AIRPLANE DIMENSIONS
MODEL A300F4-600

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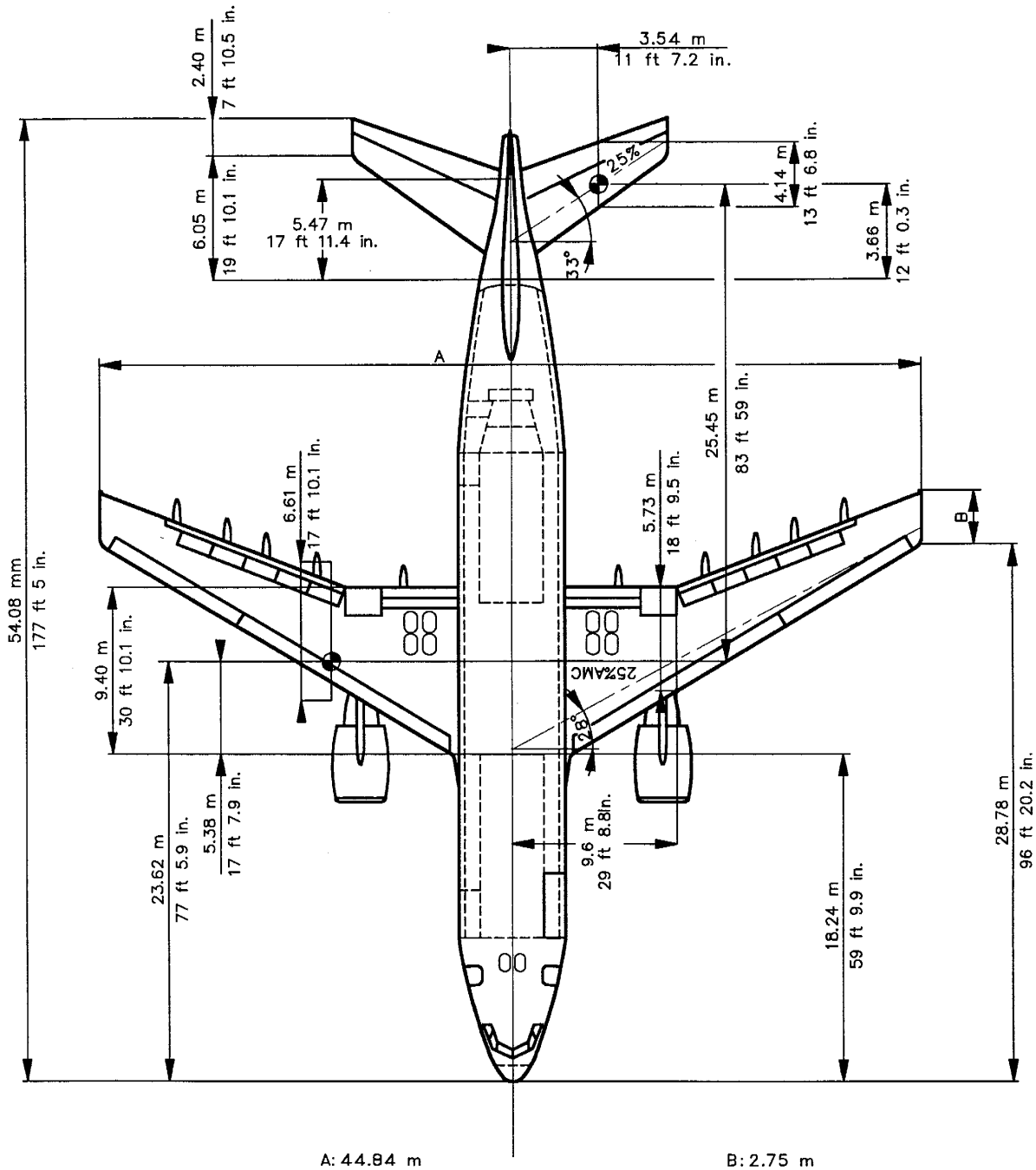

A: 44.84 m
147 ft 1.2 in.
ON A/C WITH WING TIP FENCE
44.85m
147ft 1.66in.

B: 2.75 m
9 ft 0.2 in.
ON A/C WITH WING TIP FENCE
2.857m
9ft 4.64in.

AIRPLANE DIMENSIONS
MODEL A300F4-600

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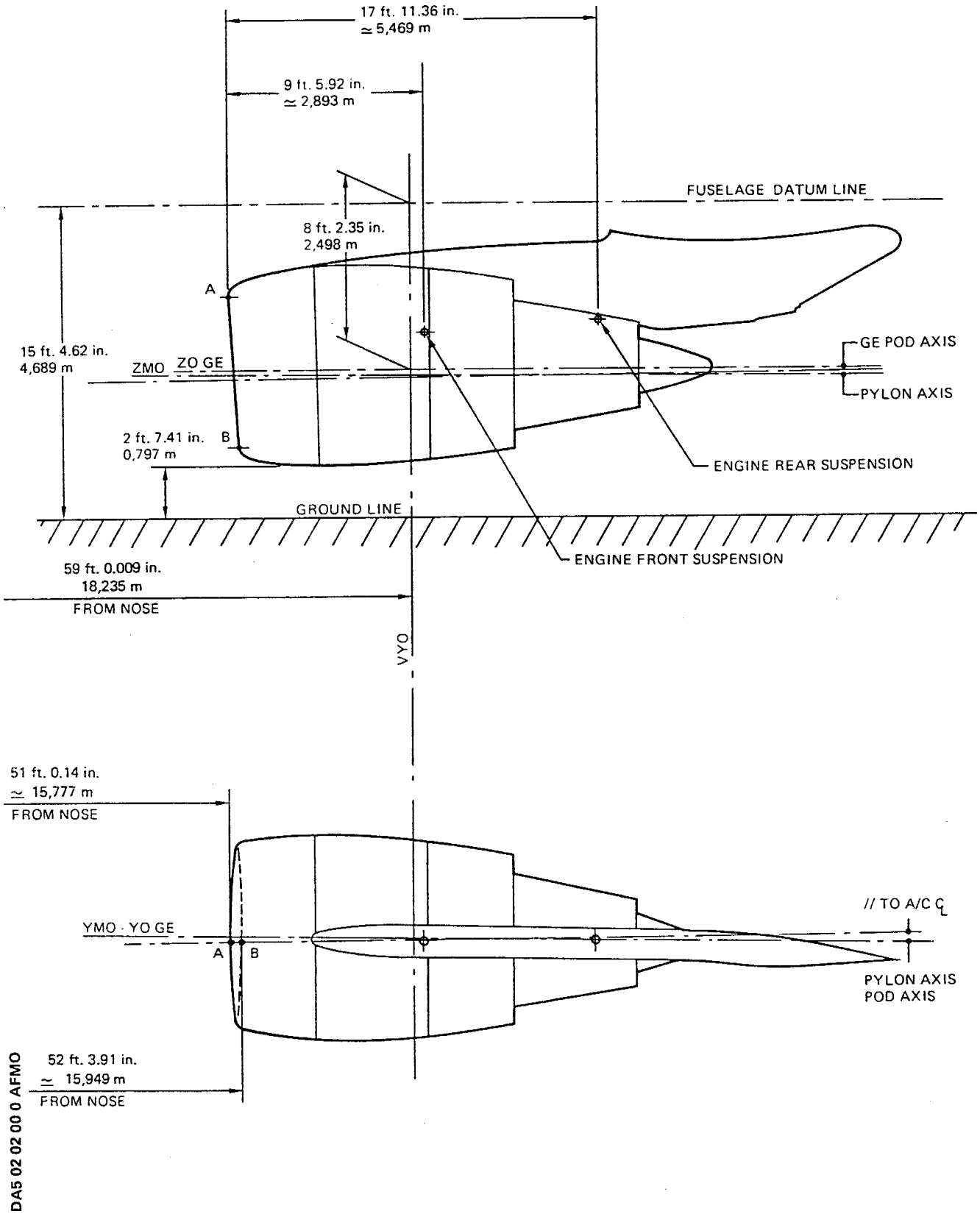

AIRPLANE DIMENSIONS
GE ENGINE CF6-80C2F

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2.3 Ground Clearances

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).

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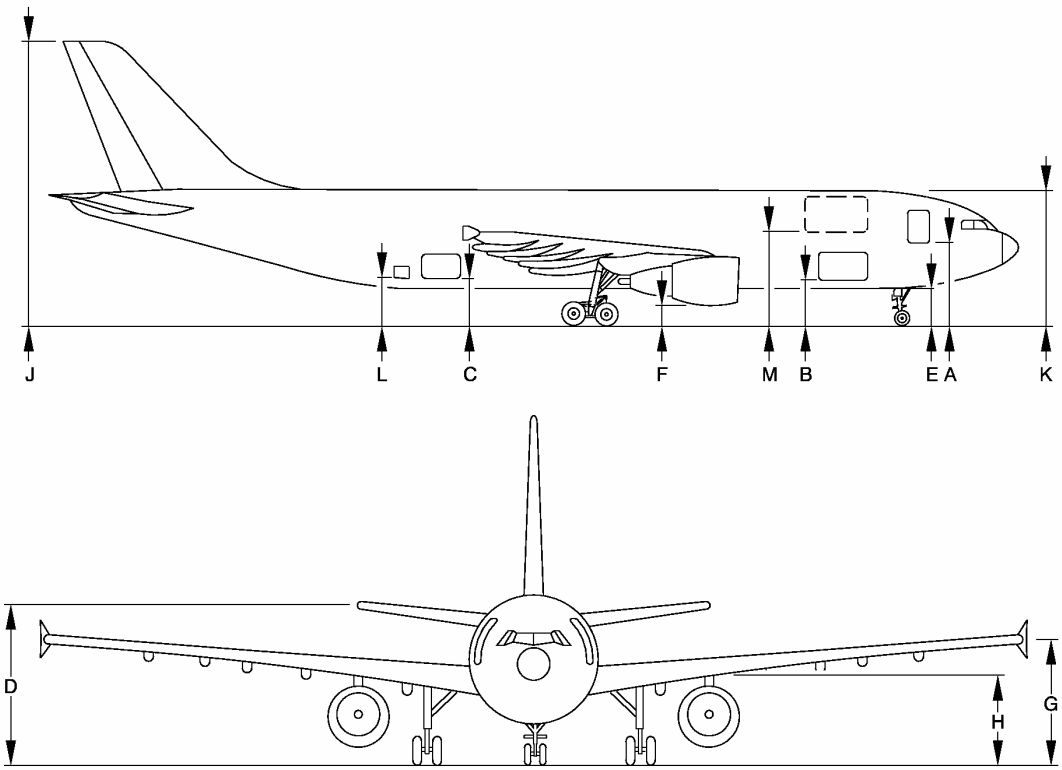

VERTICAL CLEARANCES						
	OPERATING WEIGHT EMPTY		MAXIMUM RAMP WEIGHT			
	CG 25 %		CG 15 %		CG 34 %	
	m	ft	m	ft	m	ft
A	4.58	15.02	4.41	14.46	4.52	14.84
B	2.65	8.71	2.49	8.18	2.58	8.48
C	3.18	10.43	3.06	10.04	2.98	9.77
D	7.87	25.81	7.77	25.49	7.56	24.81
E	1.99	6.53	1.83	6.01	1.92	6.31
F	1.14	3.74	1.00	3.28	1.03	3.37
G	5.96	19.56	5.75	18.85	5.70	18.70
H	4.39	14.40	4.25	13.94	4.24	13.93
J	16.66	54.67	16.57	54.35	16.34	53.62
K	7.63	25.04	7.47	24.51	7.56	24.81
L	3.26	10.68	3.14	10.30	3.04	9.96
M	4.48	14.70	4.37	14.34	4.40	14.44

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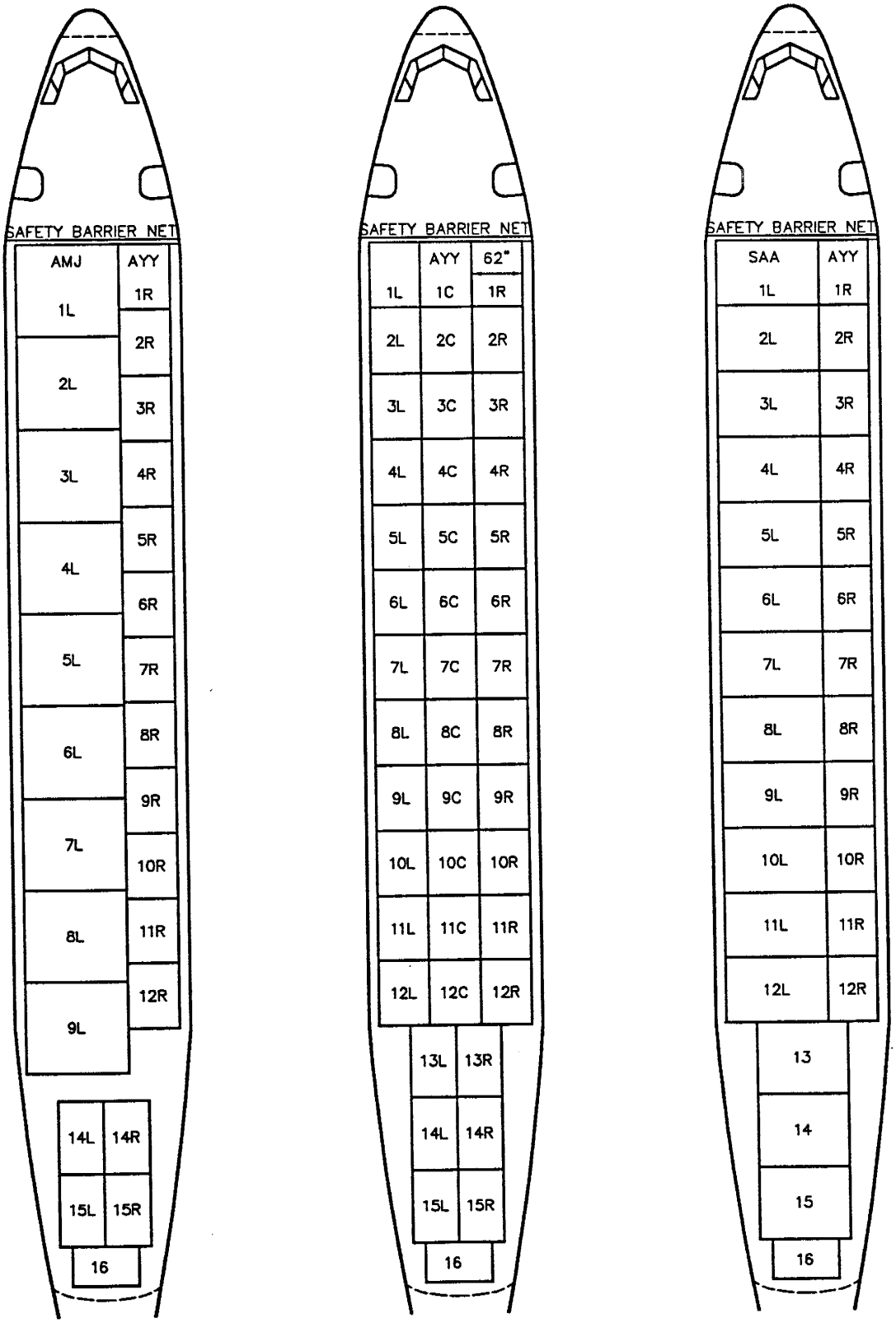
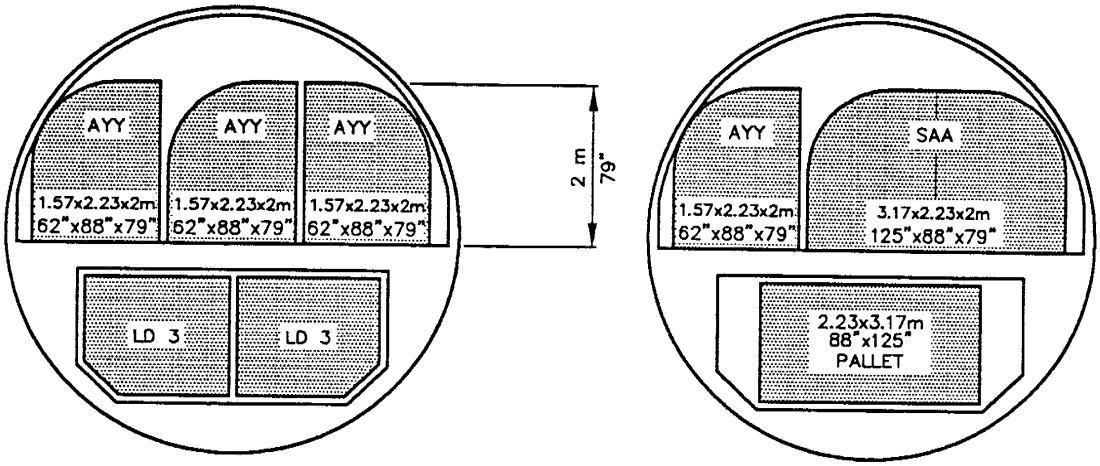
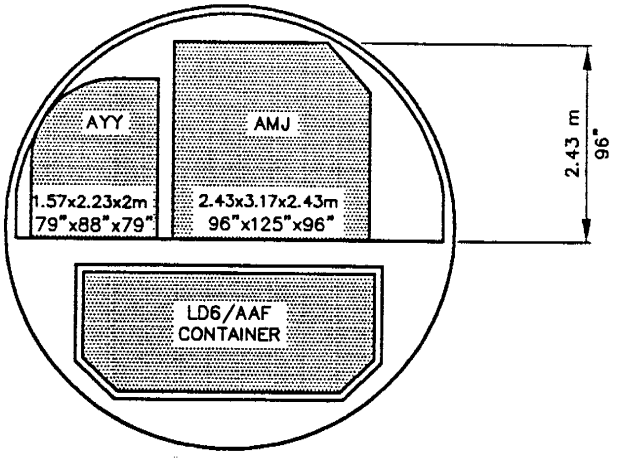


INTERIOR ARRANGEMENTS
MAIN DECK CARGO
COMPARTMENT

Printed in France





INTERIOR ARRANGEMENTS
CROSS-SECTION

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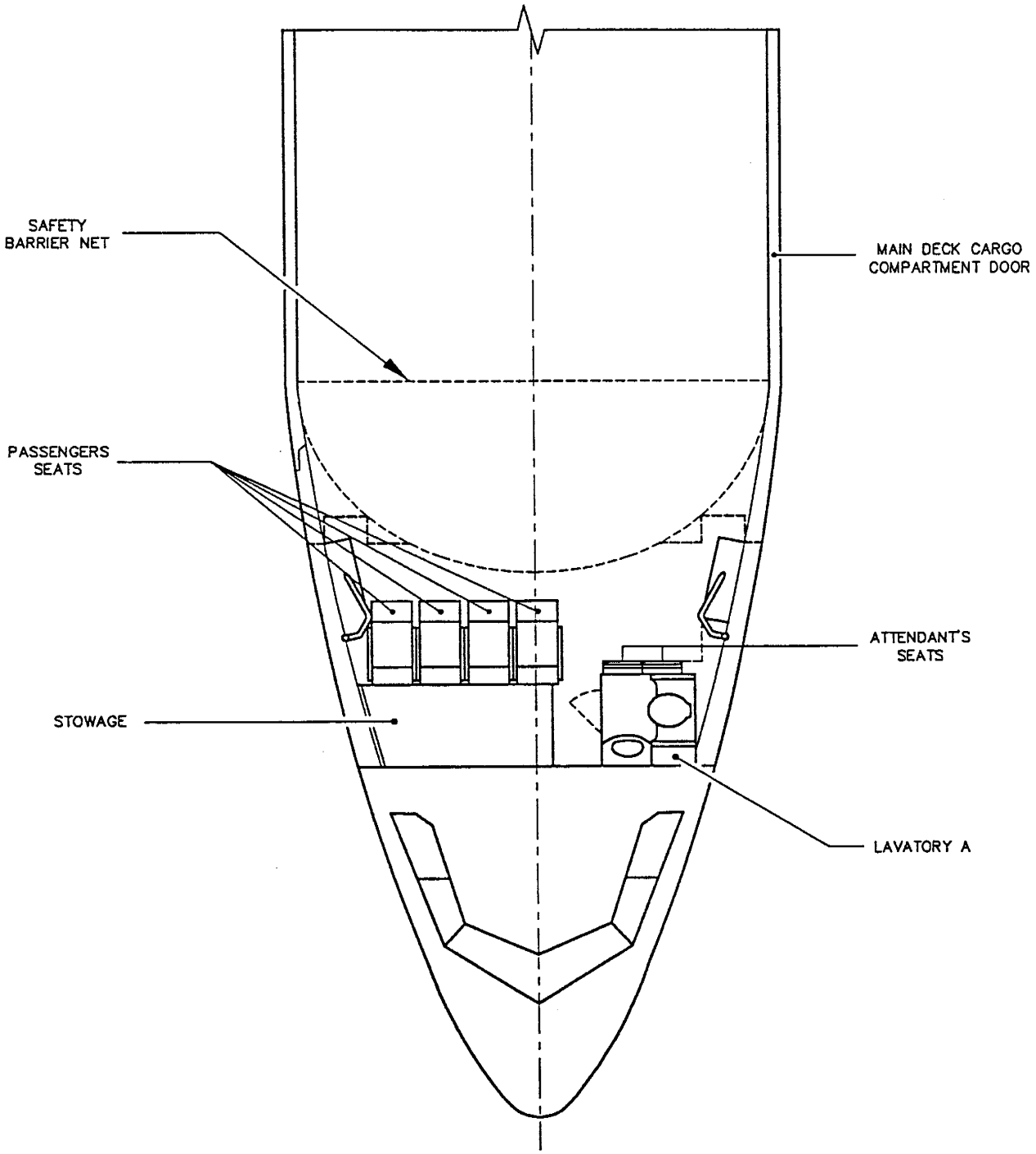

INTERIOR ARRANGEMENTS
COURIER AREA

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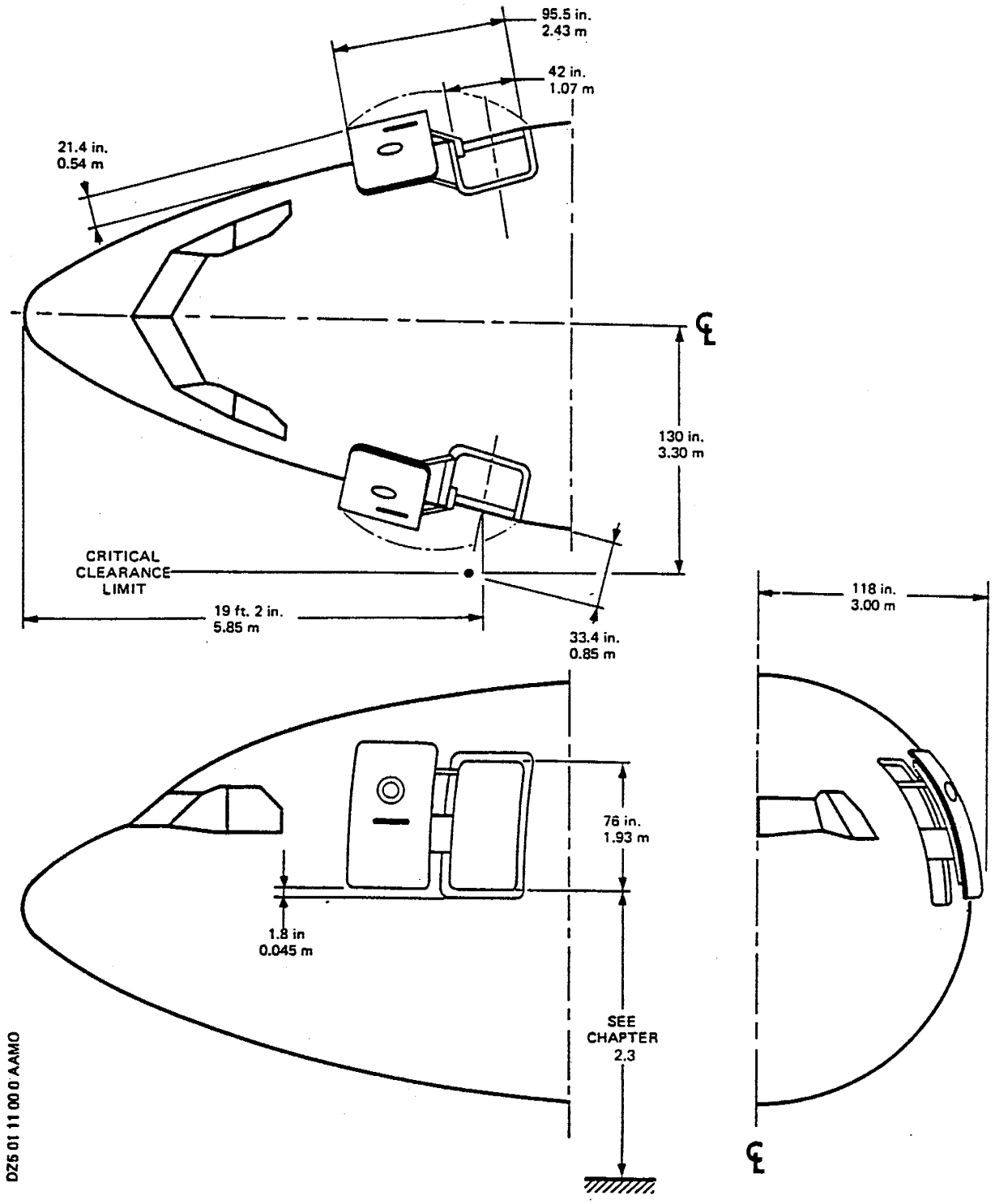
2.7 DOOR CLEARANCES

Printed in France



DOOR CLEARANCES
FORWARD CREW DOOR/CLEARANCES

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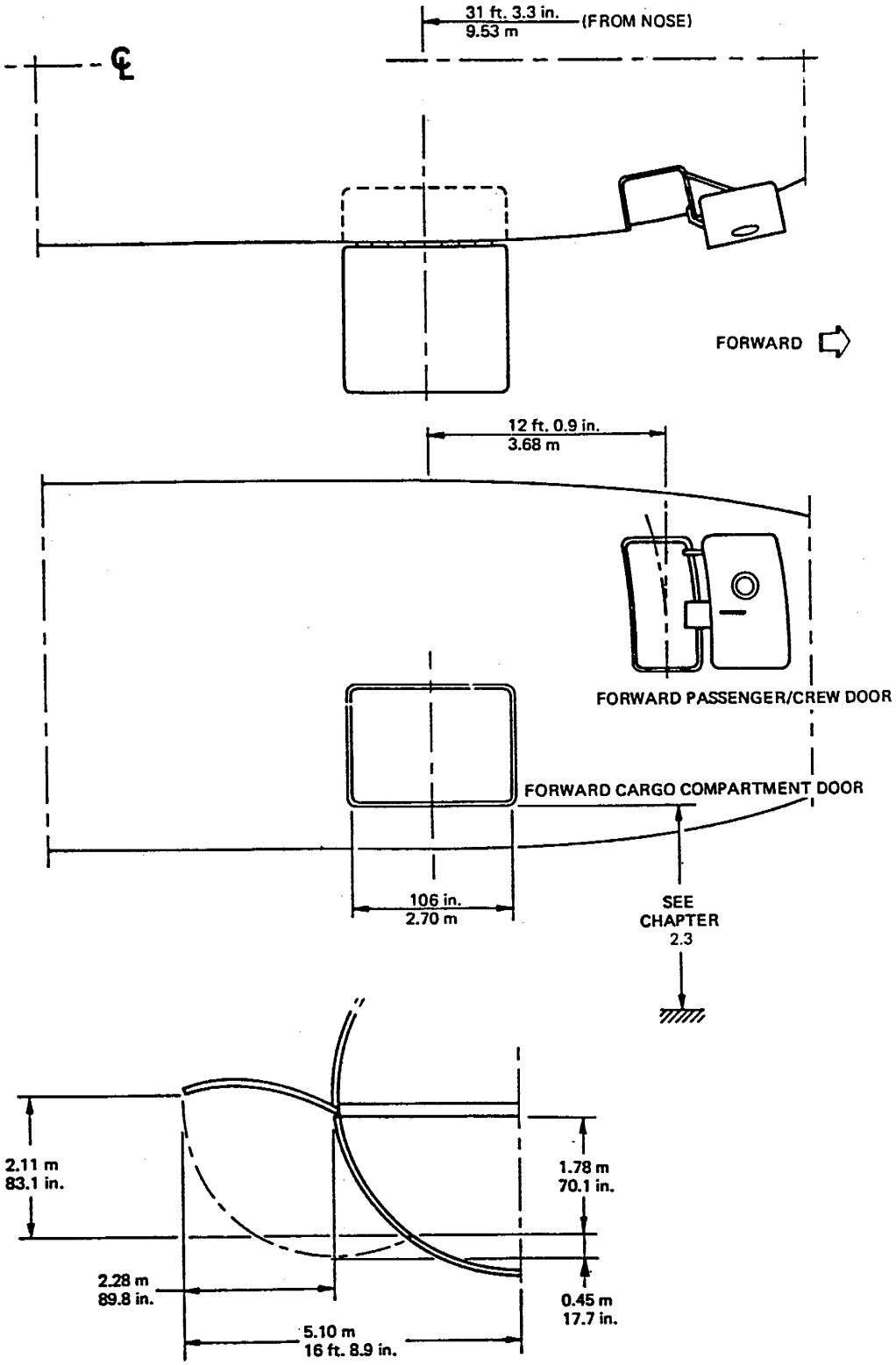

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DOOR CLEARANCES
FORWARD CARGO COMPARTMENT DOOR

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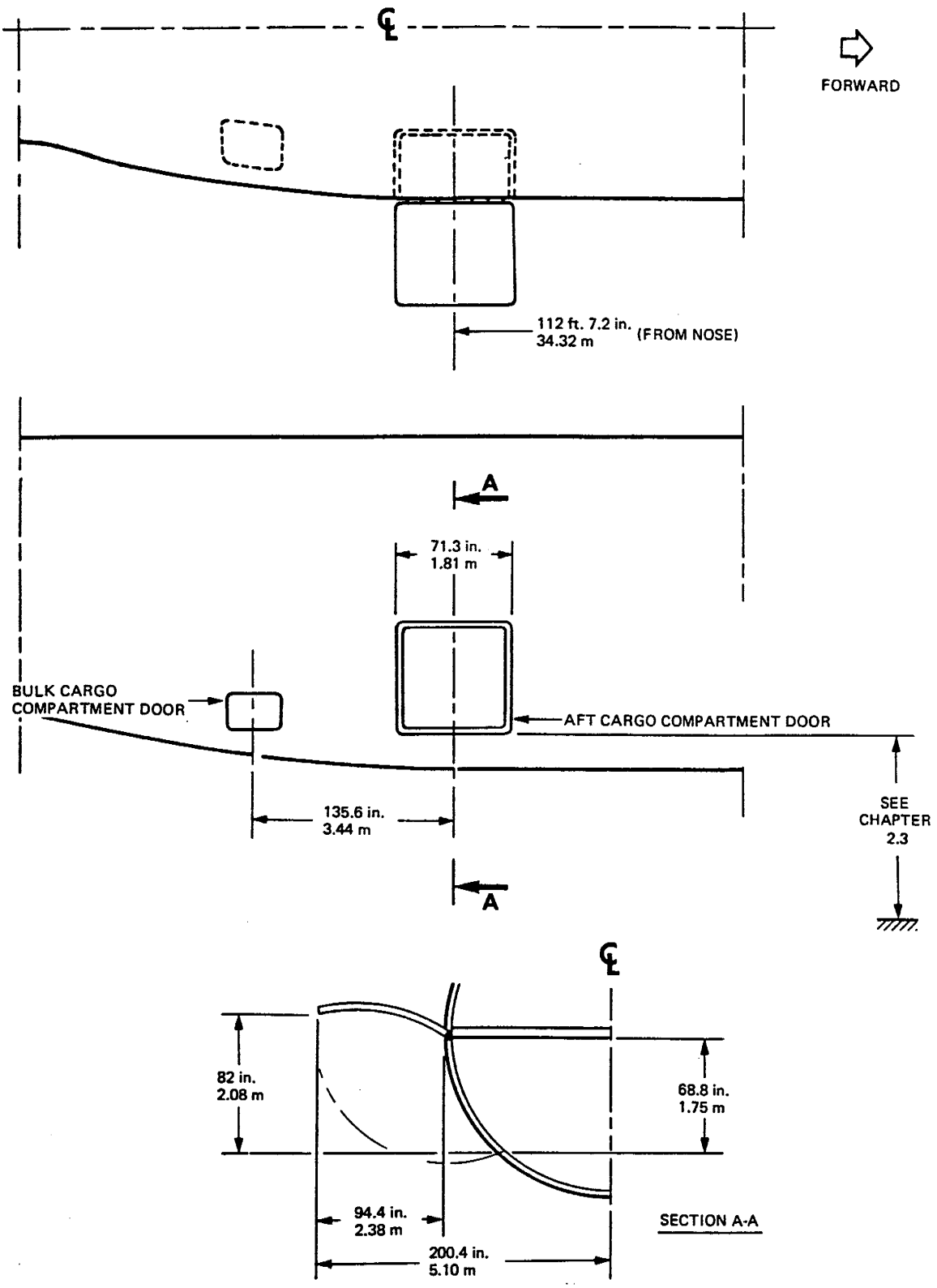
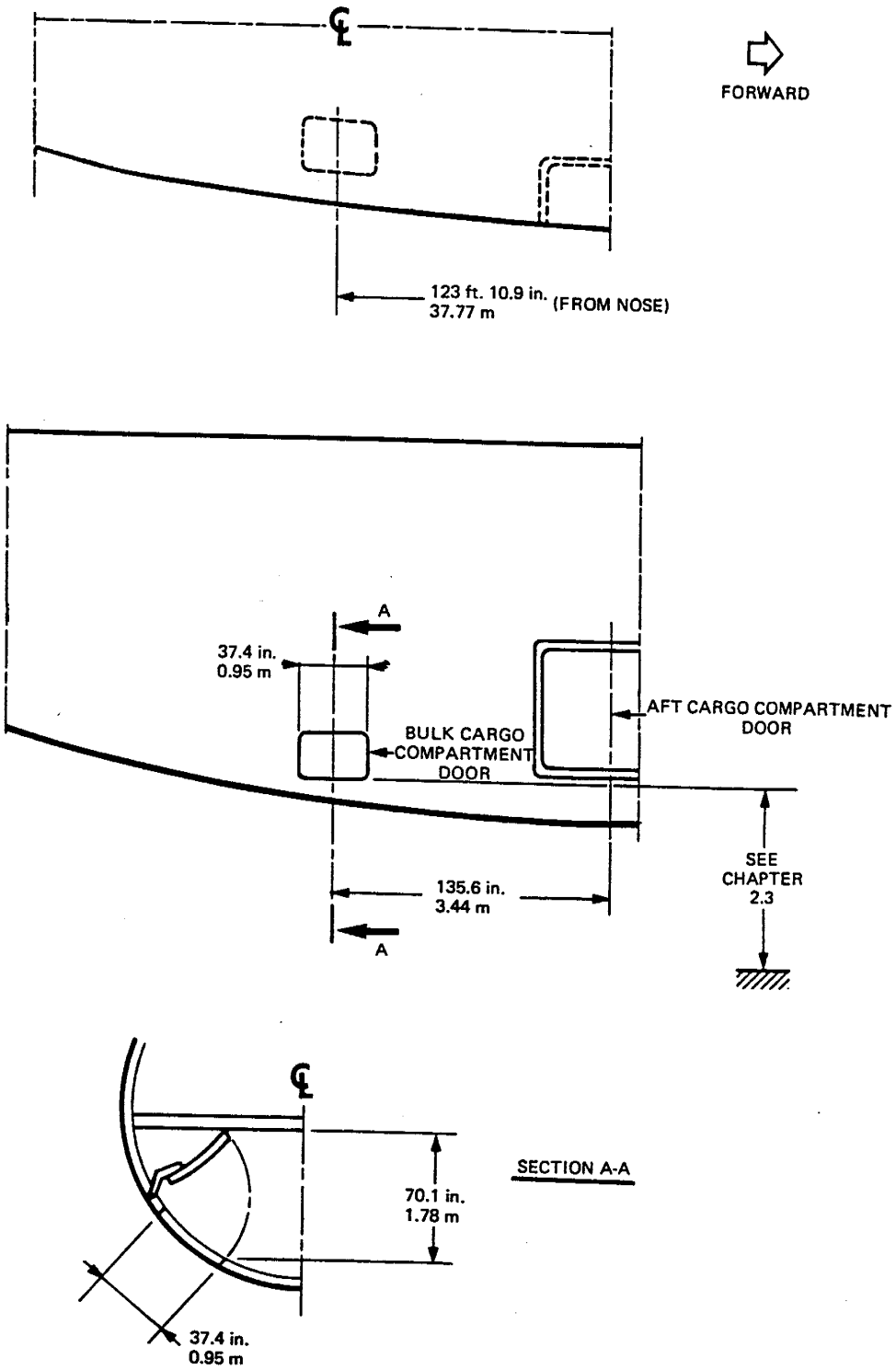


D25 01 11 00 0 ALMO

DOOR CLEARANCES
AFT CARGO COMPARTMENT DOOR

Printed in France



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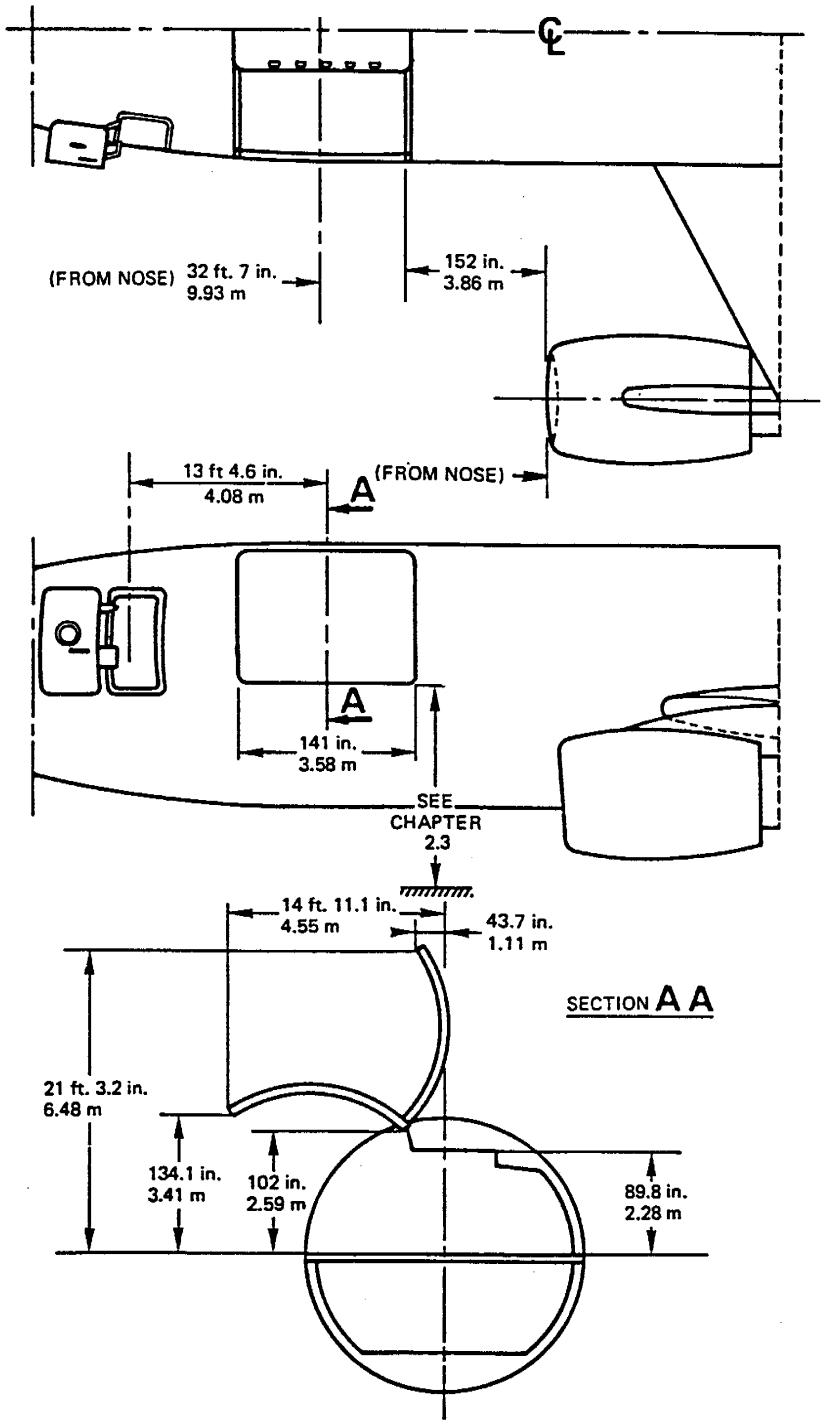
DOOR CLEARANCES
BULK CARGO COMPARTMENT DOOR

Printed in France



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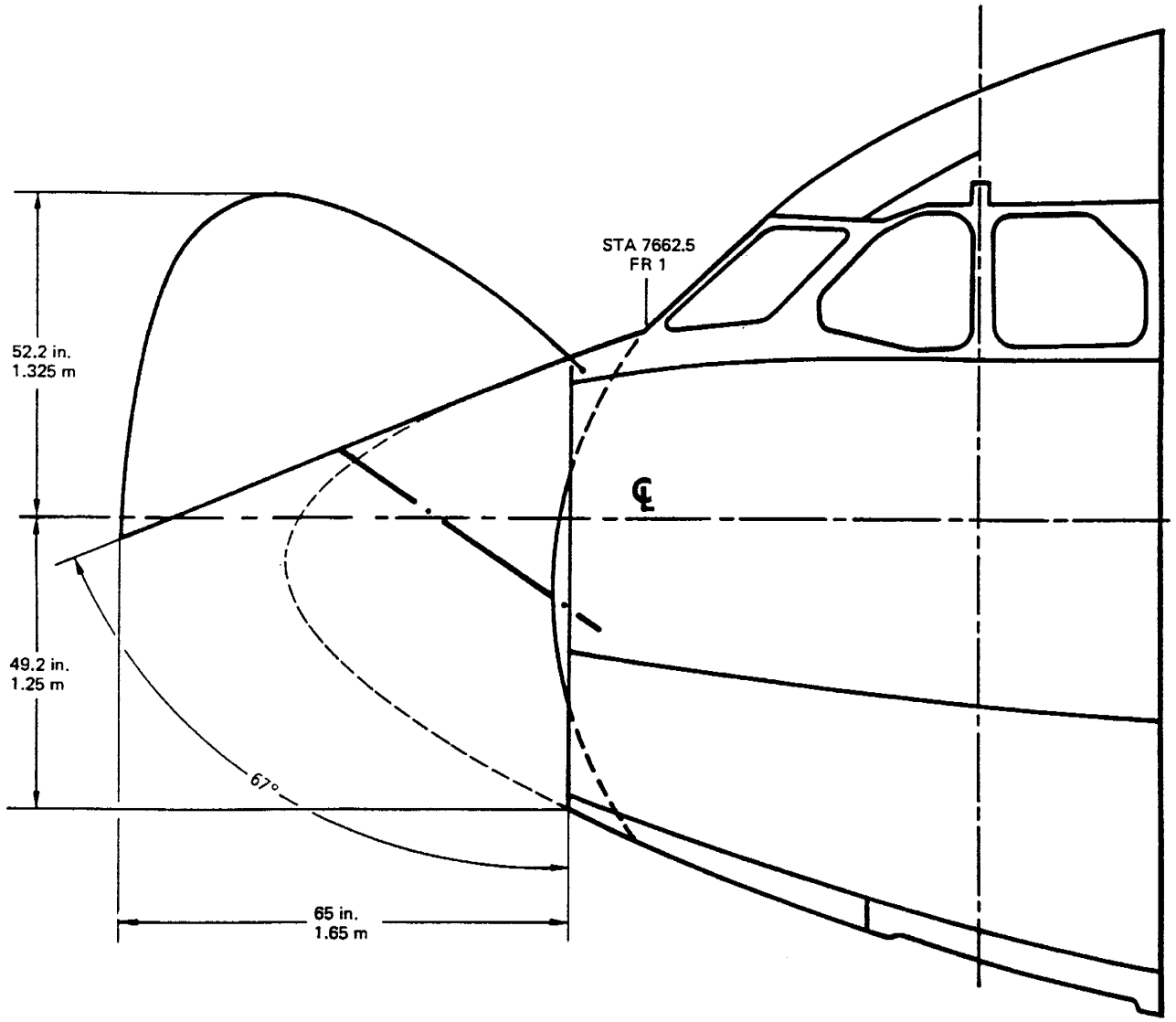
DOOR CLEARANCES
MAIN DECK CARGO DOOR

Printed in France



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RADOME TRAVEL

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3.0 AIRPLANE PERFORMANCE

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3.0 AIRPLANE PERFORMANCE

3.1 General Information

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 take off runway length requirements at ISA + 15°C (ISA + 59°F) for GE CF6-80C2F engines conditions for FAA certification.

