AIRBUS

A340-200/-300

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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HIGHLIGHTS

Revision No. 18 - Jan 01/11

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FIGURE Landing Gear Loading on Pavement - MTOW 260 000 kg	R	GRAPHIC REVISED
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FIGURE Wing Gear and Center Landing Gear Loading on Pavement - MTOW 276 500 kg	R	TEXT OF GRAPHIC REVISED AND COMPLETED
FIGURE Wing Gear and Center Landing Gear Loading on Pavement - MTOW 253 500 kg	R	TEXT OF GRAPHIC REVISED AND COMPLETED
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FIGURE Aircraft Classification Number – Flexible Pavement - MTOW 275 000 kg	R	GRAPHIC REVISED AND COMPLETED
FIGURE Aircraft Classification Number – Flexible Pavement - MTOW 276 500 kg	R	GRAPHIC REVISED AND COMPLETED
FIGURE Aircraft Classification Number – Flexible Pavement - MTOW 253 500 kg	R	GRAPHIC REVISED AND COMPLETED
FIGURE Aircraft Classification Number – Flexible Pavement - MTOW 260 000 kg	R	GRAPHIC REVISED AND COMPLETED
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LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
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FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 260 000 kg	R	GRAPHIC REVISED AND COMPLETED
FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 262 000 kg	R	GRAPHIC REVISED AND COMPLETED
FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 271 000 kg	R	GRAPHIC REVISED AND COMPLETED
FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 275 000 kg	R	GRAPHIC REVISED AND COMPLETED
FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 276 500 kg	R	GRAPHIC REVISED AND COMPLETED
FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 253 500 kg	R	GRAPHIC REVISED AND COMPLETED
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1-1-0 Purpose

**ON A/C A340-200 A340-300

Purpose

1. General
   The A340-200/-300 AIRPLANE CHARACTERISTICS (AC) manual is issued for the A340-200, A340-300 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 A340-200 A340-300

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 A340-200 A340-300**

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 A340-200 A340-300**

General Airplane Characteristics Data

****ON A/C A340-300**

1. The following table provides characteristics of A340-300 Models, these data are specific to each Weight Variant:

Aircraft Characteristics						
		WV000	WV001	WV002	WV003	WV004
Maximum Taxi Weight (MTW) Maximum Ramp Weight (MRW)		254 400 kg (560 856 lb)	257 900 kg (568 572 lb)	260 900 kg (575 186 lb)	257 900 kg (568 572 lb)	260 900 kg (575 186 lb)
Maximum Takeoff Weight (MTOW)		253 500 kg (558 872 lb)	257 000 kg (566 588 lb)	260 000 kg (573 202 lb)	257 000 kg (566 588 lb)	260 000 kg (573 202 lb)
Maximum Landing Weight (MLW)		186 000 kg (410 060 lb)	186 000 kg (410 060 lb)	186 000 kg (410 060 lb)	188 000 kg (414 469 lb)	188 000 kg (414 469 lb)
Maximum Zero Fuel Weight (MZFW)		174 000 kg (383 604 lb)	174 000 kg (383 604 lb)	174 000 kg (383 604 lb)	178 000 kg (392 423 lb)	178 000 kg (392 423 lb)
Estimated Operational Empty Weight (OEW)	CFM Engines	125 242 kg (276 111 lb)				
Estimated Maximum Payload CFM 56-5C		48 758 kg (107 493 lb)			52 758 kg (116 311 lb)	

Aircraft Characteristics					
	WV020	WV021	WV023	WV024	WV025
Maximum Taxi Weight (MTW) Maximum Ramp Weight (MRW)	271 900 kg (599 437 lb)	275 900 kg (608 255 lb)	262 900 kg (579 595 lb)	275 900 kg (608 255 lb)	260 900 kg (575 186 lb)
Maximum Takeoff Weight (MTOW)	271 000 kg (597 453 lb)	275 000 kg (606 271 lb)	262 000 kg (577 611 lb)	275 000 kg (606 271 lb)	260 000 kg (573 202 lb)
Maximum Landing Weight (MLW)	190 000 kg (418 878 lb)	190 000 kg (418 878 lb)	190 000 kg (418 878 lb)	192 000 kg (423 287 lb)	190 000 kg (418 878 lb)
Maximum Zero Fuel Weight (MZFW)	178 000 kg (392 423 lb)	178 000 kg (392 423 lb)	178 000 kg (392 423 lb)	180 000 kg (396 832 lb)	178 000 kg (392 423 lb)

Aircraft Characteristics						
		WV020	WV021	WV023	WV024	WV025
Estimated Operational Empty Weight (OEW)	CFM Engines	125 242 kg (276 111 lb)				
Estimated Maximum Payload CFM 56-5C		52 758 kg (116 311 lb)			54 758 kg (120 721 lb)	52 758 kg (116 311 lb)

Aircraft Characteristics						
		WV026	WV027	WV028	WV029	WV030
Maximum Taxi Weight (MTW) Maximum Ramp Weight (MRW)		275 900 kg (608 255 lb)	271 900 kg (599 437 lb)	277 400 kg (611 562 lb)	260 900 kg (575 186 lb)	277 400 kg (611 562 lb)
Maximum Takeoff Weight (MTOW)		275 000 kg (606 271 lb)	271 000 kg (597 453 lb)	276 500 kg (609 578 lb)	260 000 kg (573 202 lb)	276 500 kg (609 578 lb)
Maximum Landing Weight (MLW)		192 000 kg (423 287 lb)	192 000 kg (423 287 lb)	190 000 kg (418 878 lb)	188 000 kg (414 469 lb)	192 000 kg (423 287 lb)
Maximum Zero Fuel Weight (MZFW)		181 000 kg (399 037 lb)	178 000 kg (392 423 lb)	178 000 kg (392 423 lb)	178 000 kg (392 423 lb)	181 000 kg (399 037 lb)
Estimated Operational Empty Weight (OEW)	CFM Engines	125 242 kg (276 111 lb)				
Estimated Maximum Payload CFM 56-5C		55 758 kg (122 925 lb)	52 758 kg (116 311 lb)			55 758 kg (122 925 lb)

Aircraft Characteristics						
		WV050	WV051	WV052	WV053	WV054
Maximum Taxi Weight (MTW) Maximum Ramp Weight (MRW)		275 900 kg (608 255 lb)	275 900 kg (608 255 lb)	277 400 kg (611 562 lb)	277 400 kg (611 562 lb)	275 900 kg (608 255 lb)
Maximum Takeoff Weight (MTOW)		275 000 kg (606 271 lb)	275 000 kg (606 271 lb)	276 500 kg (609 578 lb)	276 500 kg (609 578 lb)	275 000 kg (606 271 lb)
Maximum Landing Weight (MLW)		192 000 kg (423 287 lb)	192 000 kg (423 287 lb)	192 000 kg (423 287 lb)	192 000 kg (423 287 lb)	192 000 kg (423 287 lb)

Aircraft Characteristics						
		WV050	WV051	WV052	WV053	WV054
Maximum Zero Fuel Weight (MZFW)		180 000 kg (396 832 lb)	181 000 kg (399 037 lb)	181 000 kg (399 037 lb)	183 000 kg (403 446 lb)	183 000 kg (403 446 lb)
Estimated Operational Empty Weight (OEW)	CFM Engines	125 242 kg (276 111 lb)				
Estimated Maximum Payload CFM 56-5C		54 758 kg (120 721 lb)	55 758 kg (122 925 lb)		57 758 kg (127 335 lb)	

2. The following table provides characteristics of A340-300 Models, these data are common to each Weight Variant:

Aircraft Characteristics	
Standard Seating Capacity	335
Usable Fuel Capacity (density = 0.785 kg/l)	140 640 l (37 153 US gal)
	110 402 kg (243 395 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 (3 789 ft^3)
Water Volume, AFT CC	85.7 m^3 (3 026 ft^3)
Water Volume, Bulk CC	22.7 m^3 (802 ft^3)

**ON A/C A340-200

3. The following table provides characteristics of A340-200 Models, these data are specific to each Weight Variant:

Aircraft Characteristics					
		WV000	WV001	WV002	WV021
Maximum Taxi Weight (MTW) Maximum Ramp Weight (MRW)		254 400 kg (560 856 lb)	257 900 kg (568 572 lb)	260 900 kg (575 186 lb)	275 900 kg (608 255 lb)
Maximum Takeoff Weight (MTOW)		253 500 kg (558 872 lb)	257 000 kg (566 588 lb)	260 000 kg (573 202 lb)	275 000 kg (606 271 lb)
Maximum Landing Weight (MLW)		181 000 kg (399 037 lb)	181 000 kg (399 037 lb)	181 000 kg (399 037 lb)	185 000 kg (407 855 lb)
Maximum Zero Fuel Weight (MZFW)		169 000 kg (372 581 lb)	169 000 kg (372 581 lb)	169 000 kg (372 581 lb)	173 000 kg (381 400 lb)
Estimated Operational Empty Weight (OEW)	CFM Engines	125 242 kg (276 111 lb)			
Estimated Maximum Payload CFM 56-5C		43 758 kg (96 470 lb)			47 758 kg (105 288 lb)

4. The following table provides characteristics of A340-200 Models, these data are common to each Weight Variant:

Aircraft Characteristics	
Standard Seating Capacity	303
Usable Fuel Capacity (density = 0.785 kg/l)	140 640 l (37 153 US gal)
	110 402 kg (243 395 lb)
Pressurized Fuselage Volume (A/C non equipped)	946 m^3 (33 408 ft^3)
Passenger Compartment Volume	345 m^3 (12 184 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)

Aircraft Characteristics	
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)