Section 3.4 represents FAR landing runway Length requirements for FAA certification.

Section 3.5 indicates final approach speeds.

Standard day temperatures for the altitudes shown are tabulated below :

Altitude		ISA Temperature	
FEET	METERS	°F	°C
0	0	59	15
2000	610	51.9	11.6
4000	1220	44.7	7.1
6000	1830	37.6	3.1
8000	2440	30.5	-0.8

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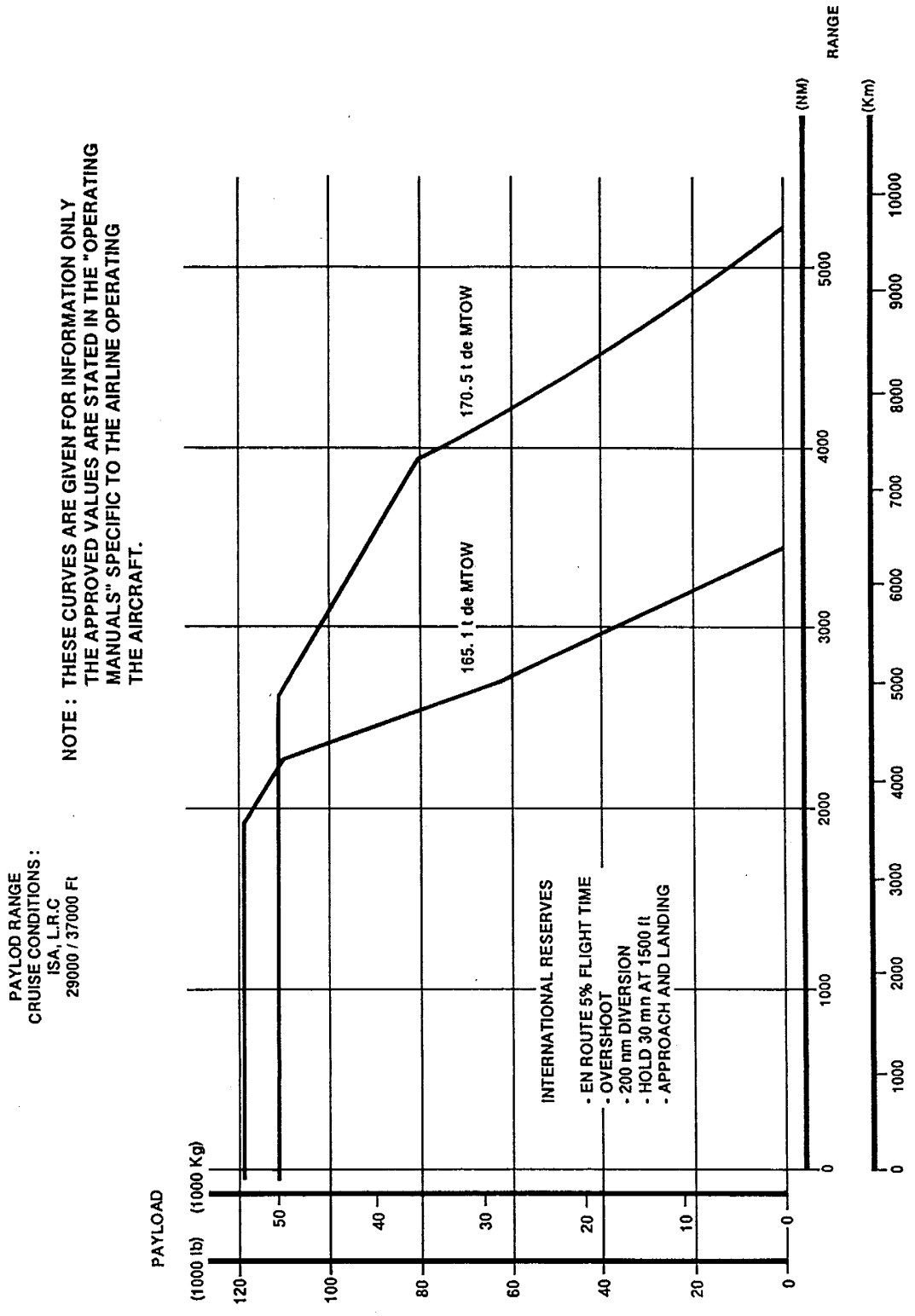

PAYLOAD RANGE LONG RANGE CRUISE
ISA CONDITIONS
GE-CF6-80C2F ENGINE
MODEL A300F4-600

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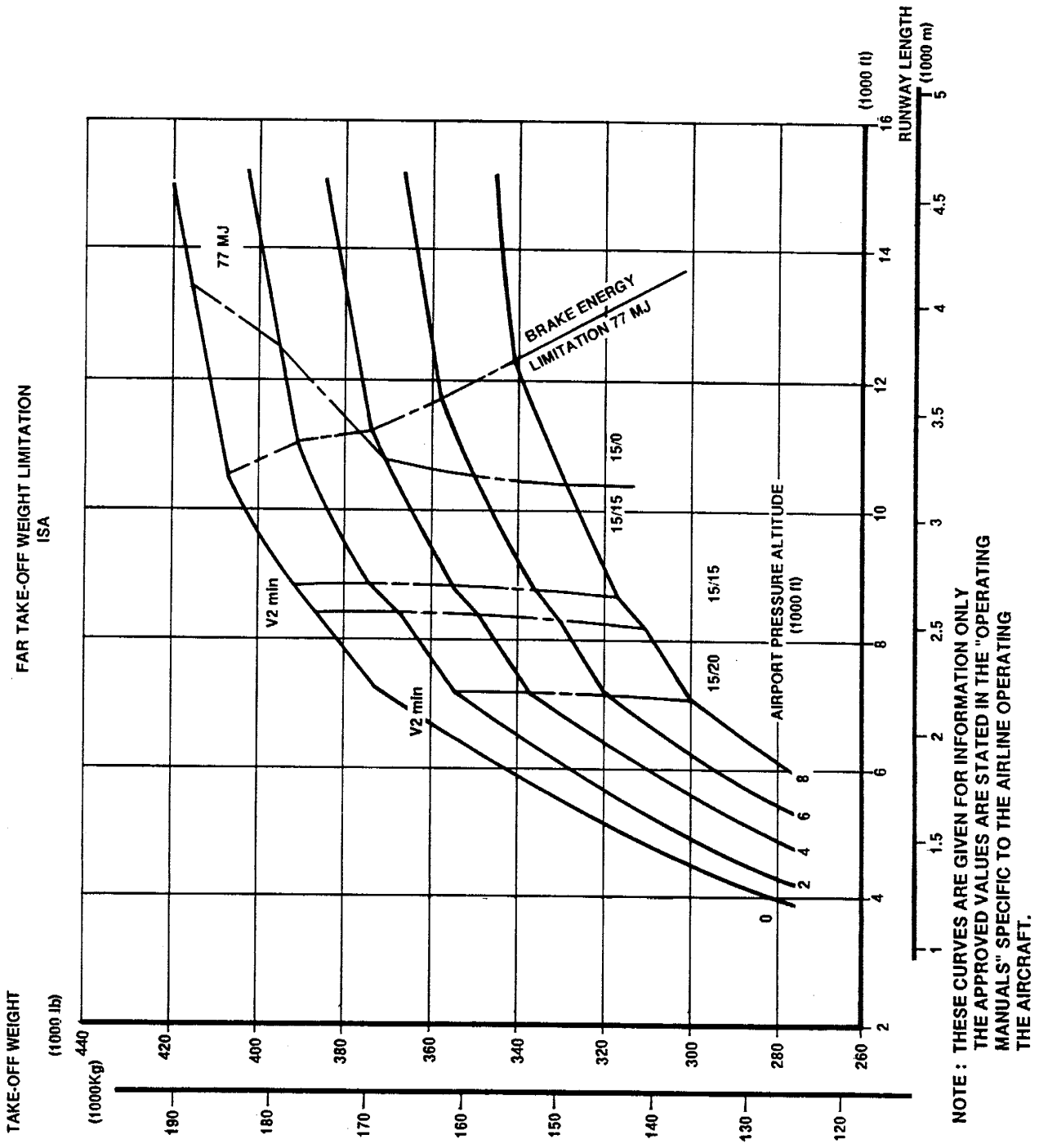

FAR TAKE-OFF RUNWAY LENGTH REQUIREMENTS
ISA CONDITIONS - GE-CF6-80C2F ENGINE
MODEL A300F4-600

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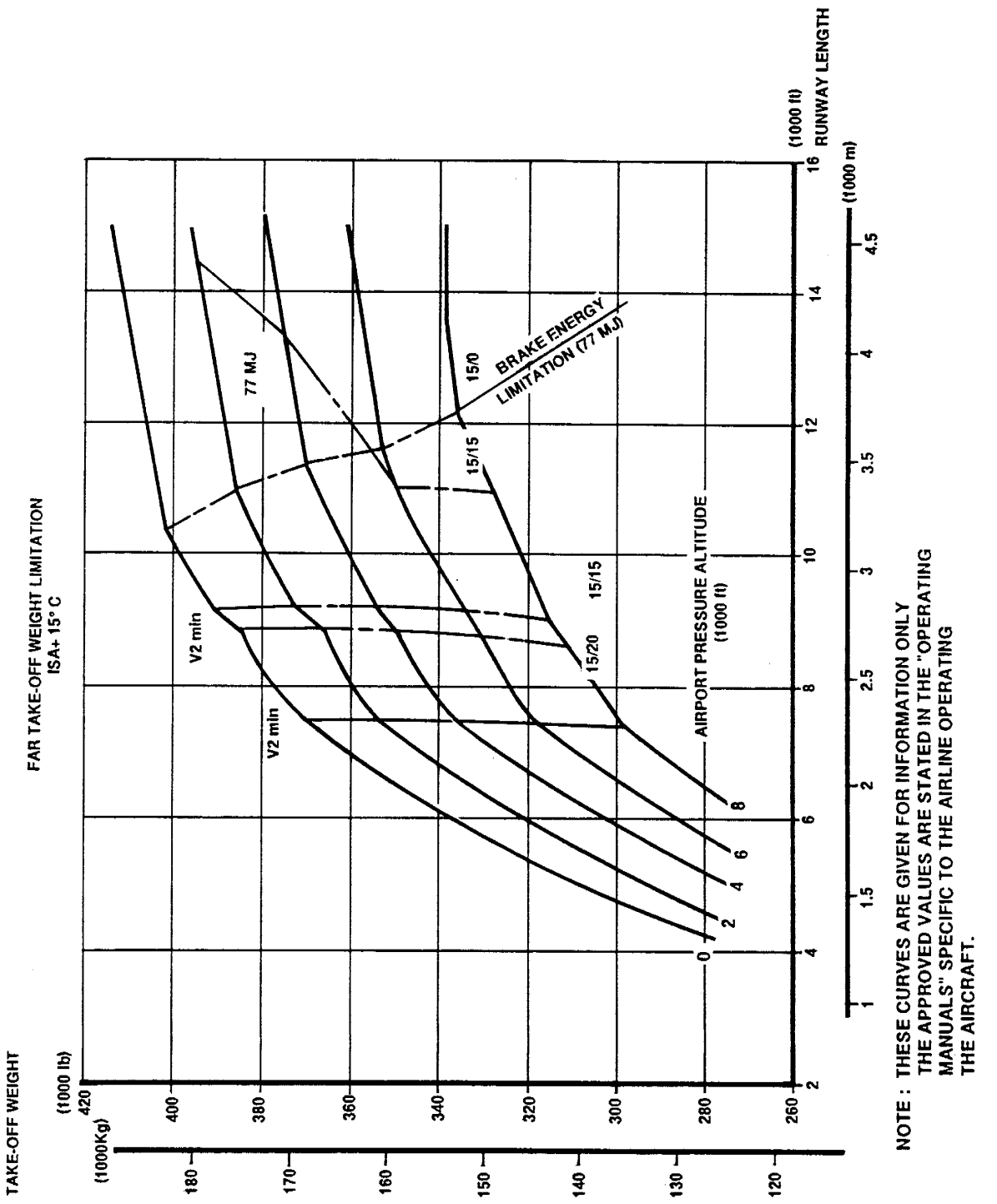

NOTE : THESE CURVES ARE GIVEN FOR INFORMATION ONLY
THE APPROVED VALUES ARE STATED IN THE "OPERATING MANUALS" SPECIFIC TO THE AIRLINE OPERATING THE AIRCRAFT.

FAR TAKE-OFF RUNWAY LENGTH REQUIREMENTS
ISA + 15°C CONDITIONS - ISA + 59°F CONDITIONS
GE CF6-80C2F ENGINE
MODEL A300F4-600

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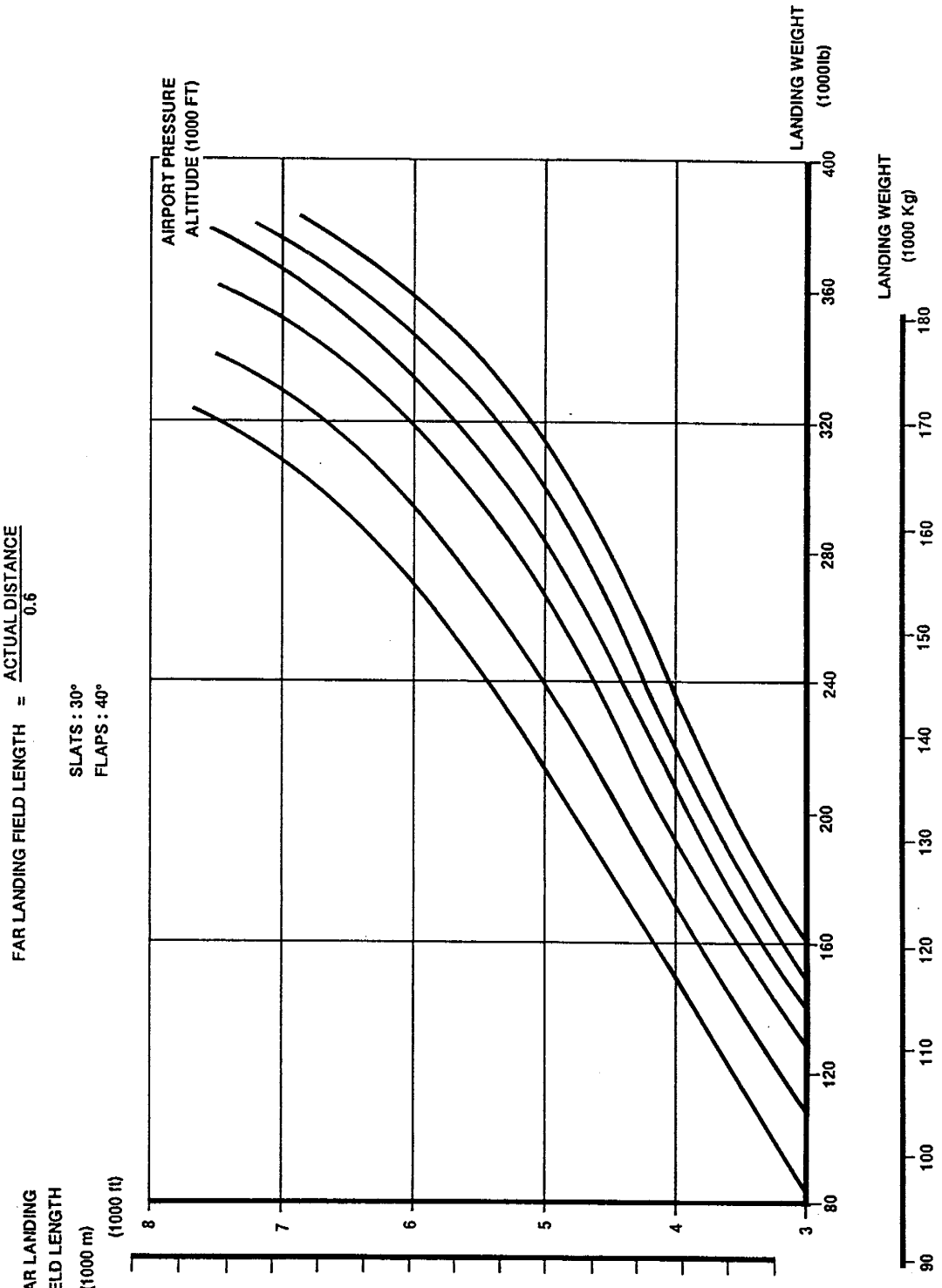

NOTE : THESE CURVES ARE GIVEN FOR INFORMATION ONLY
THE APPROVED VALUES ARE STATED IN THE "OPERATING MANUALS" SPECIFIC TO THE AIRLINE OPERATING THE AIRCRAFT.

FAR LANDING RUNWAY LENGTH REQUIREMENTS
ALL AMBIENT TEMPERATURES
GE ENGINE
MODEL A300F4-600

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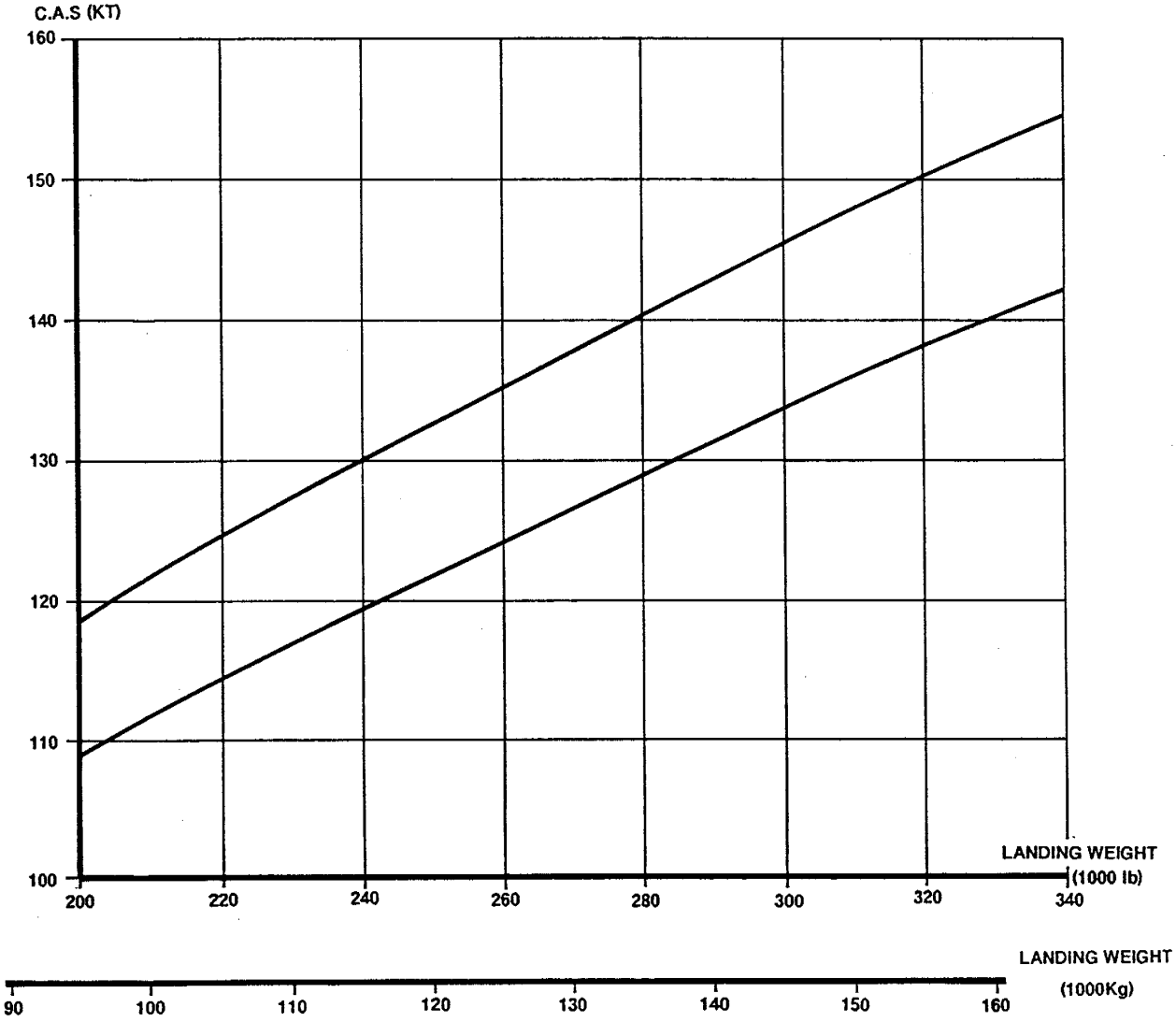
FINAL APPROACH SPEED (1.3 Vs)
AT 50 ft
LANDING GEAR DOWN

SLATS : 30°

FLAPS : 40°



NOTE : THESE CURVES ARE GIVEN FOR INFORMATION ONLY
THE APPROVED VALUES ARE STATED IN THE "OPERATING MANUALS" SPECIFIC TO THE AIRLINE OPERATING THE AIRCRAFT.

FINAL APPROACH SPEED AT 1.3 VS
GE ENGINE
MODEL A300F4-600

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4.0 GROUND MANEUVERING

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4.0 GROUND MANEUVERING

4.1 GENERAL INFORMATION

This section provides airplane turning capability and maneuvering characteristics.

For case 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.

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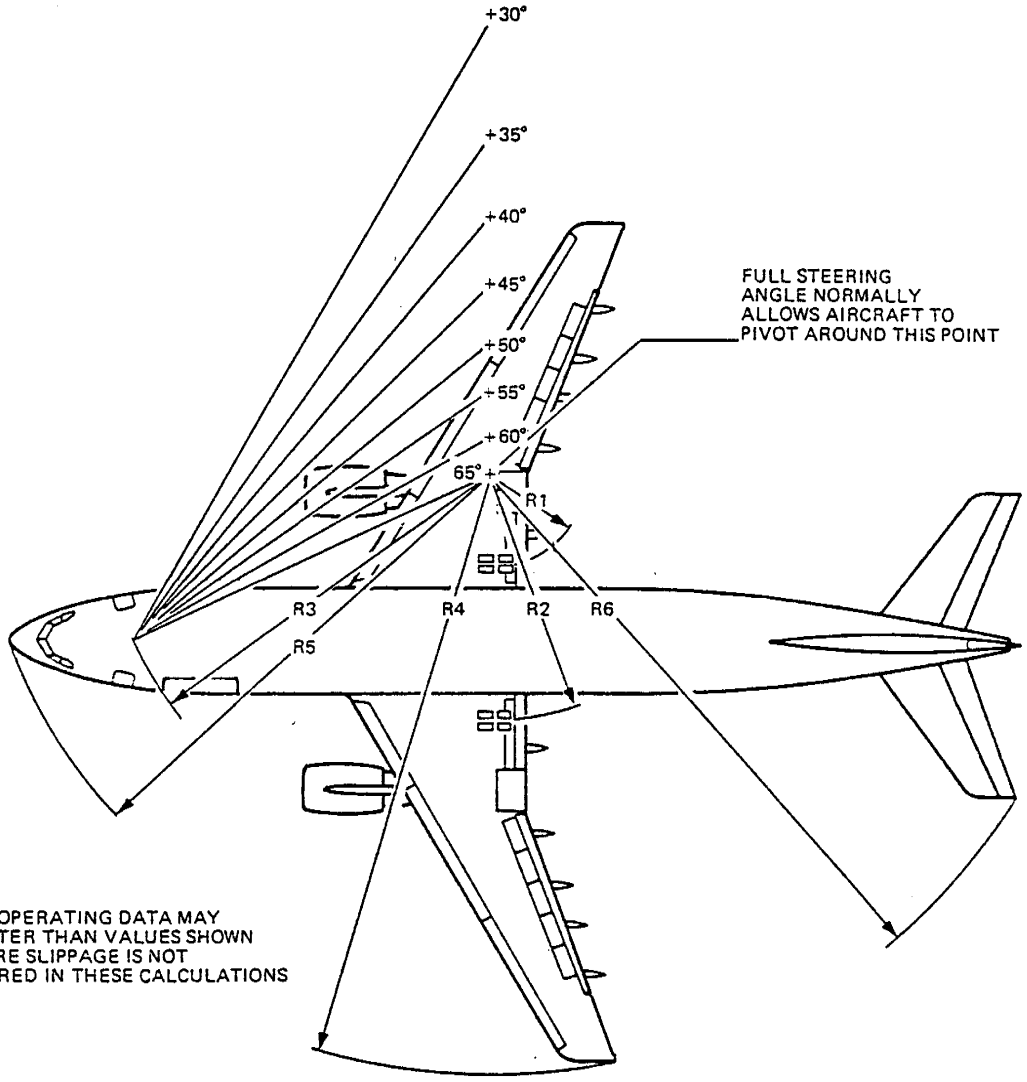

NOTE :

ACTUAL OPERATING DATA MAY BE GREATER THAN VALUES SHOWN SINCE TIRE SLIPPAGE IS NOT CONSIDERED IN THESE CALCULATIONS

STEERING ANGLE (DEGREES)	R1		R2		R3		R4		R5		R6	
	ft	m	ft	m	ft	m	ft	m	ft	m	ft	m
30	90.51	27.59	122.01	37.19	122.70	37.40	181.37	55.28	134.78	41.08	161.75	49.30
35	71.87	21.90	103.36	31.50	106.95	32.60	162.91	49.65	120.63	36.77	146.82	44.75
40	57.36	17.48	88.86	27.08	95.44	29.09	148.58	45.29	110.55	33.70	135.83	41.40
45	45.60	13.90	77.10	23.50	86.76	26.44	136.98	41.75	103.15	31.44	127.62	38.90
50	35.73	10.89	67.22	20.49	80.09	24.41	127.27	38.79	97.60	29.75	121.06	36.90
55	27.21	8.29	58.70	17.89	74.89	22.83	118.91	36.24	93.39	28.46	115.81	35.30
60	19.67	6.00	51.17	15.60	70.84	21.59	111.55	34.00	90.17	27.48	111.71	34.05
65	12.86	3.92	44.35	13.52	67.69	20.63	104.89	31.97	87.72	26.74	108.43	33.05

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TURNING RADII NO SLIP ANGLE
A300F4-600

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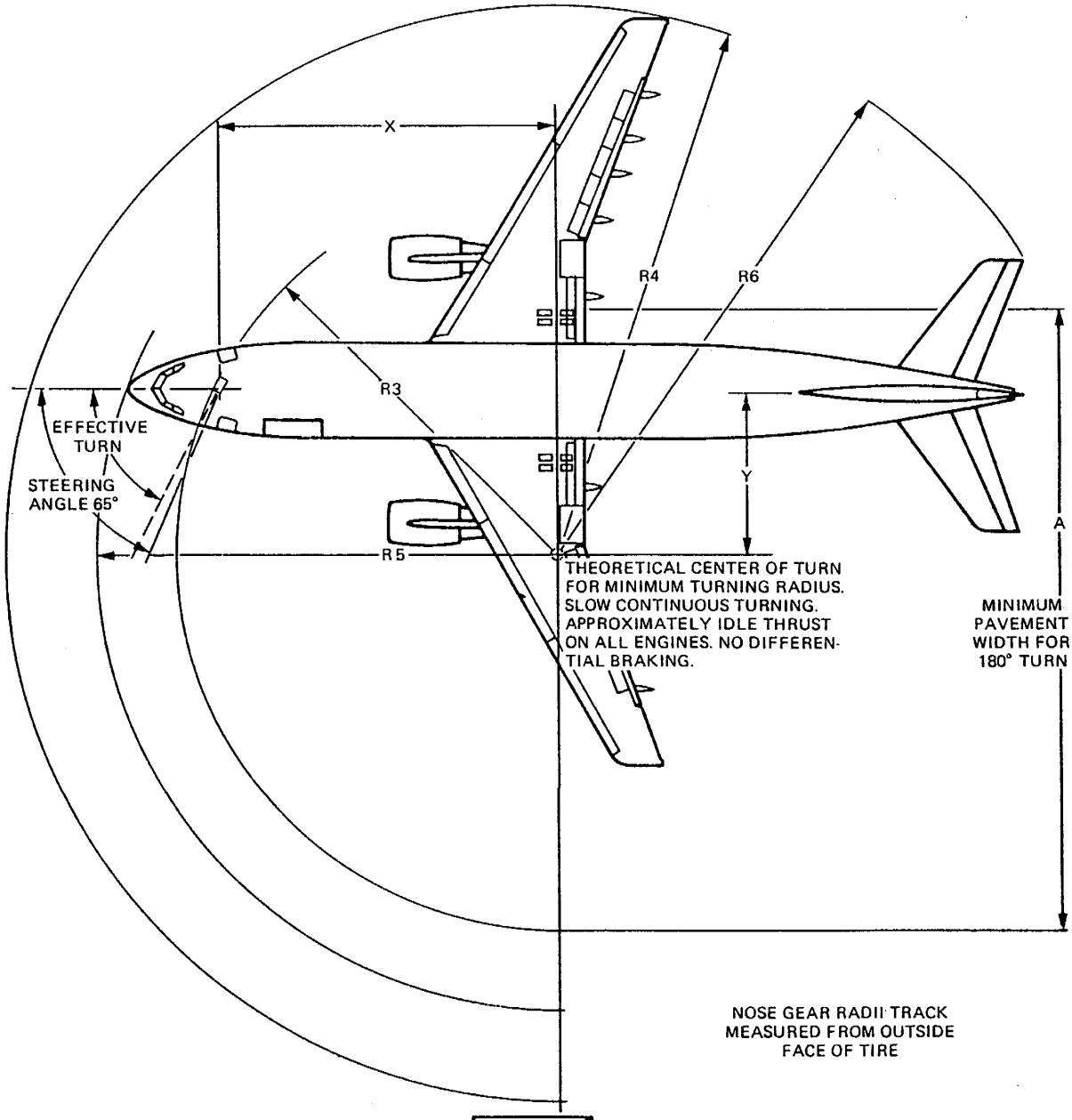

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C.G. AC	EFFECTIVE TURN ANGLE	X	Y	A	R3	R4	R5	R6
FWD 15 %	61°6	61.35 18.70	33.11 10.09	122.26 37.26	69.71 21.25	109.27 33.31	89.29 27.21	111.15 33.88
AFT 34 %	58°3	61.35 18.70	37.89 11.55	125.66 38.30	72.11 21.98	114.01 34.75	91.47 27.88	113.35 34.55

MINIMUM TURNING RADII
A300F4-600

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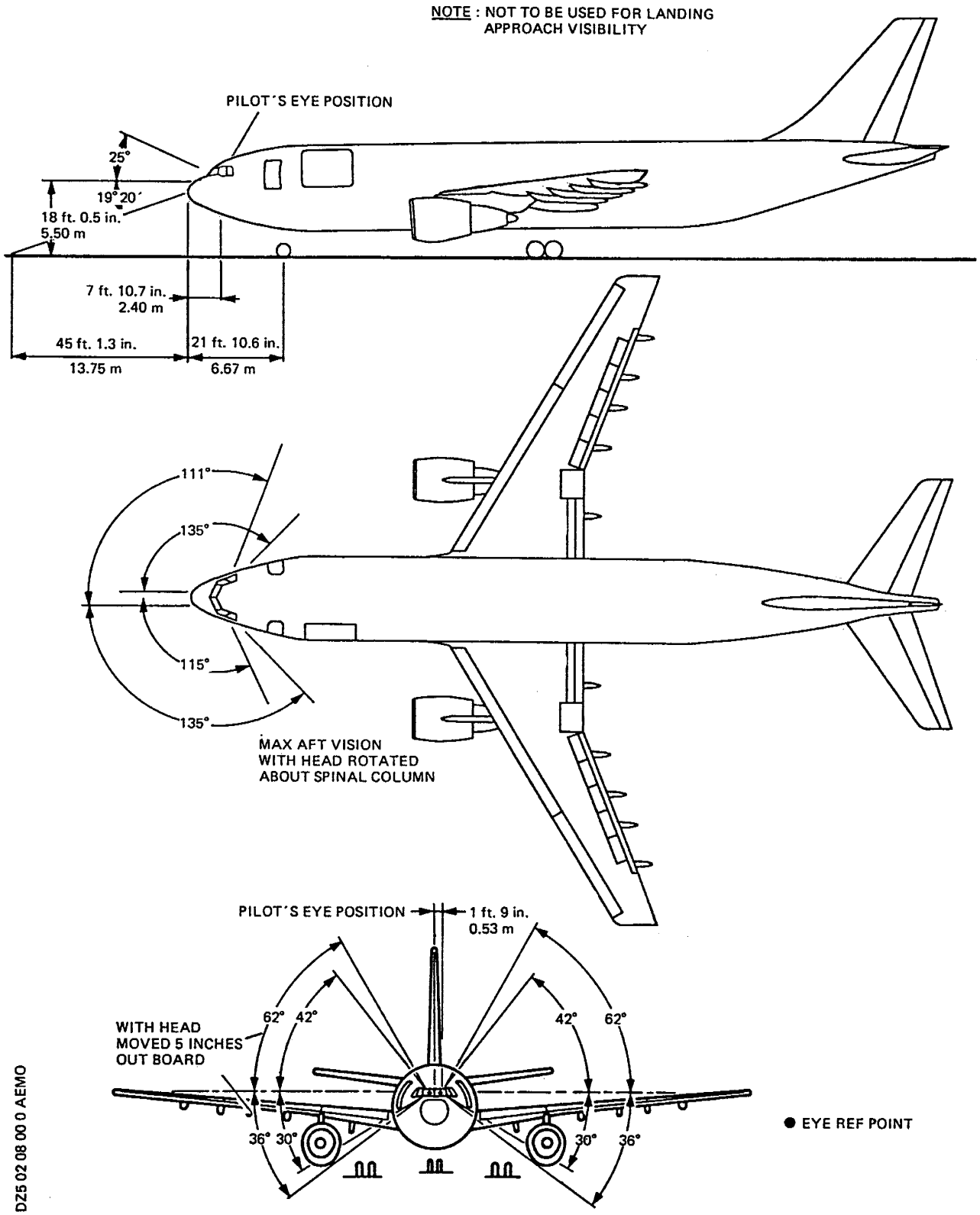

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VISIBILITY FROM FLIGHT COMPARTMENT
IN STATIC POSITION

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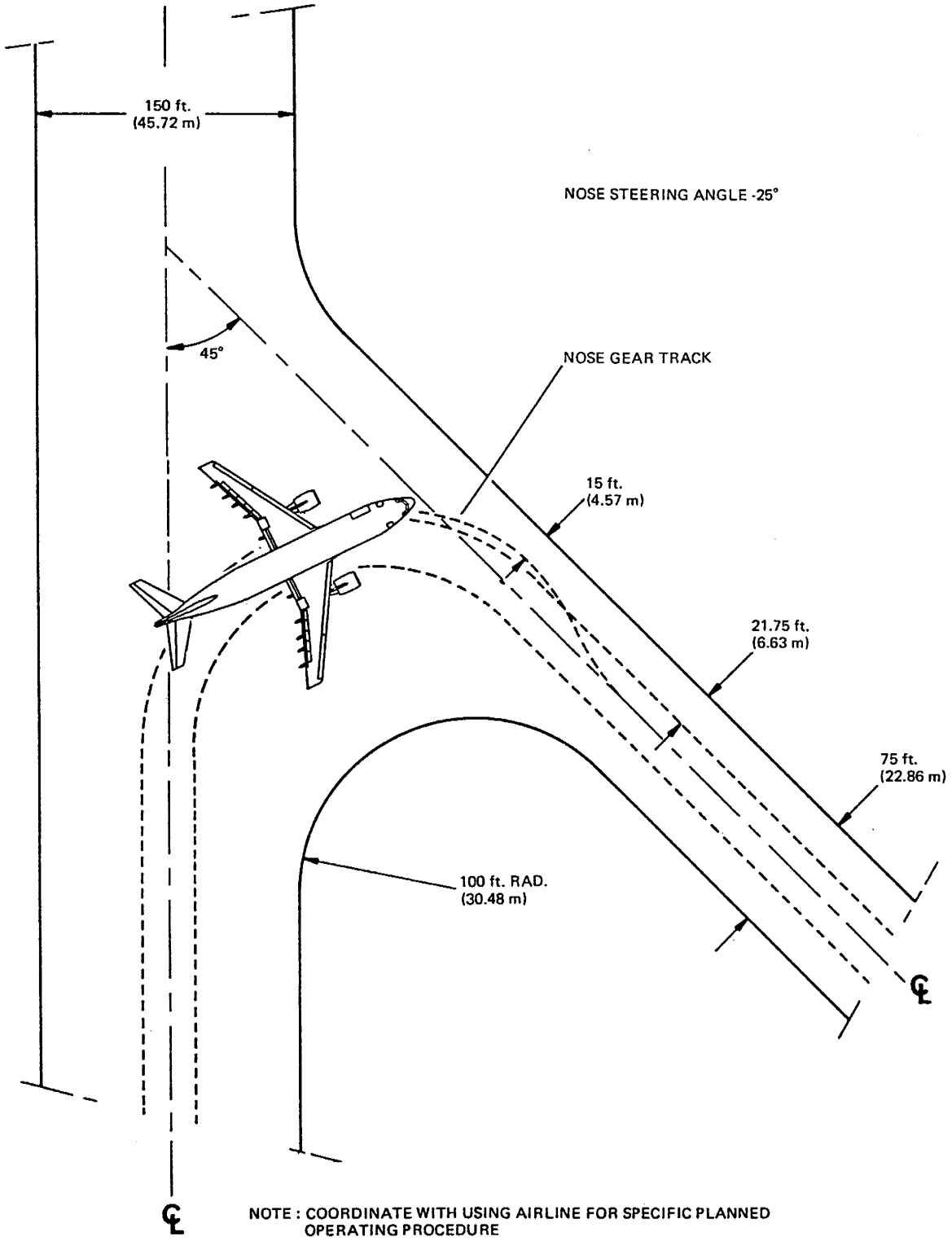

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RUNWAY AND TAXIWAY TURN PATHS
MORE THAN 90° TURN RUNWAY TO TAXIWAY TURN

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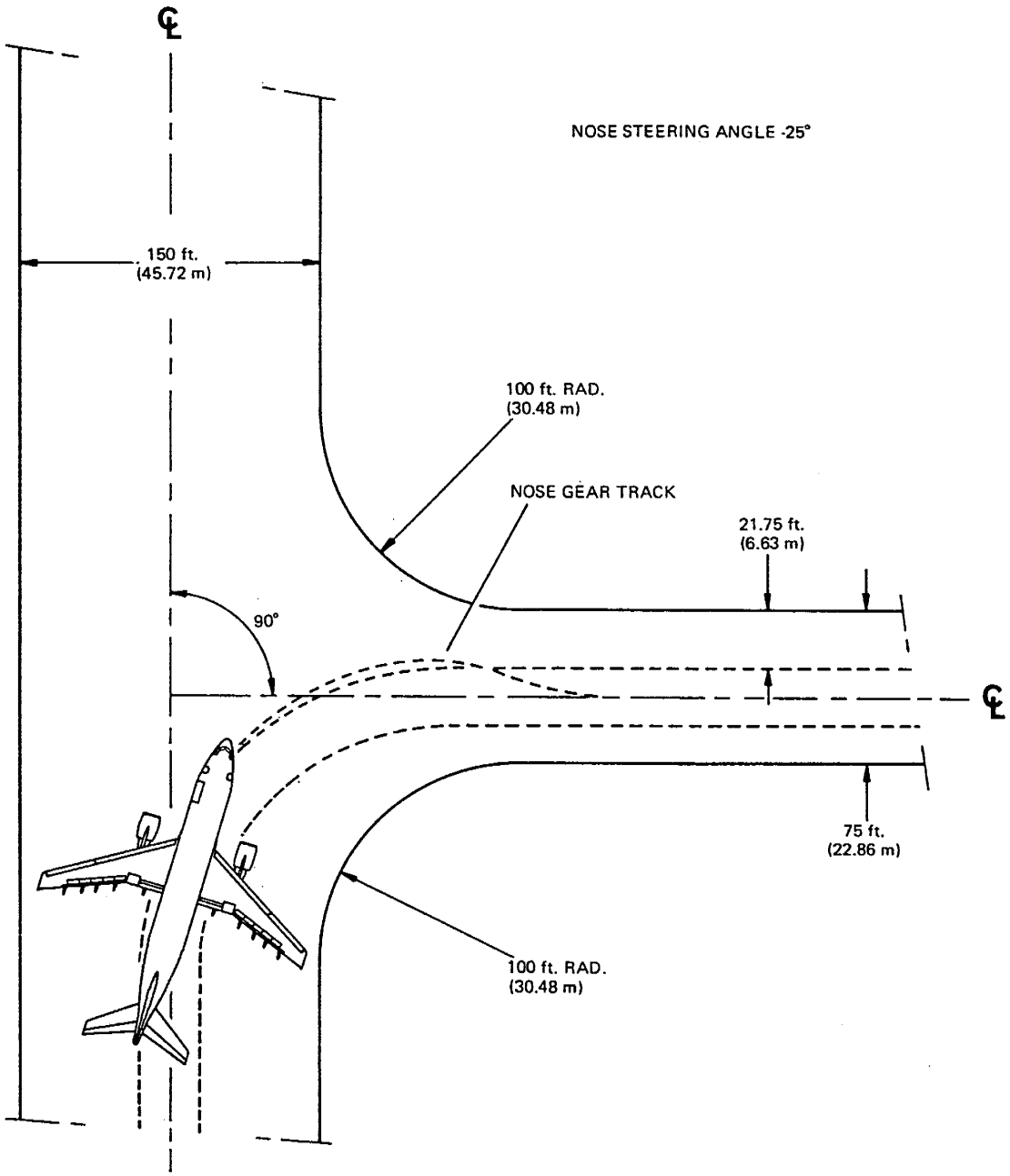

NOTE : COORDINATE WITH USING AIRLINE FOR SPECIFIC PLANNED OPERATING PROCEDURE

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RUNWAY AND TAXIWAY TURN PATHS
90° TURN RUNWAY TO TAXIWAY

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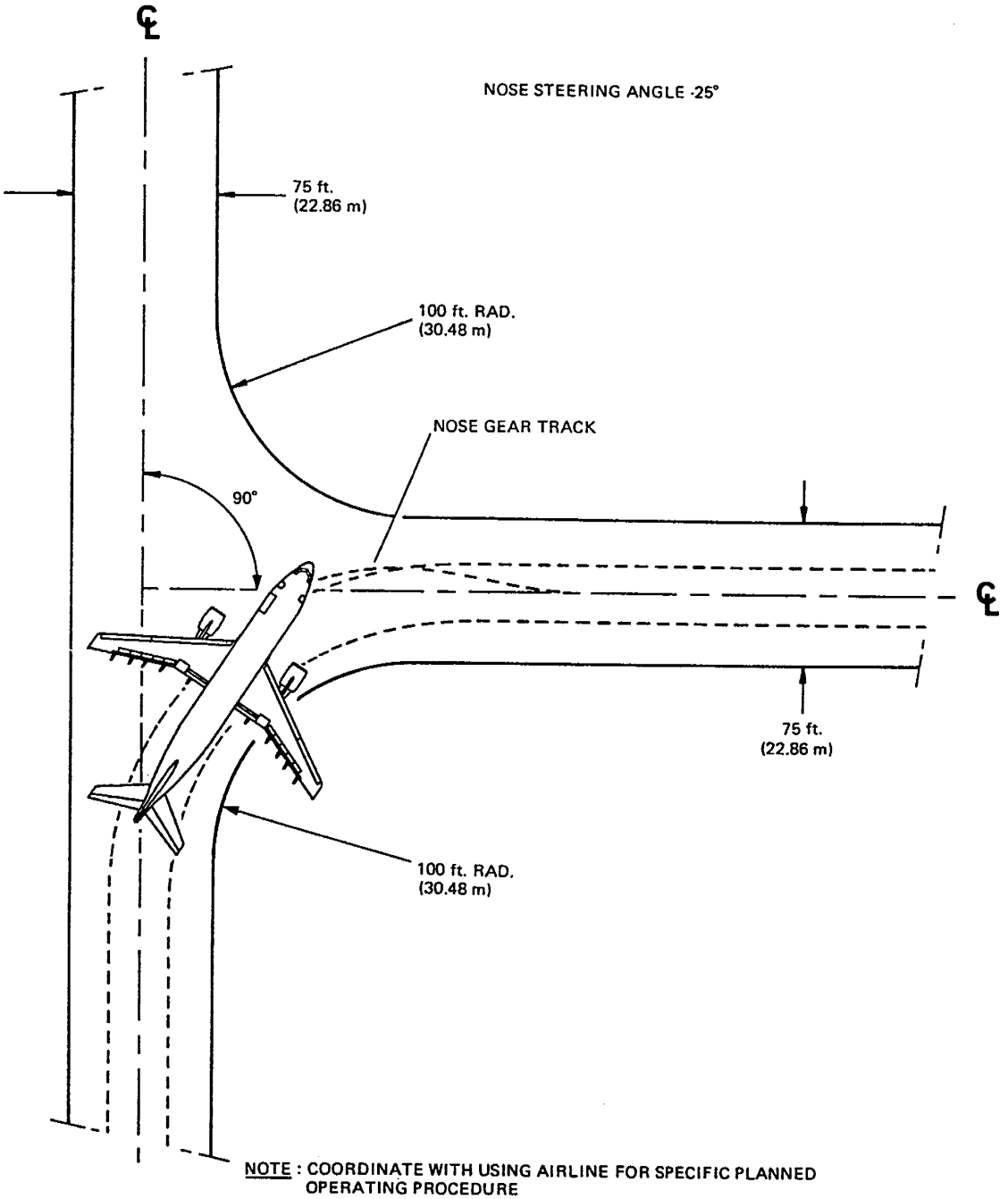

NOTE : COORDINATE WITH USING AIRLINE FOR SPECIFIC PLANNED OPERATING PROCEDURE

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RUNWAY AND TAXIWAY TURN PATHS
90° TURN TAXIWAY TO TAXIWAY

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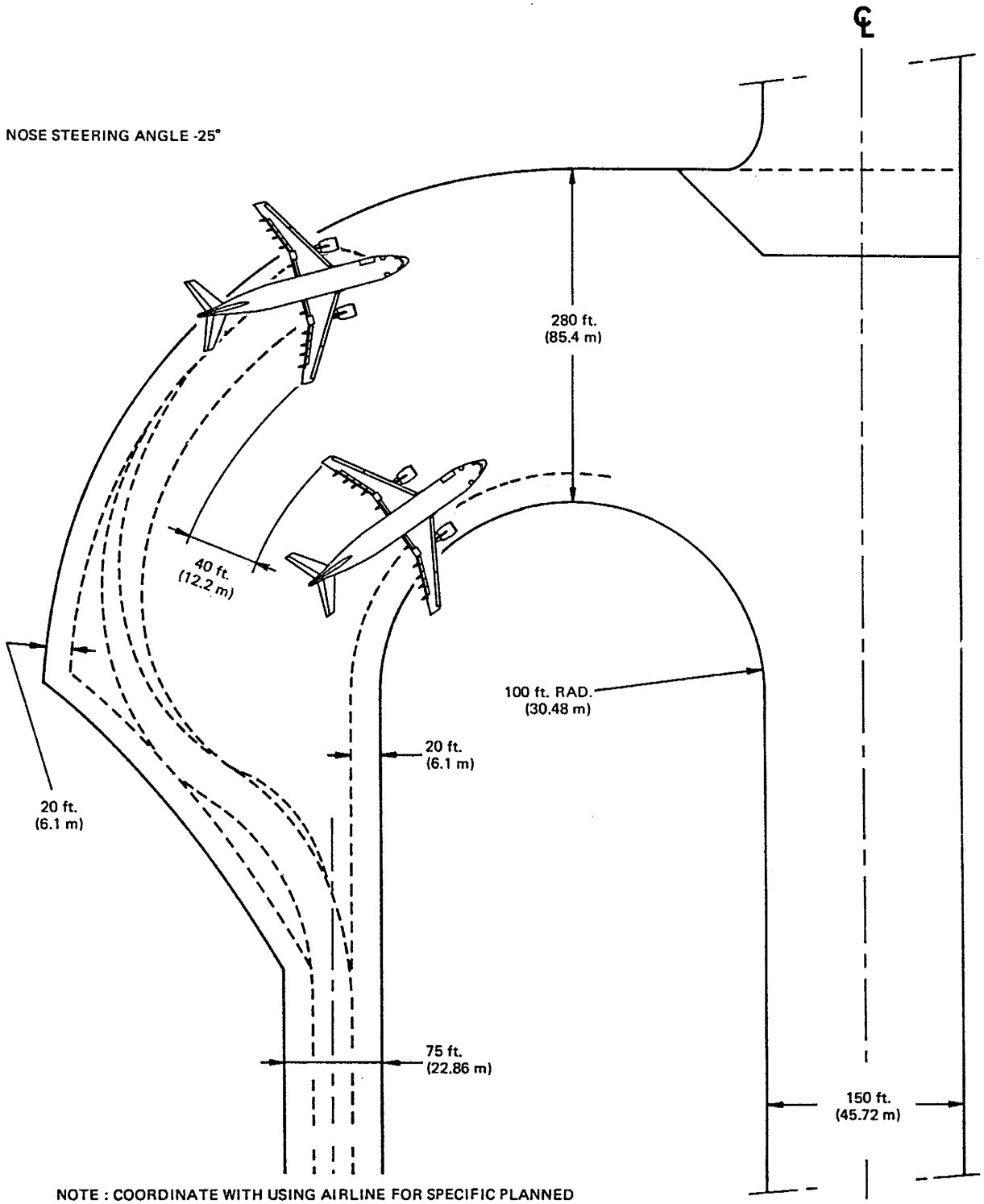

RUNWAY HOLDING BAY (APRON)

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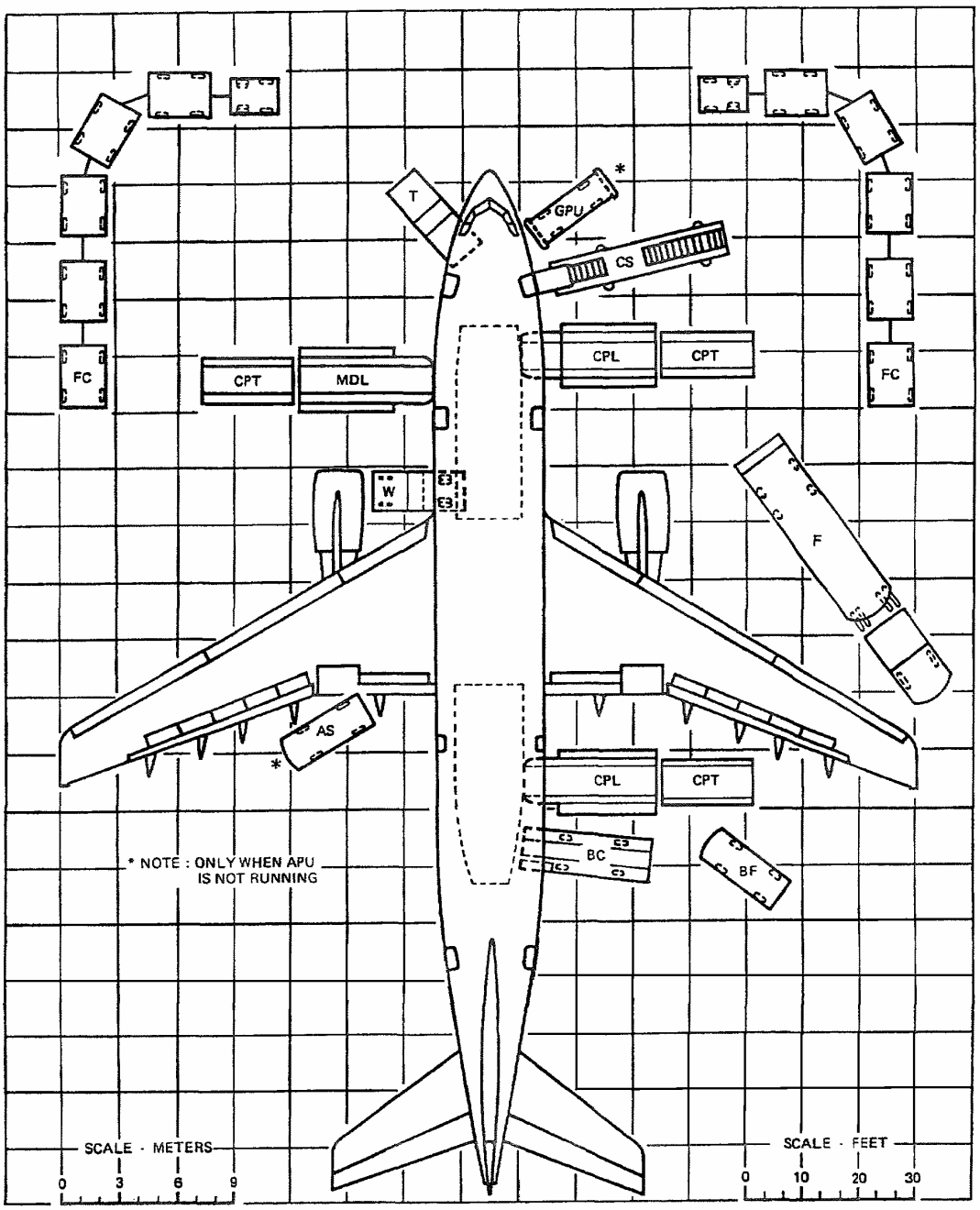
AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

This section provides typical ramp layouts, showing the various GSE items in position during typical turnaround scenarios.
These ramp layouts show typical arrangements only. Each operator will have its own specific requirements/regulations for the positioning and operation on the ramp.
For each ramp layout, the associated typical turnaround time is given in a Chart in the section 5.2.

AS	–	AIR STARTING VEHICLE
BC	–	BULK CONVEYOR
BF	–	BULK FREIGHT VEHICLE
CPL	–	CONTAINER/PALLET LOADER
CPT	–	CONTAINER/PALLET TRANSPORTER
CS	–	CABIN CLEANERS STEPS
F	–	REFUELING VEHICLE
FC	–	FREIGHT/CARGO TRAIN
GPU	–	ELECTRICAL GROUND POWER UNIT
MDL	–	MAIN DECK LOADER
T	–	TOILET SERVICING VEHICLE
W	–	WATER REPLENISHMENT VEHICLE



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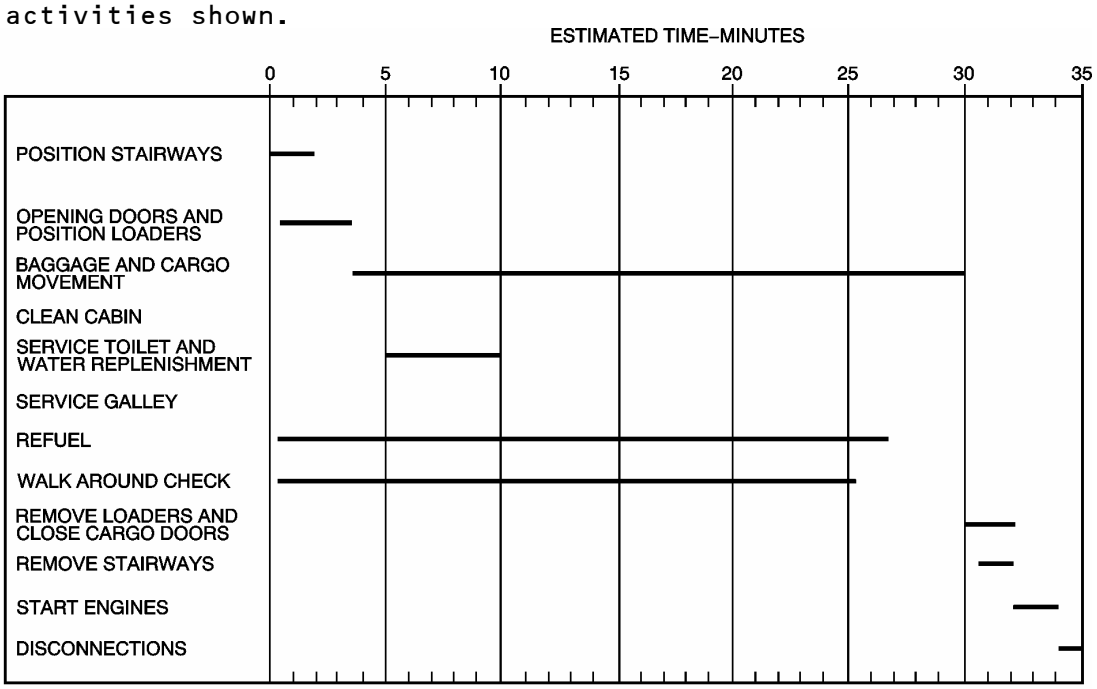
Airplane Servicing Arrangements - Typical
Open Apron Free Standing
Model A300F4-600

5.2 Terminal Operations - En Route Stations

This section provides a chart showing typical activities for home-base turnaround. 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.



ALL FREIGHT CONTAINERIZED
- 21 STANDARD M SIZE ULDS ON MD
- 4 STANDARD M SIZE ULDS IN FWD LDCC
- 10 STANDARD K SIZE ULDS IN AFT LDCC

100% UNLOADING/LOADING

APU RUNNING

NOTE : IF THE AIRCRAFT IS FITTED WITH ACT'S THE REFUELING TIME WILL BE LONGER (UP TO 65 mn WITH 2 ACT INSTALLED)

CA5 05 03 00 5 AAF4 00

Terminal Operations - En Route Stations
Model A300F4-600

A	WATER FILLING AND DRAINING
B	OXYGEN CHARGING
C	HYDRAULIC GROUND POWER
D	IDG OIL FILLING
D1	ENGINE OIL FILLING
E	LAVATORY SERVICING, FORWARD
F	ELECTRICAL GROUND POWER
G	LOW PRESSURE PRECONDITIONING
H	FUEL GRAVITY FILLING
I	HYDRAULIC ACCUMULATOR AIR CHARGING
J	HYDRAULIC TANK FILLING AND HYDRAULIC GROUND POWER
K	HYDRAULIC TANK AIR CHARGING AND HYDRAULIC GROUND POWER
L	FUEL PRESSURE FILLING
M	HIGH PRESSURE PRECONDITIONING AND ENGINE STARTING
N	APU OIL FILLING

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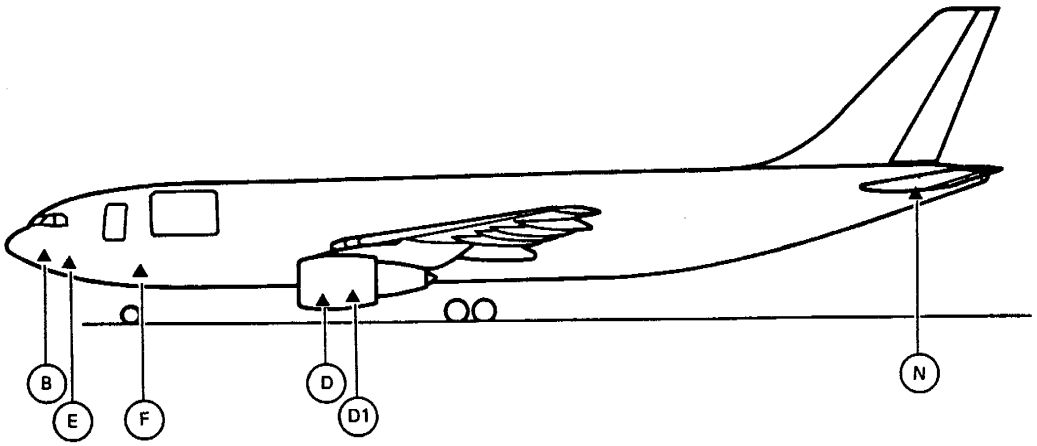

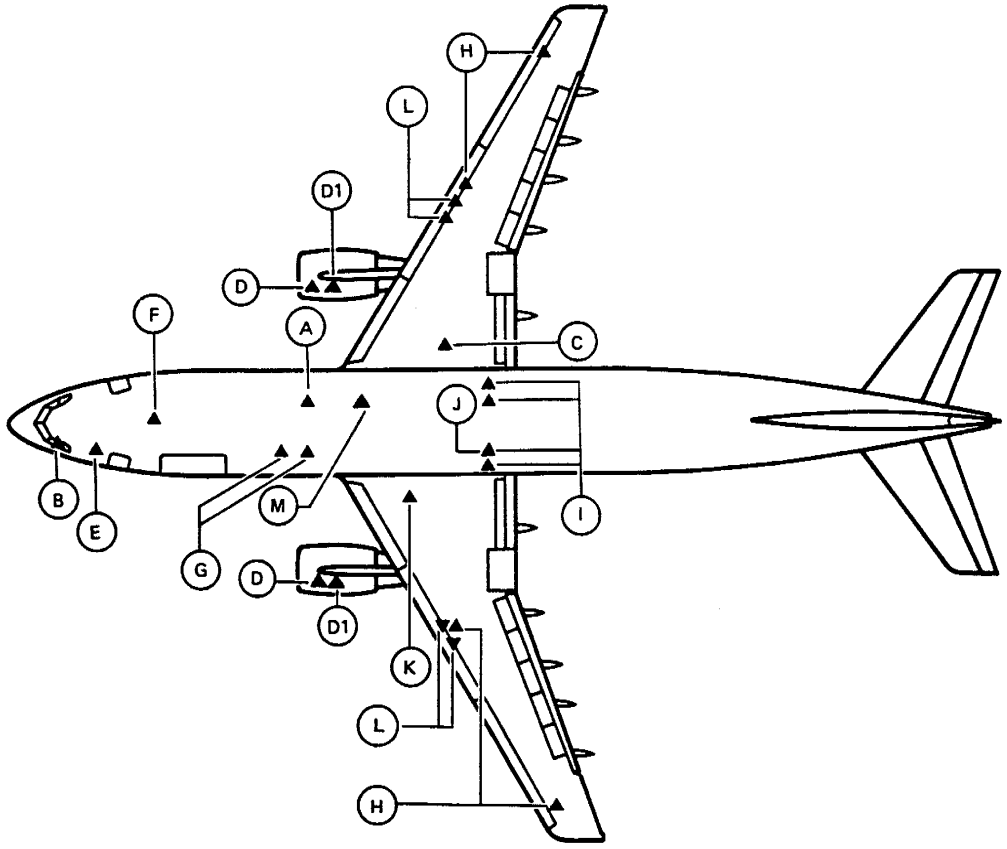

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GROUND SERVICE CONNECTIONS

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HYDRAULIC SYSTEM

	DISTANCE Meters (Ft - In.)			MEAN HEIGHT FROM GROUND
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		
		RH SIDE	LH SIDE	
A. Reservoir charging : One 1/4 in. self sealing connection common for the 3 reservoirs	22.89 (75-1)		3.60 (11-10)	3.60 (11-10)
B. Accumulator charging : Five MS 28889-1 connections (one per accumulator) - Green	26.07 (85-6)		0.30 (1-0)	3.00 (9-10)
- Yellow	26.07 (85-6)	2.30 (7-7)		3.74 (11-5)
- Blue	26.07 (85-6)		2.30 (7-7)	3.74 (11-5)
- Braking	26.07 (85-6)	2.10 (6-11)		3.74 (11-5)
- Braking	26.07 (85-6)	2.10 (6-11)		4.11 (13-5)
C. Reservoir filling : One 1/4 in. self sealing connection common for the 3 reservoirs	25.87 (84-10)		1.77 (5-10)	2.90 (9-5)
D. Reservoir overflow : Three 1/4 in. self sealing connections (one as per reservoir) - Green	25.87 (84-10)		1.77 (5-10)	2.90 (9-5)
- Yellow	22.89 (75-1)	3.60 (11-10)		3.60 (11-10)
- Blue	22.89 (75-1)		3.60 (11-10)	3.60 (11-10)

GROUND SERVICE CONNECTIONS
HYDRAULIC SYSTEM

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E. Ground test :
Three 1 in. self sealing connections and three 1 1/4 in. self sealing connections (one pair per system)
- Green
- Yellow
- Blue

DISTANCE Meters / (Ft - In.)			MEAN HEIGHT FROM GROUND
AFT OF NOSE	FROM AIRPLANE CENTERLINE		
	RH SIDE	LH SIDE	
25.87 (84-10)		1.77 (5-10)	2.90 (9-5)
22.89 (75-1)	3.60 (11-10)		3.60 (11-10)
22.89 (75-1)		3.60 (11-10)	3.60 (11-10)

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ELECTRICAL SYSTEM

DISTANCE Meters / (Ft - In.)		MEAN HEIGHT FROM GROUND
AFT OF NOSE	AIRPLANE CENTERLINE	
7.28 (23-11)		2.0 (6-7)

One standard 6 pin connector
ISO R 461 specification

Supply :
115/200 Volt, 3-Phase, 400 HZ
Power required : 90 KVA

R Electrical Connectors for servicing

R Note: For mating connectors contact HUBBEL (FSCM 7H582)

GROUND SERVICE CONNECTIONS
ELECTRICAL SYSTEM

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OXYGEN SYSTEM

DISTANCE Meters (Ft - In.)			MEAN HEIGHT FROM GROUND
AFT OF NOSE	FROM AIRPLANE CENTERLINE		
	RH SIDE	LH SIDE	
2.3 (7-66)	0.75 (2-55)	-	3.18 (10-18)

One service connection (external charging) 3/8 in. UNF x 24 TPI

Accessible through forward cargo door and RH access door of elec. compartment

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FUEL SYSTEM

DISTANCE Meters / (Ft - In.)			MEAN HEIGHT FROM GROUND
AFT OF NOSE	FROM AIRPLANE CENTERLINE		
	RH SIDE	LH SIDE	
24.31 (79-9)	11.84 (38-10)		4.26 (13-11)
24.95 (81-10)	12.35 (40-6)	12.35 (40-6)	4.72 (15-5)
31.02 (101-9)	20.39 (66-11)	20.39 (66-11)	5.27 (17-3)

Two standard 2 1/2 in. connections - ISO R45 Specification

Two service connections (gravity feed)

Two service connections (gravity feed)

Flow Rate :
1475 1/mn (325 Imp. gal/mn) (390 U.S. gal/mn) per connection
Maximum Pressure :
50 psig (3.45 bars)

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PNEUMATIC SYSTEM

DISTANCE Meters / (Ft - In.)			MEAN HEIGHT FROM GROUND
AFT OF NOSE	FROM AIRPLANE CENTERLINE		
	RH SIDE	LH SIDE	
19.85 (65-2)	0.75 (2-6)		2.16 (7-1)
20.17 (66-2)	0.75 (2-6)		2.16 (7-1)
17.31 (56-9)		0.82 (2-8)	2.27 (7-5)
16.82 (55-2)		0.82 (2-8)	2.27 (7-5)

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

Two standard 8 in. connections (MS33562) for preconditioned air

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POTABLE WATER SYSTEM

DISTANCE Meters / (Ft - In.)			MEAN HEIGHT FROM GROUND
AFT OF NOSE	FROM AIRPLANE CENTERLINE		
	RH SIDE	LH SIDE	
18.41 (60-5)	1.13 (3-8)		2.48 (6-8)
28.52 (93-7)		0.70 (2-3)	4.33 (14-2)

One standard 3/4 in. quick release coupling for filling

One 1 in. potable drain connection

Fill rate :
- Flow : 91 1/mn (20 Imp. gal/mn) (24 U.S. gal/mn)
- Pressure : 15 psi (1.03 bar) Pressure shall not exceed 50 PSI/3.45 bar max.

Usuable capacity :
- 200 liters (52.8 U.S. gal.)

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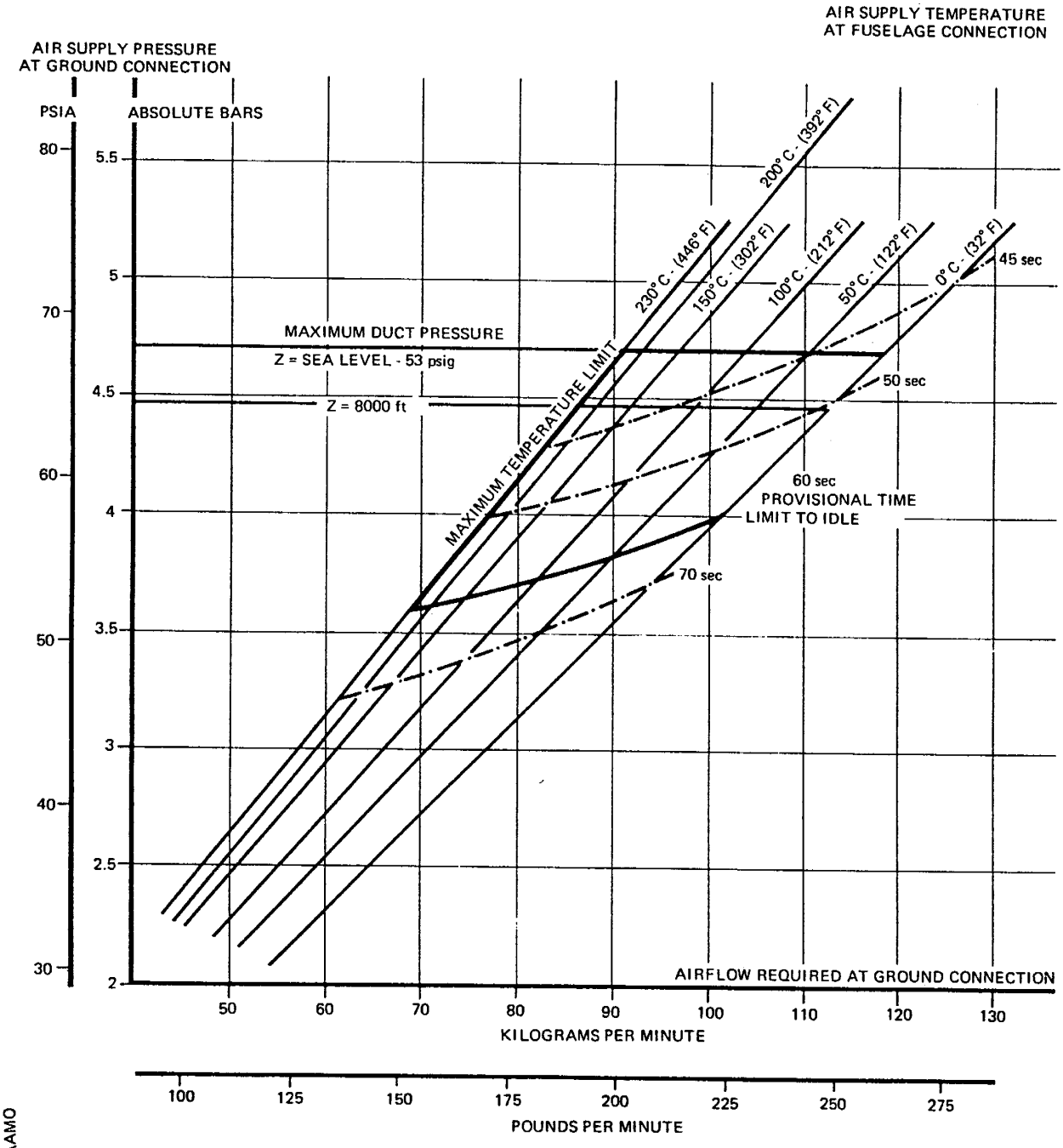
TOILET SYSTEM

- Per servicing panel
  One standard 4 in. drain connection and one Roylyn 1 in. con. in front and two Roylyn 1 in. connection behind.