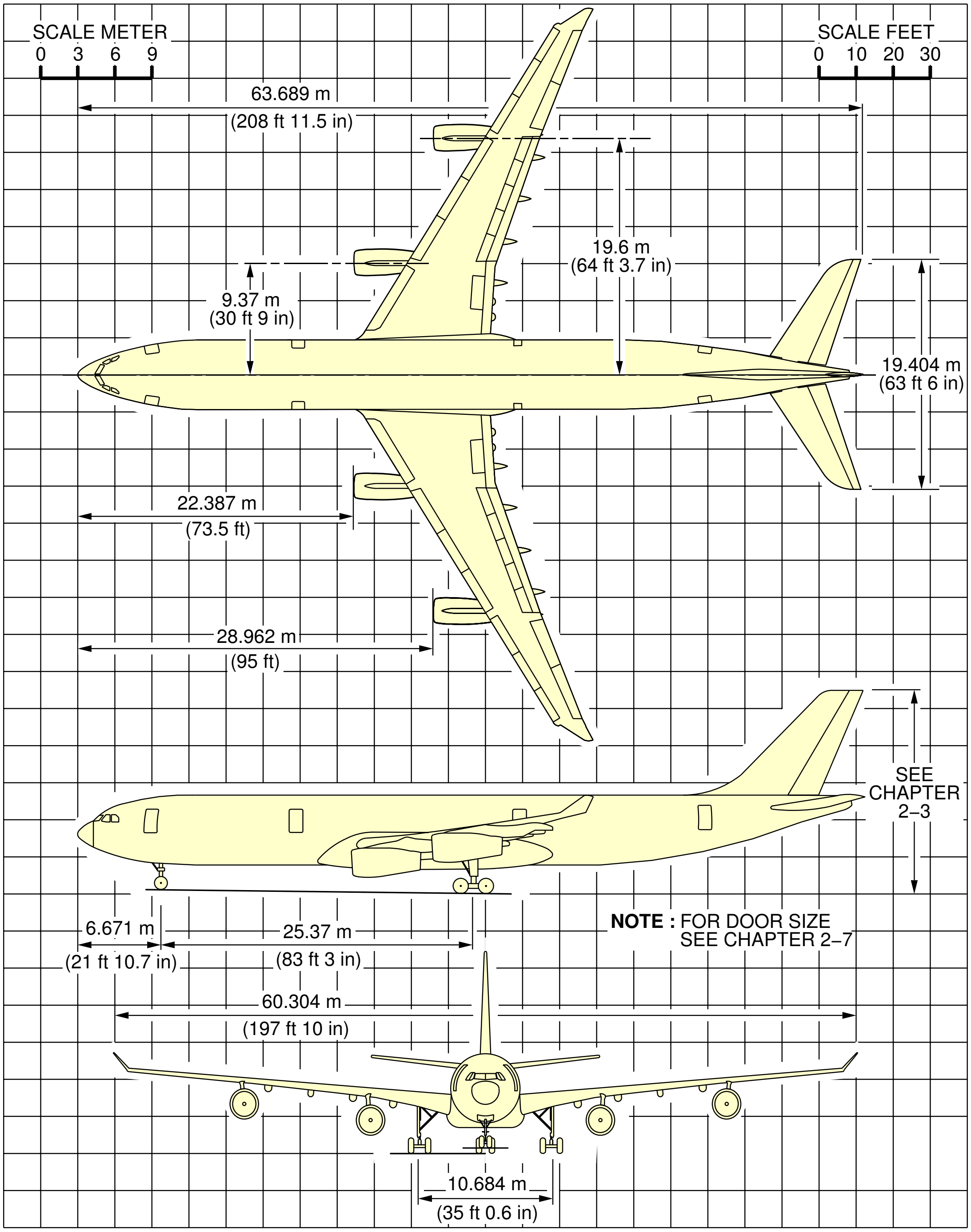
2-2-0 General Airplane Dimensions

**ON A/C A340-200 A340-300

General Airplane Dimensions

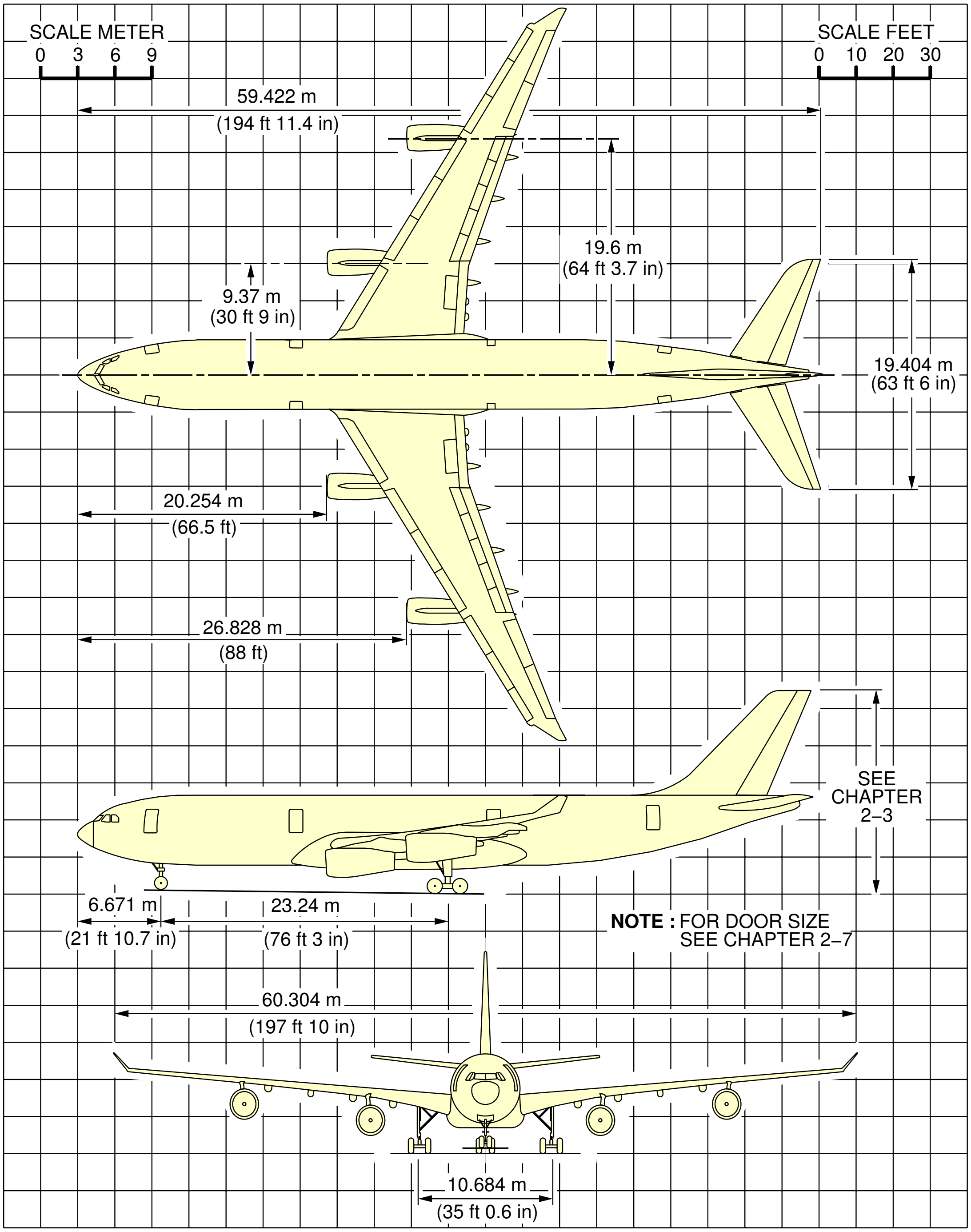
1. This section provides General Airplane Dimensions.

**ON A/C A340-300



General Airplane Dimensions
FIGURE 1

**ON A/C A340-200



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General Airplane Dimensions
FIGURE 2

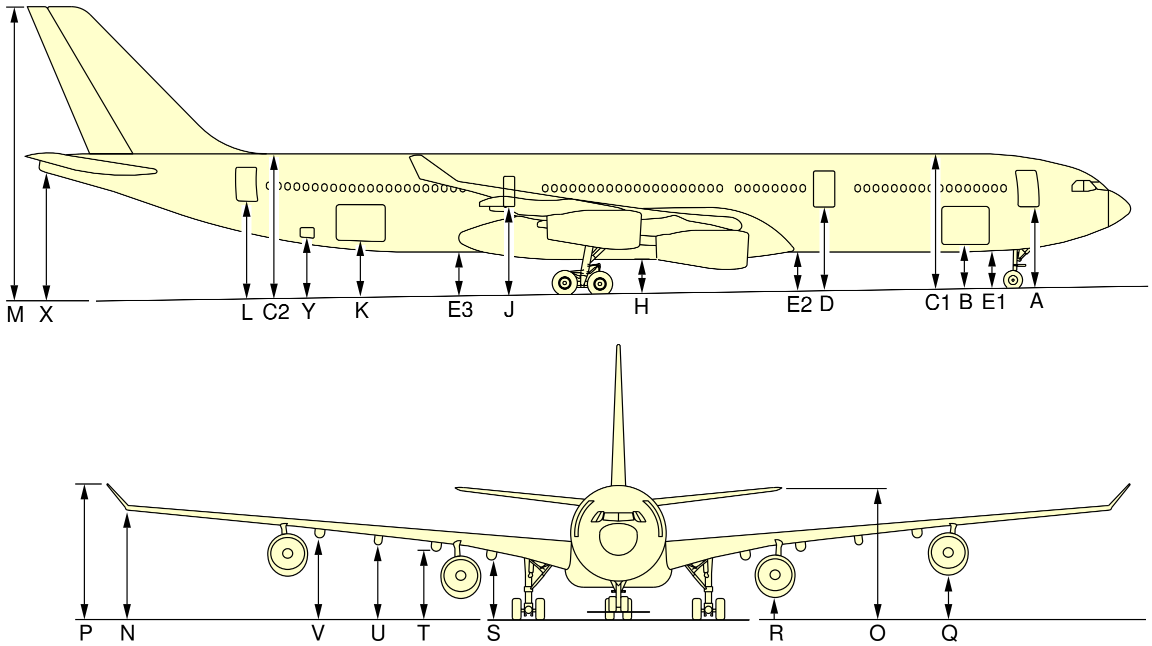
2-3-0 Ground Clearances

**ON A/C A340-200 A340-300

Ground Clearances

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

**ON A/C A340-300



MRW 254 900 kg 561 949 lb		OPERATING WEIGHT EMPTY CG 31.9%		MAXIMUM RAMP WEIGHT CG 20.7%		MAXIMUM RAMP WEIGHT CG 38.2%		AIRCRAFT ON JACKS *	
		m	ft	m	ft	m	ft	m	ft
	A	4.59	15.05	4.45	14.59	4.52	14.8	6.32	20.7
	B	2.73	8.95	2.54	8.33	2.58	8.62	4.14	13.5
FR 26	C1	7.76	25.45	7.58	24.86	7.60	25.09	9.32	30.5
FR 72	C2	8.42	27.62	8.25	27.06	8.20	26.73	9.32	30.5
	D	4.84	15.87	4.65	15.25	4.67	15.41	6.32	20.7
FR 20	E1	2.13	6.98	1.94	6.36	1.96	6.59	3.68	12.
FR 37	E2	2.27	7.44	2.09	6.85	2.10	6.95	3.68	12.
FR 56	E3	2.37	7.77	2.49	8.17	2.46	7.97	3.68	12.
FR 45	H	2.02	6.62	1.84	6.03	1.83	6.00	3.26	10.7
	J	5.31	17.42	5.12	16.80	5.10	16.73	6.32	20.7
	K	3.44	11.28	3.26	10.69	3.23	10.49	4.24	13.9
	L	5.70	18.69	5.52	18.10	5.47	17.74	6.53	21.4
	M	16.99	55.72	16.82	55.17	16.73	54.61	17.62	57.80
	N	6.35	20.83	6.01	19.71	5.98	19.55	7.55	24.7
	O	8.14	26.70	7.96	26.11	7.88	25.58	9.23	30.2
	P	7.91	25.94	7.57	24.83	7.53	24.60	8.96	29.4
	Q	2.59	8.49	2.35	7.71	2.34	7.67	3.98	13.
	R	1.42	4.65	1.23	4.03	1.24	4.10	2.79	9.1
	S	3.85	12.63	3.67	12.04	3.65	11.94	5.25	17.2
	T	4.31	14.14	4.12	13.51	4.10	13.45	5.70	18.7
	U	4.59	15.05	4.38	14.37	4.36	14.23	6.00	19.6
	V	4.90	16.07	4.66	15.28	4.64	15.15	6.30	20.6
	X	7.30	23.94	7.12	23.35	7.05	22.83	8.10	26.5
	Y	3.58	11.74	3.39	11.12	3.35	10.86	4.39	14.4

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

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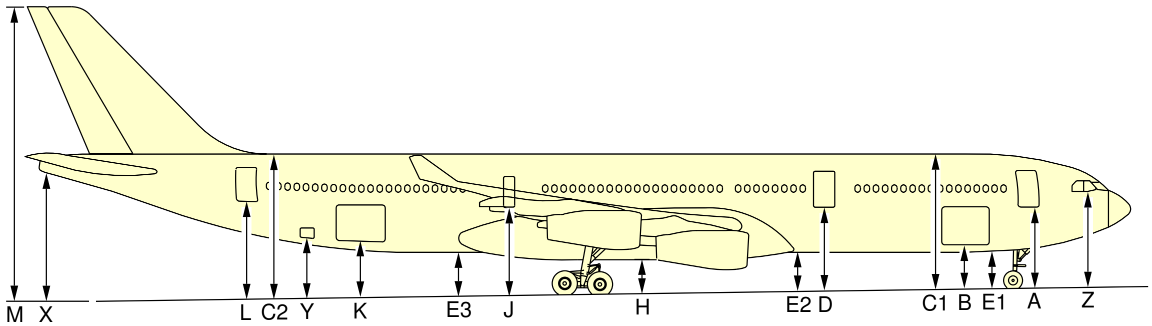
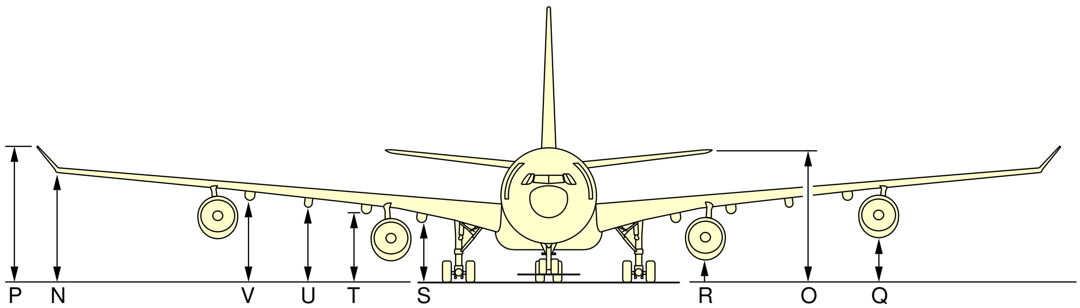
Ground Clearances
FIGURE 1

**ON A/C A340-300





MRW 271 900 kg 599 431 lb		OPERATING WEIGHT EMPTY CG 31.9%		MAXIMUM RAMP WEIGHT CG 20.7%		MAXIMUM RAMP WEIGHT CG 38.2%		AIRCRAFT ON JACKS *	
		m	ft	m	ft	m	ft	m	ft
	A	4.65	15.25	4.45	14.59	4.60	15.09	6.32	20.7
	B	2.78	9.12	2.58	8.46	2.71	8.88	4.14	13.5
FR 26	C1	7.74	25.4	7.54	24.73	7.66	25.12	9.32	30.5
FR 72	C2	8.87	29.09	8.30	27.23	8.18	26.83	9.32	30.5
	D	4.91	16.1	4.72	15.5	4.79	15.71	6.32	20.7
FR 20	E1	2.04	6.7	1.84	6.03	1.98	6.49	3.68	12.
FR 37	E2	2.26	7.41	2.06	6.75	2.13	6.98	3.68	12.
FR 56	E3	2.63	8.62	2.45	8.03	2.39	7.83	3.68	12.
FR 45	H	2.01	6.59	1.82	5.97	1.83	6.00	3.26	10.7
	J	5.32	17.45	5.14	16.86	5.10	16.73	6.32	20.73
	K	3.45	11.31	3.27	10.73	3.18	10.43	4.24	13.9
	L	5.66	18.56	5.49	18.01	5.36	17.58	6.53	21.4
	M	17.04	55.89	16.88	55.36	16.67	54.68	17.62	57.8
	N	6.33	20.76	6.00	19.6	5.94	19.48	7.55	24.7
	O	8.19	26.86	8.04	26.37	7.83	25.68	9.23	30.2
	P	7.89	25.88	7.55	24.76	7.48	24.54	8.96	29.4
	Q	2.60	8.53	2.35	7.70	2.35	7.70	3.98	13.
	R	1.44	4.72	1.25	4.10	1.28	4.20	2.79	9.1
	S	3.85	12.63	3.66	12.01	3.64	11.94	5.25	17.2
	T	4.30	14.10	4.12	13.51	4.10	13.45	5.70	18.7
	U	4.55	14.92	4.37	14.33	4.33	14.20	6.00	19.6
	V	4.83	15.84	4.66	15.28	4.61	15.12	6.30	20.6
	X	7.34	24.07	7.19	23.58	6.98	22.89	8.10	26.5
	Y	3.60	11.80	3.43	11.15	3.32	10.89	4.39	14.4
	Z	5.44	17.84	5.23	17.15	5.41	17.74	7.10	23.3

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

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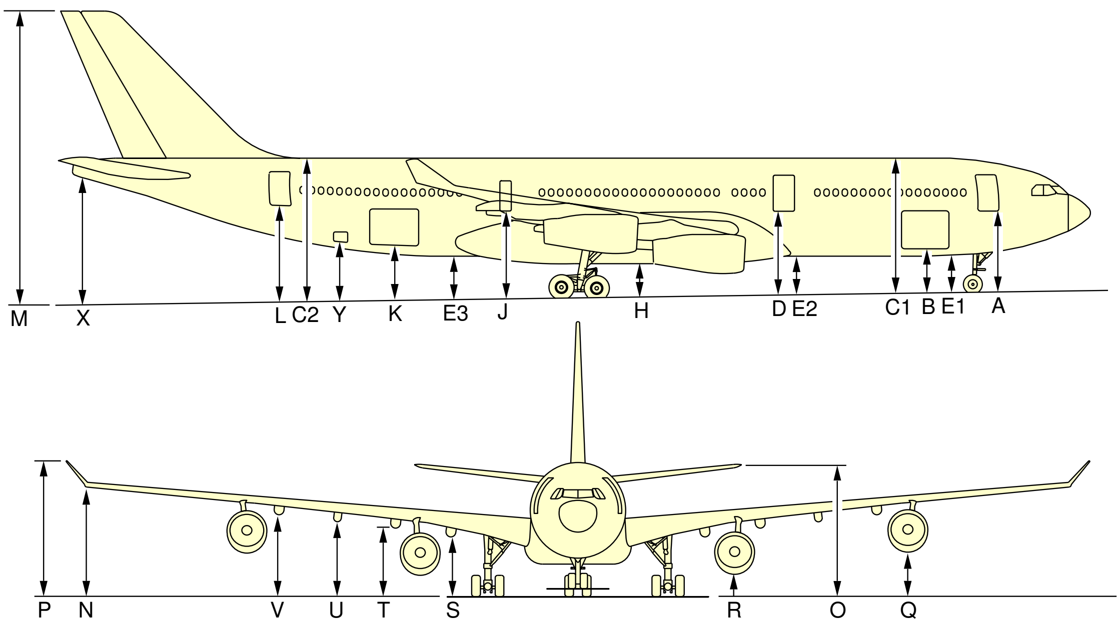
Ground Clearances
FIGURE 2