DISTANCE : Meters (Ft - In.)			
AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
	RH SIDE	LH SIDE	
4.40 (14-5)		1.71 (5-7)	3.29 (10-9)

Capacity Single toilet :

- Waste : 46.9 liters (12.4 US gal)
- Chemical fluid : 9.46 liters (2.6 US gal)



0 TO 8000 ft. ALT;
TEMP. AMBIENT : ISA - 40°C
: ISA - 72°F

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ENGINE STARTING PNEUMATIC REQUIREMENTS
AMBIENT TEMPERATURE ISA - 40°C
AMBIENT TEMPERATURE ISA - 72°F

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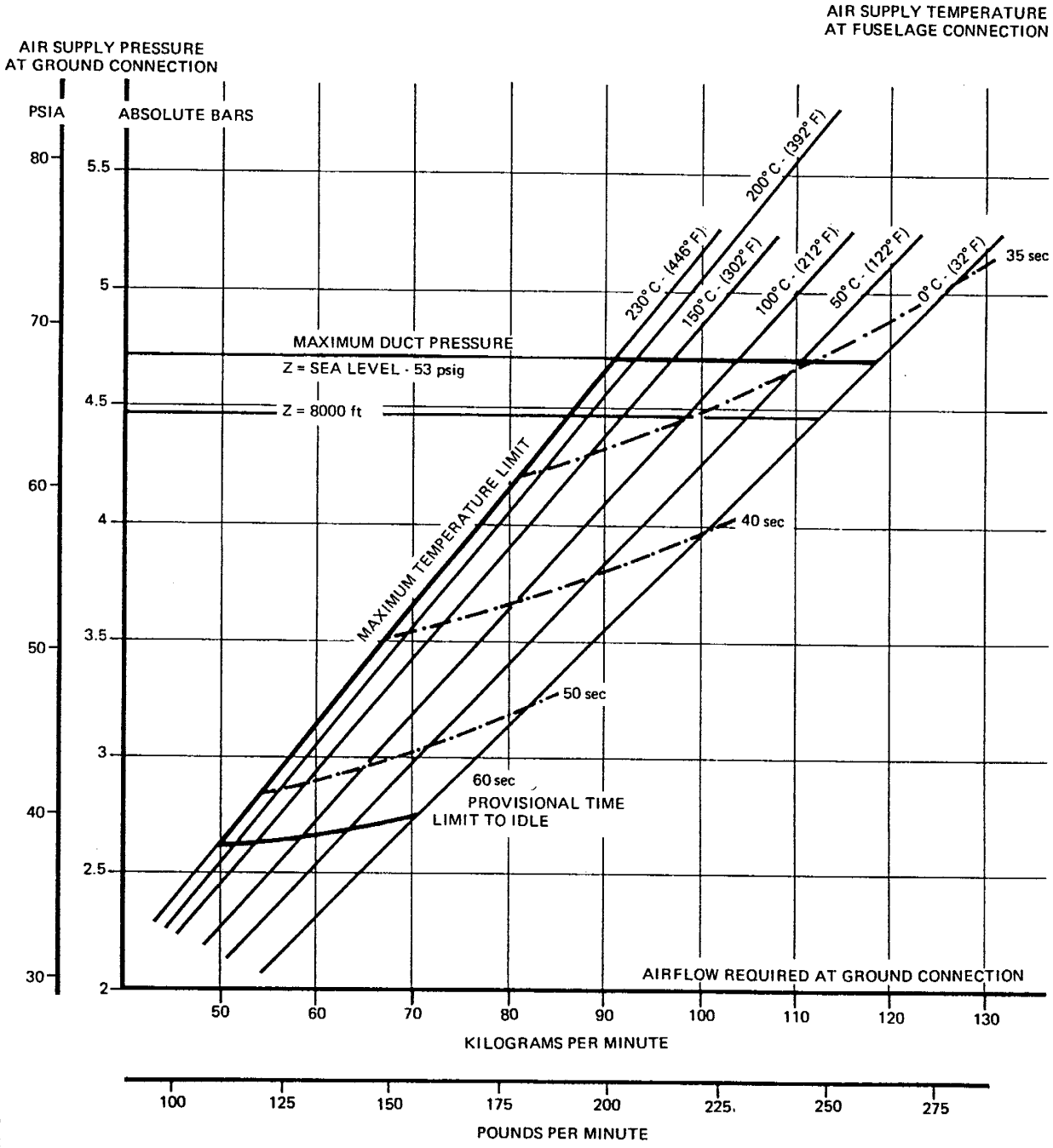

0 TO 8000 ft. ALT
TEMP. AMBIENT : ISA + 15°C
: ISA + 27°F

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ENGINE STARTING PNEUMATIC REQUIREMENTS
AMBIENT TEMPERATURE ISA + 15°C
AMBIENT TEMPERATURE ISA + 27°F

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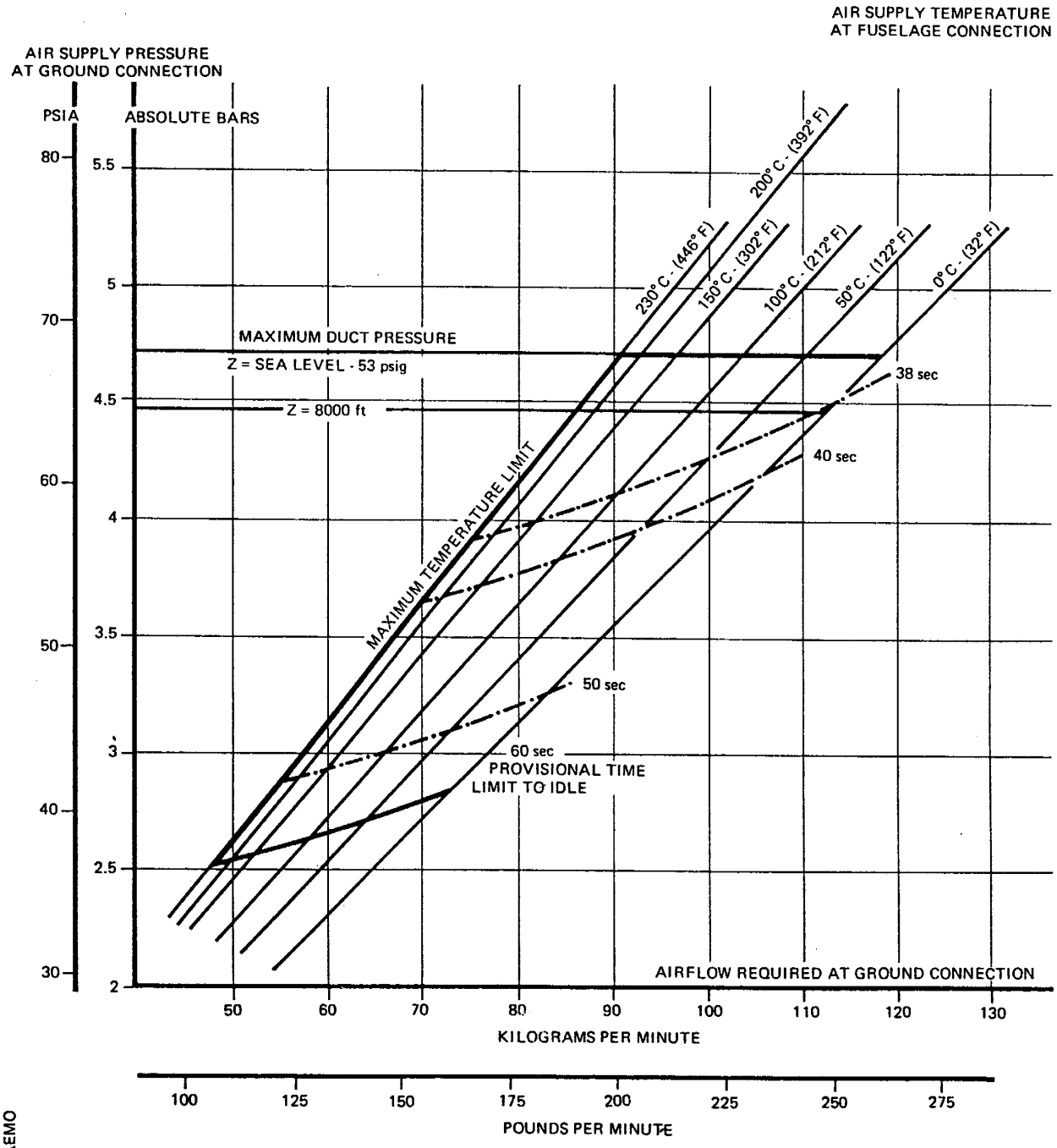

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0 TO 8000 ft. ALT
TEMP. AMBIENT : ISA + 37.8°C
: ISA + 68°F

ENGINE STARTING PNEUMATIC REQUIREMENTS
AMBIENT TEMPERATURE ISA + 37.8°C
AMBIENT TEMPERATURE ISA + 68°F

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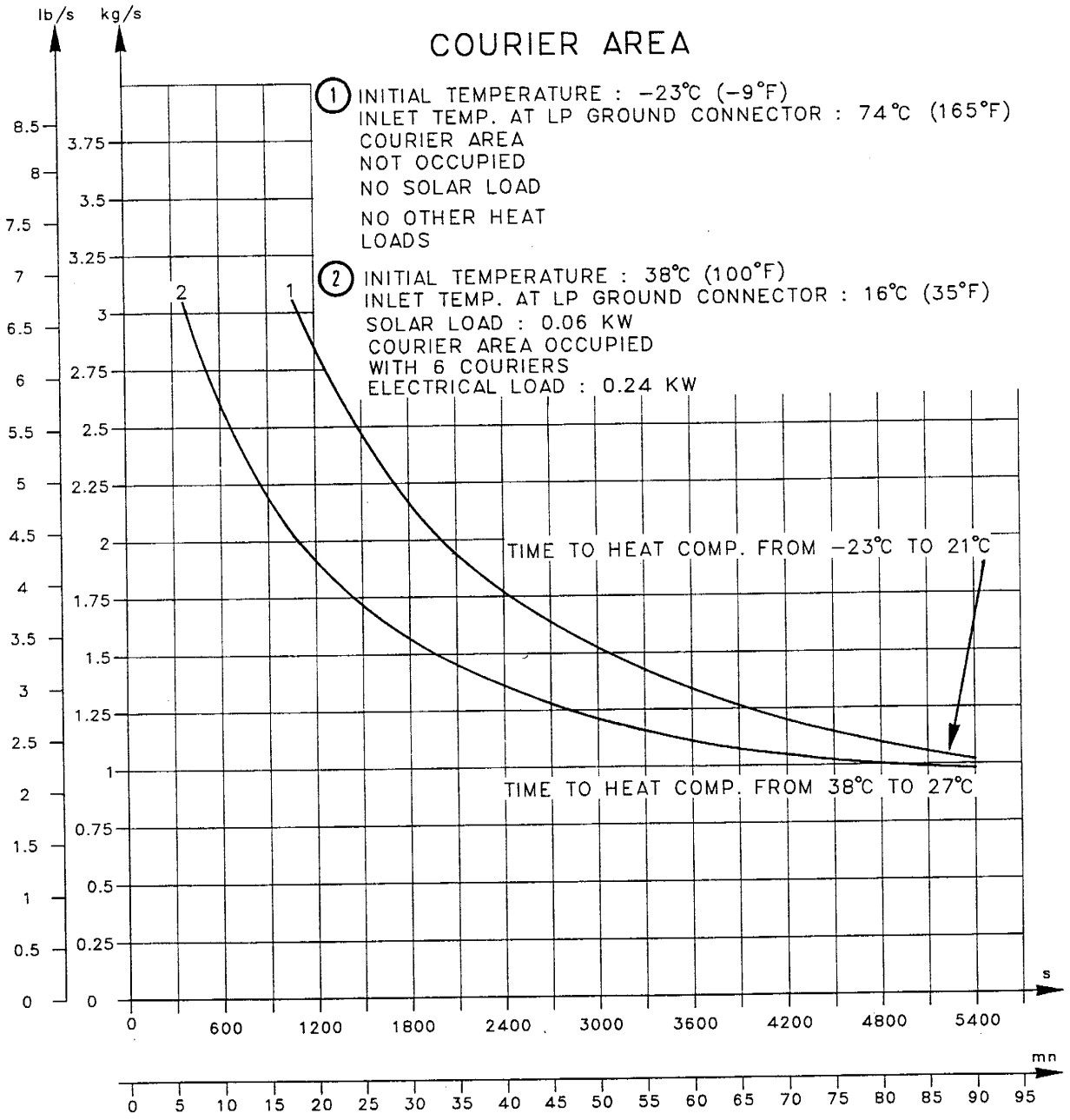

GROUND PNEUMATIC POWER REQUIREMENTS
HEATING/COURIER AREA

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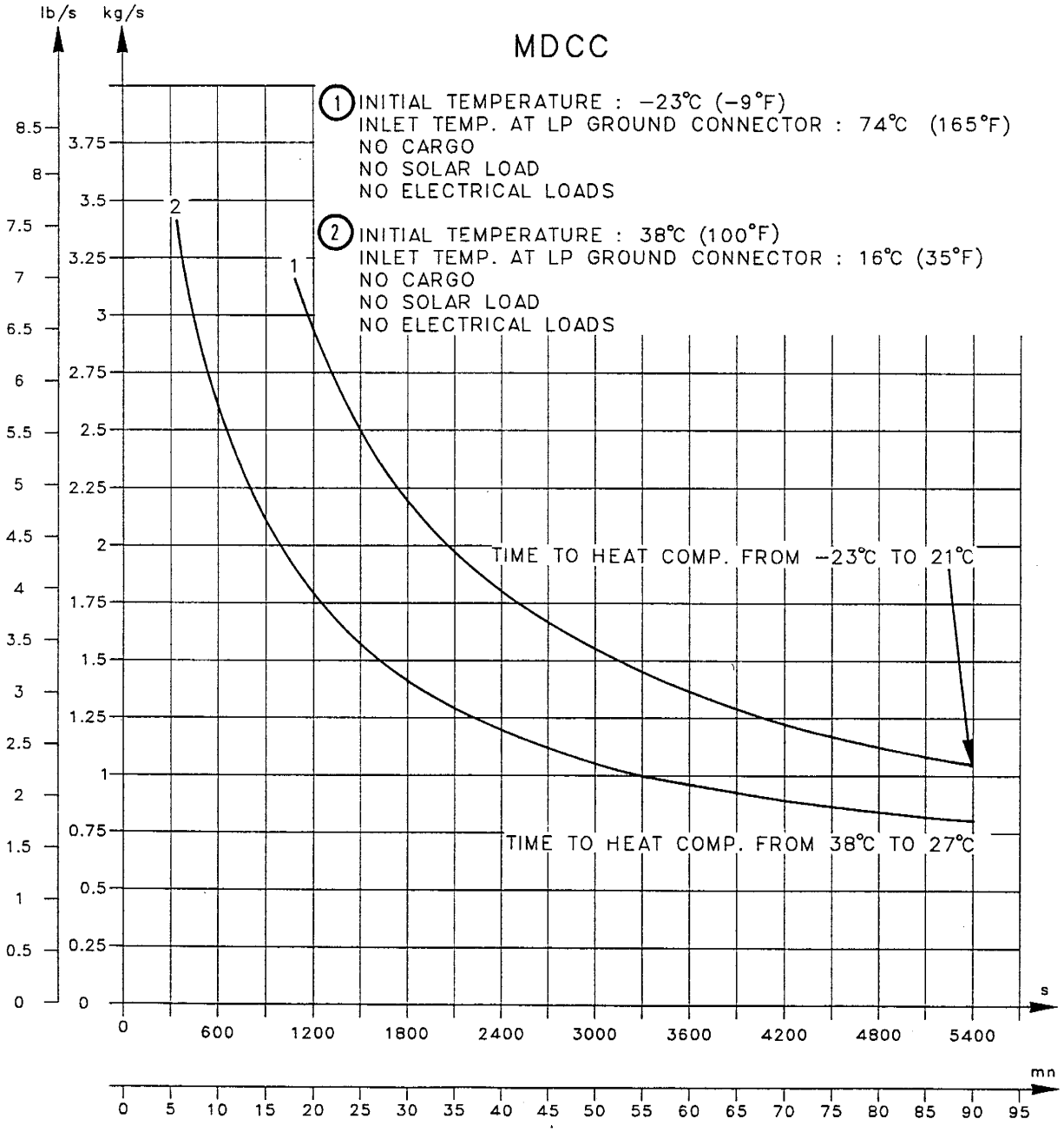

GROUND PNEUMATIC POWER REQUIREMENTS
HEATING/MDCC

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5.8 Ground Towing Requirements

This section provides information on aircraft Towing.

The A300F4-600 is designed with means for conventional towing or towbarless towing. Information on towbarless towing can be found in SIL 09-002 and chapter 9 of the Aircraft Maintenance Manual.

1. Ground Towing

It is possible to tow or push the aircraft, at maximum ramp weight with engines at zero or up to idle thrust, using a towbar attached to the nose gear leg. Two towbar fittings are installed, one at the front of the leg and one at the back.

The body gears have attachment points for towing or debogging (for details refer to chapter 7 of the Aircraft Recovery Manual).

A. 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 A300F4-600 engine type with the biggest idle thrust.
The chart is therefore valid for all A300F4-600 models.

B. The second part of this section supplies guidelines for the towbar.

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

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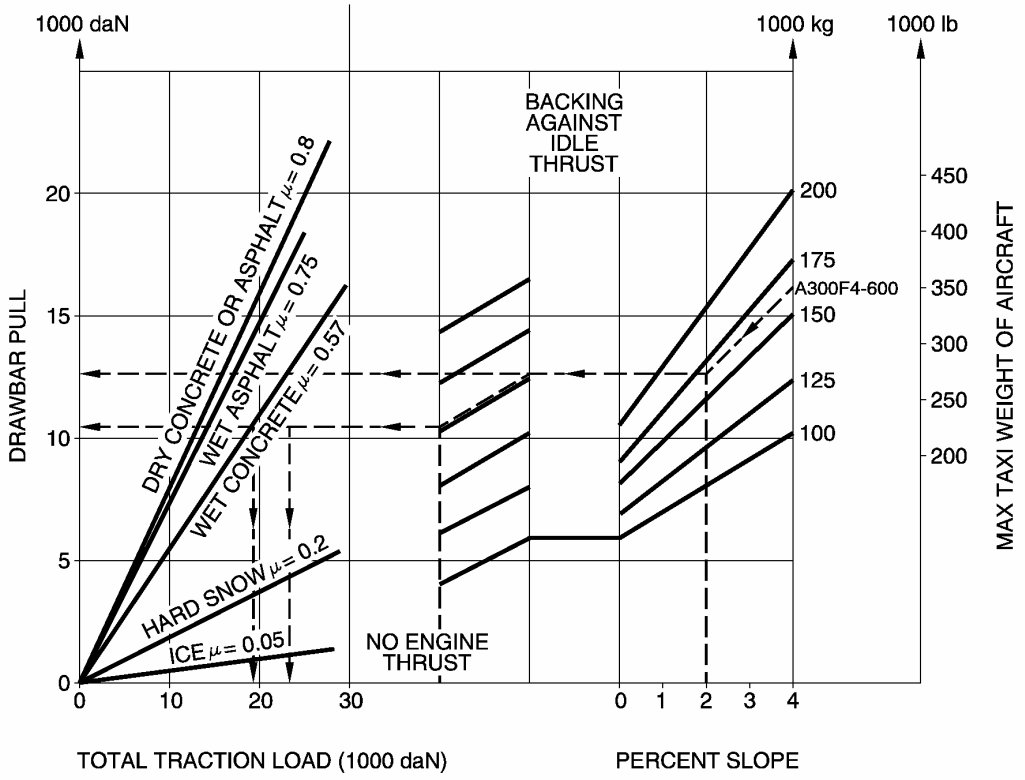
NOTE: UNUSUAL BREAKAWAY CONDITIONS NOT REFLECTED.
ESTIMATED FOR RUBBER TIRED TOW VEHICLES.
COEFFICIENTS OF FRICTION (μ) APPROXIMATE.



IN EXAMPLE A: THE GRAPH REPRESENTS AN A300F4-600 AIRPLANE WEIGHING 165900 kg (365740 lb) BEING PUSHED REARWARD ON WET CONCRETE UP A 2% SLOPE, WITH ENGINES IDLING.

SUCH CONDITIONS REQUIRE A 12500 daN (28100 lbf) DRAWBAR PULL AND A MINIMUM 23000 daN (51700 lbf) LOAD ON THE TRACTION WHEELS.

IN EXAMPLE B: THE GRAPH REPRESENTS AN A300F4-600 AIRPLANE WEIGHING 165900 kg (365740 lb) BEING PULLED FORWARD ON WET CONCRETE UP A 2% SLOPE, WITH ENGINES STOPPED.

SUCH CONDITIONS REQUIRE A 10500 daN (23600 lbf) DRAWBAR PULL AND A MINIMUM 19300 daN (43400 lbf) LOAD ON THE TRACTION WHEELS.

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Ground Towing Requirements

2. Towbar design guidelines

The aircraft towbar shall respect the following norms :

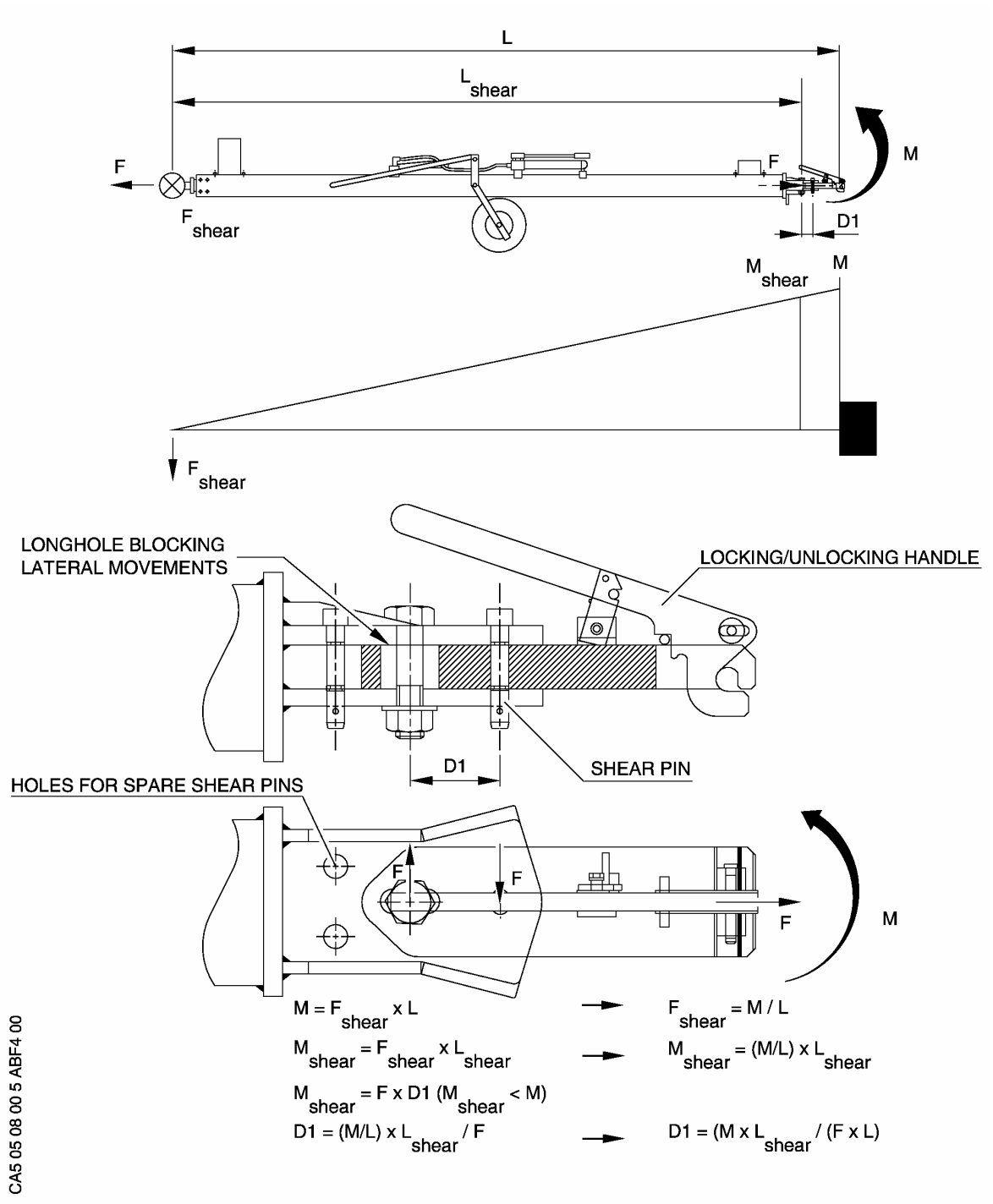
- SAE AS 1614, "Main Line Aircraft Tow Bar Attach Fitting Interface",
- SAE ARP1915 Revision C, "Aircraft Tow Bar",
- ISO 8267-1, "Aircraft - Tow bar attachment fitting - Interface requirements - Part 1 : Main line aircraft",
- ISO 9667, "Aircraft ground support equipment - Tow bars"
- IATA Airport Handling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

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 :

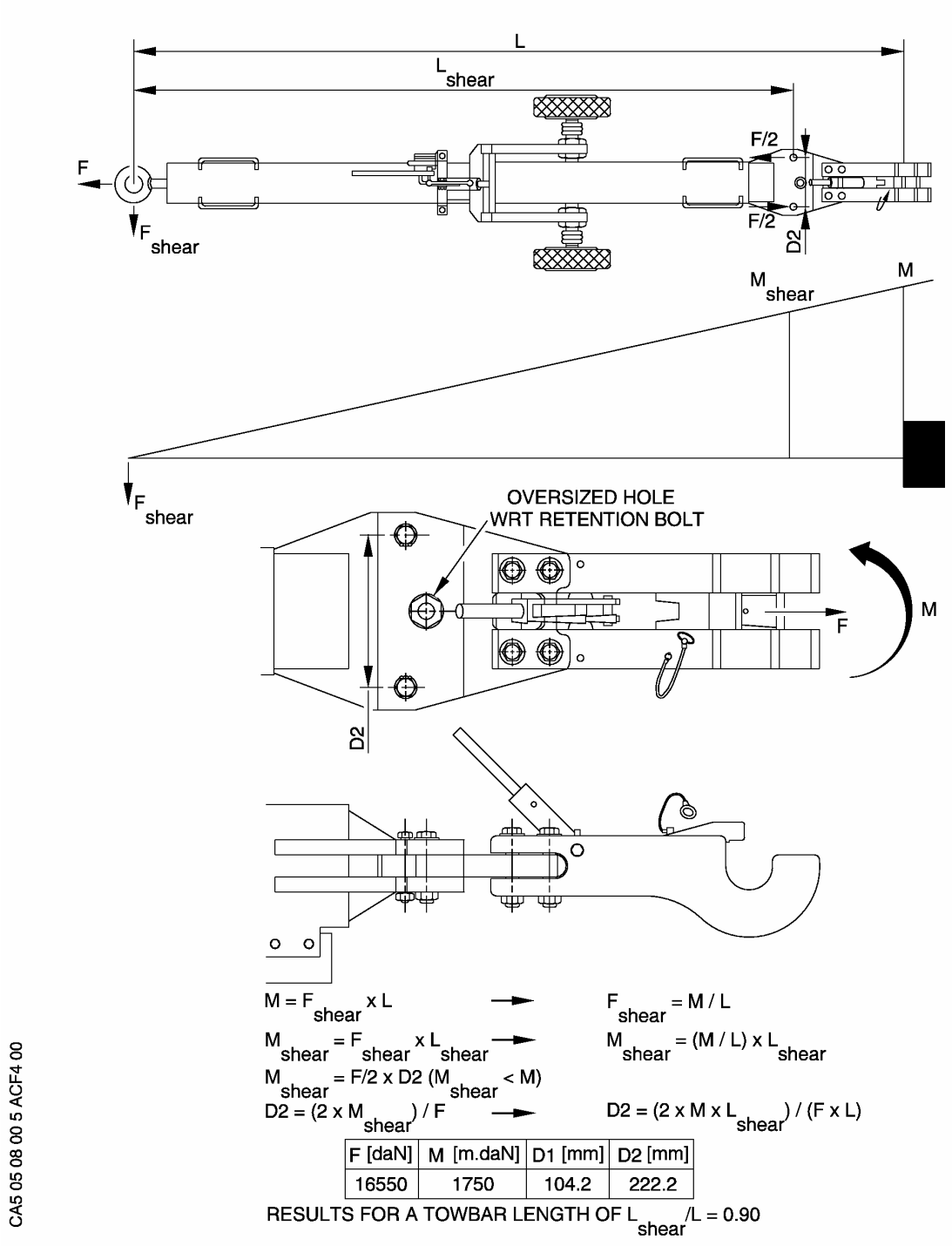
- A traction shear pin calibrated at 16550 daN (36500 lbf),
- A torsion pin calibrated at 1750 m.daN (12907 lbf.in).

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

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 towbars.



Ground Towing Requirements
Typical Tow Bar Configuration 1

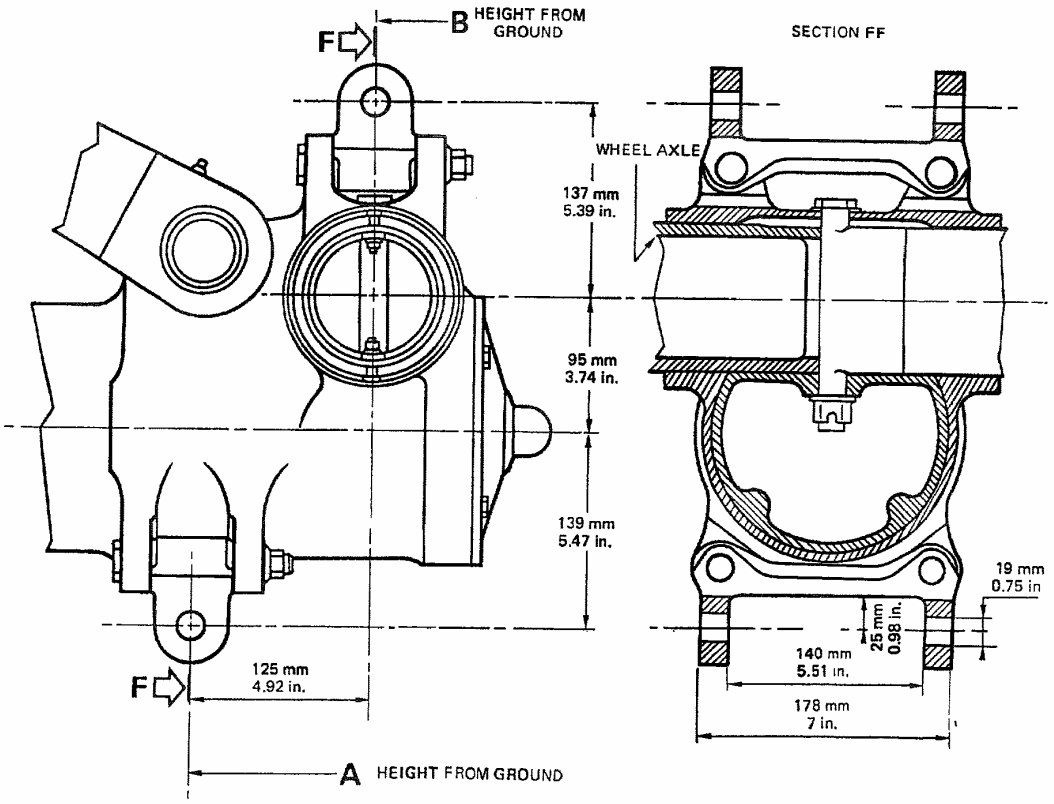


F [daN]	M [m.daN]	D1 [mm]	D2 [mm]
16550	1750	104.2	222.2

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

CA5 05 08 00 5 ACF4 00

Ground Towing Requirements
Typical Tow Bar Configuration 2



	HEIGHT FROM GROUND					
	OPERATING WEIGHT EMPTY		MAXIMUM RAMP WEIGHT			
	CG 25%		CG 18%		CG 34%	
	mm	in.	mm	in.	mm	in.
A	591	23.27	558	21.97	588	23.15
B	466	18.35	433	17.05	463	18.23

NOTE : DIMENSIONS IN THE TABLE ABOVE ARE APPROXIMATE AND WILL VARY TIRE TYPE AND CONDITIONS

CA5 05 08 00 5 ADF4 00

Ground Towing Requirements
Nose Gear Towing Fittings

6.0 OPERATING CONDITIONS

R - Definition of Breakaway Power
R Breakaway Power means the minimum power necessary for the aircraft to be able
R to start moving.

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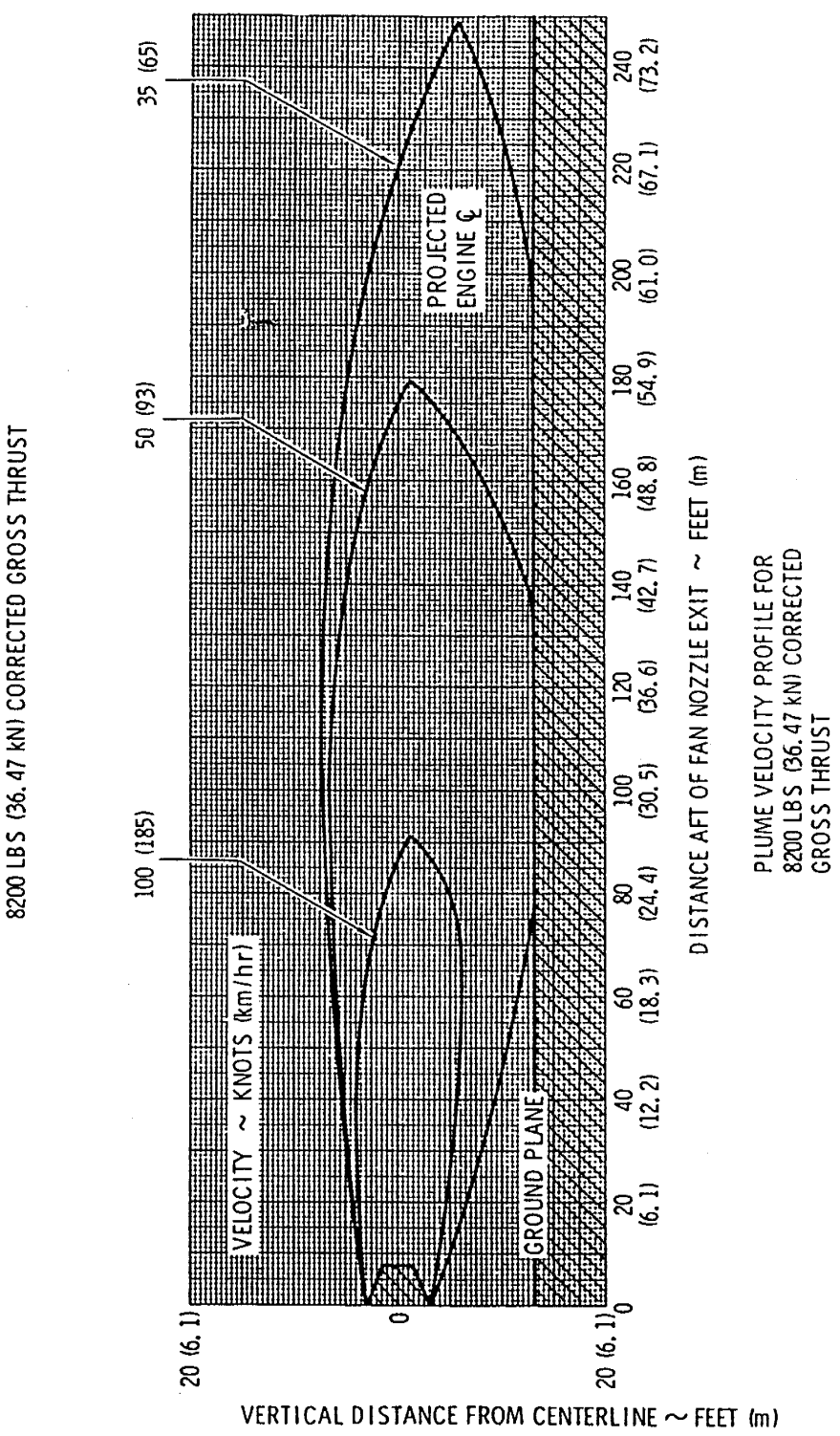

PLUME VELOCITY PROFILE FOR
8200 LBS (36.47 kN) CORRECTED
GROSS THRUST

CF8-8026-1-A2A

DA5 06 01 01 0 ACM0

JET ENGINE EXHAUST VELOCITIES AND TEMPERATURES
EXHAUST VELOCITY CONTOURS - BREAK AWAY POWER
(GE CF6-80C2F ENGINE)

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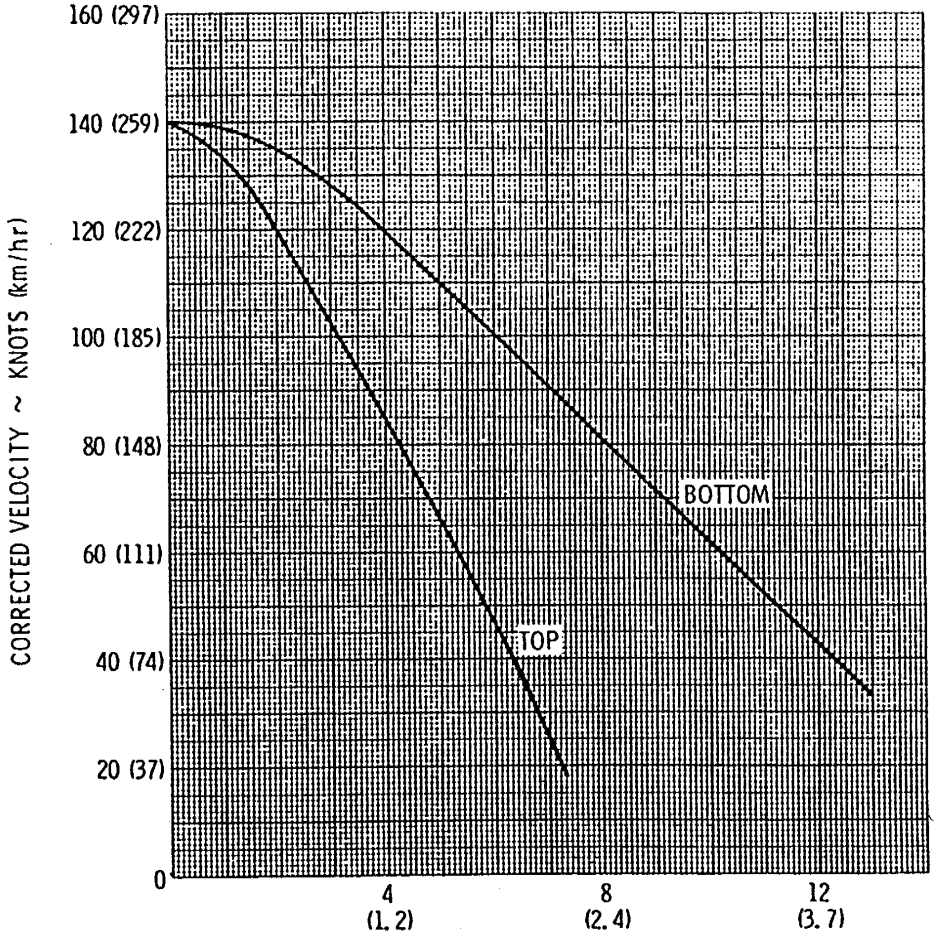
8200 LBS (36.47 kN) CORRECTED GROSS THRUST