**ON A/C A340-200



MRW 254 900 kg 561 949 lb		OPERATING WEIGHT EMPTY CG 31.9%		MAXIMUM RAMP WEIGHT CG 20.7%		MAXIMUM RAMP WEIGHT CG 38.2%		AIRCRAFT ON JACKS*	
		m	ft	m	ft	m	ft	m	ft
	A	4.58	15.02	4.40	14.43	4.50	14.76	6.32	20.7
	B	2.73	8.95	2.54	8.33	2.63	8.62	4.14	13.5
FR 26	C1	7.78	25.52	7.56	24.80	7.63	25.03	9.32	30.5
FR 72	C2	8.43	27.65	8.24	27.02	8.16	26.76	9.32	30.5
	D	4.86	15.94	4.67	15.31	4.71	15.45	6.32	20.7
FR 20	E1	2.14	7.02	1.93	6.33	1.99	6.53	3.68	12.
FR 37	E2	2.26	7.41	2.07	6.78	2.10	6.89	3.68	12.
FR 56	E3	2.66	8.72	2.47	8.10	2.42	7.94	3.68	12.
FR 45	H	2.02	6.62	1.84	6.03	1.83	6.00	3.26	10.7
	J	5.32	17.45	5.13	16.83	5.09	16.70	6.32	20.7
	K	3.45	11.31	3.25	10.66	3.19	10.46	4.24	13.9
	L	5.70	18.69	5.51	18.07	5.41	17.74	6.53	21.4
	M	17.03	55.86	16.84	55.23	16.68	54.71	17.62	57.80
	N	6.37	20.89	6.03	19.78	5.98	19.61	7.55	24.7
	O	8.18	26.83	7.99	26.21	7.88	25.85	9.23	30.2
	P	7.95	26.08	7.59	24.89	7.53	24.70	8.96	29.4
	Q	2.60	8.53	2.35	7.70	2.34	7.67	3.98	13.
	R	1.41	4.62	1.22	4.00	1.24	4.06	2.79	9.1
	S	3.86	12.66	3.67	12.04	3.65	11.97	5.25	17.2
	T	4.33	14.20	4.12	13.51	4.10	13.45	5.70	18.7
	U	4.60	15.09	4.38	14.37	4.35	14.27	6.00	19.6
	V	4.93	16.17	4.68	15.35	4.63	15.19	6.30	20.6
	X	7.33	24.04	7.14	23.42	6.98	22.89	8.10	26.5
	Y	3.58	11.74	3.39	11.12	3.31	10.86	4.39	14.4

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

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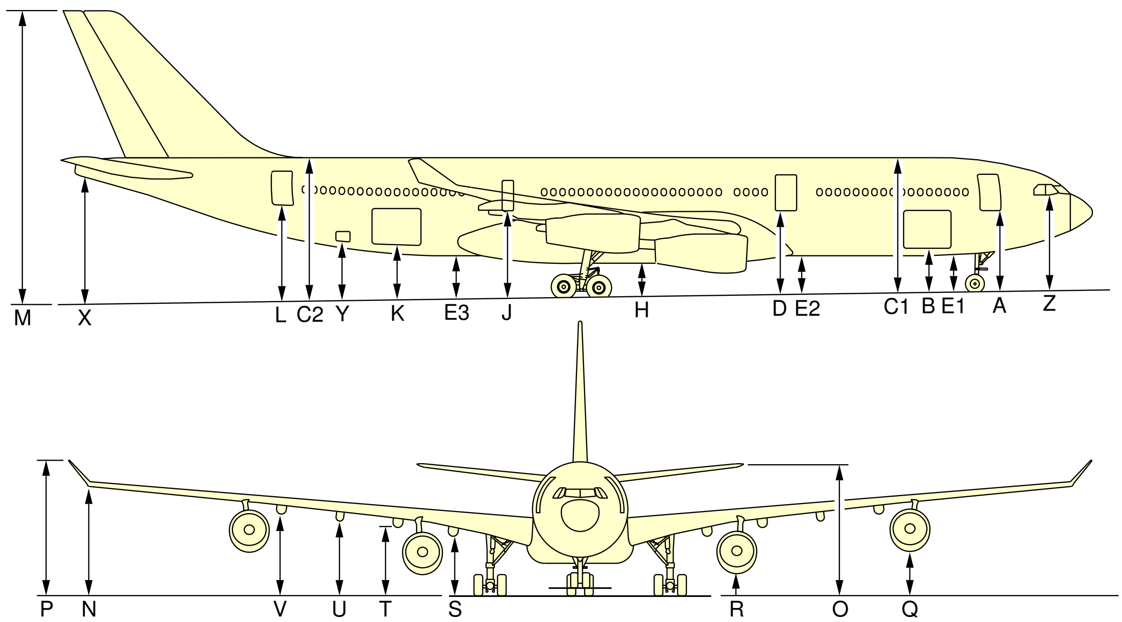
Ground Clearances
FIGURE 3

**ON A/C A340-200



MRW 271 900 kg 599 431 lb		OPERATING WEIGHT EMPTY CG 31.9%		MAXIMUM RAMP WEIGHT CG 20.7%		MAXIMUM RAMP WEIGHT CG 38.2%		AIRCRAFT ON JACKS *	
		m	ft	m	ft	m	ft	m	ft
	A	4.66	15.28	4.44	14.56	4.56	14.95	6.32	20.7
	B	2.79	9.15	2.58	8.46	2.68	8.79	4.14	13.5
FR 26	C1	7.76	25.45	7.54	24.73	7.64	25.06	9.32	30.5
FR 72	C2	8.46	27.75	8.29	27.19	8.19	26.86	9.32	30.5
	D	4.92	16.14	4.71	15.45	4.77	15.65	6.32	20.7
FR 20	E1	2.05	6.72	1.83	6.00	1.95	6.40	3.68	12.
FR 37	E2	2.28	7.48	2.08	6.82	2.13	6.98	3.68	12.
FR 56	E3	2.65	8.69	2.46	8.06	2.41	7.90	3.68	12.
FR 45	H	2.05	6.72	1.86	6.10	1.85	6.07	3.26	10.7
	J	5.32	17.45	5.13	16.83	5.10	16.73	6.32	20.73
	K	3.44	11.28	3.41	11.18	3.18	10.43	4.24	13.9
	L	5.66	18.56	5.49	18.01	5.38	17.64	6.53	21.4
	M	17.06	55.95	16.90	55.43	16.72	54.85	17.62	57.8
	N	6.35	20.83	6.01	19.71	5.96	19.55	7.55	24.7
	O	8.21	26.93	8.05	26.41	7.88	25.84	9.23	30.2
	P	7.92	25.98	7.57	24.83	7.50	24.60	8.96	29.4
	Q	2.60	8.53	2.34	7.67	2.34	7.67	3.98	13.
	R	1.43	4.69	1.22	4.00	1.26	4.13	2.79	9.1
	S	3.85	12.63	3.66	12.01	3.64	11.94	5.25	17.2
	T	4.31	14.14	4.11	13.48	4.10	13.45	5.70	18.7
	U	4.56	14.95	4.37	14.33	4.34	14.23	6.00	19.6
	V	4.85	15.90	4.66	15.28	4.62	15.15	6.30	20.6
	X	7.36	24.14	7.20	23.61	7.02	23.02	8.10	26.5
	Y	3.59	11.77	3.41	11.18	3.33	10.92	4.39	14.4
	Z	5.44	17.84	5.21	17.09	5.36	17.58	7.10	23.3

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

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Ground Clearances
FIGURE 4

2-4-0 Interior Arrangements

**ON A/C A340-200 A340-300

Interior Arrangements

1. This section gives the standard interior arrangements configuration.

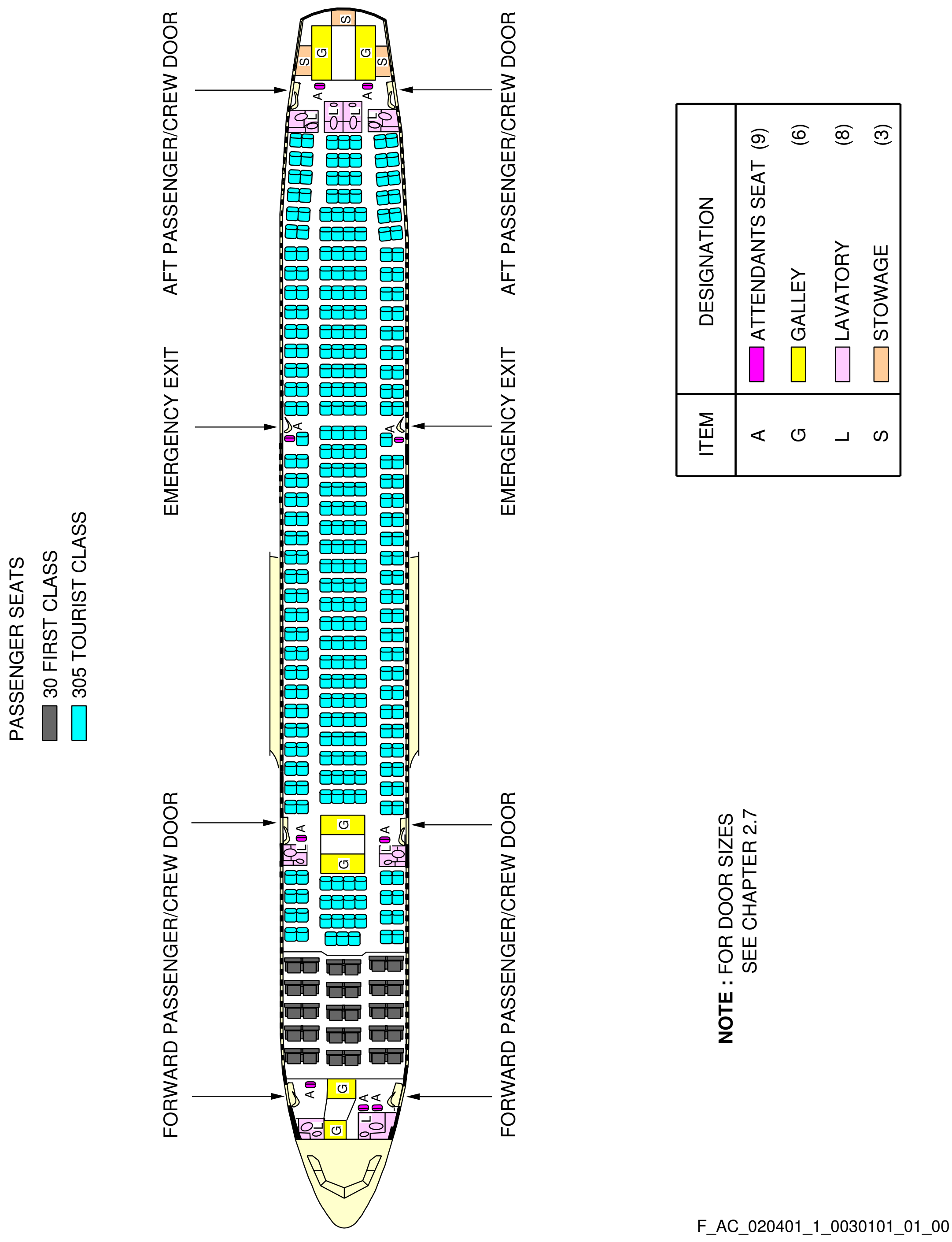
2-4-1 Typical Configuration

****ON A/C A340-200 A340-300**

Typical Configuration

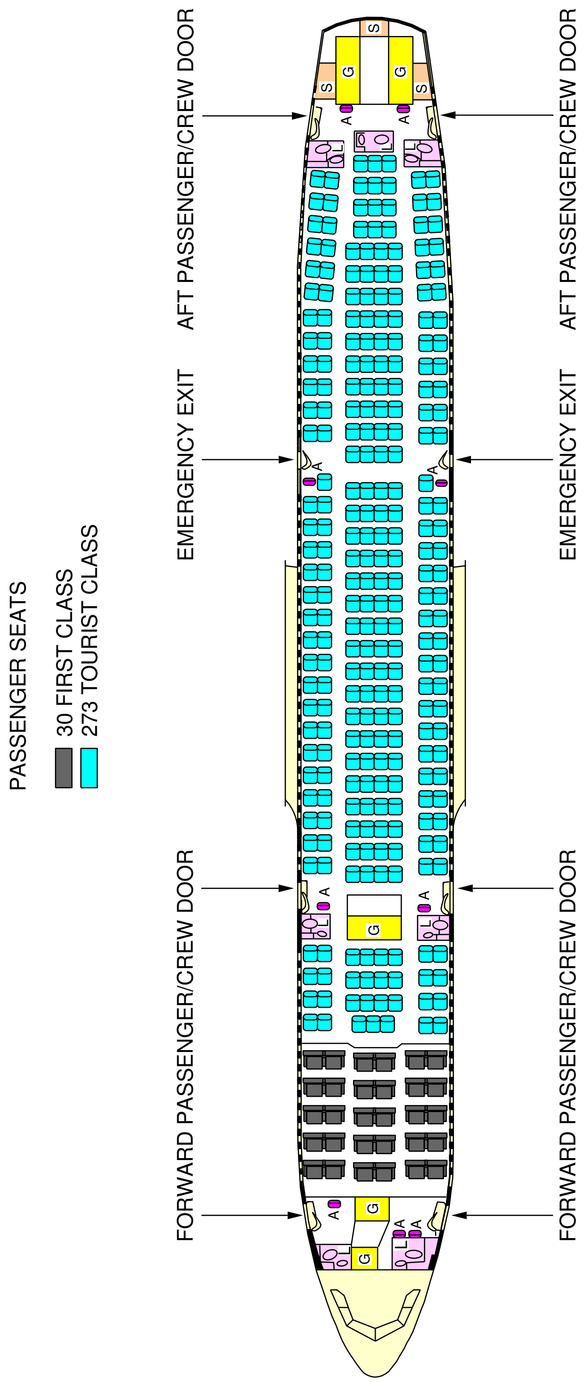
1. This section gives the typical configuration for A340-200 and A340-300.