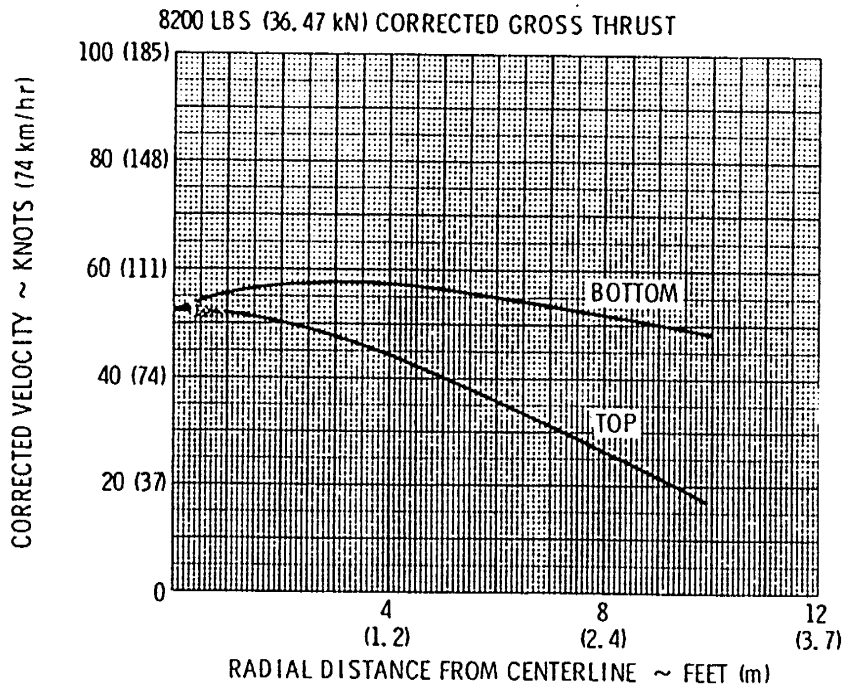
VELOCITY RADIAL VARIATIONS
61 FEET (18.59) AFT OF FAN
NOZZLE EXIT

DA5 06 01 01 0 AEM0

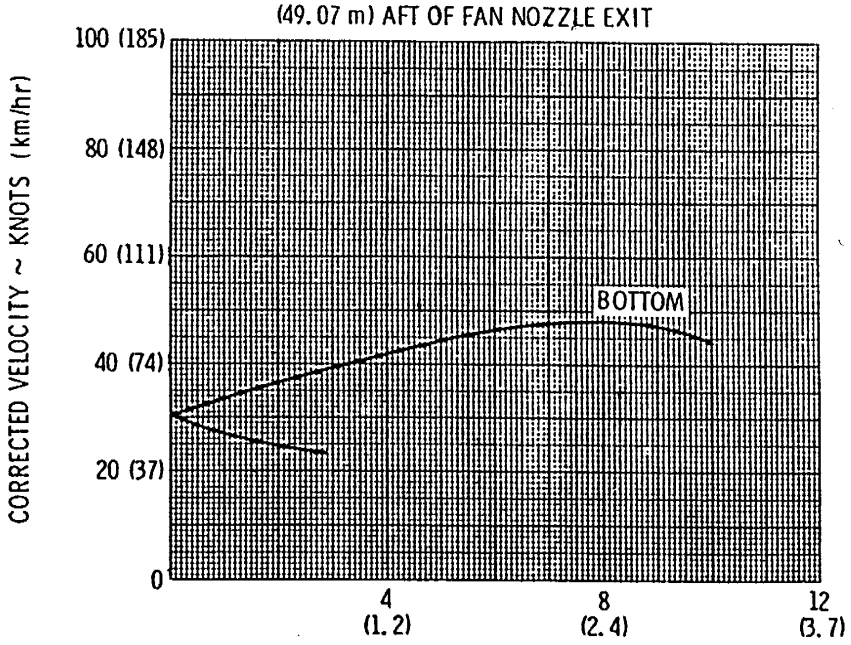
CF8-8052-0-A2A

JET ENGINE EXHAUST VELOCITIES AND TEMPERATURES
EXHAUST VELOCITY CONTOURS - BREAK AWAY POWER
(GE CF6-80C2F ENGINE)

Printed in France



VELOCITY RADIAL VARIATIONS 161 FEET
(49.07 m) AFT OF FAN NOZZLE EXIT



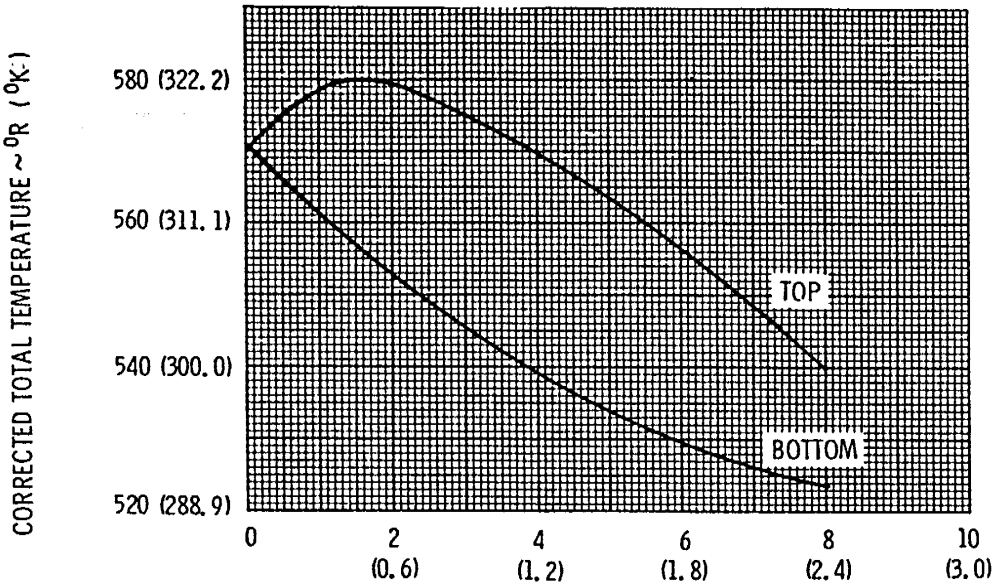
VELOCITY RADIAL VARIATIONS 200 FEET
(60.96 m) AFT OF FAN NOZZLE EXIT

CF8-8060-0-A2A

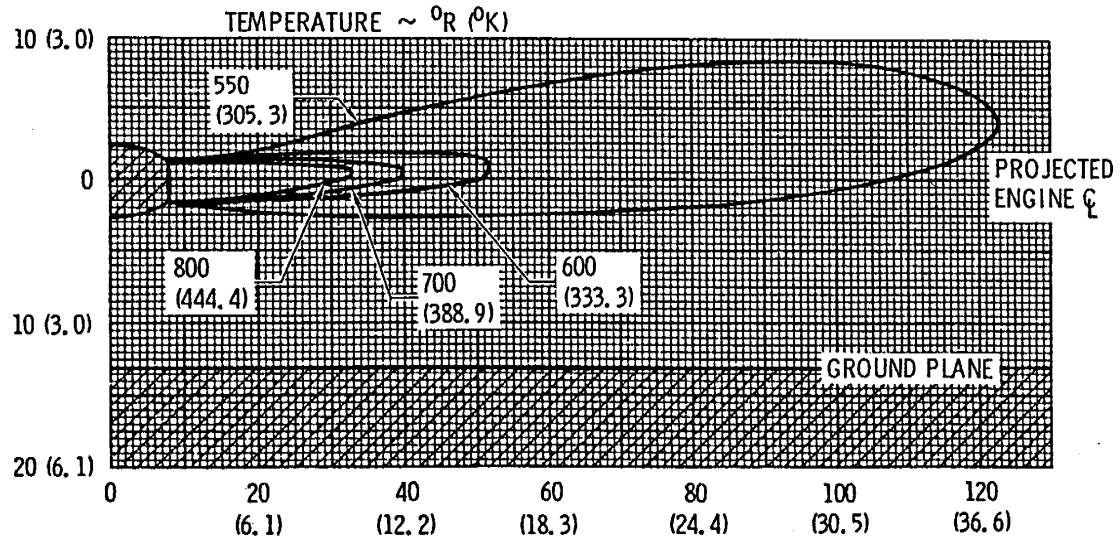
DA5 06 01 01 0 AGM0

JET ENGINE EXHAUST VELOCITIES AND TEMPERATURES
EXHAUST VELOCITY CONTOURS - BREAK AWAY POWER
(GE CF6-80C2F ENGINE)

Printed in France



CORRECTED TOTAL TEMPERATURE RADIAL VARIATIONS
61 FEET (18.59) AFT OF THE FAN NOZZLE EXIT



PLUME CORRECTED TOTAL TEMPERATURE PROFILE FOR
8700 LB. (38.70 KN) CORRECTED GROSS THRUST

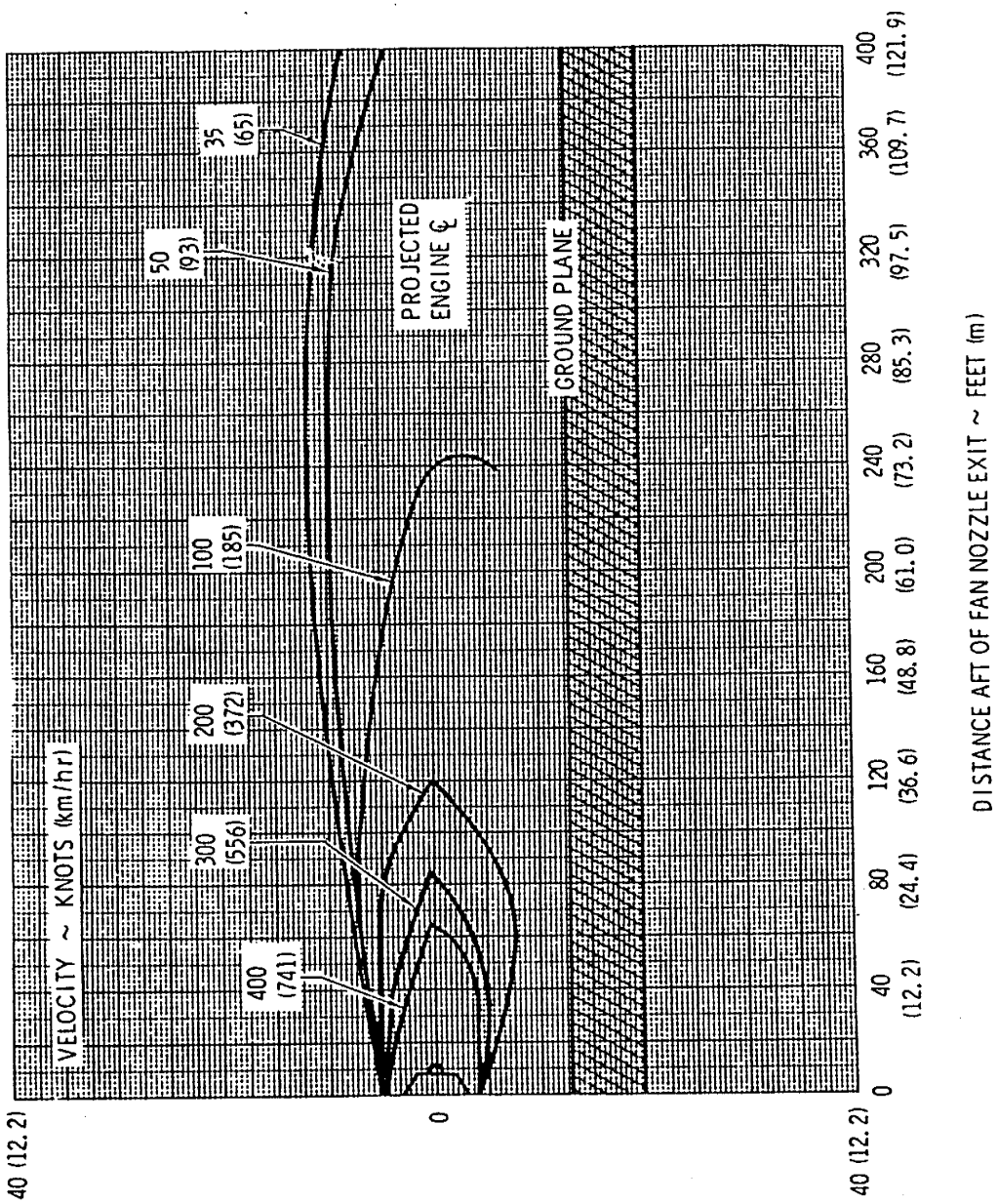
CF8-8038-0-A2A

DA5 06 01 02 0 AEM0

JET ENGINE EXHAUST VELOCITIES AND TEMPERATURES
EXHAUST TEMPERATURE CONTOURS - BREAK AWAY POWER
(GE CF6-80C2F ENGINE)

Printed in France

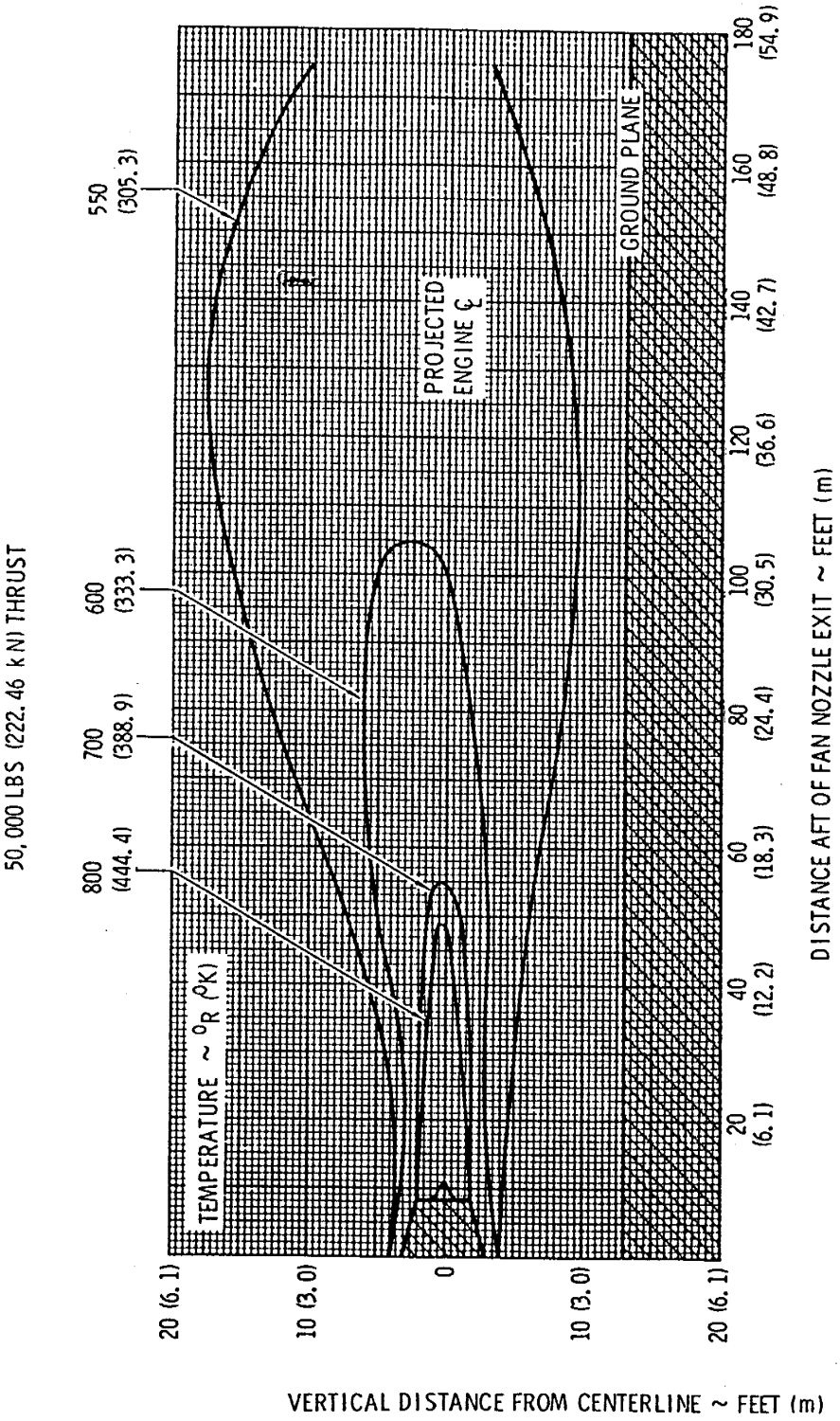
CF8-8030-0-A2A



DA5 06 01 03 0 AGM0

JET ENGINE EXHAUST VELOCITIES AND TEMPERATURES
EXHAUST VELOCITY CONTOURS - TAKE-OFF POWER
(GE CF6-80C2F ENGINE)

Printed in France

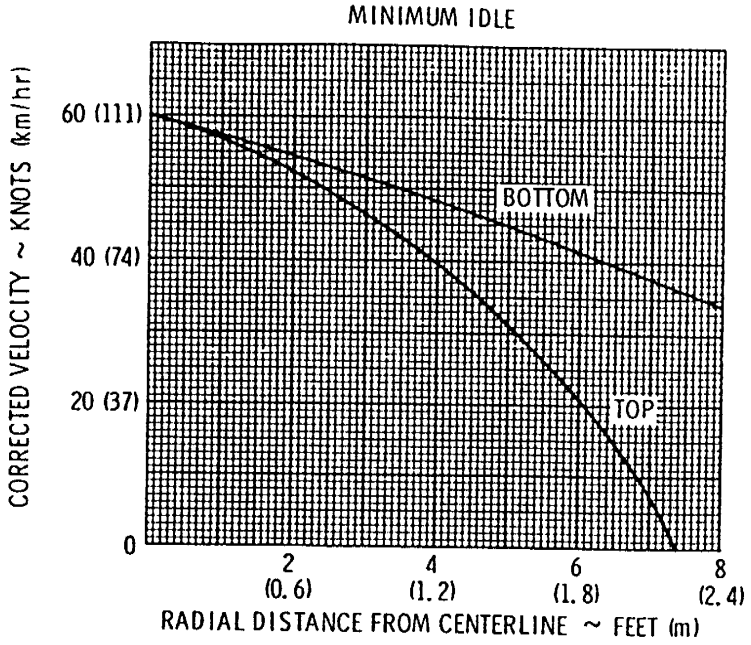


CF8-8034-0-A2A

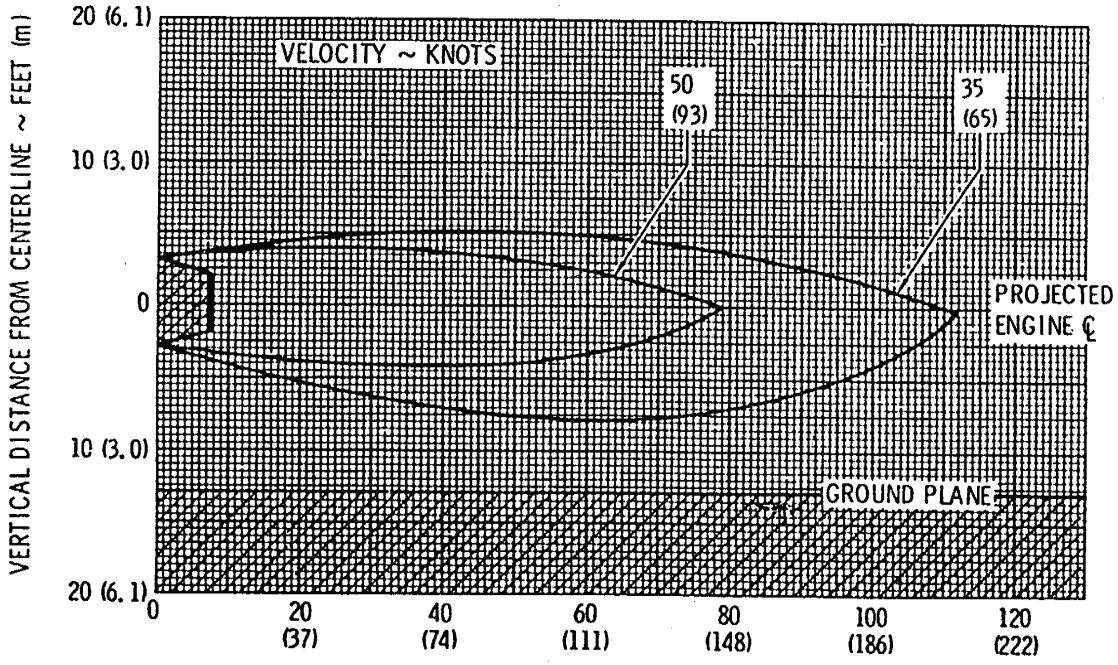
DA5 06 01 04 0 AJM0

JET ENGINE EXHAUST VELOCITIES AND TEMPERATURES
EXHAUST TEMPERATURE CONTOURS - TAKE-OFF POWER
(GE CF6-80C2F ENGINE)

Printed in France



VELOCITY RADIAL VARIATIONS 61 FEET (18.59 m)
AFT OF FAN NOZZLE EXIT



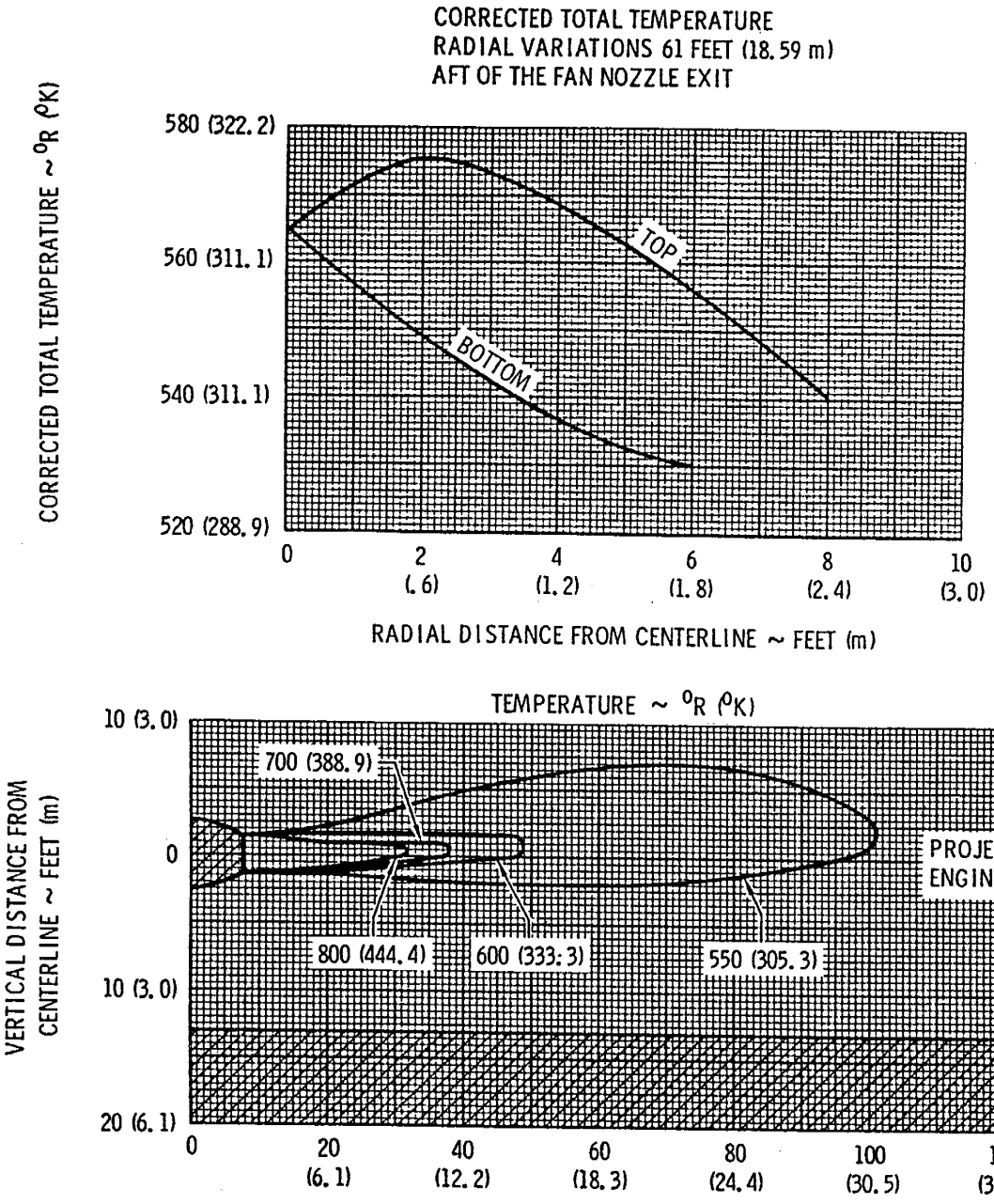
PLUME VELOCITY PROFILE FOR
MINIMUM IDLE POWER SETTING

CF8-8033-0-A2A

DA5 06 01 05 0 ALM0

JET ENGINE EXHAUST VELOCITIES AND TEMPERATURES
EXHAUST VELOCITY CONTOURS - IDLE POWER
(GE CF6-80C2F ENGINE)

Printed in France



PLUME CORRECTED TOTAL
TEMPERATURE PROFILE FOR
MINIMUM IDLE POWER SETTING

DA5 06 01 06 0 ANM0

CF8-8041-0-A2A

JET ENGINE EXHAUST VELOCITIES AND TEMPERATURES
EXHAUST TEMPERATURE CONTOURS - IDLE POWER
(GE CF6-80C2F ENGINE)

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ESTIMATED PROVISIONAL VALUES

OCTAVE BAND CENTER FREQUENCY	OCTAVE BAND SPL dB (20 μ PA)		
	45° TO EXHAUST	40° TO EXHAUST	50° TO EXHAUST
63 Hz	110.3	113.0	107.7
125 Hz	111.3	113.3	109.3
250 Hz	109.3	110.5	108.1
500 Hz	104.9	105.1	104.6
1000 Hz	98.4	98.2	98.7
2000 Hz	92.4	91.4	93.3
4000 Hz	96.5	95.7	97.3
8000 Hz	92.9	92.1	93.7

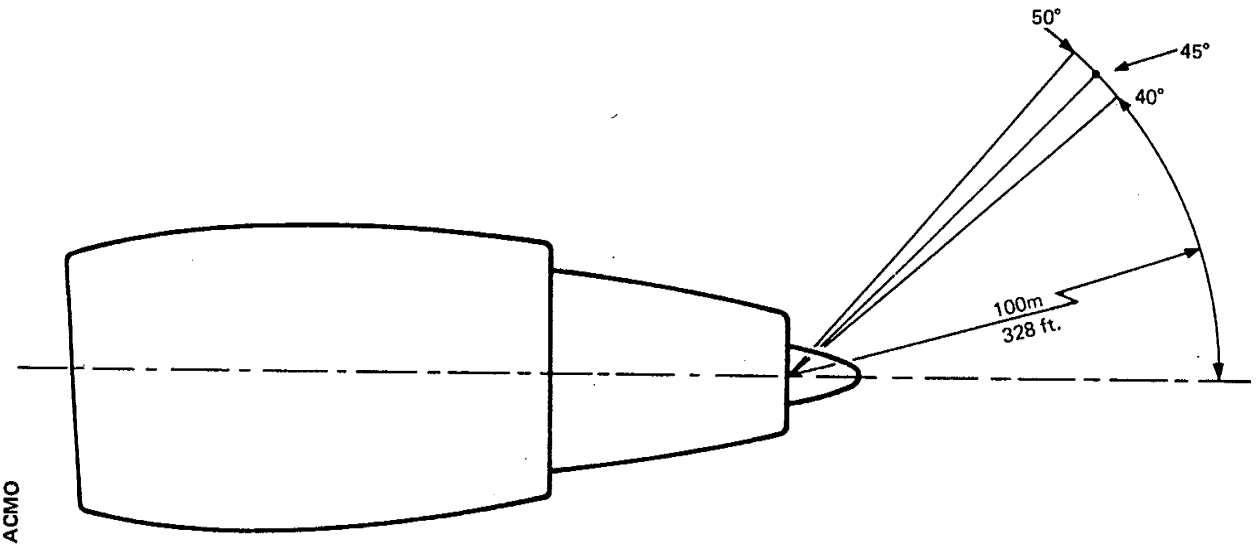
GROUND STATIC

TAKE OFF POWER

100 METERS RADIUS

ISA +10°C AND 70°HR

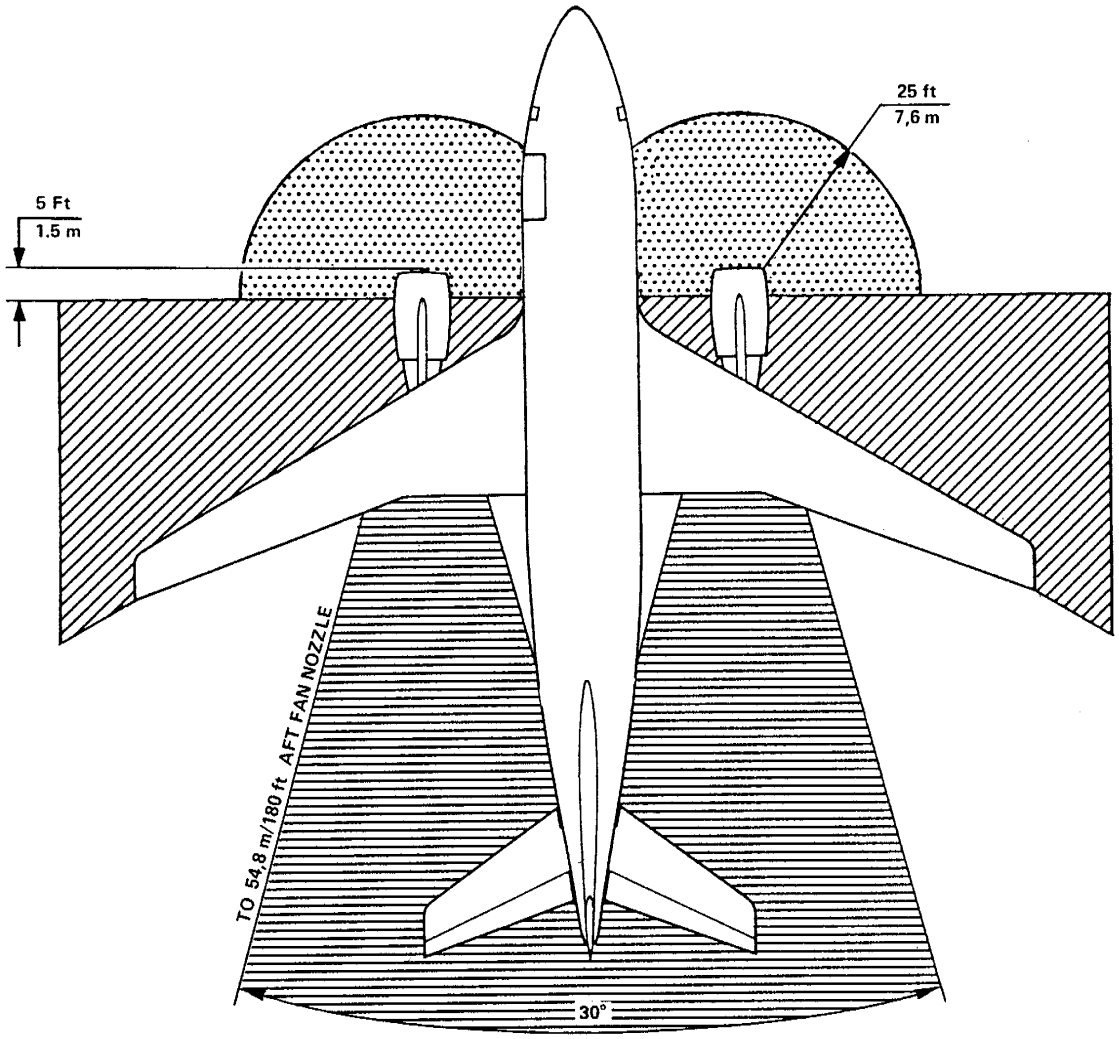
SEA LEVEL



DA5 06 02 01 0 ACMO

AIRPORT AND COMMUNITY NOISE
NOISE DATA (GE CF6-80C2F SERIE ENGINE)

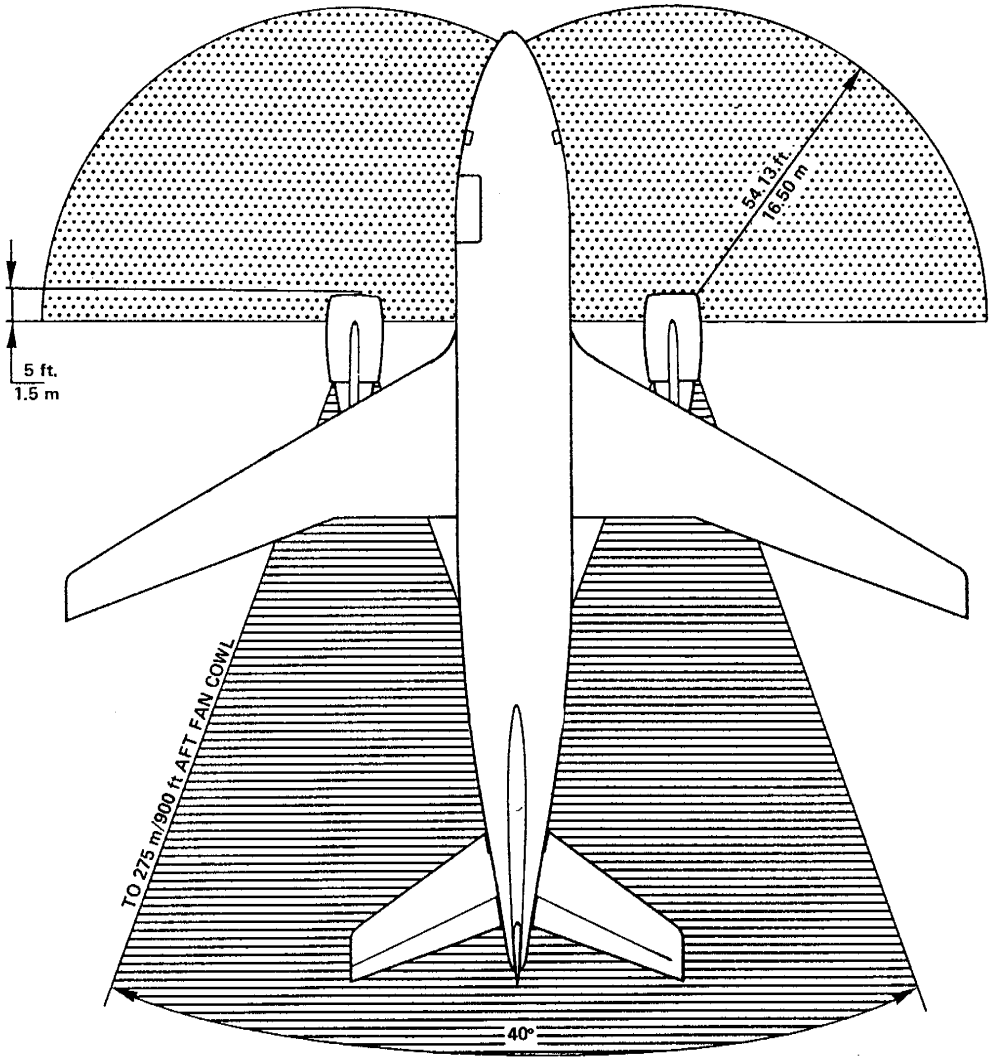
Printed in France



DA5 06 03 01 0 ACM0

DANGER AREAS OF THE ENGINES GROUND IDLE
(GE CF6-80C2F ENGINE)

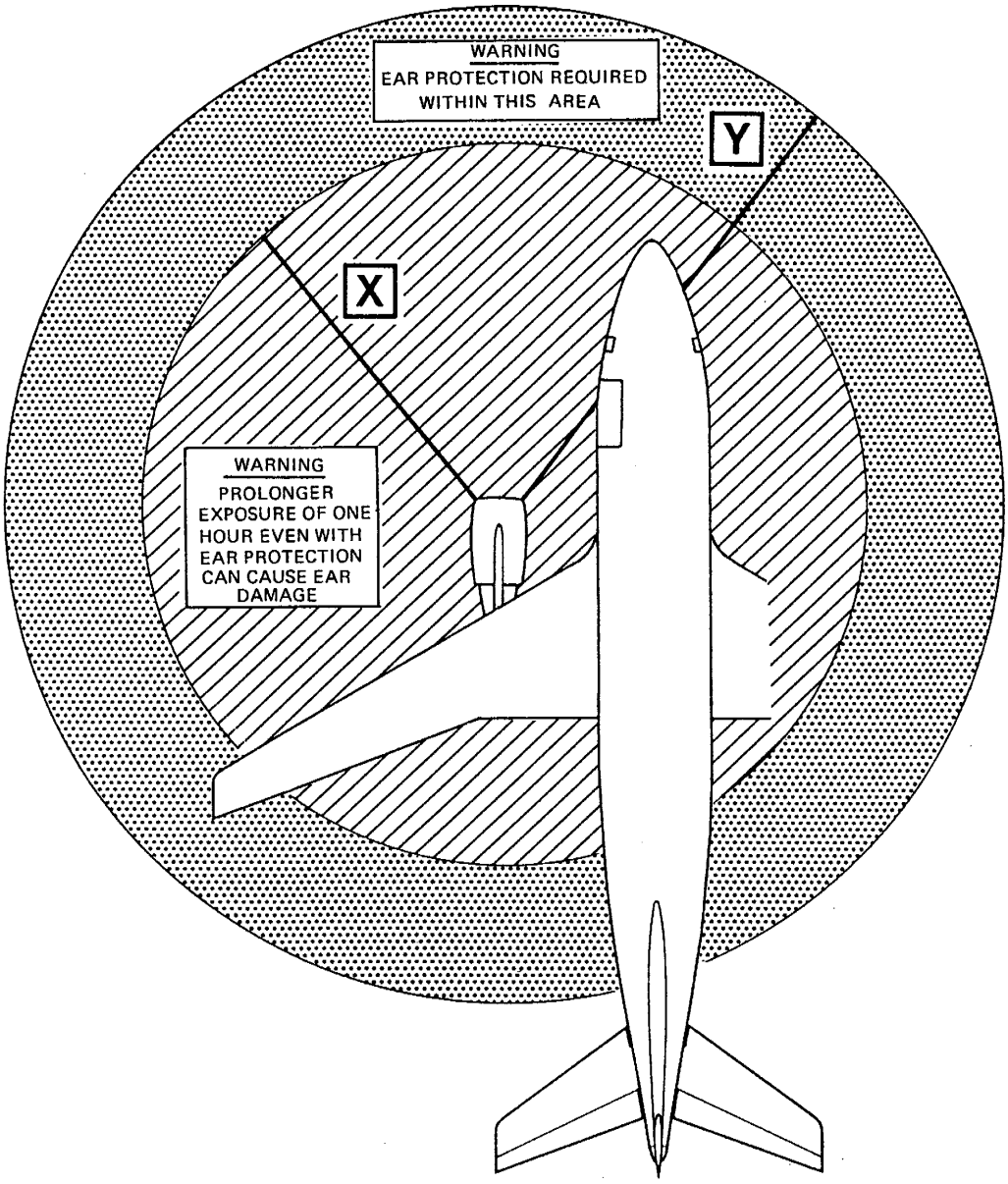
Printed in France



DA5 06 03 02 0 AGM0

DANGER AREAS OF THE ENGINES TAKE-OFF
(GE CF6-80C2F ENGINE)

Printed in France

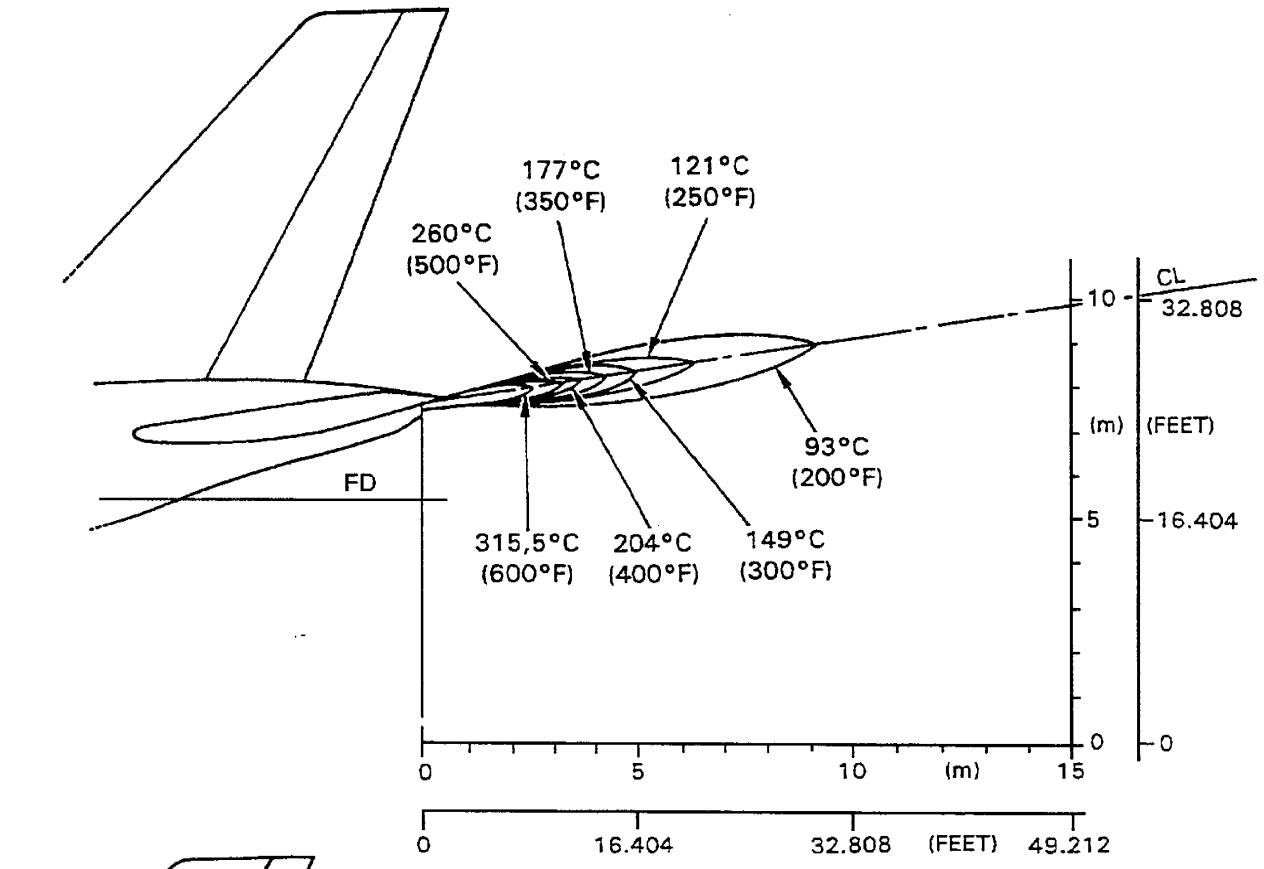


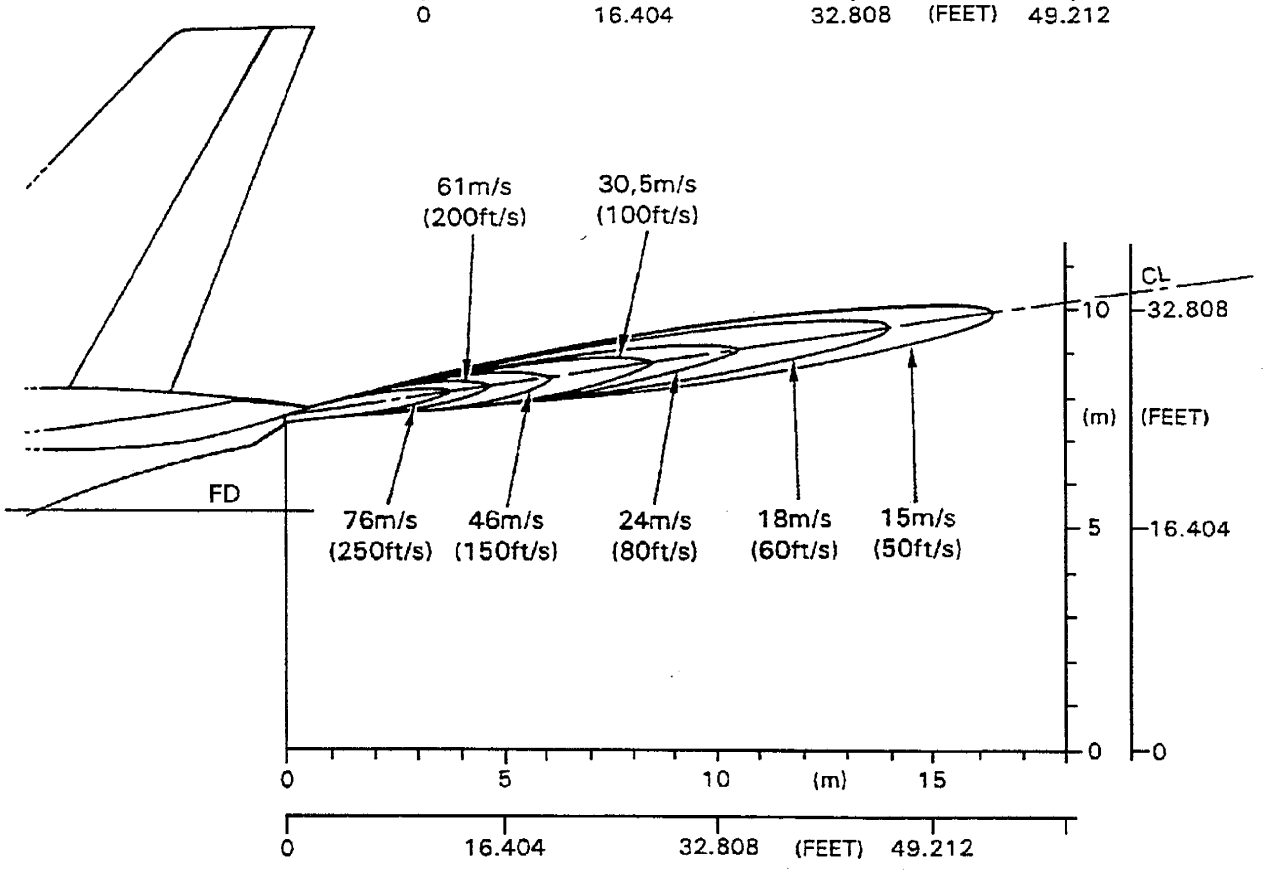
POWER SETTING	RADIUS X	RADIUS Y
GROUND IDLE	75 Ft (23 m)	100 Ft (30 m)
BREAK AWAY	90 Ft (27 m)	115 Ft (35 m)
TAKE-OFF	125 Ft (38 m)	200 Ft (60 m)

DZ5 02 11 00 0 ABB0

DANGER AREAS OF THE ENGINES ACOUSTIC PROTECTION
AREAS (GE CF6-80C2F ENGINE)

Printed in France





APU - Exhaust Gas Temperature & Velocity
DECAY - APU

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PAVEMENT DATA

7.1 General Information

-A300F4-600R Models

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, presents basic data on the landing gear footprint configuration, maximum ramp weights and tire sizes and pressures.