**ON A/C A340-300



Typical Configuration
FIGURE 1

**ON A/C A340-200



ITEM	DESIGNATION
A	ATTENDANTS SEAT (9)
G	GALLEY (5)
L	LAVATORY (7)
S	STOWAGE (3)

NOTE : FOR DOOR SIZES SEE CHAPTER 2.7

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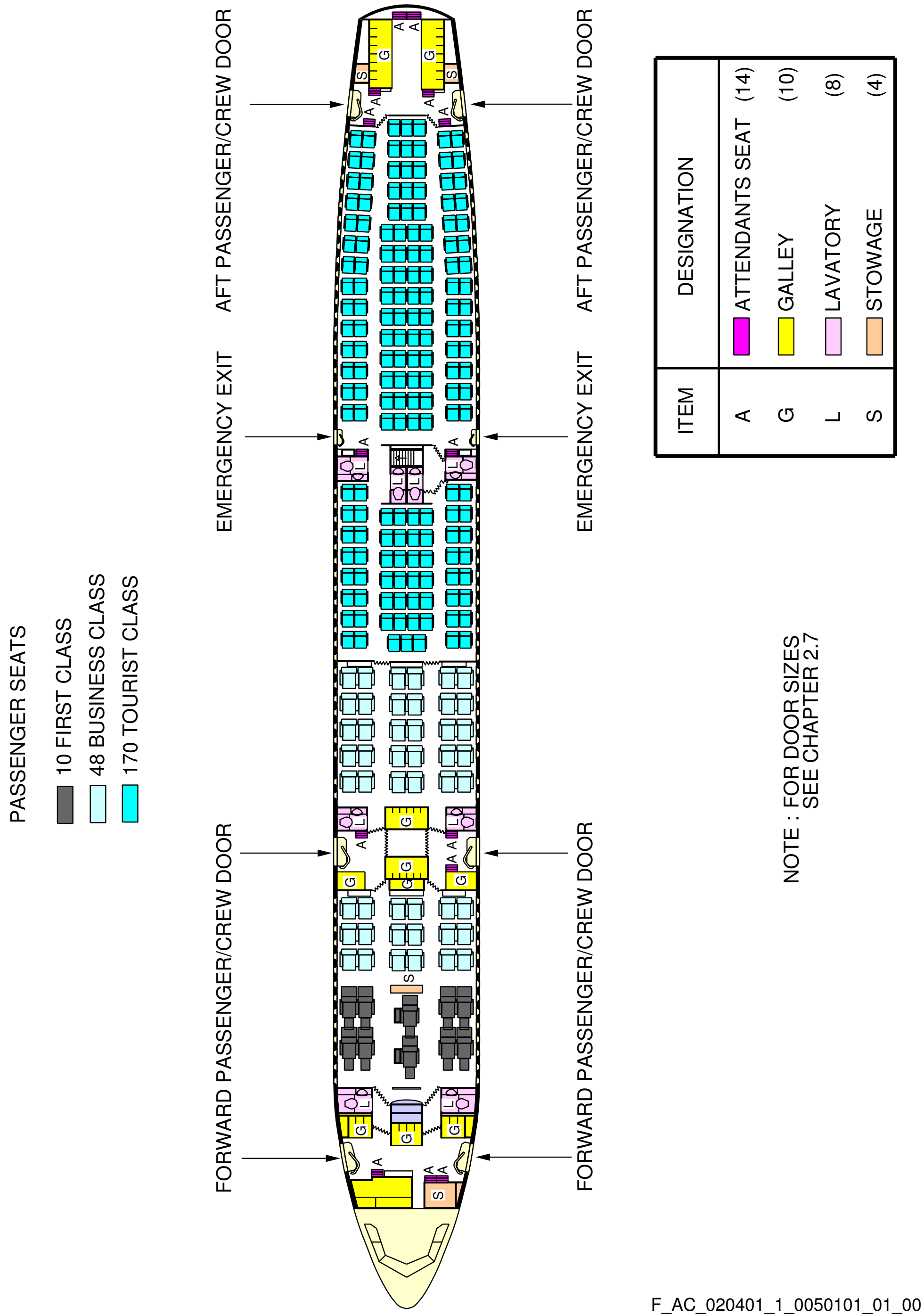
Typical Configuration
FIGURE 2

**ON A/C A340-200



Typical Configuration
FIGURE 3

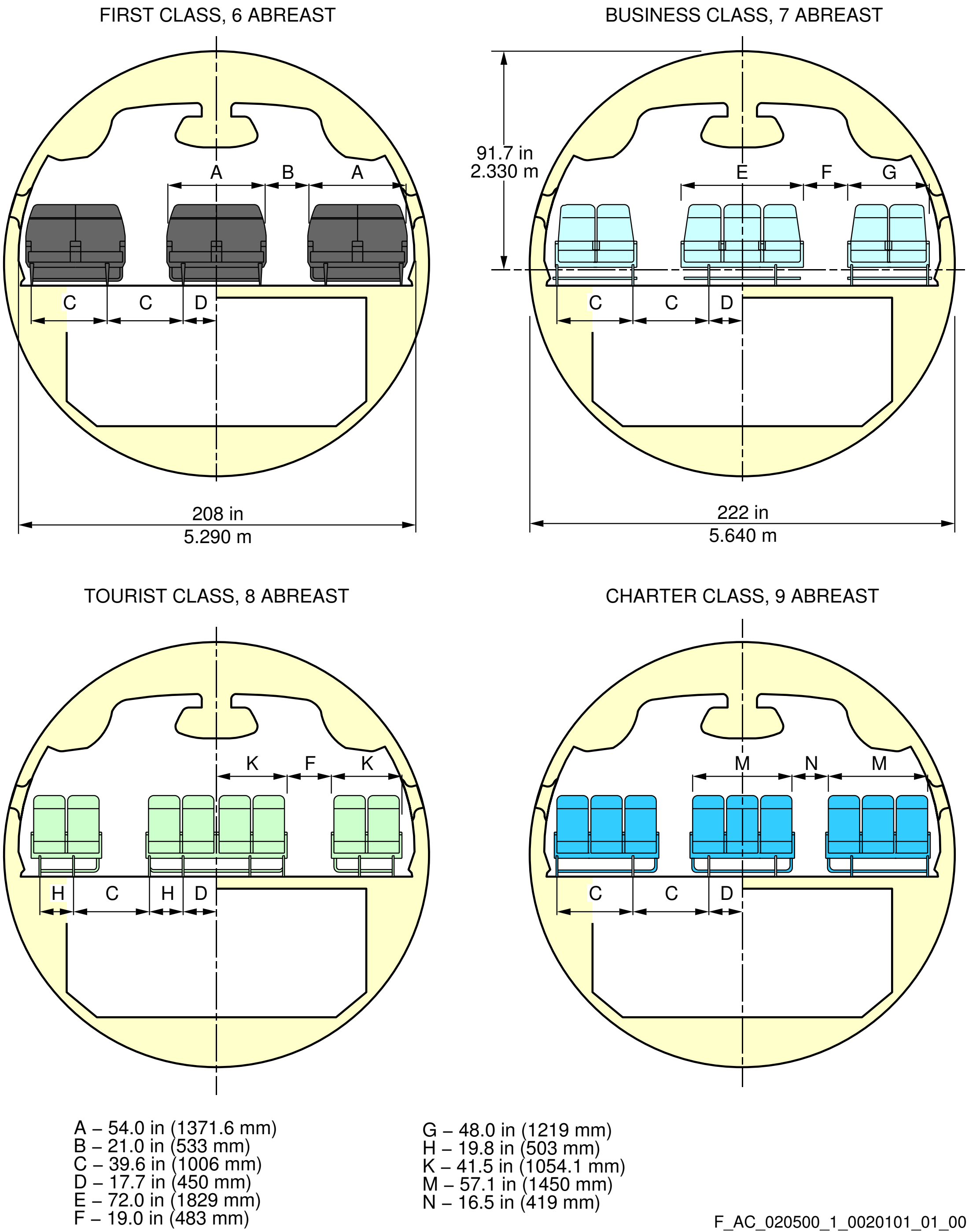
2-5-0 Passenger Compartment Cross Section

****ON A/C A340-200 A340-300**

Passenger Compartment Cross-section

1. This section gives the typical passenger compartment cross-section configuration of A340-200/-300 models.

**ON A/C A340-200 A340-300



Passenger Compartment Cross-section
FIGURE 1

2-6-0 Cargo Compartments

****ON A/C A340-200 A340-300**

Cargo Compartment

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

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

****ON A/C A340-200 A340-300**

Lower Deck Cargo Compartments

****ON A/C A340-300**

1. This table gives cargo compartments loading combinations.

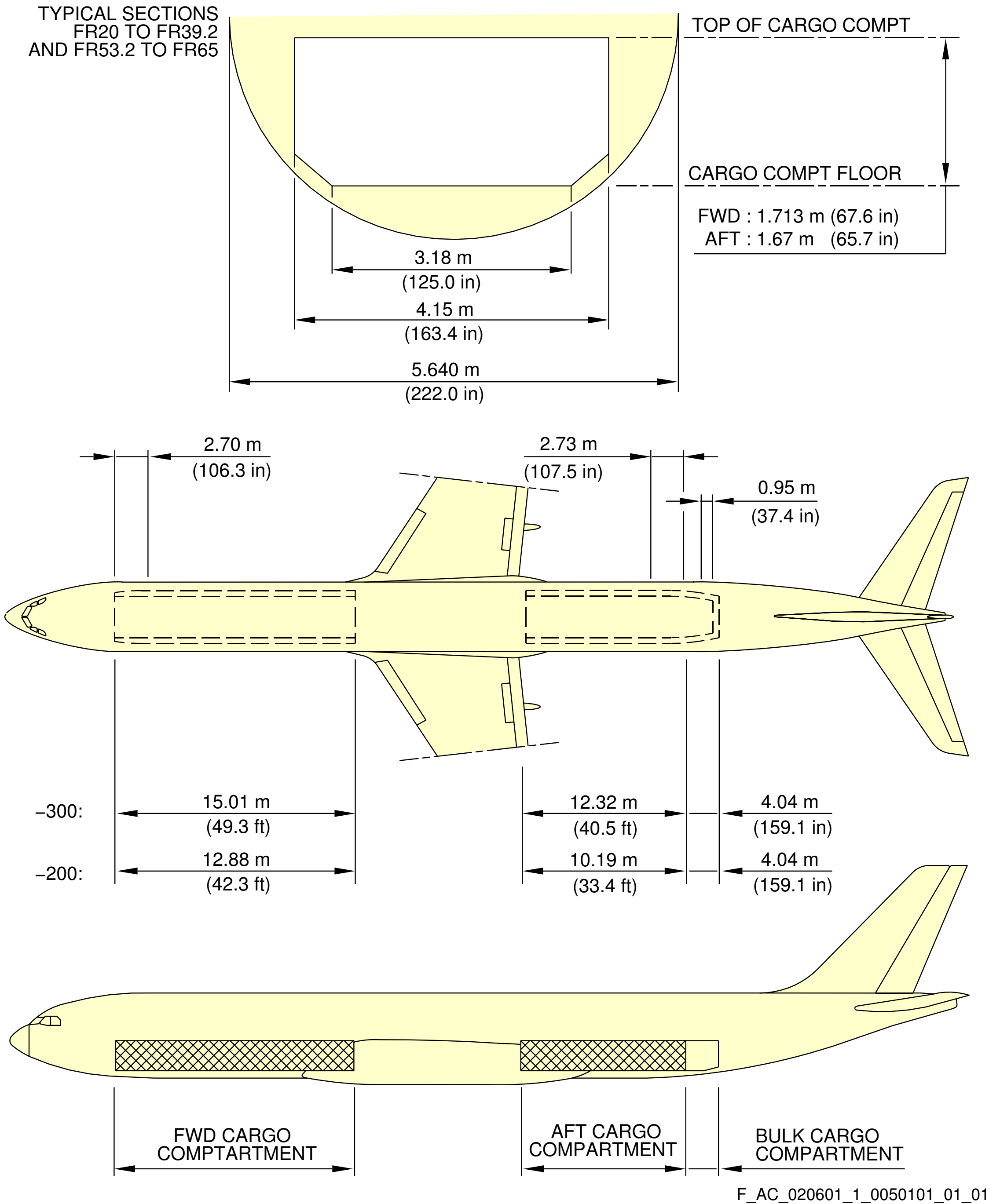
Cargo Compartment	Palletized volume - 300	Containerized volume - 300
Forward Door size (h × w) 66.89 in (1.699 m) x 106.34 in (2.701 m)	2442 ft^3 (69.150 m^3) based on 96 in × 125 in pallets loaded to height of 64 in (1.626 m)	2844 ft^3 (80.533 m^3) based on LD3 (IATA E NAS 3610-2K2C) container volume
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 A340-200**

2. This table gives cargo compartments loading combinations.

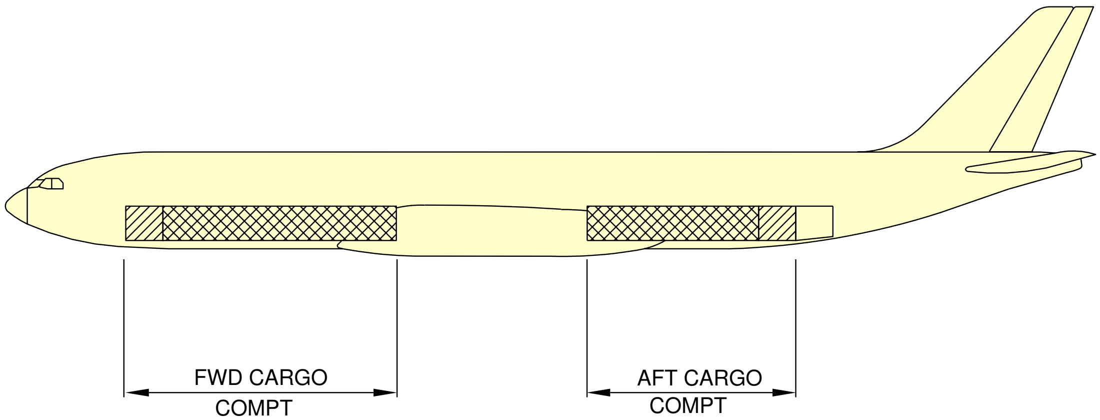
Cargo Compartment	Palletized volume -200	Containerized volume -200
Forward Door size (h × w) 66.89 in (1.699 m) x 106.34 in (2.701 m)	2025 ft^3 (57.342 m^3) based on 96 in × 125 in pallets loaded to height of 64 in (1.626 m)	2184 ft^3 (61.844 m^3) based on LD3 (IATA E NAS 3610-2K2C) container volume
Aft Door size (h × w) 66.3 in (1.684 m) x 107.1 in (2.720 m)	1620 ft^3 (45.873 m^3) based on 96 in × 125 in pallets loaded to height of 64 in (1.626 m)	1872 ft^3 (53.009 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 A340-200 A340-300



Lower Deck Cargo Compartments
FIGURE 1

**ON A/C A340-200 A340-300



CARGO FLEXIBILITY–LOADING COMBINATIONS

TYPICAL LOADING COMBINATIONS–STANDARD AIRCRAFT	A340–200		A340–300	
	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	14	12	18	14
–HALF–SIZE CONTAINERS NAS 3610–2K2C AS PER IATA CONTOUR C LIMITED TO MAX GROSS WEIGHT 3500 lb (1587 kg) EACH	7	6	9	7
–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 WIGHT 7000 lb (3174 kg) EACH	7	6	9	7
–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)	5	4	6	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
–OR 60.4 IN x 61.5 IN PALLETS NAS 3610–2K3P LIMITED TO MAX GROSS WEIGHT 3500 lb (1587 kg) EACH	–	–	–	2
–OR 60.4 in x 125 in PALLETS NAS 3610–2L3P, 2L4P LIMITED TO MAX GROSS WEIGHT 7000 lb (3174 kg) EACH	–	–	–	1
–OR FULL–SIZE CONTAINERS NAS 3610–2L2C AS PER IATA CONTOUR P LIMITED TO MAX GROSS WEIGHT 7000 lb (3174 kg) EACH	–	–	–	1

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Loading Combinations
FIGURE 2

2-7-0 Door Clearances

****ON A/C A340-200 A340-300**

Doors Clearances

1. This section gives doors clearances.

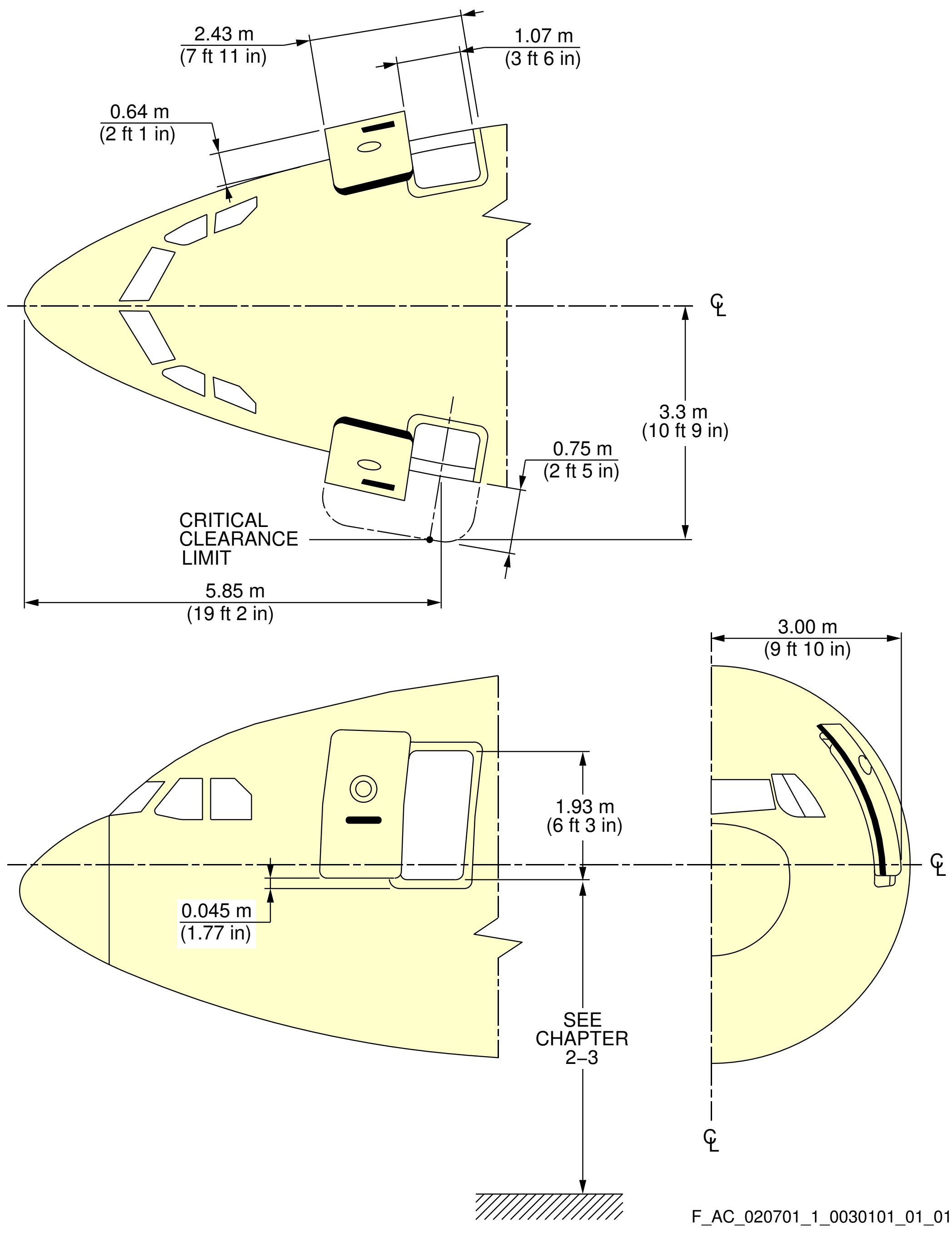
2-7-1 Forward Passenger / Crew Doors

****ON A/C A340-200 A340-300**

Forward Passenger / Crew Door

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

**ON A/C A340-200 A340-300



Forward Passenger / Crew Doors
FIGURE 1

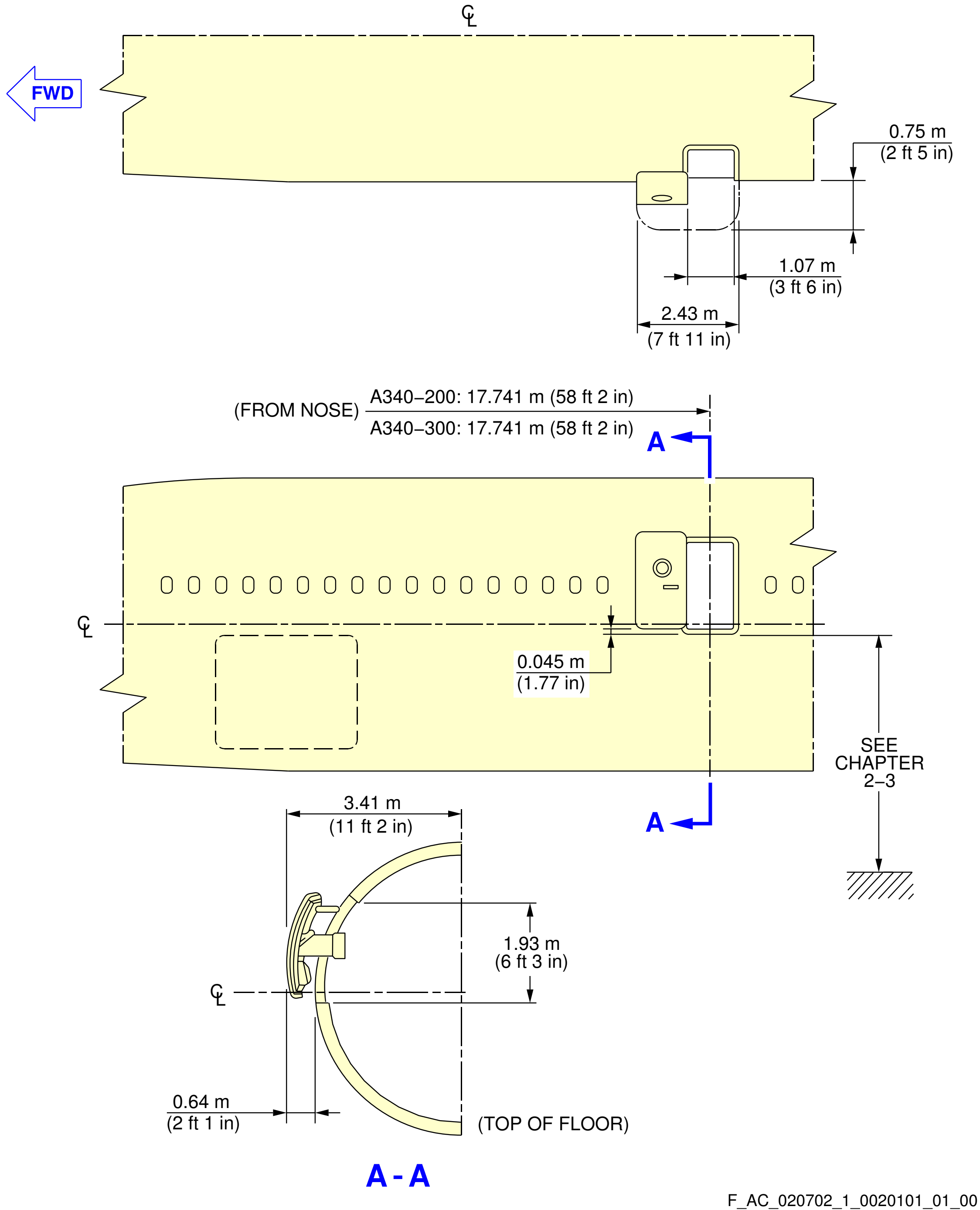
2-7-2 Mid Passenger / Crew Doors

****ON A/C A340-200 A340-300**

Mid Passenger / Crew Door

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

**ON A/C A340-200 A340-300



Mid Passenger / Crew Door
FIGURE 1

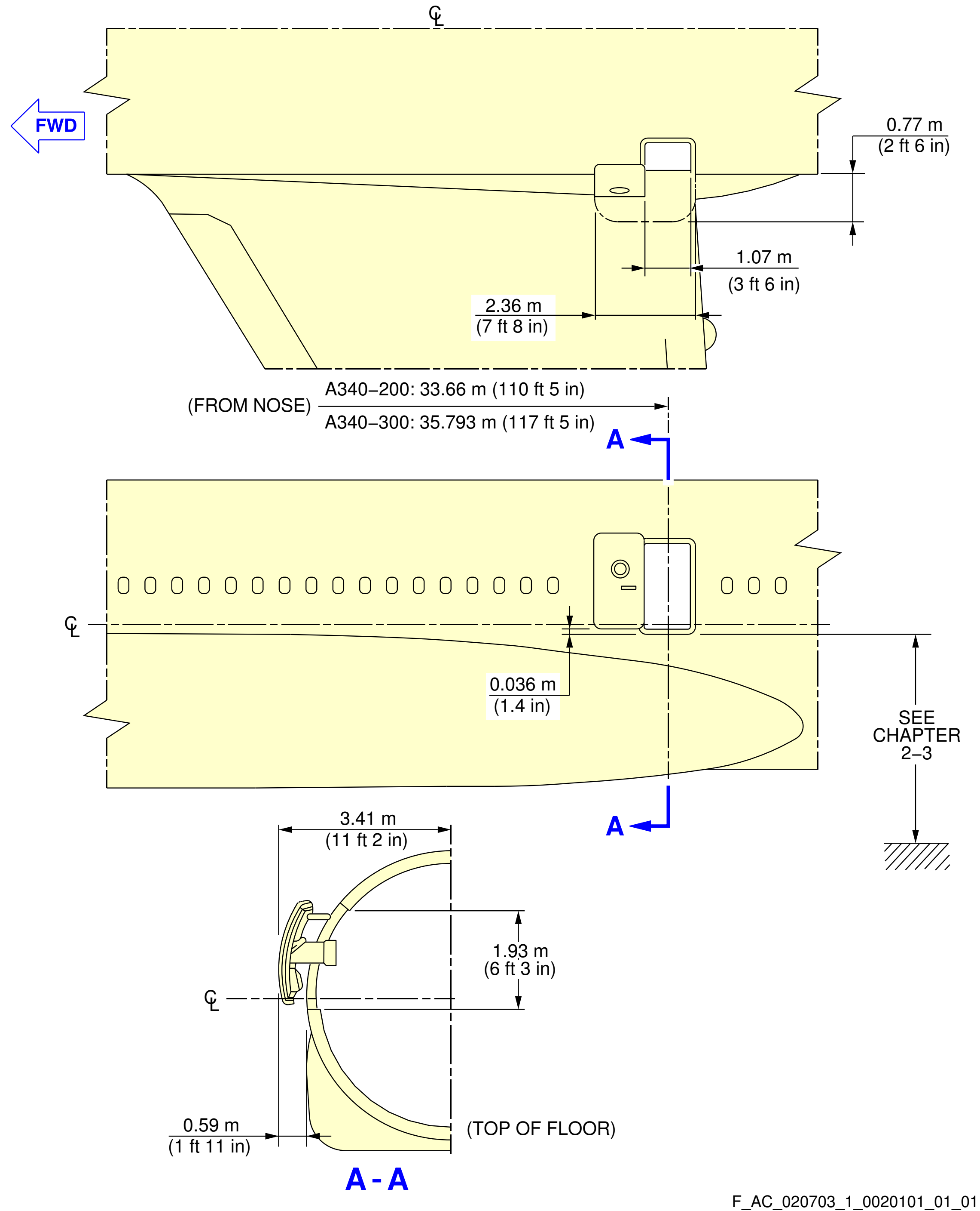
2-7-3 Emergency Exits

****ON A/C A340-200 A340-300**

Emergency Exits

1. This section gives emergency exits doors clearances.

**ON A/C A340-200 A340-300



Emergency Exits
FIGURE 1

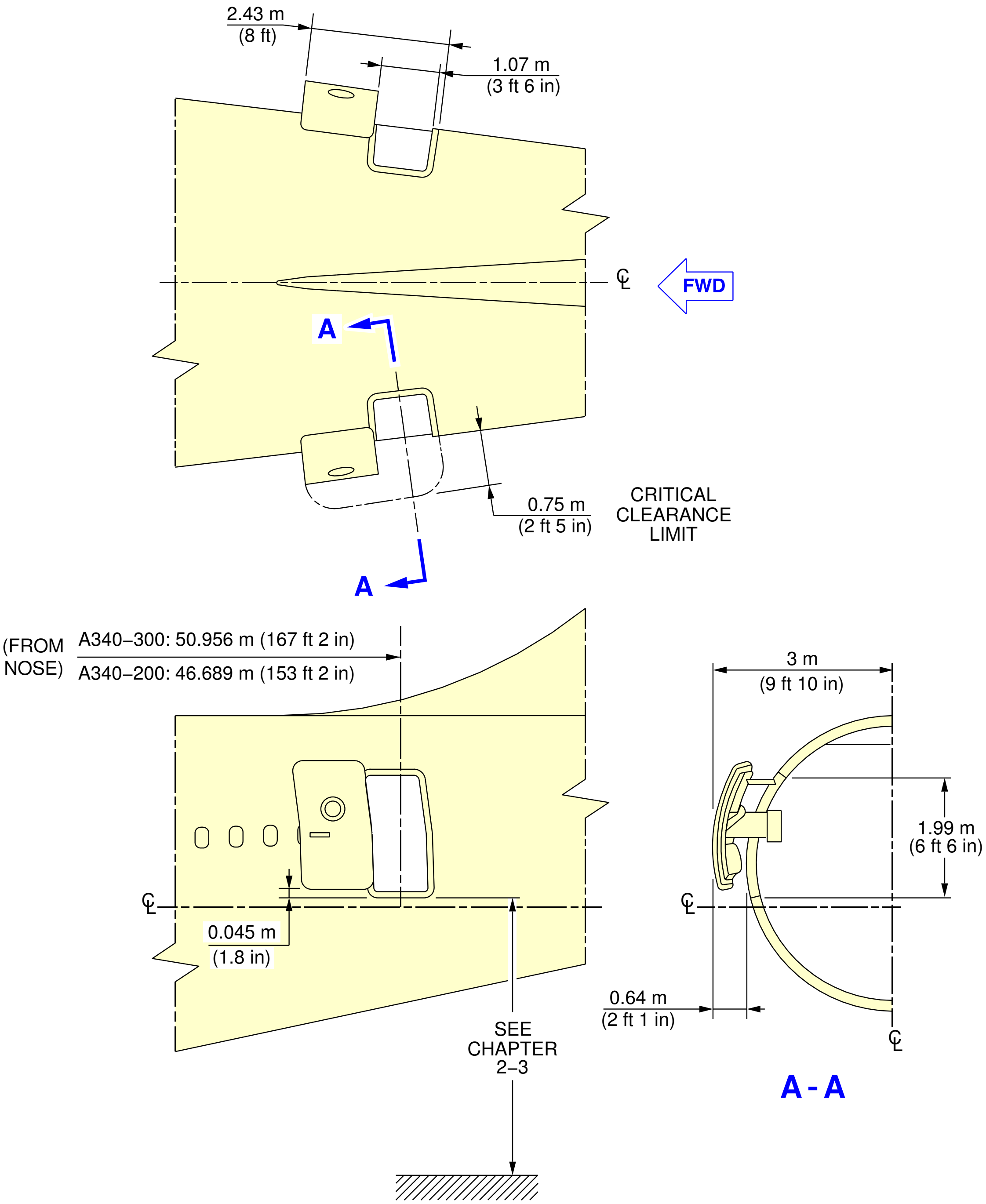
2-7-4 Aft Passenger / Crew Doors