Section 7.3, shows 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.

Section 7.5.1 uses procedures in Instruction Report No. S-77-1 "Procedures for Development of CBR Design Curves", dated June 1977 to show flexible pavement design curves.
The report was prepared by the U.S. Army Corps Engineers Waterways Experiment Station, Soils and Pavement Laboratory, Vicksburg, Mississippi.

Section 7.5.1 & 7.9.1 uses the new load repetition factor according to the ICAO letter Reference AN 4/20.1-EB/07/26.

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

2. Flexible Pavement

The procedure that follows is used to develop flexible pavement design curves such as shown in Section 7.5.1.

A. With the scale for pavement thickness at the bottom and the scale for CBR at the top, an arbitary line is drawn representing 10 000 coverages.

B. Incremental values of the weight on the main landing gear are then plotted.

C. Annual departure line are drawn based on the load lines of the weight on the main landing gear that is shown on the graph.

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.

3. Rigid Pavement

The procedure that follows is used to develop rigid pavement design curves such a those shown in Section 7.7.1.

A. 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.

B. All values of the subgrade modulus (k values) are then plotted.

C. 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.

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 Internation Civil Aviation Organisation (ICAO) document 7920-AN/865/2, Aerodrome Manual, Part 2, "Aerodrome Physical Characteristics", Second Edition, 1965.

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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 show LCN against equivalent single wheel load, and equivalent single wheel load against radius of relative stiffness.

Section 7.9 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 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 F - Flexible	A - High B - Medium C - Low D - Ultra Low	W - No Limit X - To 1.5 Mpa (217 psi) Y - To 1 Mpa (145 psi) Z - To 0.5 Mpa (73 psi)	T - Technical U - Using Aircraft

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Section 7.9.1 shows the aircraft ACN values for flexible pavements.

The four subgrade categories are :

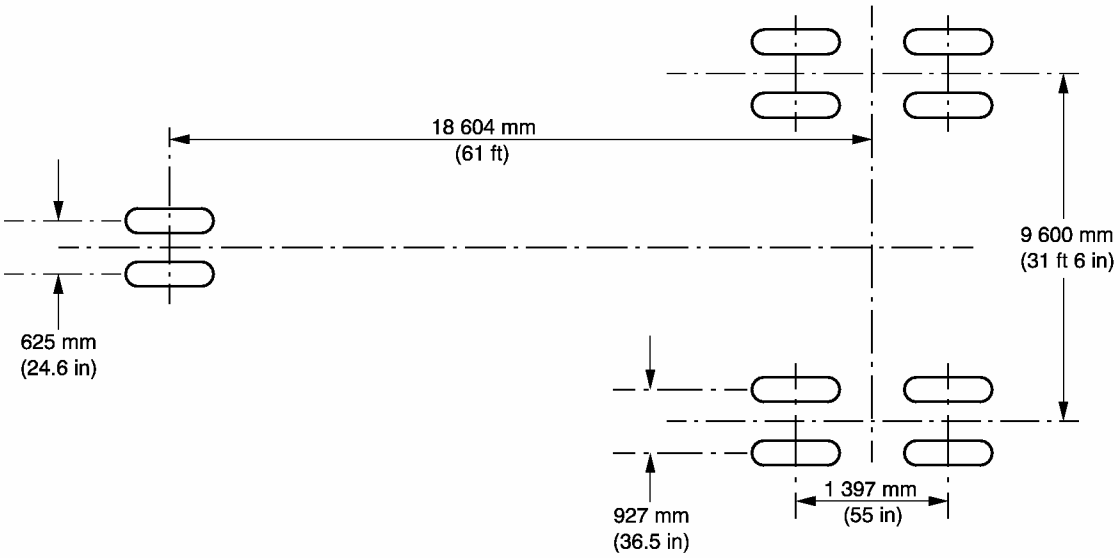
A	High Strength	CBR 15
B	Medium Strength	CBR 10
C	Low Strength	CBR 6
D	Ultra Low Strength	CBR 3

Section 7.9.2 shows the aircraft ACN for rigid pavements.

The four subgrade categories are :

A	High Strength	Subgrade k = 150 MN/m³ (550 pci)
B	Medium Strength	Subgrade k = 80 MN/m³ (300 pci)
C	Low Strength	Subgrade k = 40 MN/m³ (150 pci)
D	Ultra Low Strength	Subgrade k = 20 MN/m³ (75 pci)

MAXIMUM RAMP WEIGHT	166 000 kg (365 975 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7-4-1 MRW 166 000 kg
NOSE GEAR TIRE SIZE	40 x 14 -16 or 40 x 14 R16
NOSE GEAR TIRE PRESSURE	9.9 bar (144 psi)
WING GEAR TIRE SIZE	49 x 17 -20
WING GEAR TIRE PRESSURE	13.4 bar (194 psi)

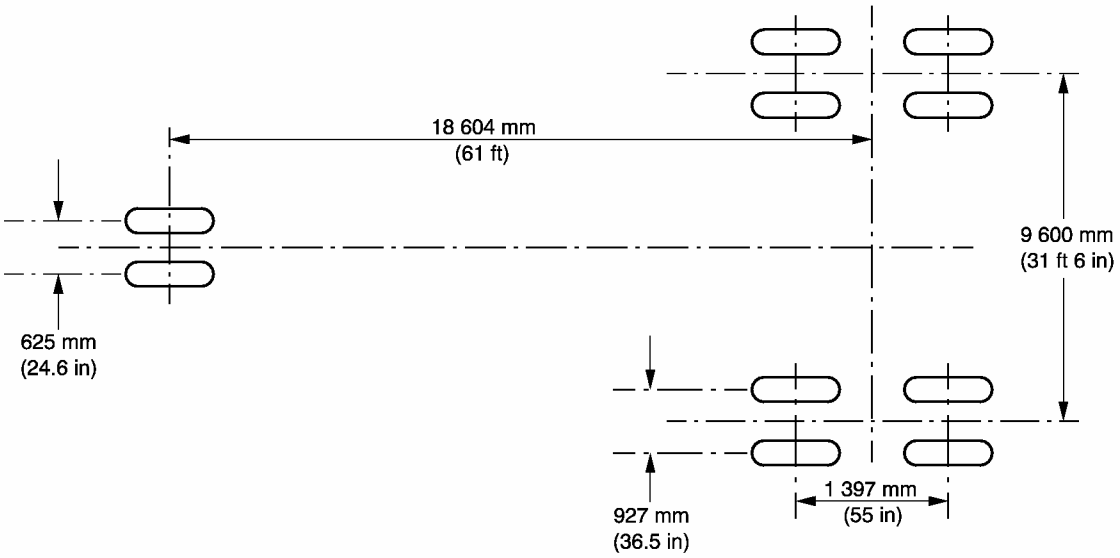


NOTE: DIMENSIONS IN MILLIMETERS
(FEET AND INCHES IN BRACKETS).

DA5 07 02 00 1 AAM0 00

Landing Gear Footprint
A300F4-600R Models - MRW 166 000 kg

MAXIMUM RAMP WEIGHT	168 900 kg (372 350 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7-4-1 MRW 168 900 kg
NOSE GEAR TIRE SIZE	40 x 14 -16 or 40 x 14 R16
NOSE GEAR TIRE PRESSURE	9.9 bar (144 psi)
WING GEAR TIRE SIZE	49 x 17 -20
WING GEAR TIRE PRESSURE	13.4 bar (194 psi)



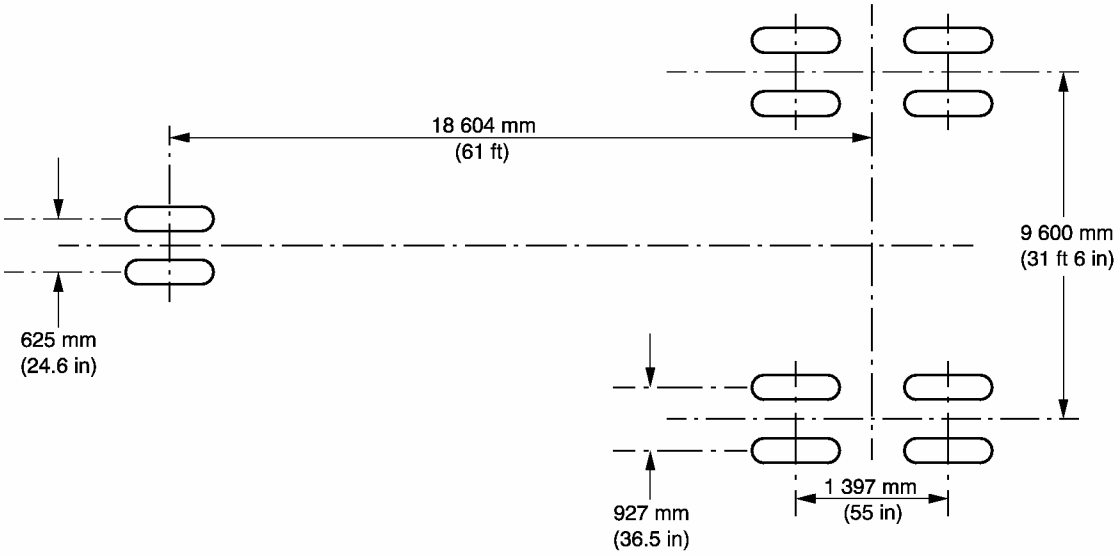
NOTE: DIMENSIONS IN MILLIMETERS
(FEET AND INCHES IN BRACKETS).

DA5 07 02 00 1 ACM0 00

Landing Gear Footprint
A300F4-600R Models - MRW 168 900 kg

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

MAXIMUM RAMP WEIGHT	171 400 kg (377 875 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7-4-1 MRW 171 400 kg
NOSE GEAR TIRE SIZE	40 x 14 -16 or 40 x 14 R16
NOSE GEAR TIRE PRESSURE	9.9 bar (144 psi)
WING GEAR TIRE SIZE	49 x 17 -20
WING GEAR TIRE PRESSURE	13.4 bar (194 psi)

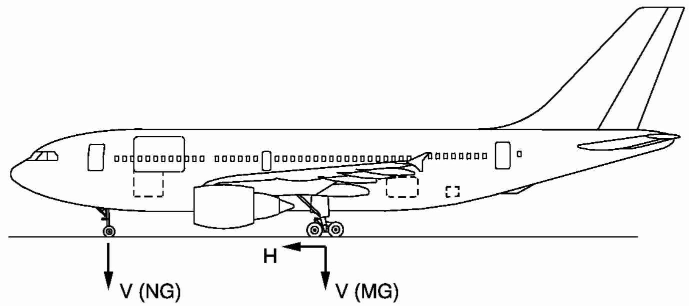


NOTE: DIMENSIONS IN MILLIMETERS
(FEET AND INCHES IN BRACKETS).

DA5 07 02 00 1 AEM0 00

Landing Gear Footprint
A300F4-600R Models - MRW 171 400 kg

DA5 07 03 00 1 AAM0 00



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
F4-600R	365 975	166 000	41 675	18 910	66 925	30 350	174 500	79 150	56 875	25 800	139 600	63 320
F4-600R	372 350	168 900	41 425	18 800	66 500	30 170	177 550	80 530	57 875	26 250	142 025	64 420
F4-600R	377 875	171 400	41 425	18 800	66 500	30 170	180 175	81 720	58 725	26 640	144 125	65 380

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 = 166 000 kg FWD CG = 18% MAC AT A/C WEIGHT = 166 000 kg
MRW = 168 900 kg FWD CG = 18% MAC AT A/C WEIGHT = 165 000 kg
MRW = 171 400 kg FWD CG = 18% MAC AT A/C WEIGHT = 165 000 kg

(2) MRW = 166 000 kg AFT CG = 37% MAC AT A/C WEIGHT = 166 000 kg
MRW = 168 900 kg AFT CG = 37% MAC AT A/C WEIGHT = 168 900 kg
MRW = 171 400 kg AFT CG = 37% MAC AT A/C WEIGHT = 171 400 kg

NOTE: ALL LOADS CALCULATED USING AIRPLANE MAXIMUM RAMP WEIGHT.

Maximum Pavement Loads

7.4 Landing Gear Loading on Pavement

-A300F4-600R Models

In the typical example shown in Section 7.4.1 with MRW 166 000 kg.

The Gross Aircraft Weight is 150 000 kg (330 700 lb) and the percentage of weight on the Main Gear is 95.36 %.

For these conditions the total weight on the Main Gear Group is 143 040 kg (315 350 lb).

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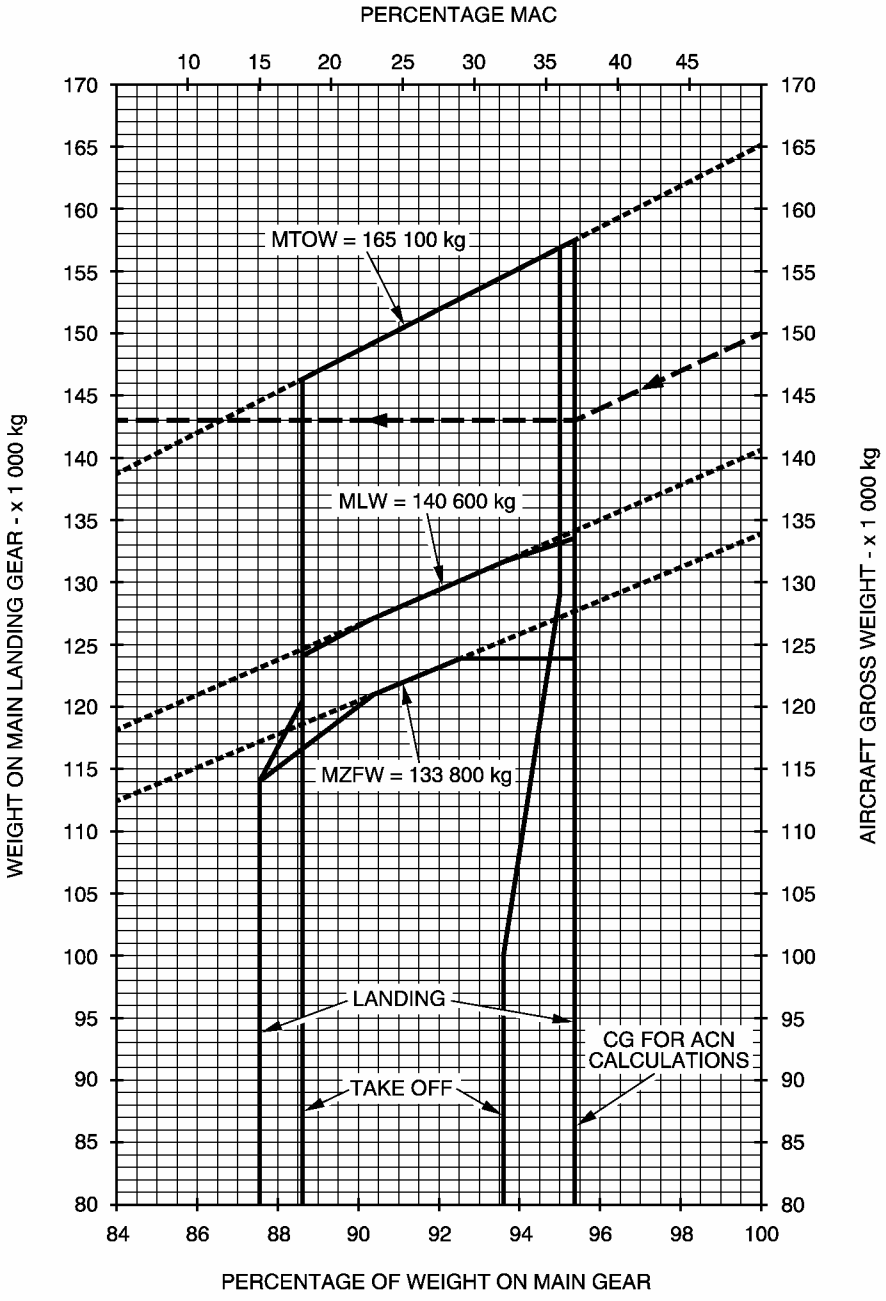
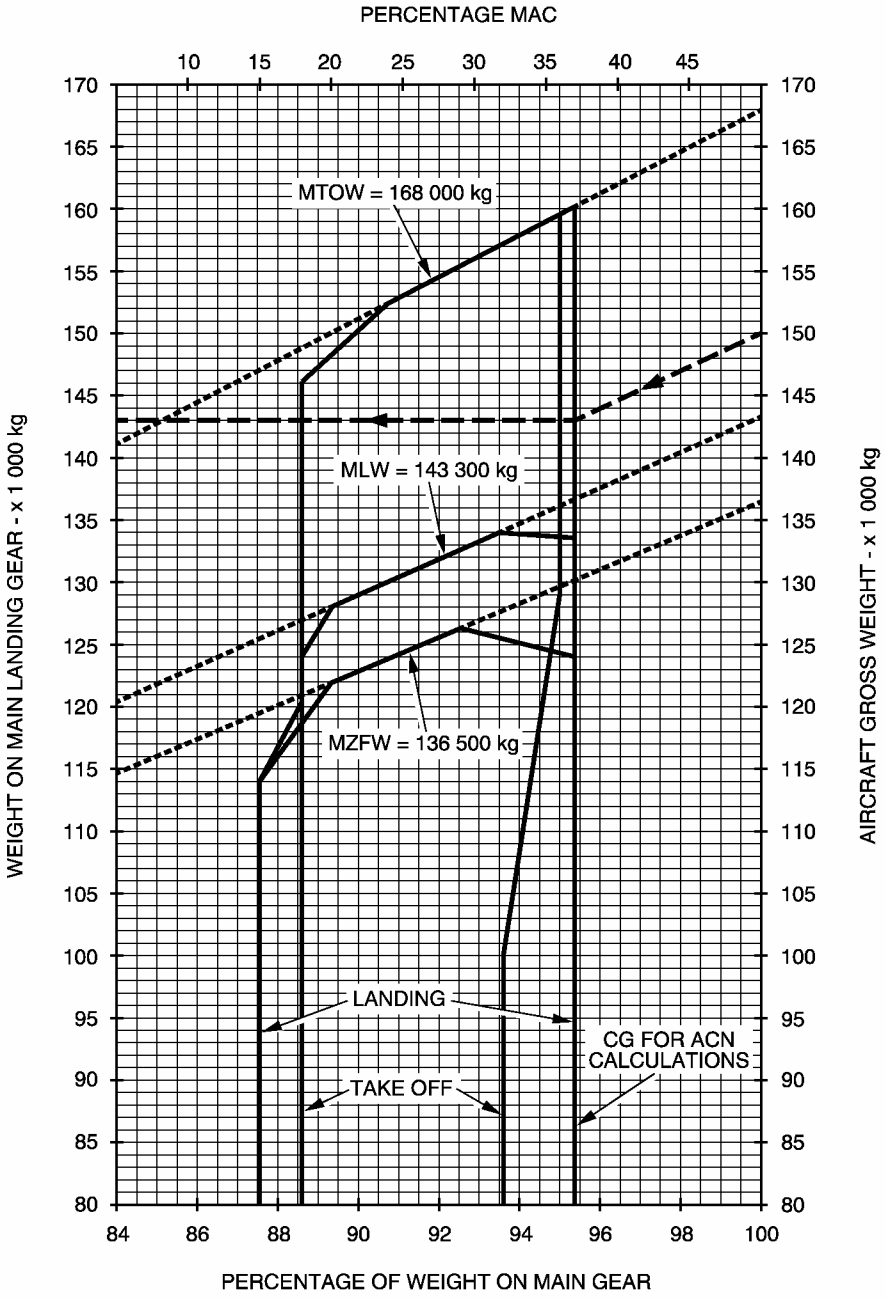


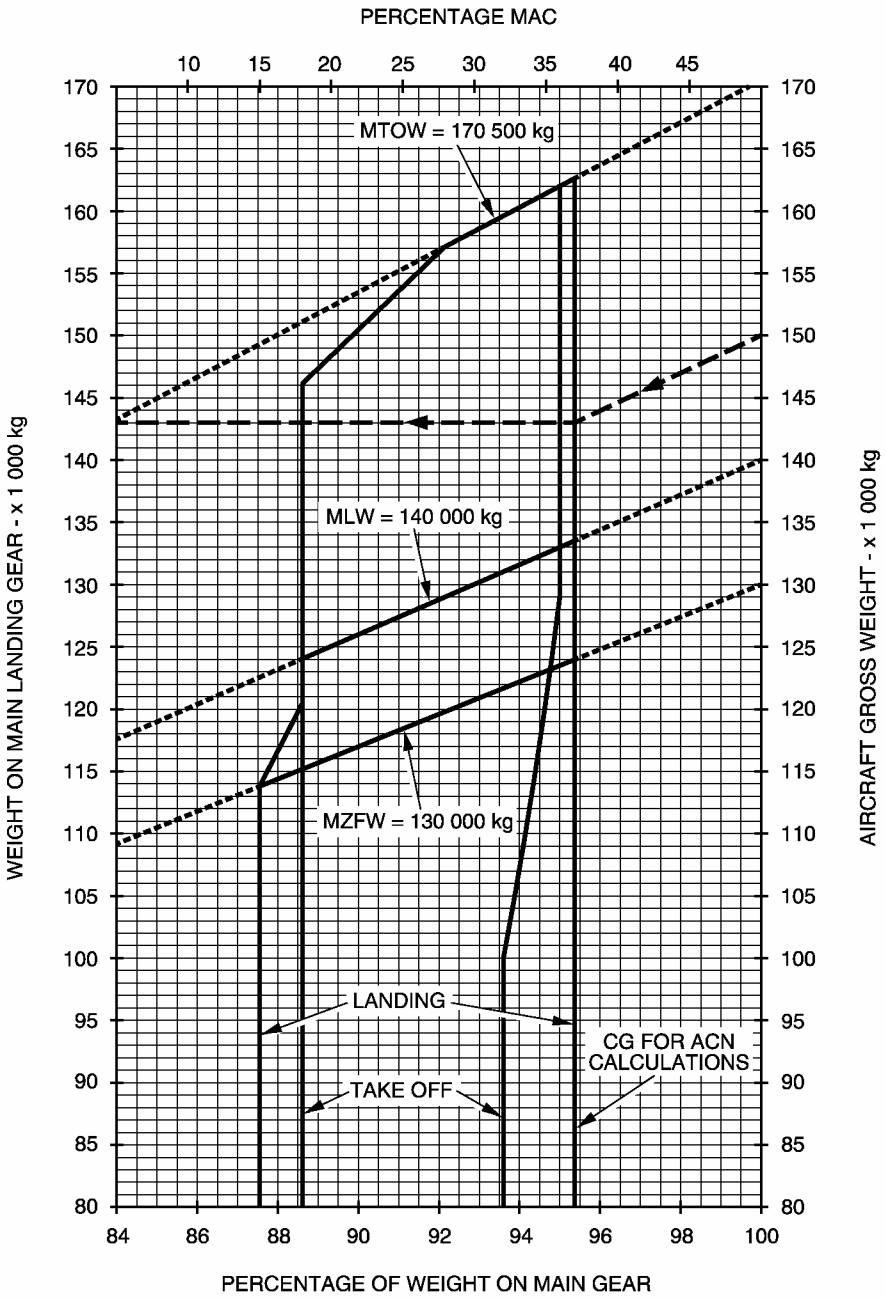
DA5 07 04 01 1 AAM0 00

Landing Gear Loading on Pavement
A300F4-600R Models - MRW 166 000 kg



DA5 07 04 01 1 ACM0 00

Landing Gear Loading on Pavement
A300F4-600R Models - MRW 168 900 kg



DA5 07 04 01 1 AEM0 00

Landing Gear Loading on Pavement
A300F4-600R Models - MRW 171 400 kg

7.5 Flexible Pavement Requirements - US Army Corps of Engineers Design Method

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

-A300F4-600R Models

In the typical example shown in Section 7.5.1 with MRW 166 000 kg for :

- a CBR value of 3
- an Annual Departure level of 3000
- and the load on one Wing Landing Gear of 50 000 kg (110 225 lb)
- the required Flexible Pavement Thickness is 40 cm (16 inches).

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

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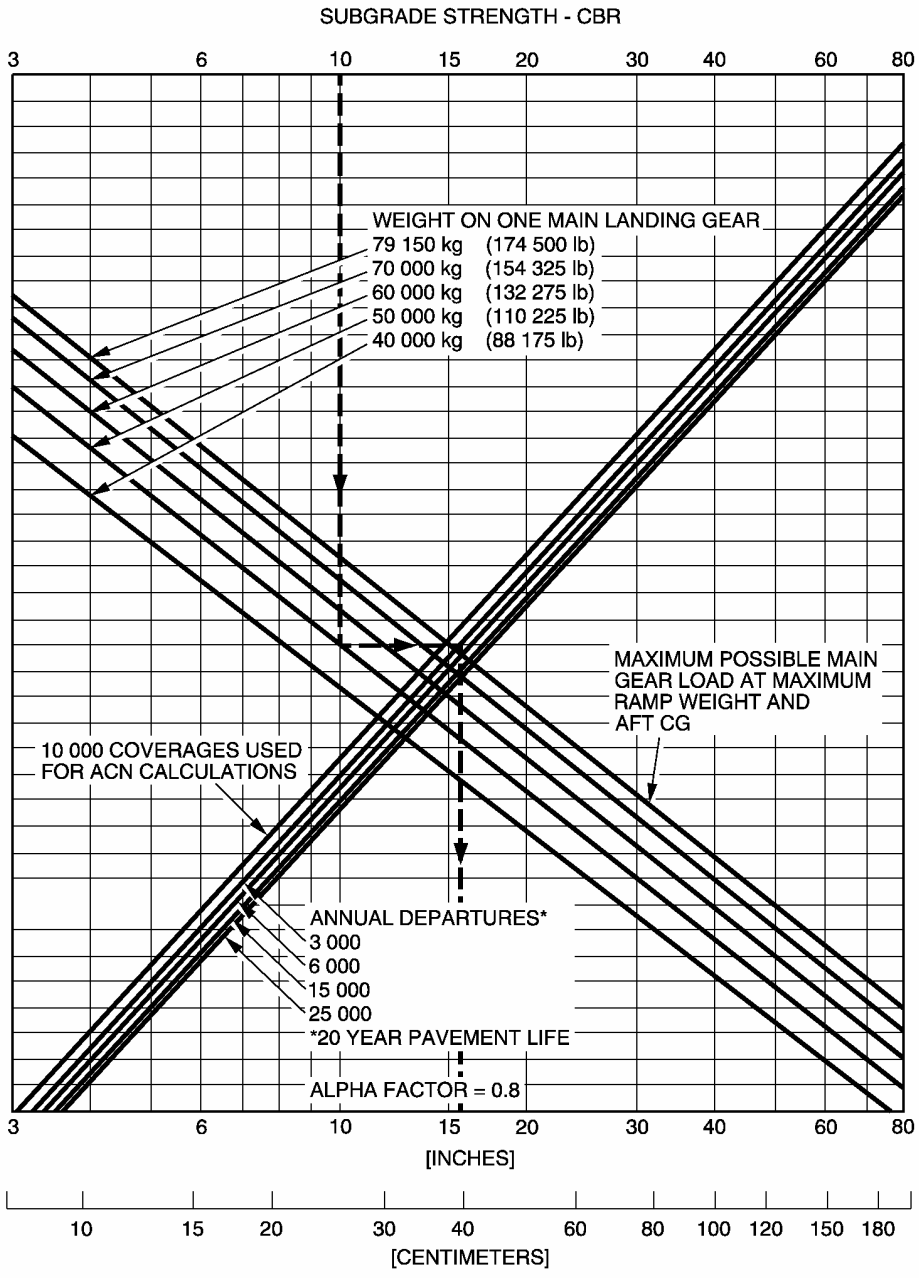


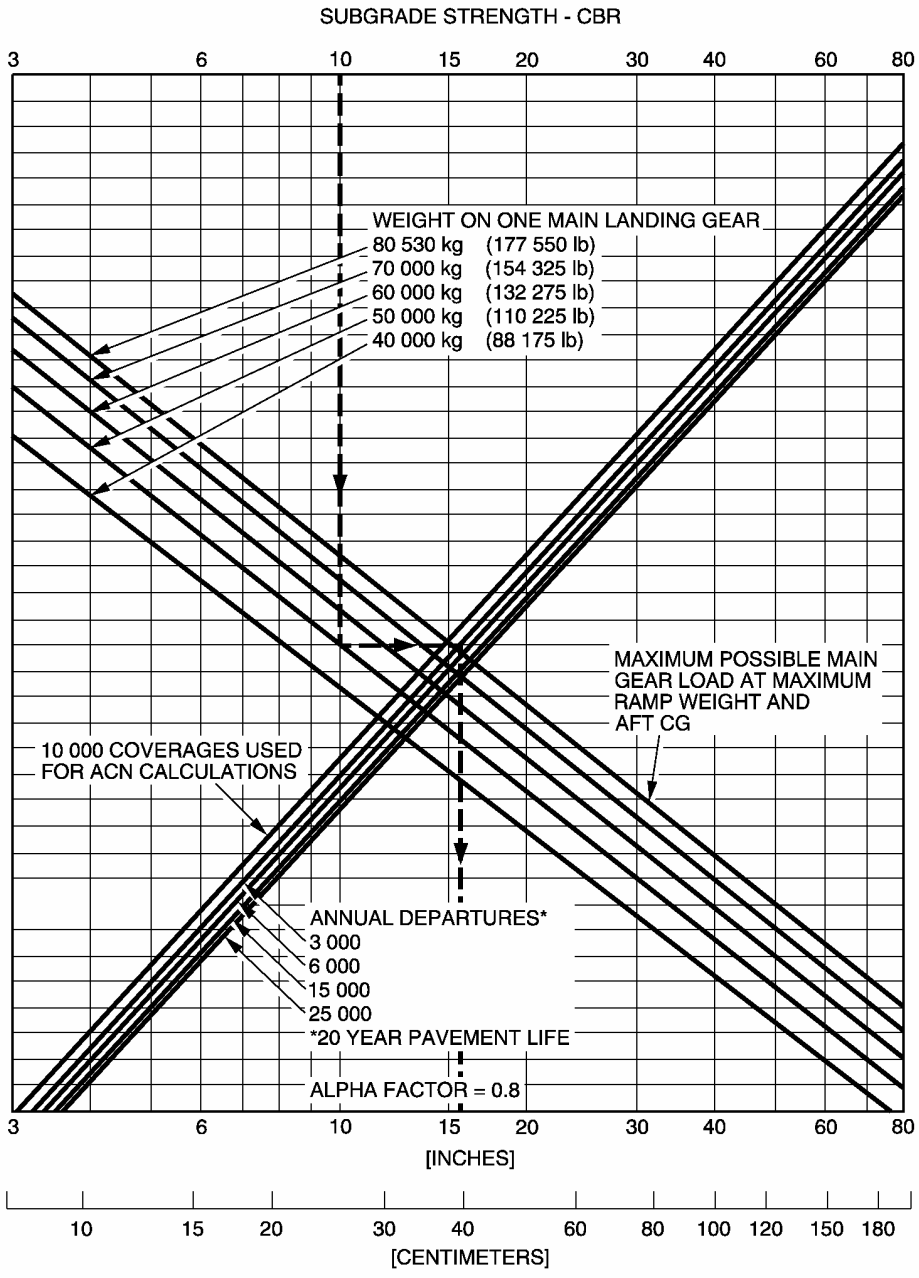
FLEXIBLE PAVEMENT THICKNESS

49 x 17 - 20 TIRES

TIRE PRESSURE CONSTANT AT 13.4 BAR (194 PSI)

DA5 07 05 01 1 AAM0 00

Flexible Pavement Requirements
A300F4-600R Models - MRW 166 000 kg



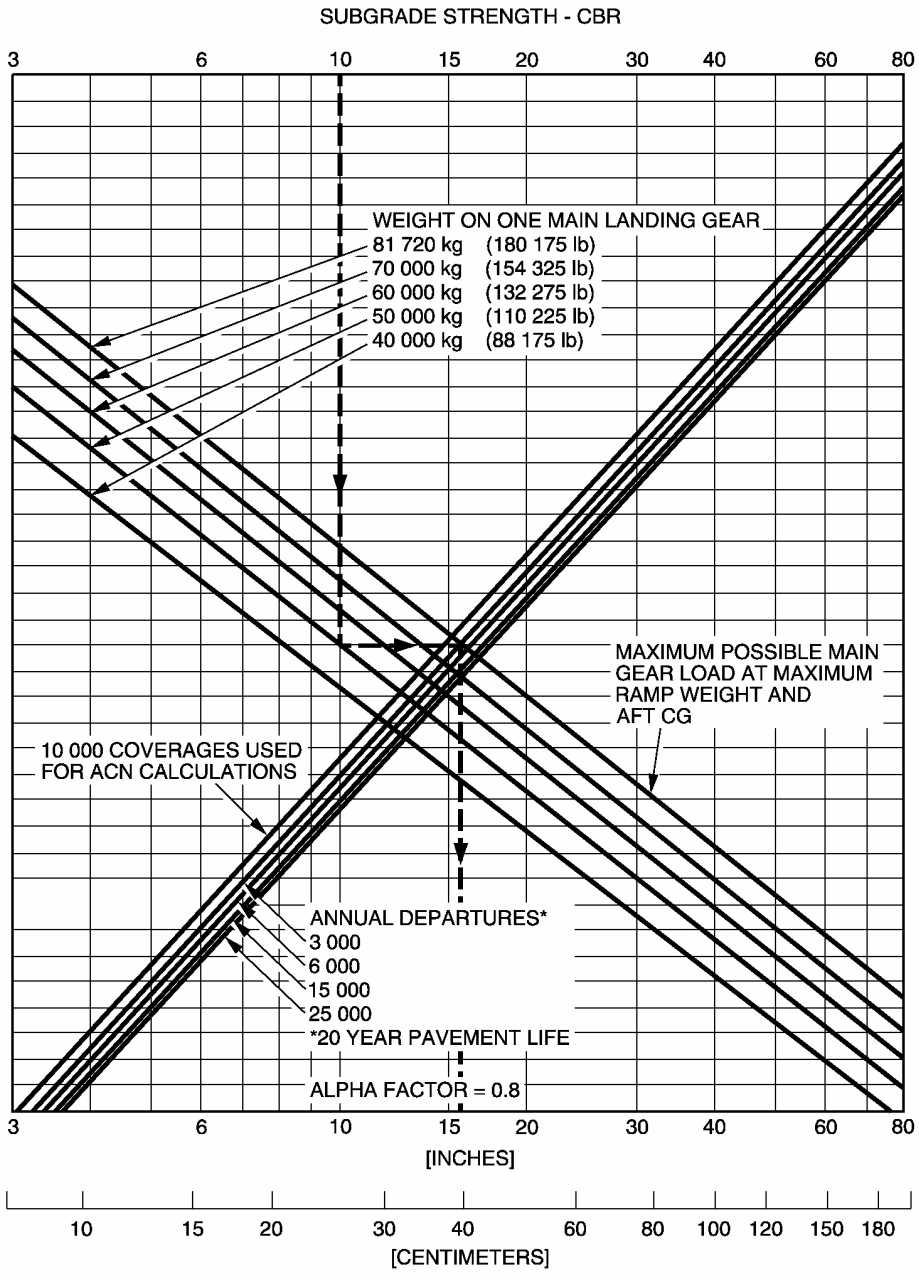
FLEXIBLE PAVEMENT THICKNESS

49 x 19 - 20 TIRES

TIRE PRESSURE CONSTANT AT 13.4 BAR (194 PSI)

DA5 07 05 01 1 ACM0 00

Flexible Pavement Requirements
A300F4-600R Models - MRW 168 900 kg



FLEXIBLE PAVEMENT THICKNESS

49 x 19 - 20 TIRES

TIRE PRESSURE CONSTANT AT 13.4 BAR (194 PSI)

DA5 07 05 01 1 AEM0 00

Flexible Pavement Requirements
A300F4-600R Models - MRW 171 400 kg

7.6 Flexible Pavement Requirements - LCN Conversion

- A300F4-600R Models

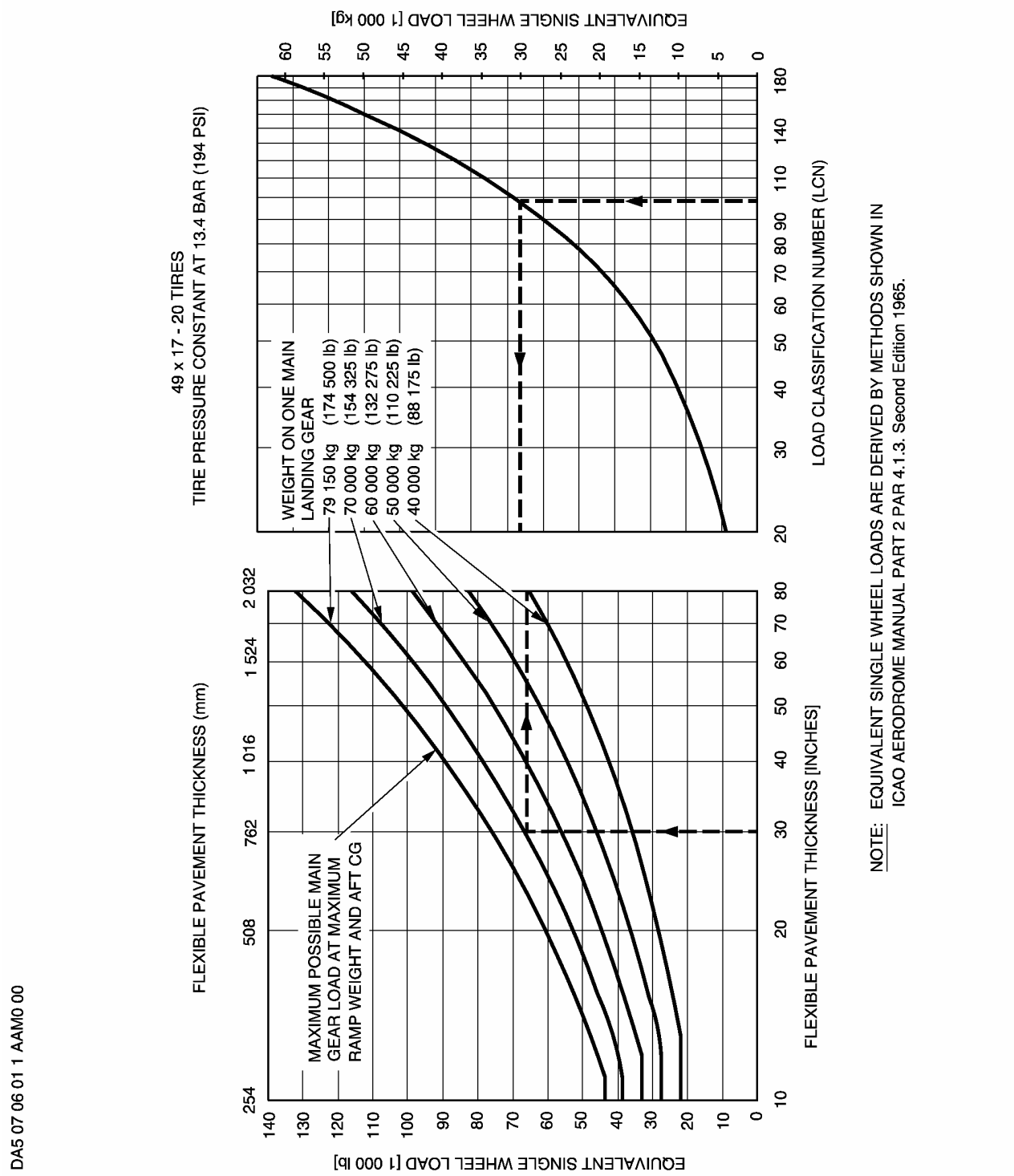
To find the airplane weight that a Flexible Pavement can support, the LCN of the pavement and the thickness (h) must be known.

In the example shown in Section 7.6.1 with MRW 166 000 kg.

The thickness (h) is shown at 762 mm (30 in.) with an LCN of 98.

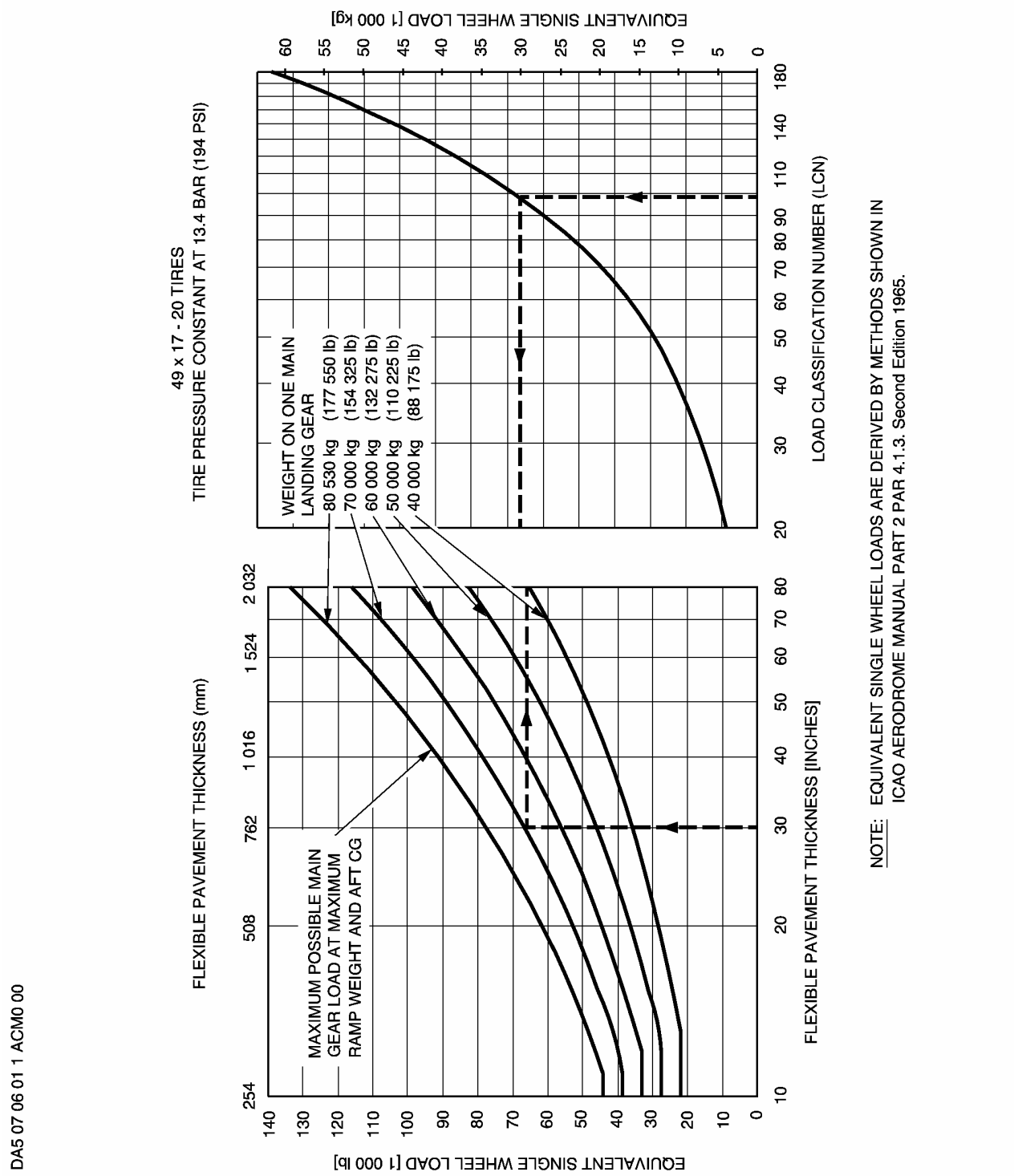
For these conditions the weight on one Main Landing Gear is 70 000 kg (154 325 lb).

Printed in France



DA5 07 06 01 1 AAM0 00

Flexible Pavement Requirements LCN
A300F4-600R Models - MRW 166 000 kg



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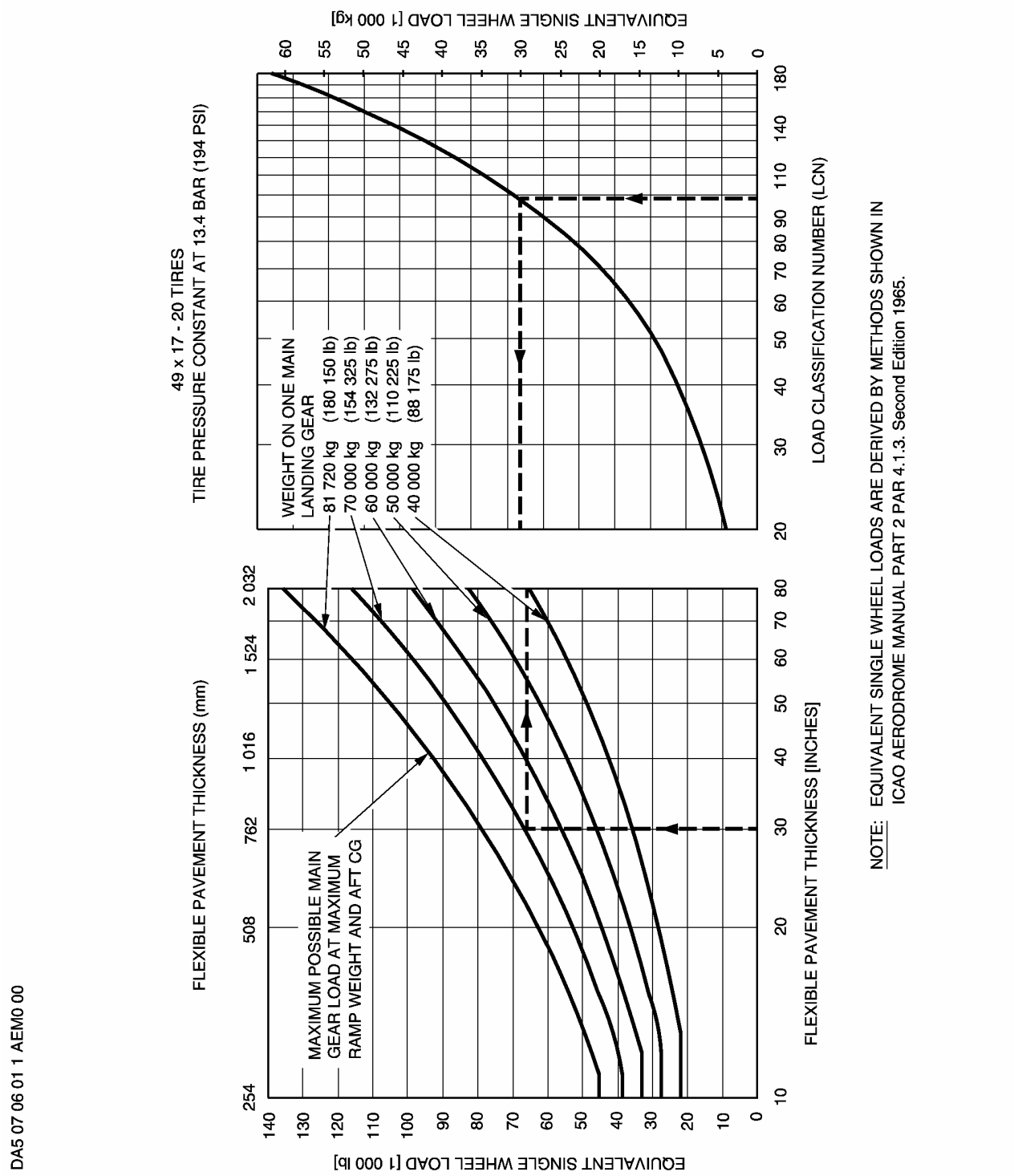
Flexible Pavement Requirements LCN
A300F4-600R Models - MRW 168 900 kg



NOTE: EQUIVALENT SINGLE WHEEL LOADS ARE DERIVED BY METHODS SHOWN IN ICAO AERODROME MANUAL PART 2 PAR 4.1.3. Second Edition 1965.

DA5 07 06 01 1 AEM0 00

Flexible Pavement Requirements LCN
A300F4-600R Models - MRW 171 400 kg

7.7 Rigid Pavement Requirements - Portland Cement Association Design Method - A300F4-600R Models

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 typical example shown in Section 7.7.1 with MRW 166 000 kg for :

- a k value of 80 MN/m^3 (K = 300 lbF/in^3)
- an allowable working stress of 28.12 kg/cm^2 (400 lb/in^2)
- the Load on one Wing Landing Gear of 60 000 kg (132 275 lb)

the required Rigid Pavement Thickness is 28 cm (11 inches).

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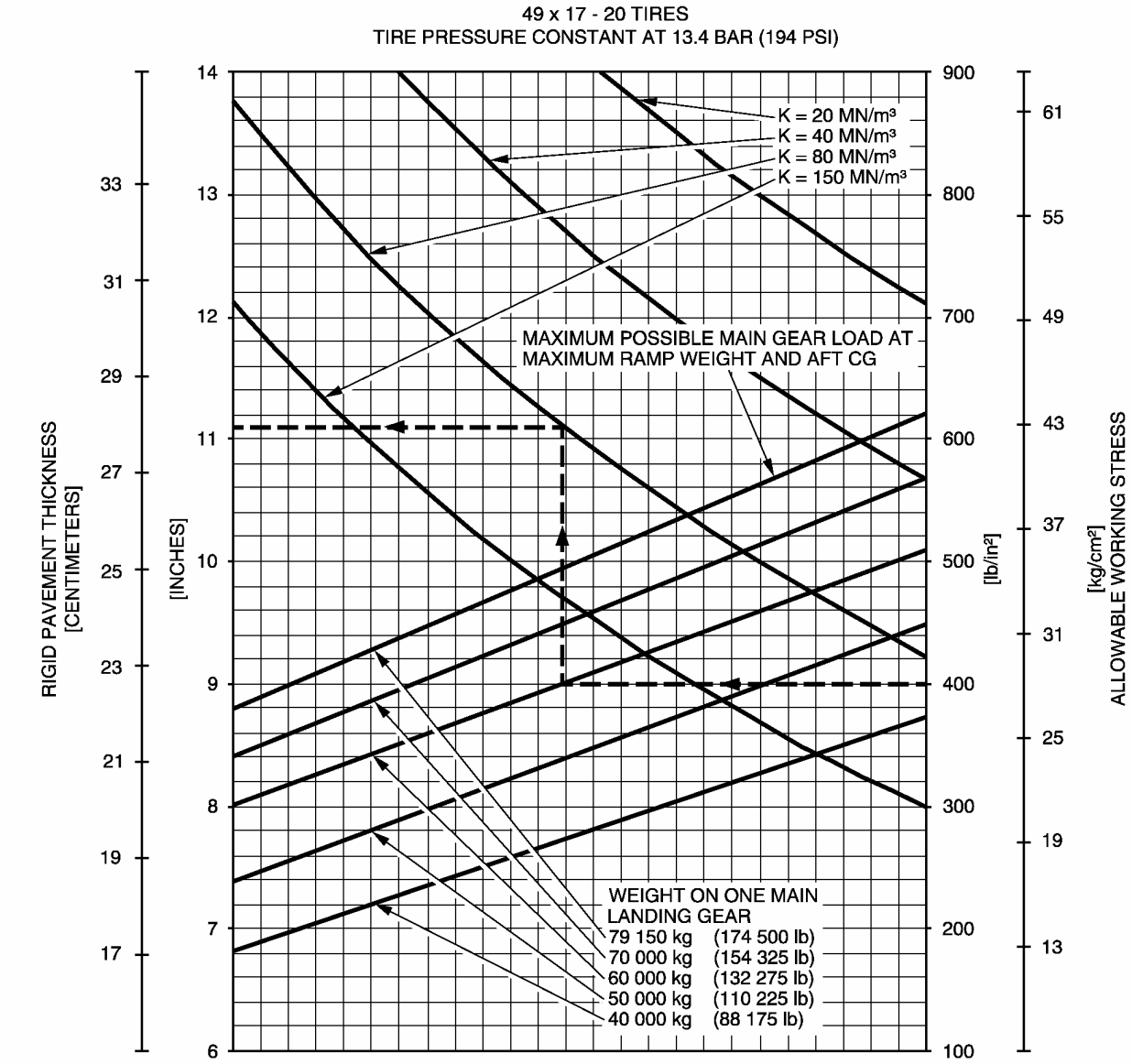
AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

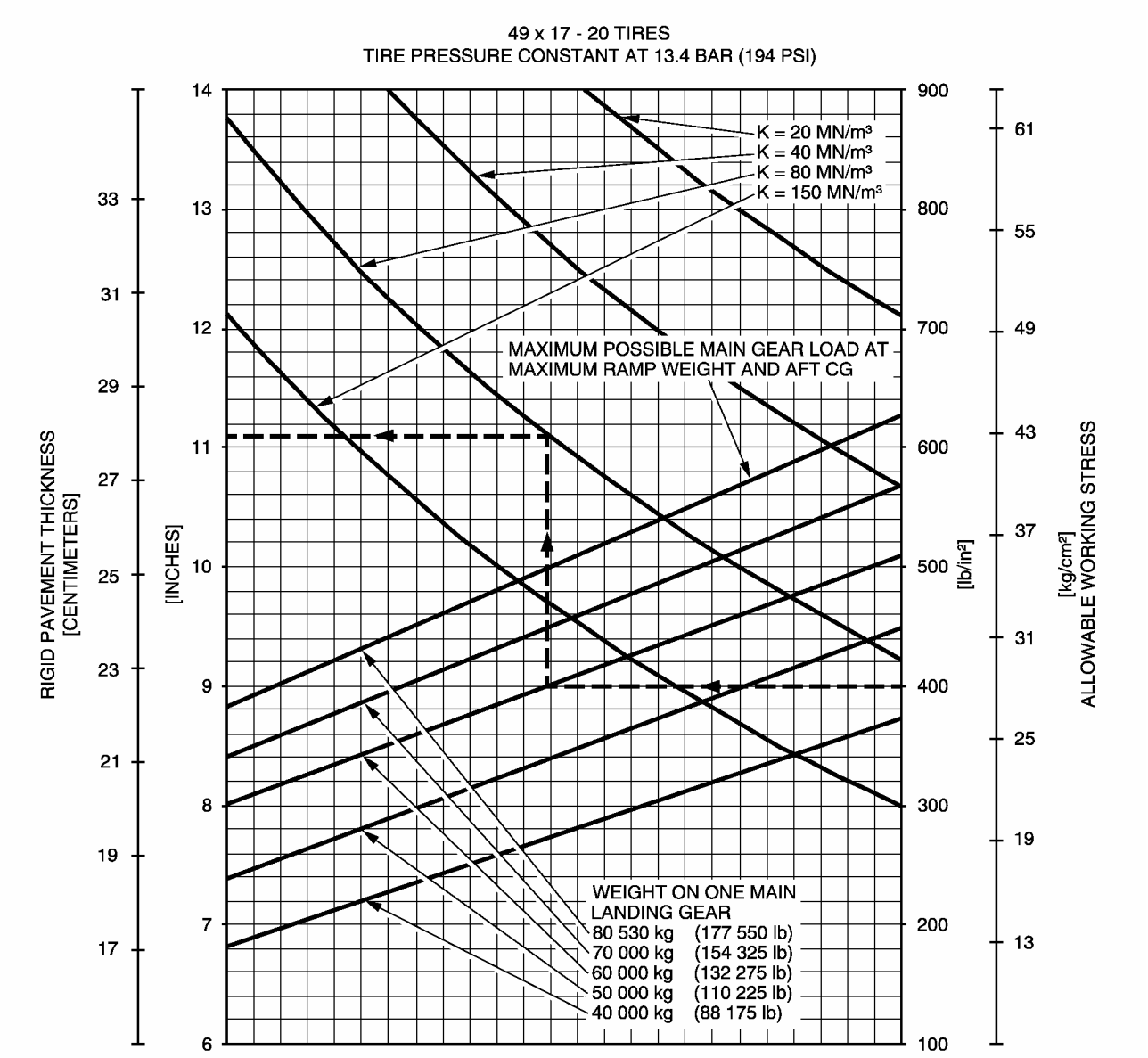


DA5 07 07 01 1 AAM0 00

NOTE: 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.

Rigid Pavement Requirements
A300F4-600R Models - MRW 166 000 kg

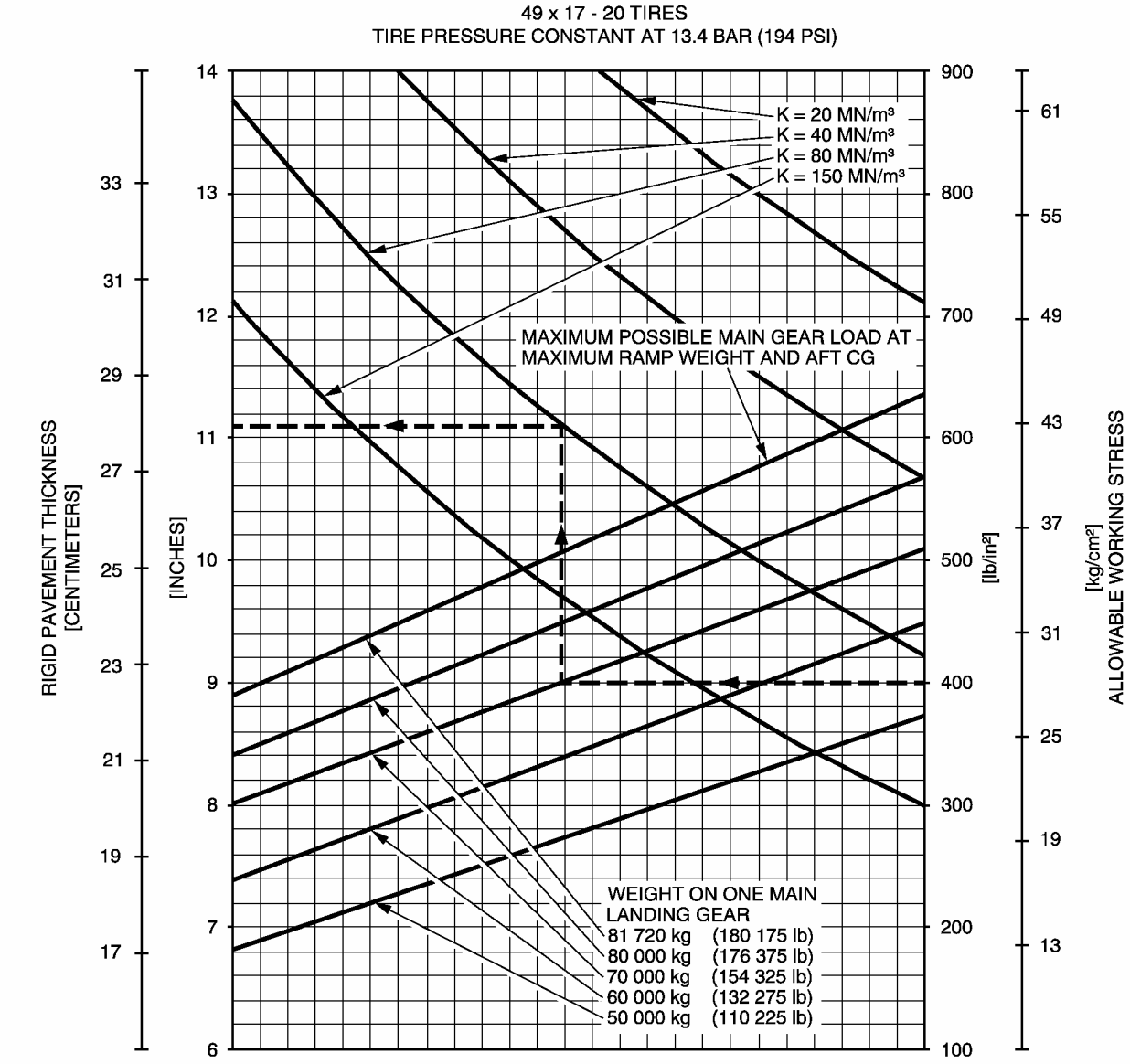


DA5 07 07 01 1 ACM0 00

NOTE: 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.

Rigid Pavement Requirements
A300F4-600R Models - MRW 168 900 kg



DA5 07 07 01 1 AEM0 00

NOTE: 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.

Rigid Pavement Requirements
A300F4-600R Models - MRW 171 400 kg

7.8 Rigid Pavement Requirements - LCN Conversion

- A300F4-600R Models

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 typical example shown in Section 7.8.2 with MRW 166 000 kg.

The Radius of Relative Stiffness is shown at 1270 mm (50 in.) with an LCN of 93.

For these conditions the weight on one Main Landing Gear is 70 000 kg (154 325 lb).

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RADIUS OF RELATIVE STIFFNESS (*L*)
VALUES IN INCHES

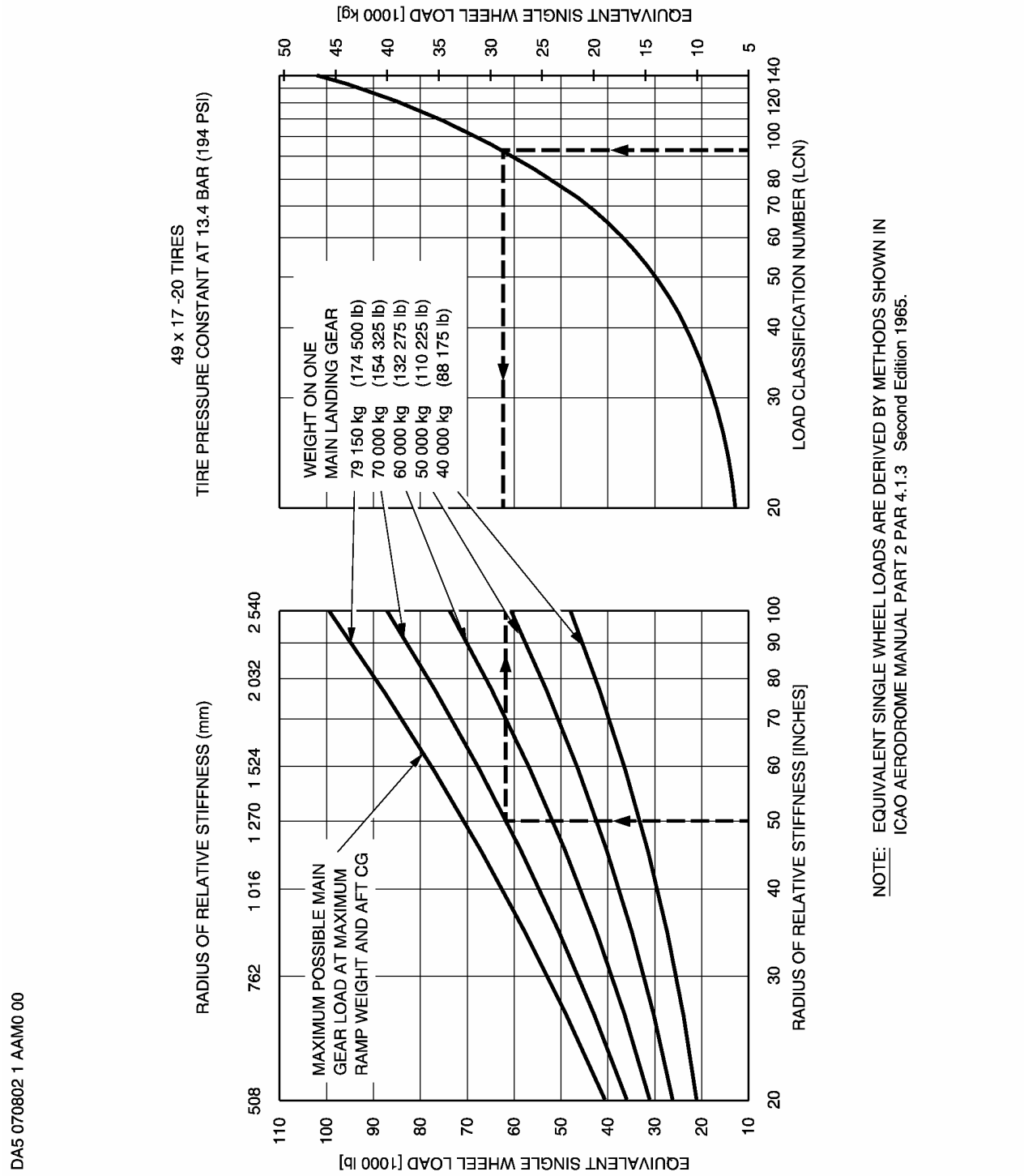
$$L = \sqrt[4]{\frac{Ed^3}{12(1-\mu^2)k}} = 24.1652 \sqrt[4]{\frac{d^3}{k}}$$

WHERE E = Young's Modulus = 4 x 10^6 psi
k = Subgrade Modulus, lbf/in³
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

DA5 07 08 01 1 AAM0 00

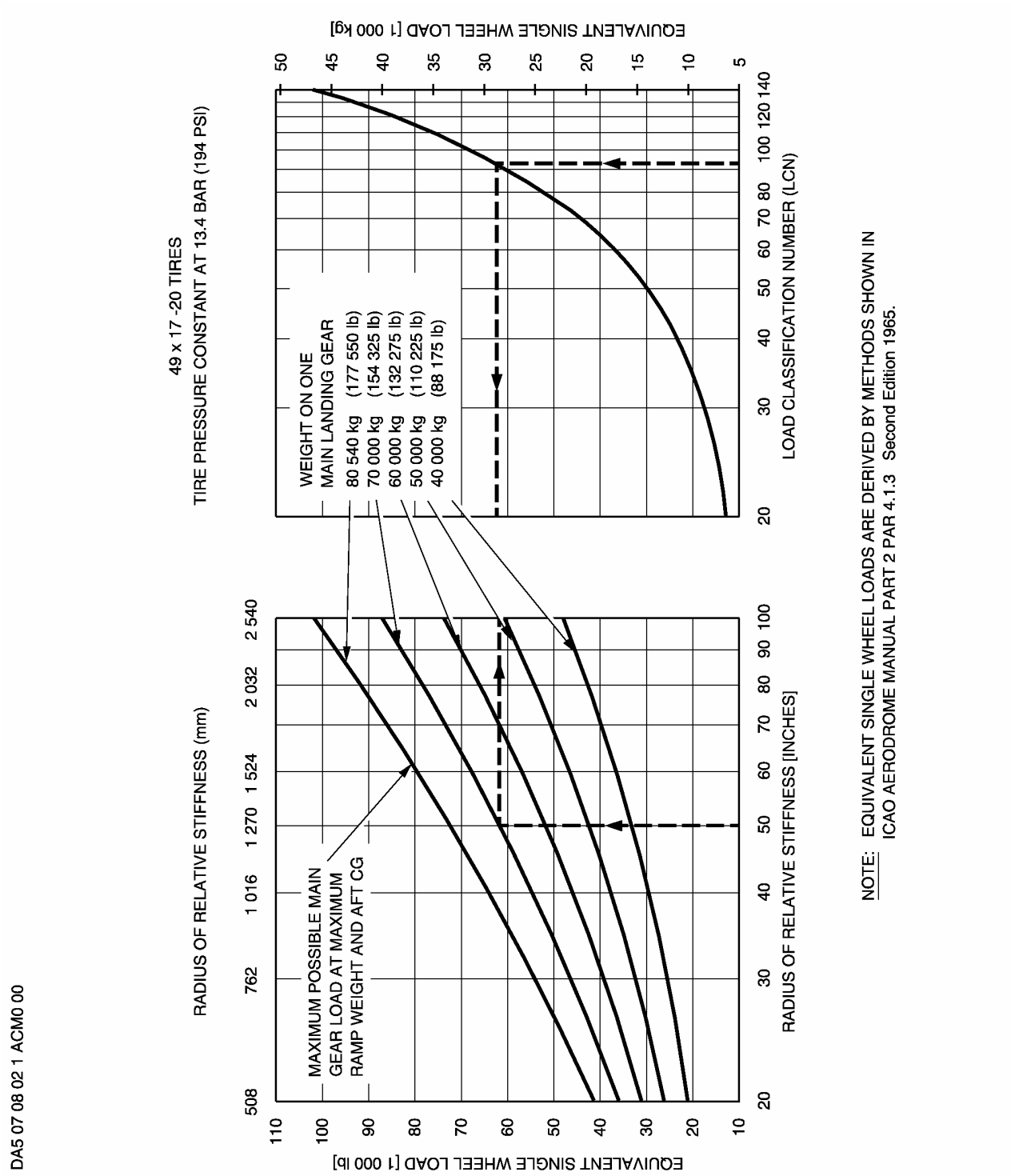
Radius of relative stiffness
(Reference : Portland Ciment Association)



NOTE: EQUIVALENT SINGLE WHEEL LOADS ARE DERIVED BY METHODS SHOWN IN ICAO AERODROME MANUAL PART 2 PAR 4.1.3 Second Edition 1965.

DA5 070802 1 AAM0 00

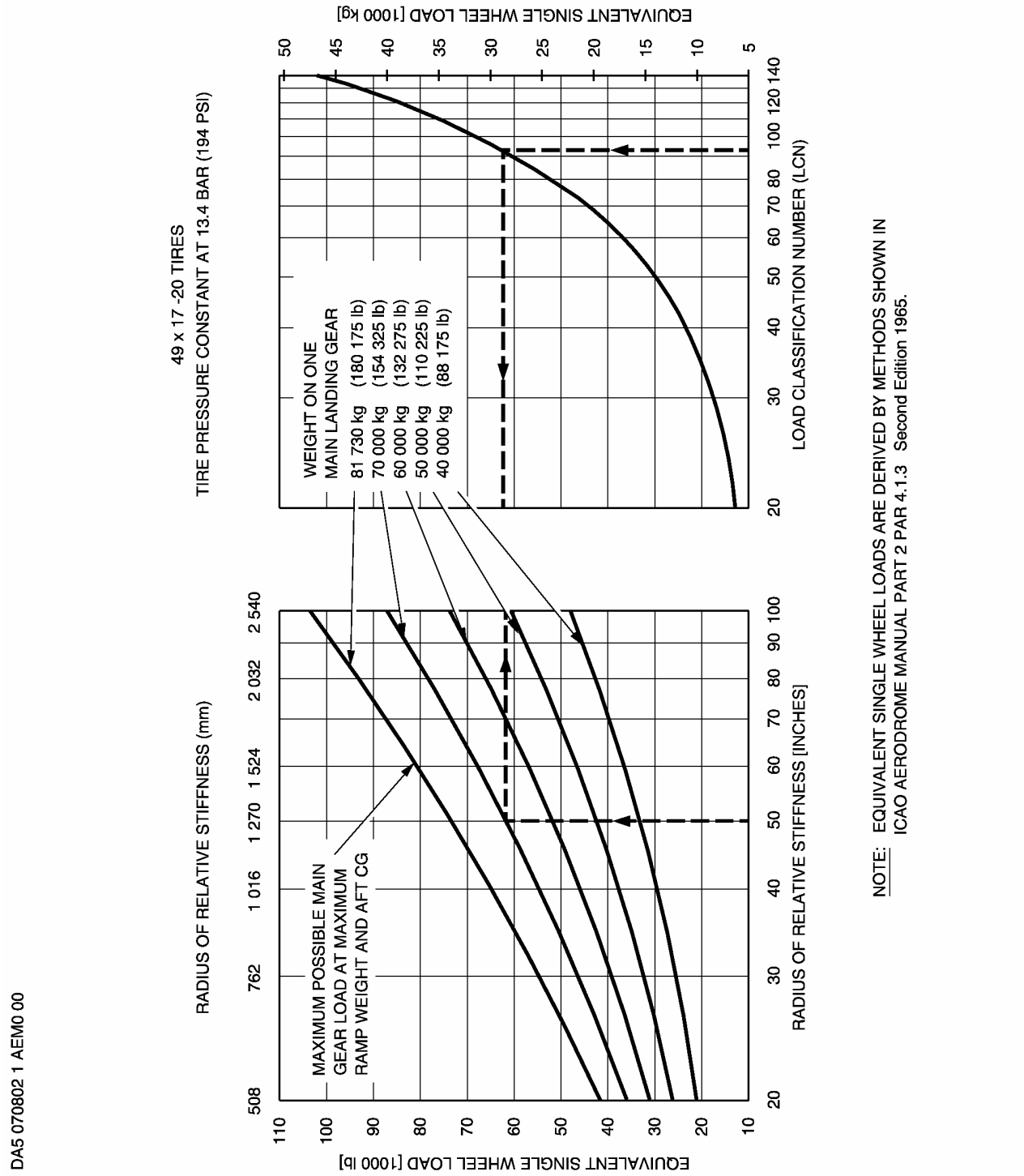
Rigid Pavement Requirements LCN
A300F4-600R Models - MRW 166 000 kg



NOTE: EQUIVALENT SINGLE WHEEL LOADS ARE DERIVED BY METHODS SHOWN IN ICAO AERODROME MANUAL PART 2 PAR 4.1.3 Second Edition 1965.

DA5 07 08 02 1 ACM0 00

Rigid Pavement Requirements LCN
A300F4-600R Models - MRW 168 900 kg



NOTE: EQUIVALENT SINGLE WHEEL LOADS ARE DERIVED BY METHODS SHOWN IN ICAO AERODROME MANUAL PART 2 PAR 4.1.3 Second Edition 1965.