****ON A/C A340-200 A340-300**

Aft Passenger / Crew Doors

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

**ON A/C A340-200 A340-300



Aft Passenger / Crew Doors
FIGURE 1

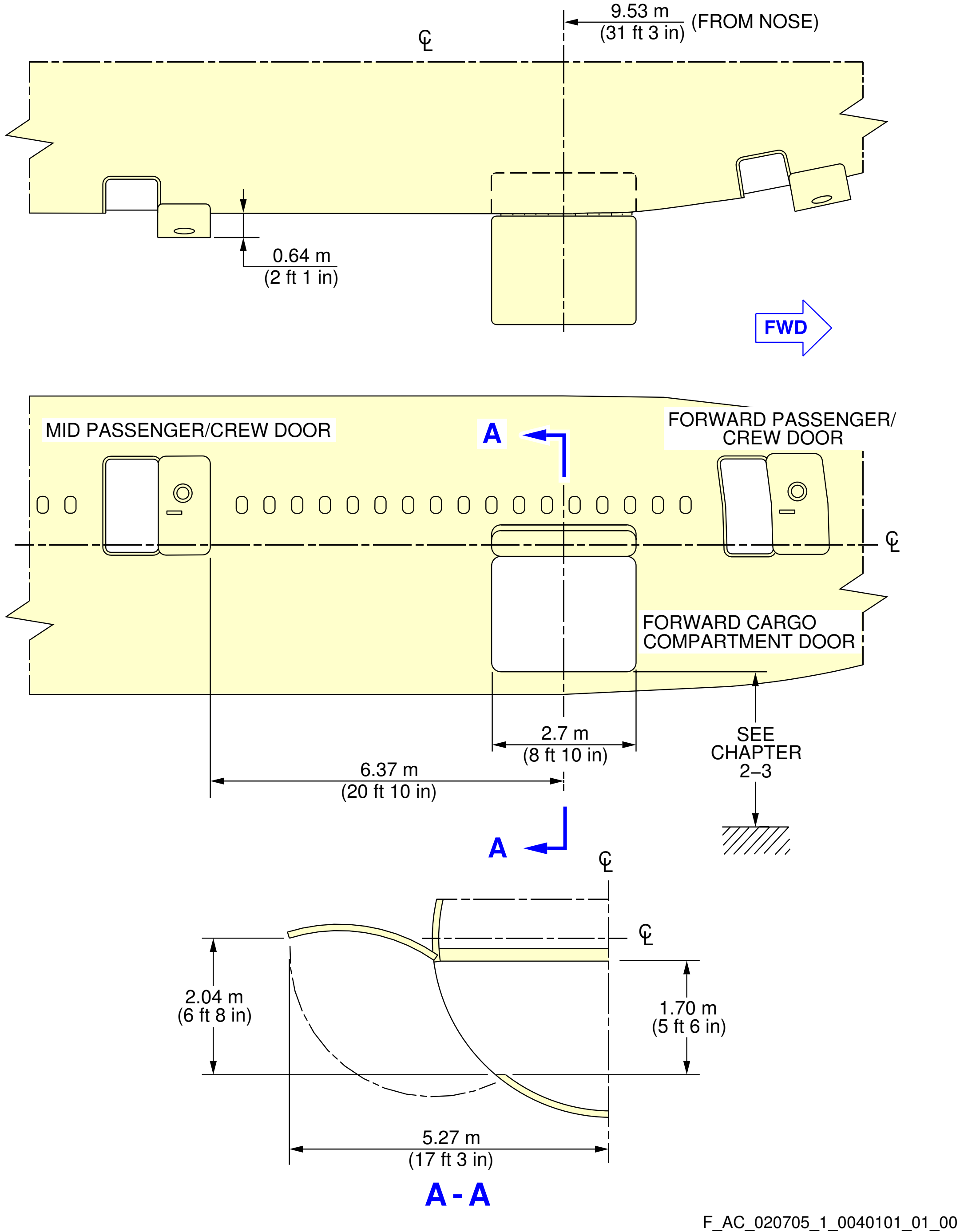
2-7-5 Forward Cargo Compartment Doors

****ON A/C A340-200 A340-300**

Forward Cargo Compartment Doors

1. This section gives forward cargo compartment doors clearances.

**ON A/C A340-200 A340-300



Forward Cargo Compartment Doors
FIGURE 1

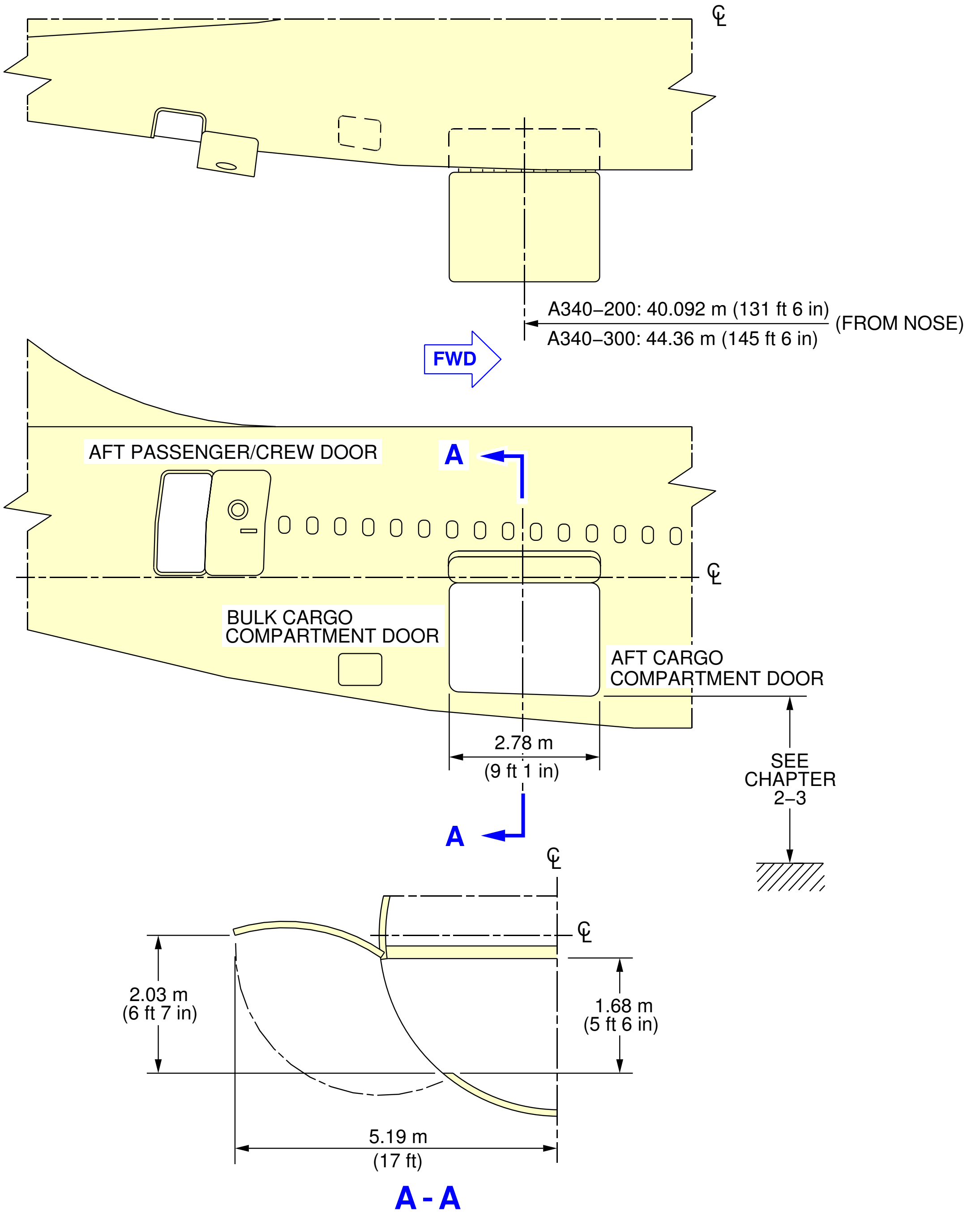
2-7-6 Aft Cargo Compartment Doors

****ON A/C A340-200 A340-300**

Aft Cargo Compartment Doors

1. This section gives Aft cargo compartment doors clearances.

**ON A/C A340-200 A340-300



Aft Cargo Compartment Doors
FIGURE 1

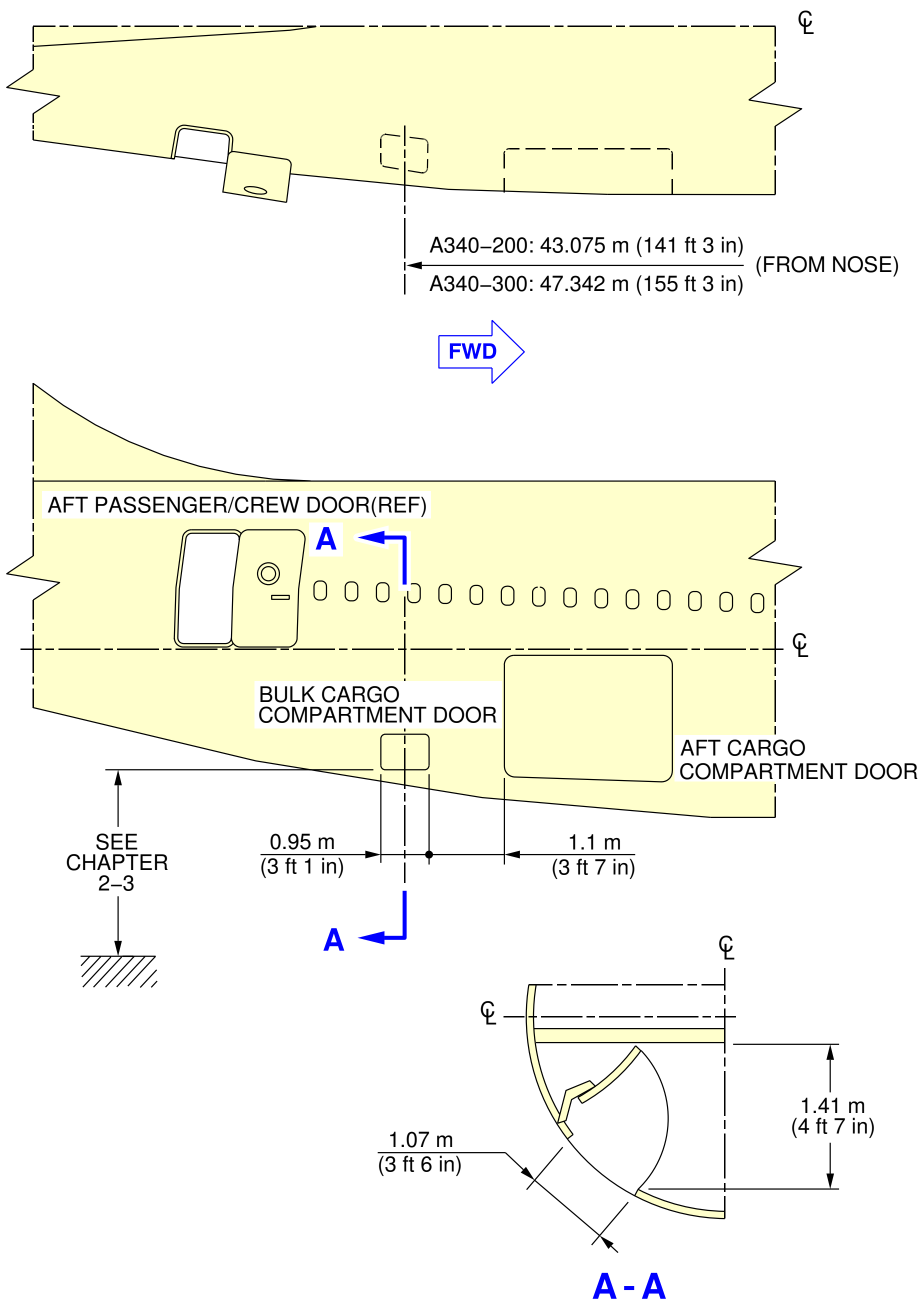
2-7-7 Bulk Cargo Compartment Doors

****ON A/C A340-200 A340-300**

Bulk Cargo Compartment Doors

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

**ON A/C A340-200 A340-300



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Bulk Cargo Compartment Doors
FIGURE 1

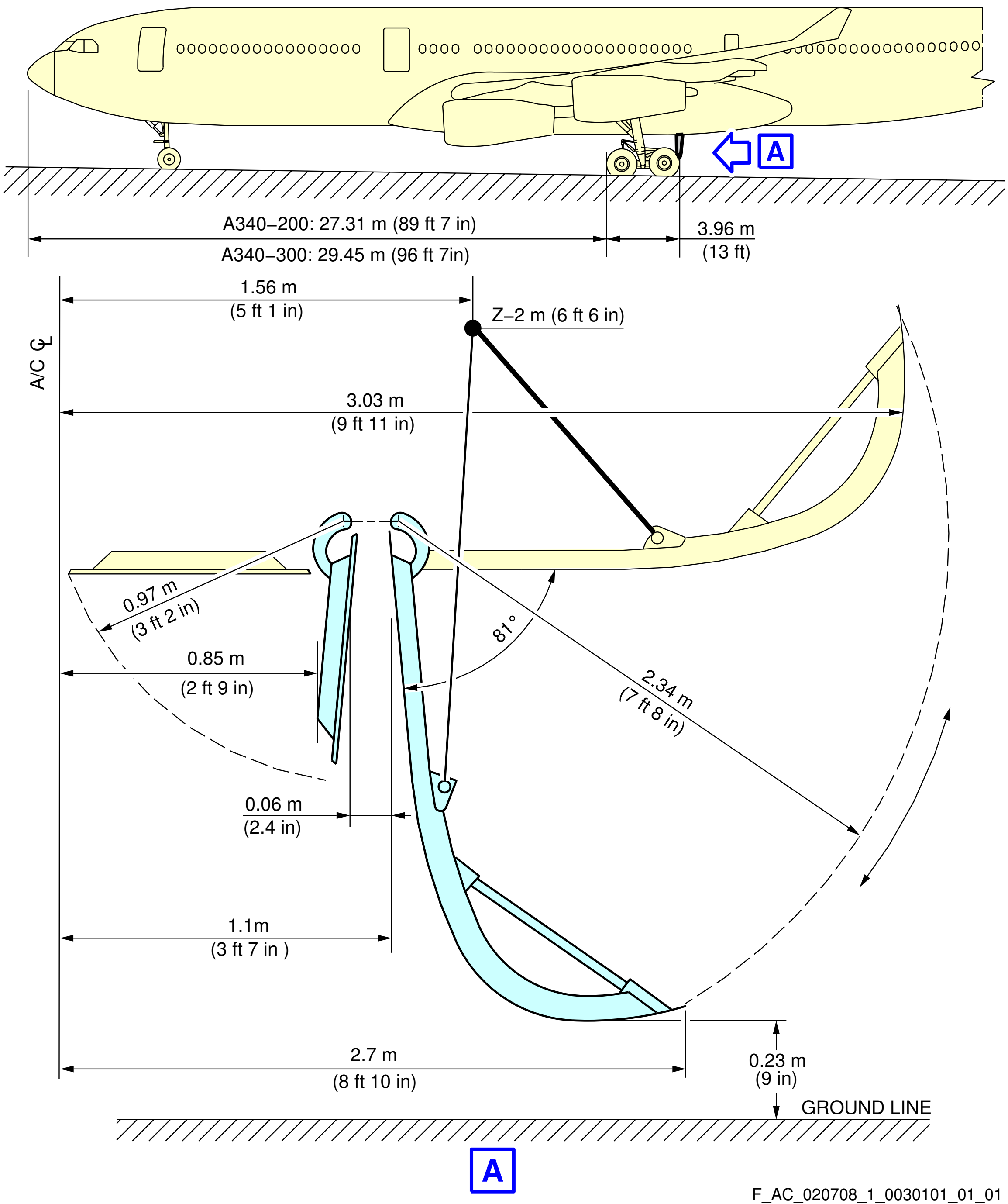
2-7-8 Main and Center Landing Gear Doors

ON A/C A340-200 A340-300

Main Landing Gear Doors

1. This section gives the main landing gear doors clearances.

**ON A/C A340-200 A340-300



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Main and Center Landing Gear Doors
FIGURE 1

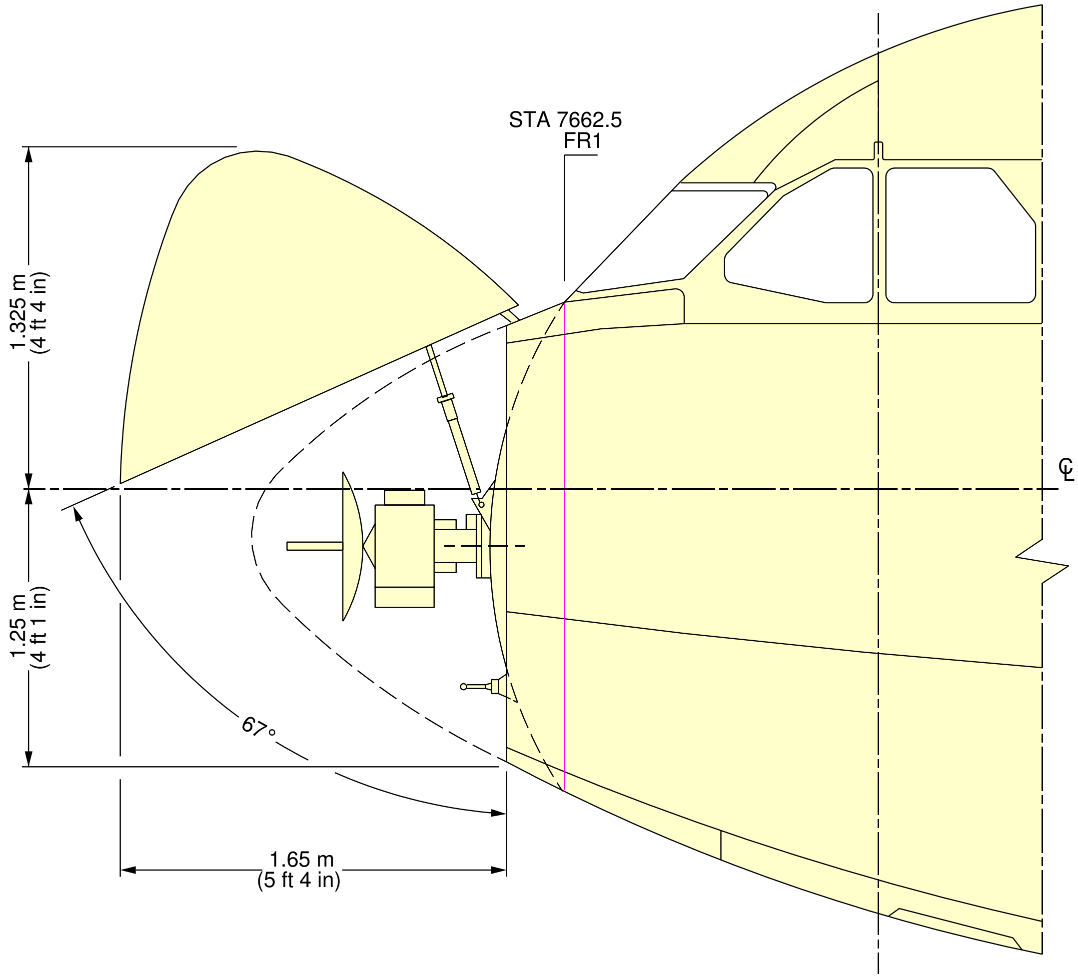
2-7-9 Radome

****ON A/C A340-200 A340-300**

Radome

1. This section gives the radome clearances.

**ON A/C A340-200 A340-300



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Radome
FIGURE 1

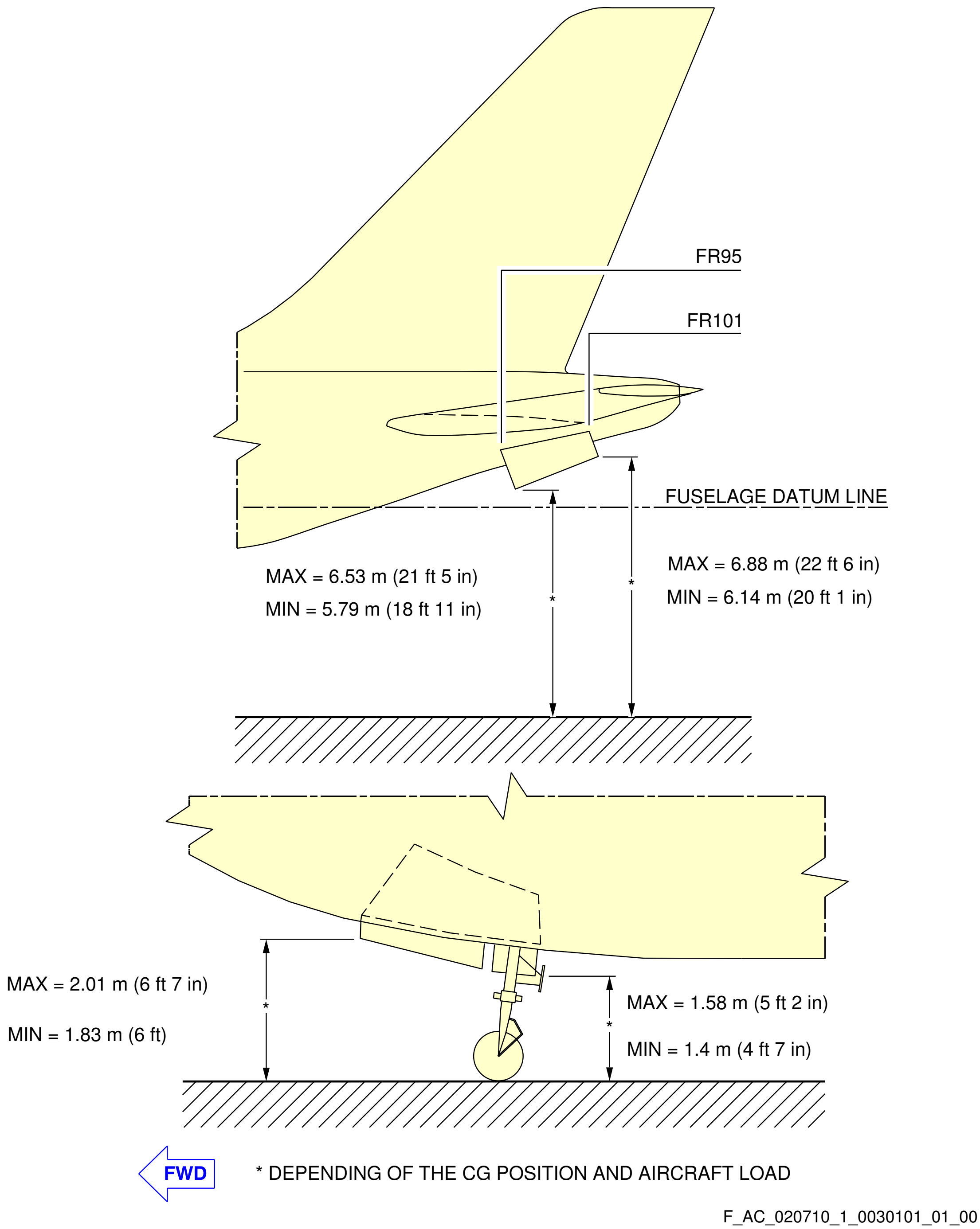
2-7-10 APU and Nose Landing Gear Doors

****ON A/C A340-200 A340-300**

APU and Nose Landing Gear Doors

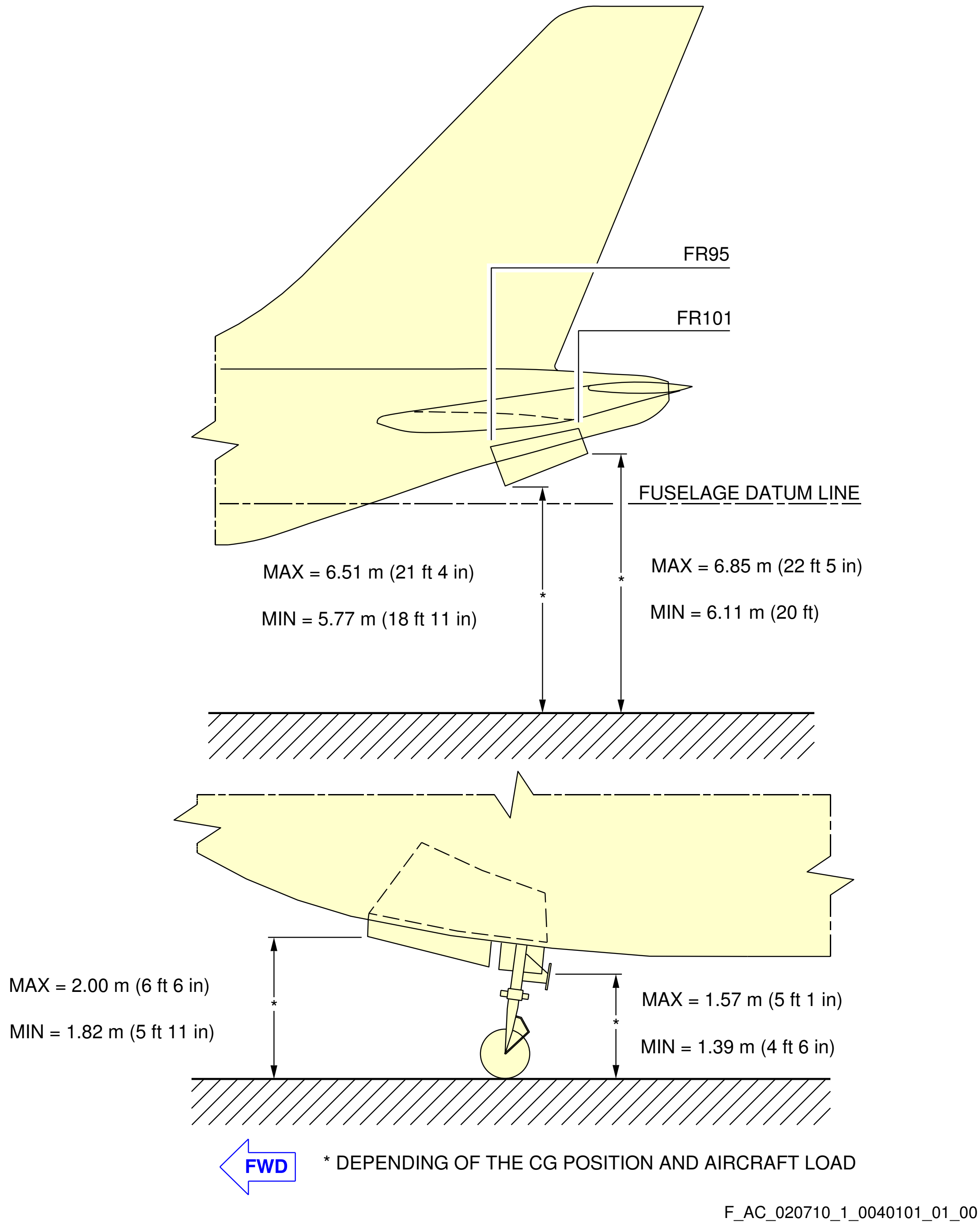
1. This section gives APU and Nose Landing Gear doors clearances.