DA5 070802 1 AEM0 00

Rigid Pavement Requirements LCN
A300F4-600R Models - MRW 171 400 kg

7.8.3 Radius of Relative Stiffness (Other values of E and μ)

- A300F4-600R Models

The table "Radius of Relative Stiffness" of Chapter 7.8.1 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".

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 the table "Radius of Relative Stiffness" of Section 7.8.1 "Radius of Relative Stiffness".

The effect of variations of μ on the *l* value is treated in a similar manner.

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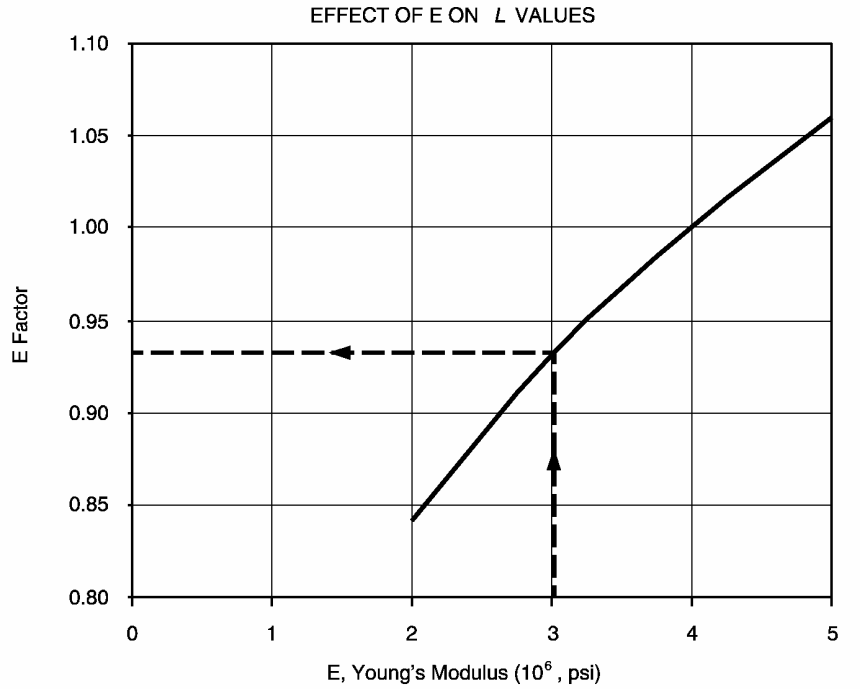

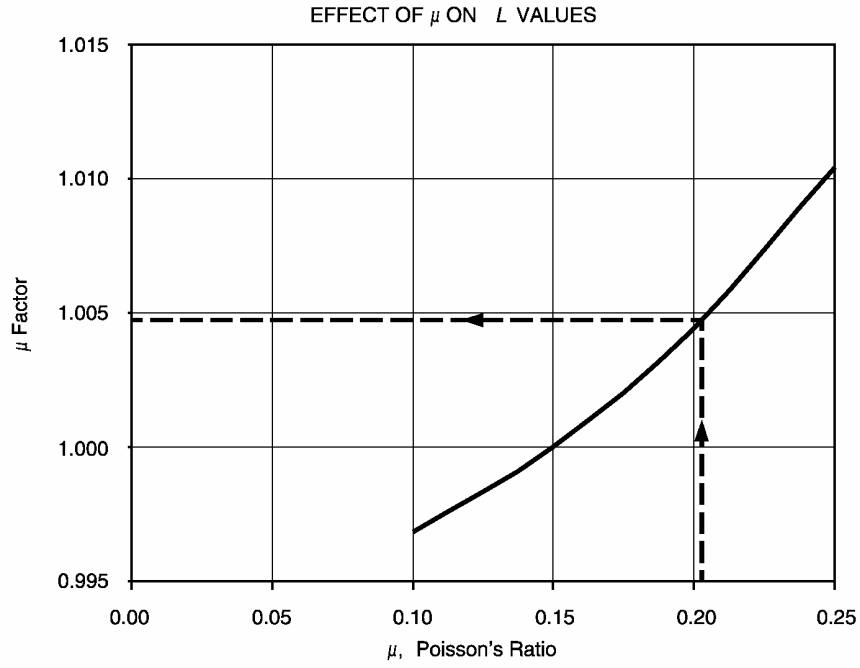

NOTE: BOTH CURVES ON THIS PAGE ARE USED TO ADJUST THE *L* VALUES OF TABLE 7-8-1 "RADIUS OF RELATIVE STIFFNESS" IN SECTION 7-8-1.

DA5 07 08 04 1 AAM0 00

Radius of relative stiffness
(Effect E and μ on "*L*" values)

7.9 ACN/PCN Reporting System

- A300F4-600R Models

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 with MRW 166 000 kg.

For an Aircraft Gross Weight of 125 000 kg (275 575 lb) and low subgrade strength (code B), the ACN for the flexible pavement is 35.

In the example shown in Section 7.9.2 with MRW 166 000 kg.

For an Aircraft Gross Weight 125 000 kg (275 575 lb) and low subgrade strength (code B), the ACN for the rigid pavement is 38.

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).

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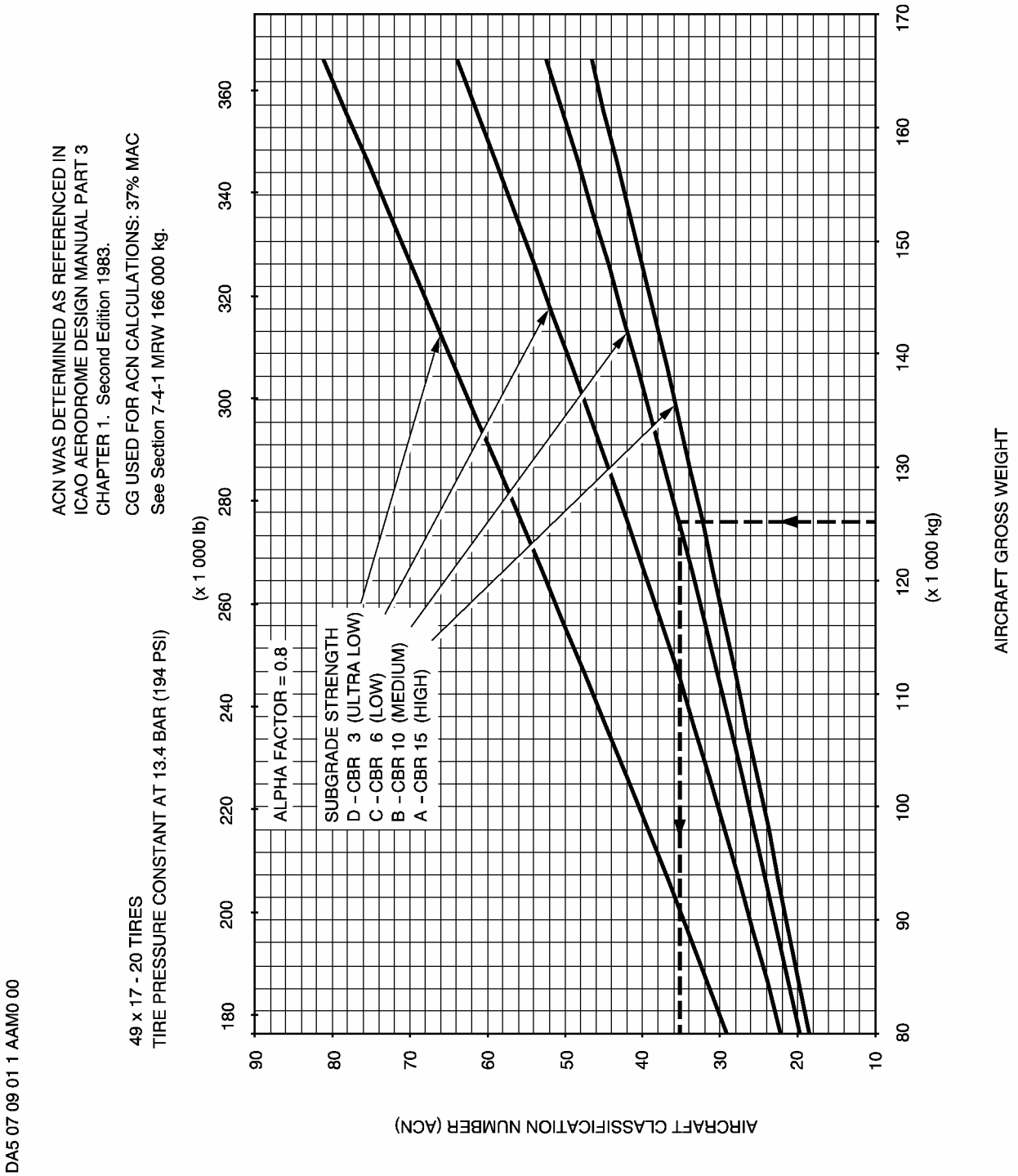
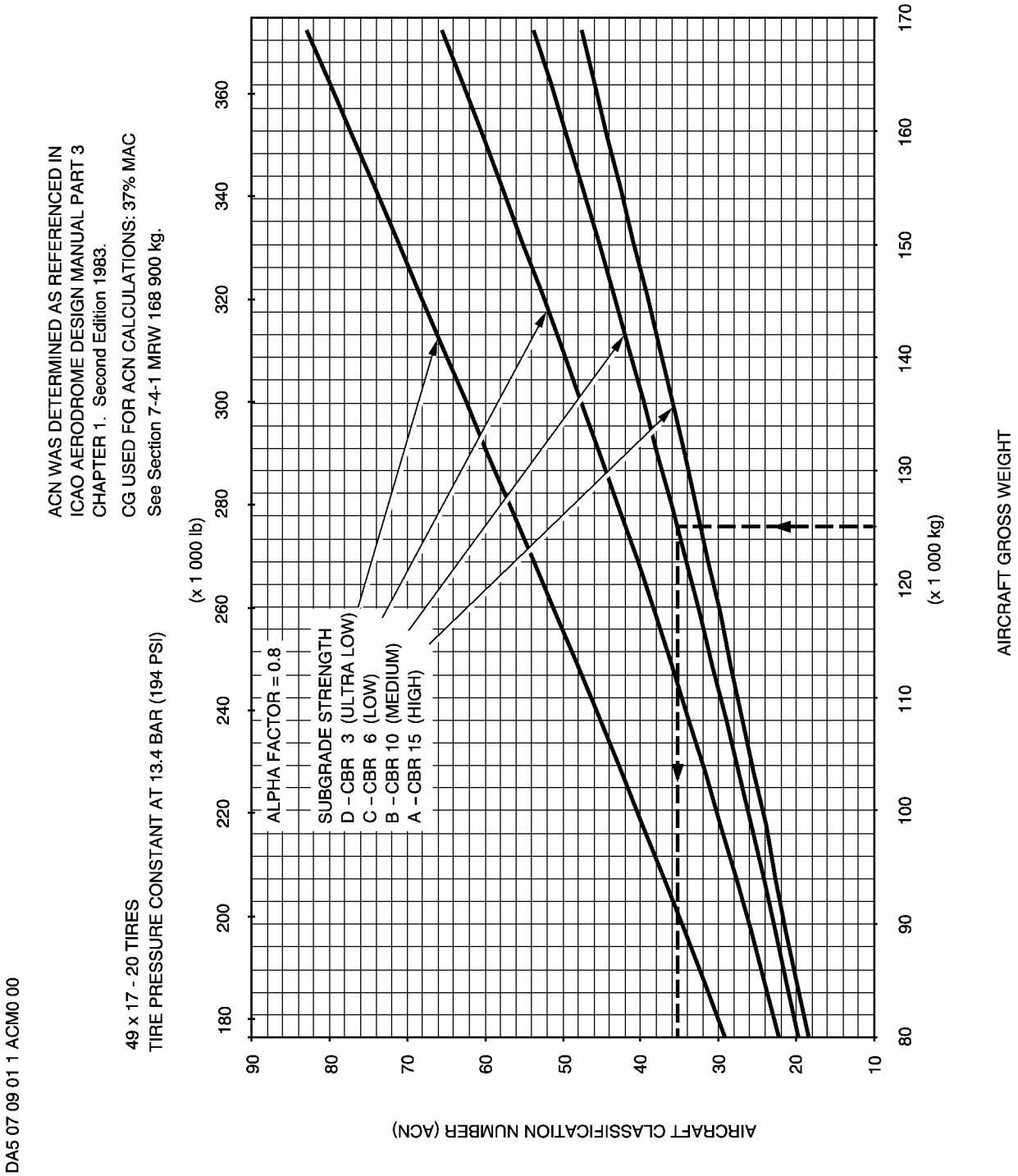
AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

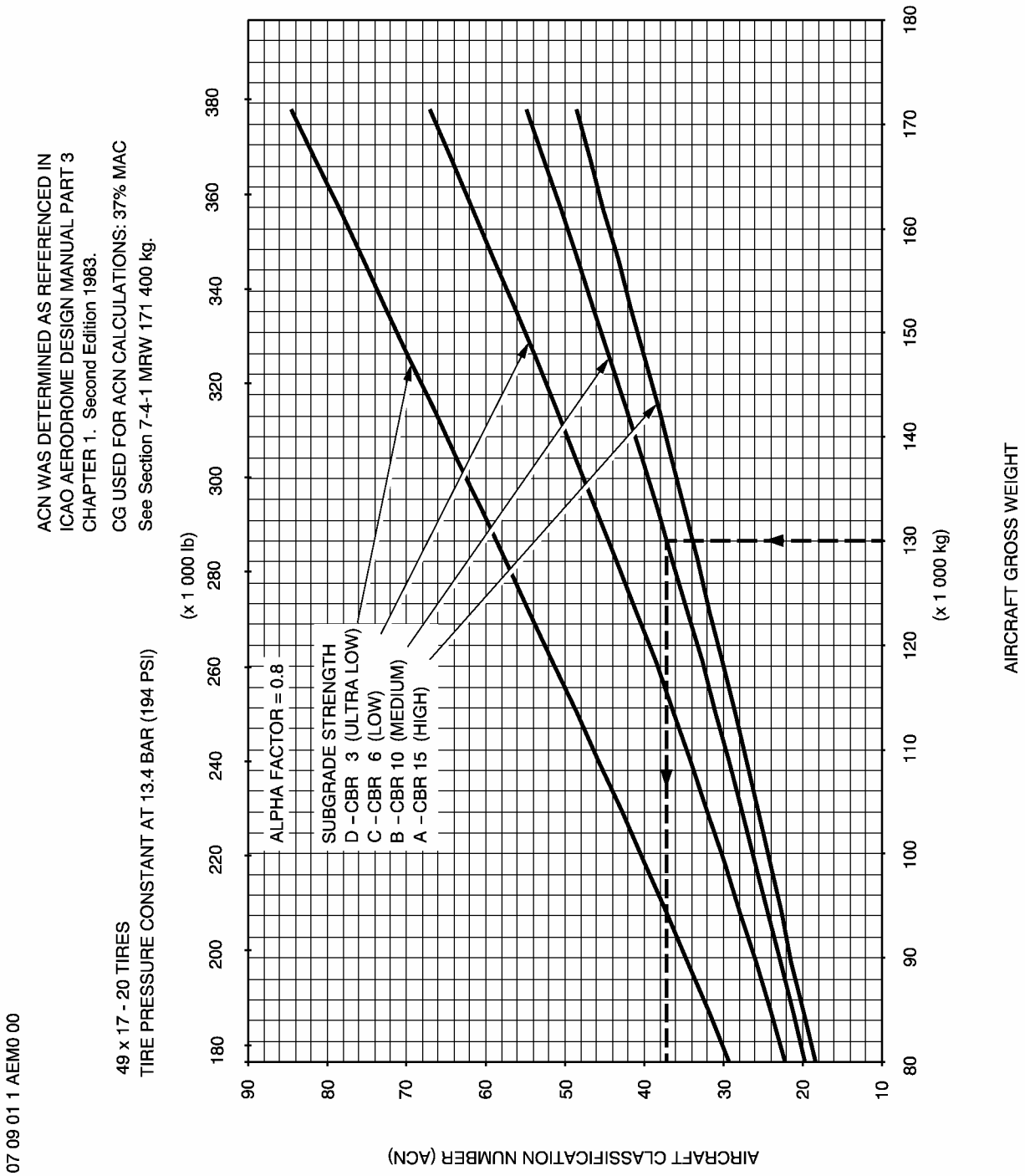


DA5 07 09 01 1 AAM0 00

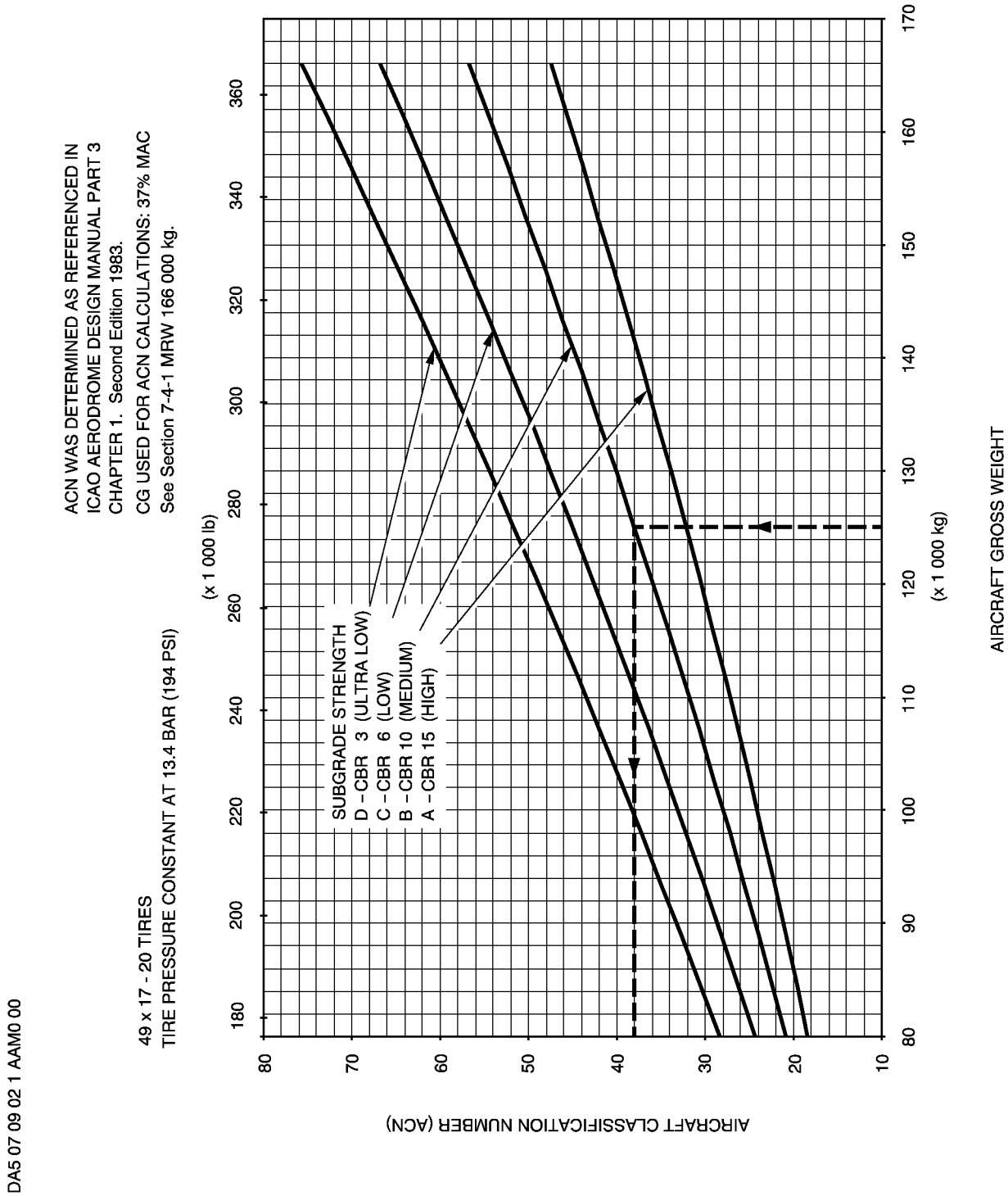
Aircraft Classification Number - Flexible Pavement
A300F4-600R Models - MRW 166 000 kg



Aircraft Classification Number - Flexible Pavement
A300F4-600R Models - MRW 168 900 kg

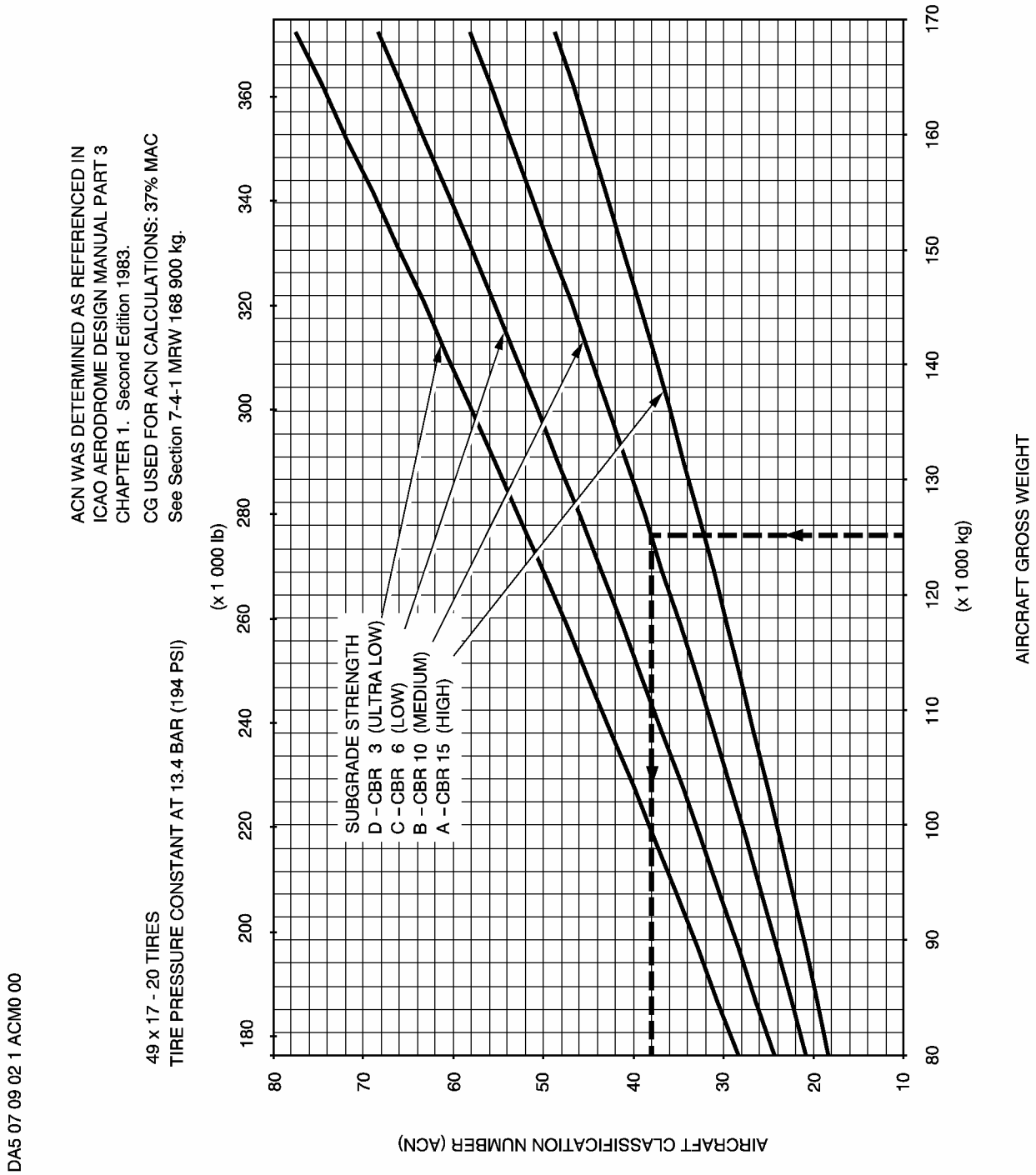


Aircraft Classification Number - Flexible Pavement
A300F4-600R Models - MRW 171 400 kg

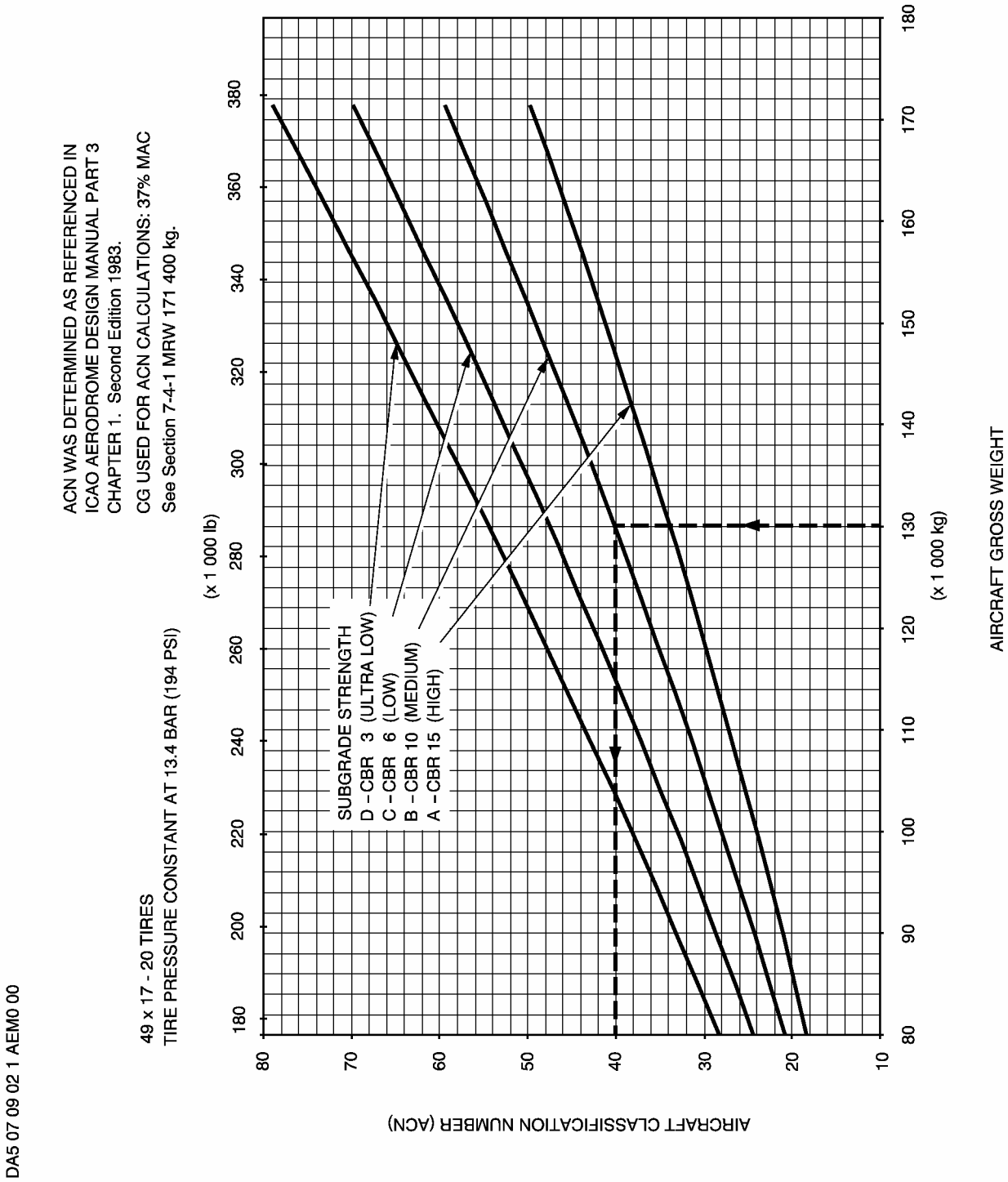


DA5 07 09 02 1 AAM0 00

Aircraft Classification Number - Rigid Pavement
A300F4-600R Models - MRW 166 000 kg



Aircraft Classification Number - Rigid Pavement
A300F4-600R Models - MRW 168 900 kg



Aircraft Classification Number - Rigid Pavement
A300F4-600R Models - MRW 171 400 kg

8.0 DERIVATIVE AIRPLANES

R 8.1 Possible Future A300F4-600 Derivative Airplane

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8.1 Possible Future A300F4-600 Derivative Airplane

R No derivative versions of the A300F4-600 are currently planned.

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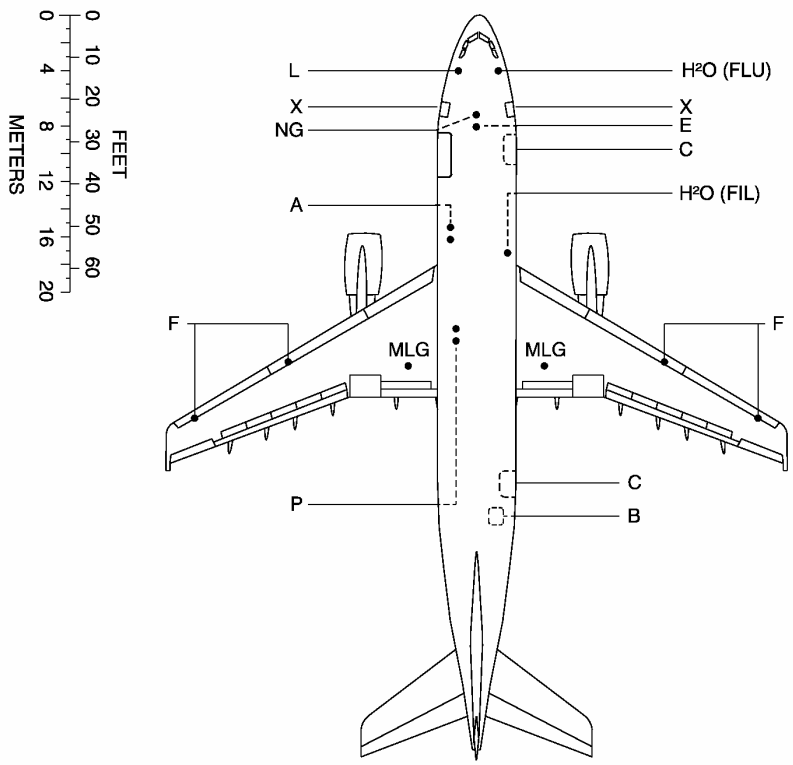


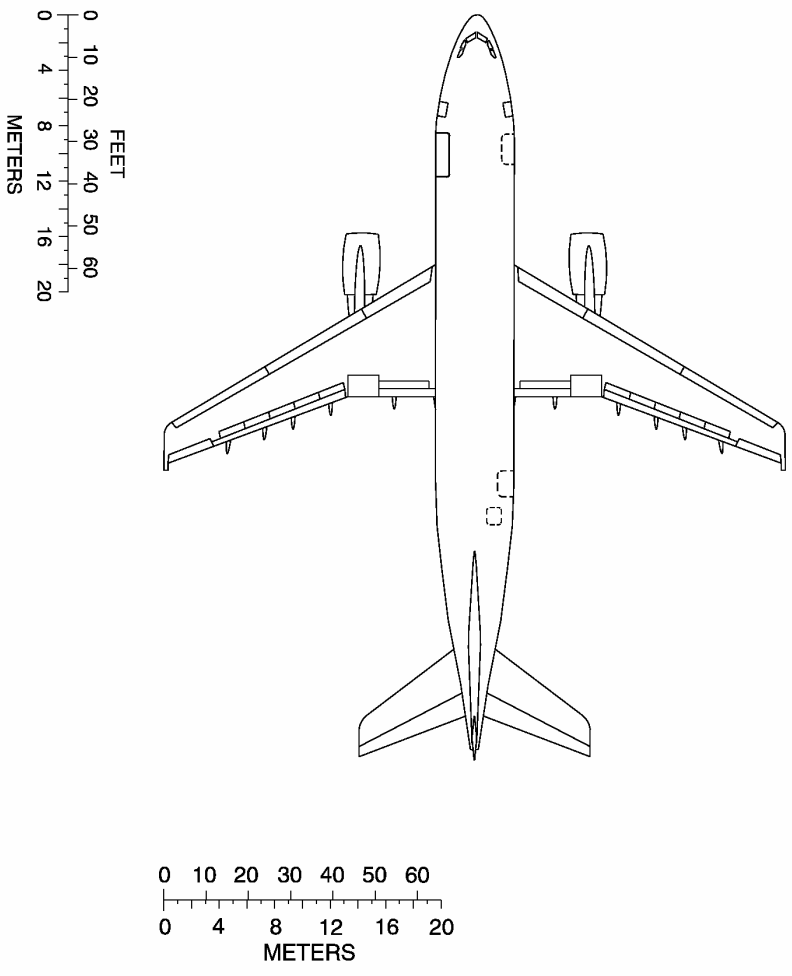
LEGEND :

A	AIR CONDITIONING (2 CONNECTIONS)
B	BULK CARGO DOOR
C	CARGO COMPARTMENT DOOR
E	ELECTRICAL
F	FUEL (2 CONNECTIONS)
H²O (FIL)	POTABLE WATER - FILLING
H²O (FLU)	POTABLE WATER - FLUSHING
L	LAVATORY
MLG	MAIN LANDING GEAR
NG	NOSE GEAR
P	PNEUMATIC (2 CONNECTIONS)
X	PASSENGER/CREW DOOR

CA5 09 01 00 5 AAF4 00

NOTE : WHEN PRINTING THIS DRAWING, SURE TO ADJUST FOR PROPER SCALING

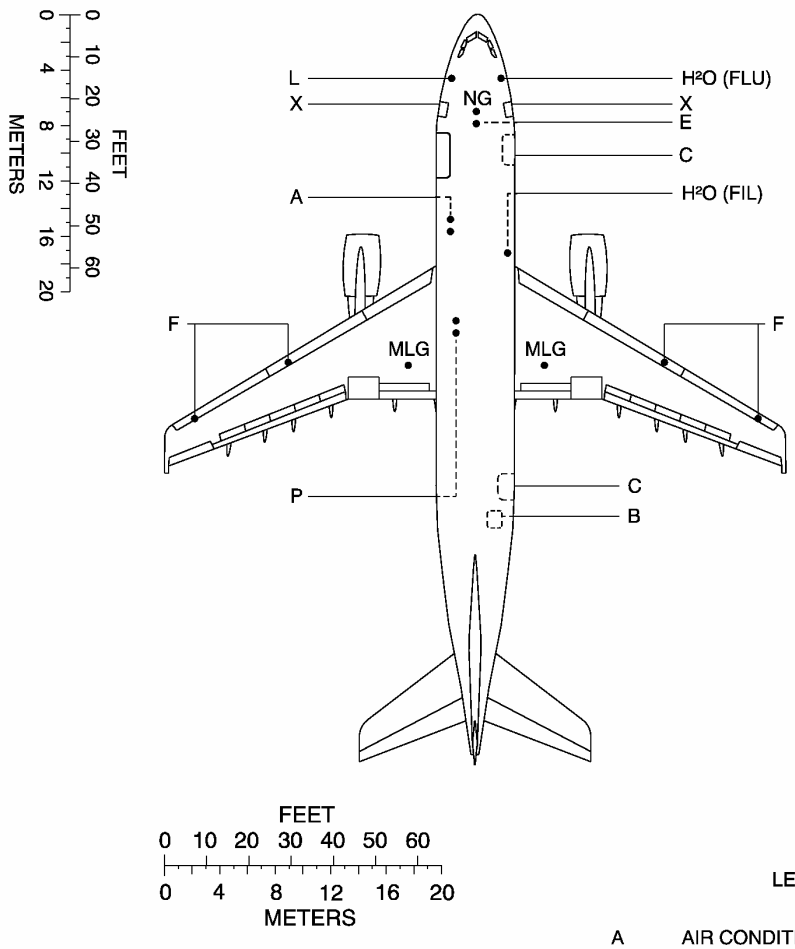
9.1 Scaled Drawing - 1 in. = 500 ft.



CA5 09 01 00 5 ABF4 00

NOTE : WHEN PRINTING THIS DRAWING, SURE TO ADJUST FOR PROPER SCALING

9.1 Scaled Drawing - 1 in. = 500 ft.



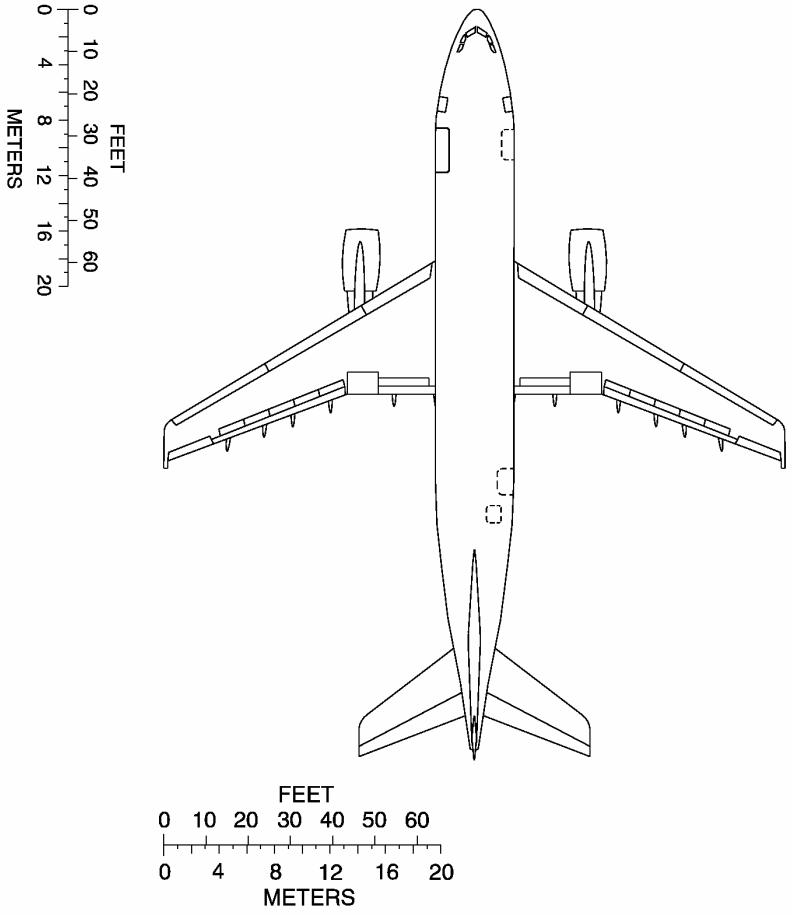
LEGEND :

A	AIR CONDITIONING (2 CONNECTIONS)
B	BULK CARGO DOOR
C	CARGO COMPARTMENT DOOR
E	ELECTRICAL
F	FUEL (2 CONNECTIONS)
H²O (FIL)	POTABLE WATER - FILLING
H²O (FLU)	POTABLE WATER - FLUSHING
L	LAVATORY
MLG	MAIN LANDING GEAR
NG	NOSE GEAR
P	PNEUMATIC (2 CONNECTIONS)
X	PASSENGER/CREW DOOR

CA5 09 02 00 5 AAF4 00

NOTE : WHEN PRINTING THIS DRAWING, SURE TO ADJUST FOR PROPER SCALING

9.2 Scaled Drawing - 1 cm. = 500 cm.



CA5 09 02 00 5 ABF4 00

NOTE : WHEN PRINTING THIS DRAWING, SURE TO ADJUST FOR PROPER SCALING

9.2 Scaled Drawing - 1 cm. = 500 cm.