**ON A/C A340-300



APU and Nose Landing Gear Doors
FIGURE 1

**ON A/C A340-200



APU and Nose Landing Gear Doors
FIGURE 2

AIRPLANE PERFORMANCE

3-1-0 General Information

****ON A/C A340-200 A340-300**

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 takeoff runway length requirements at ISA and ISA +15°C (+27°F) for CFM56-5C series engine 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 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 A340-200 A340-300

Payload / Range

1. Payload / Range

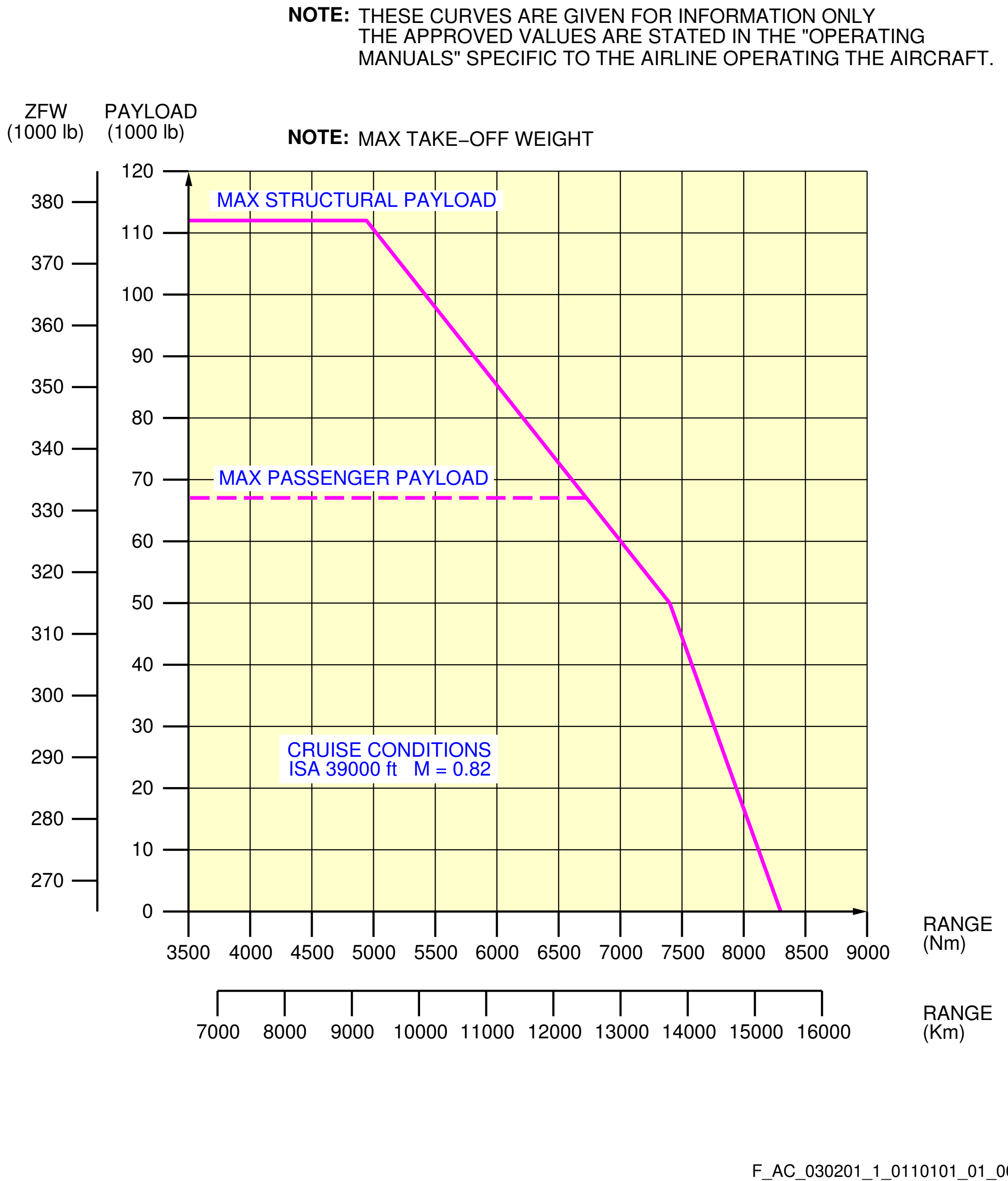
3-2-1 ISA Conditions

****ON A/C A340-200 A340-300**

ISA Conditions

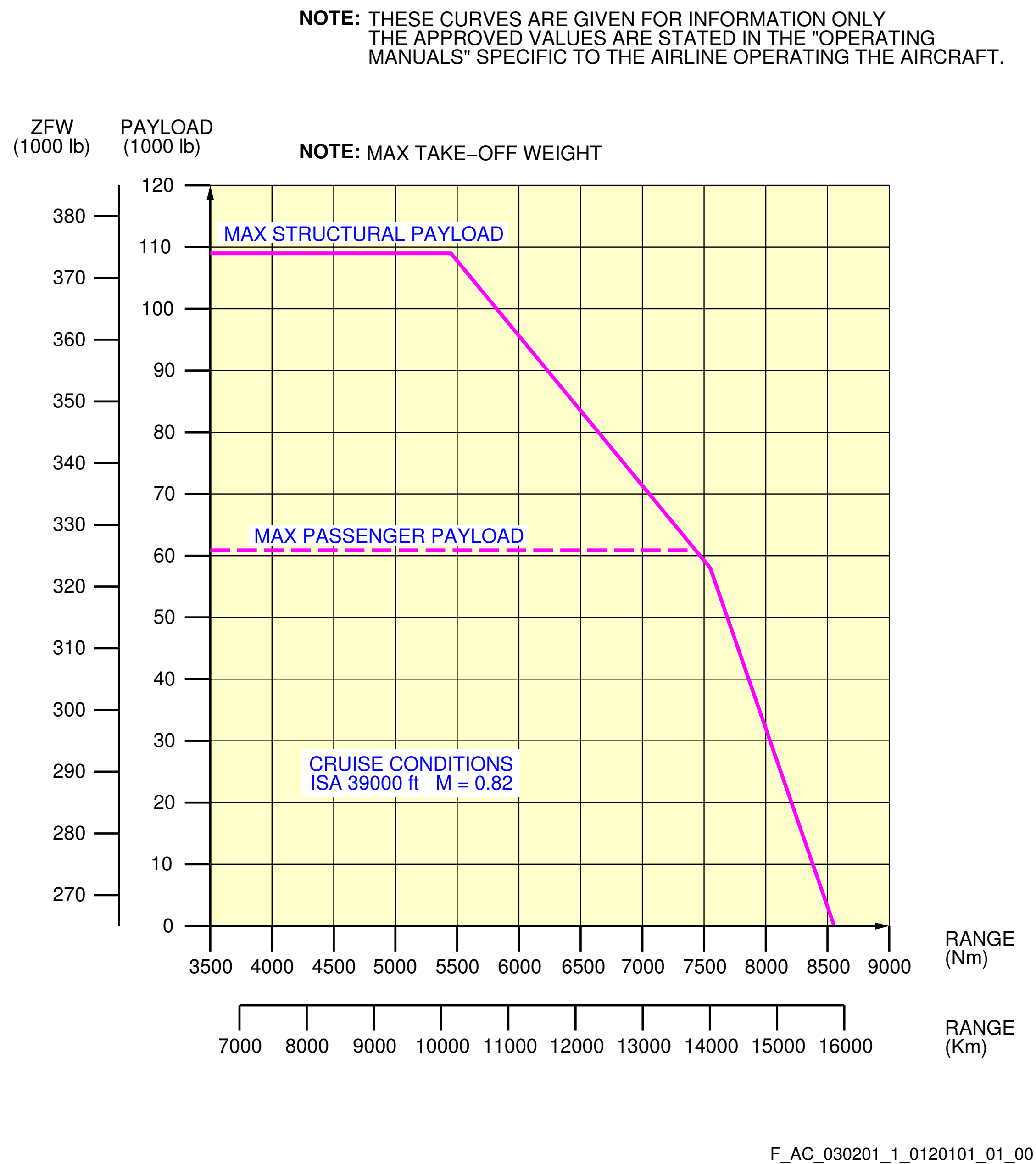
1. This section gives the payload / range at ISA conditions.

**ON A/C A340-300



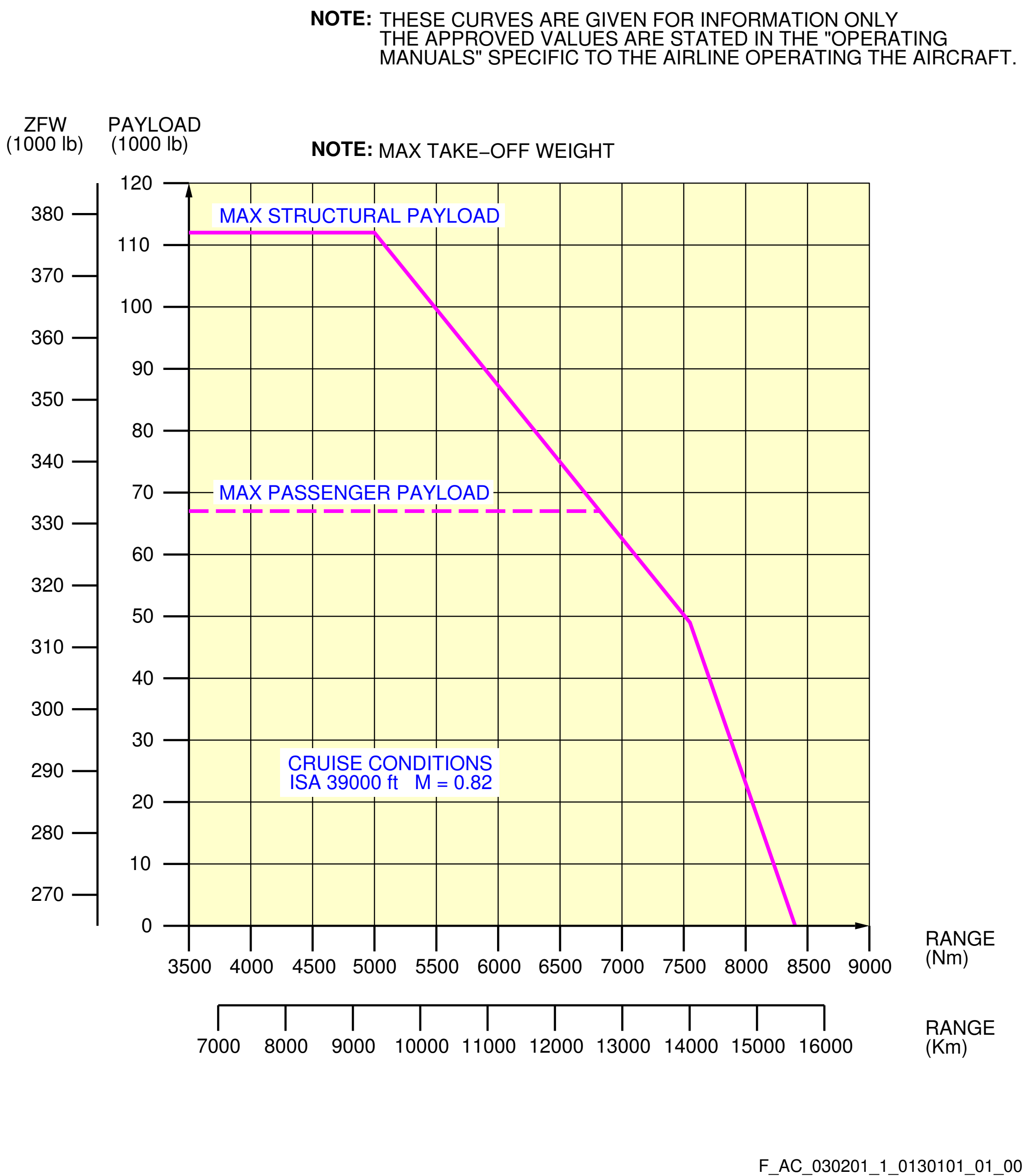
PAYLOAD / RANGE
CFM56-5C2 engine
FIGURE 1

**ON A/C A340-200



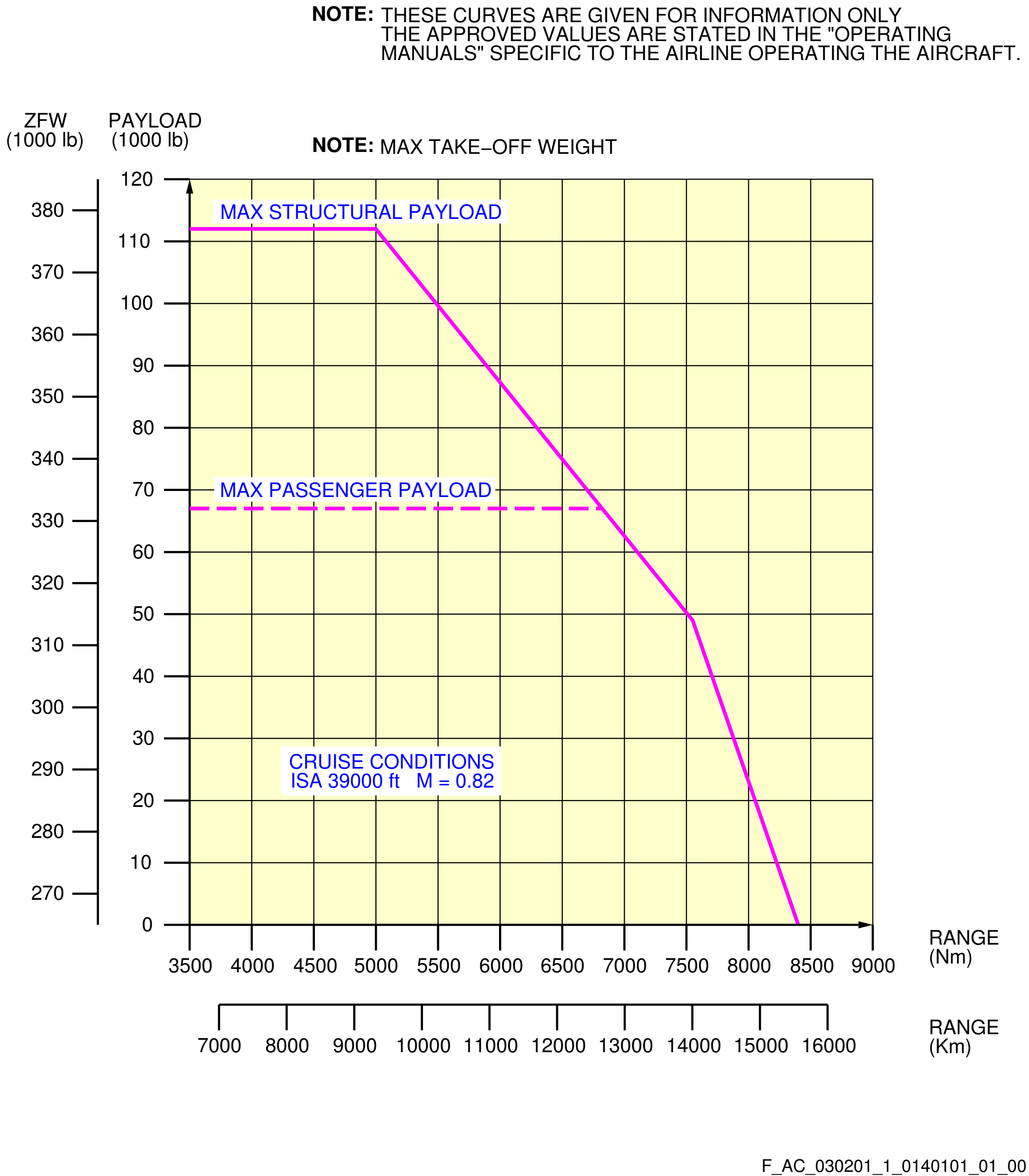
PAYLOAD / RANGE
CFM56-5C2 engine
FIGURE 2

**ON A/C A340-300



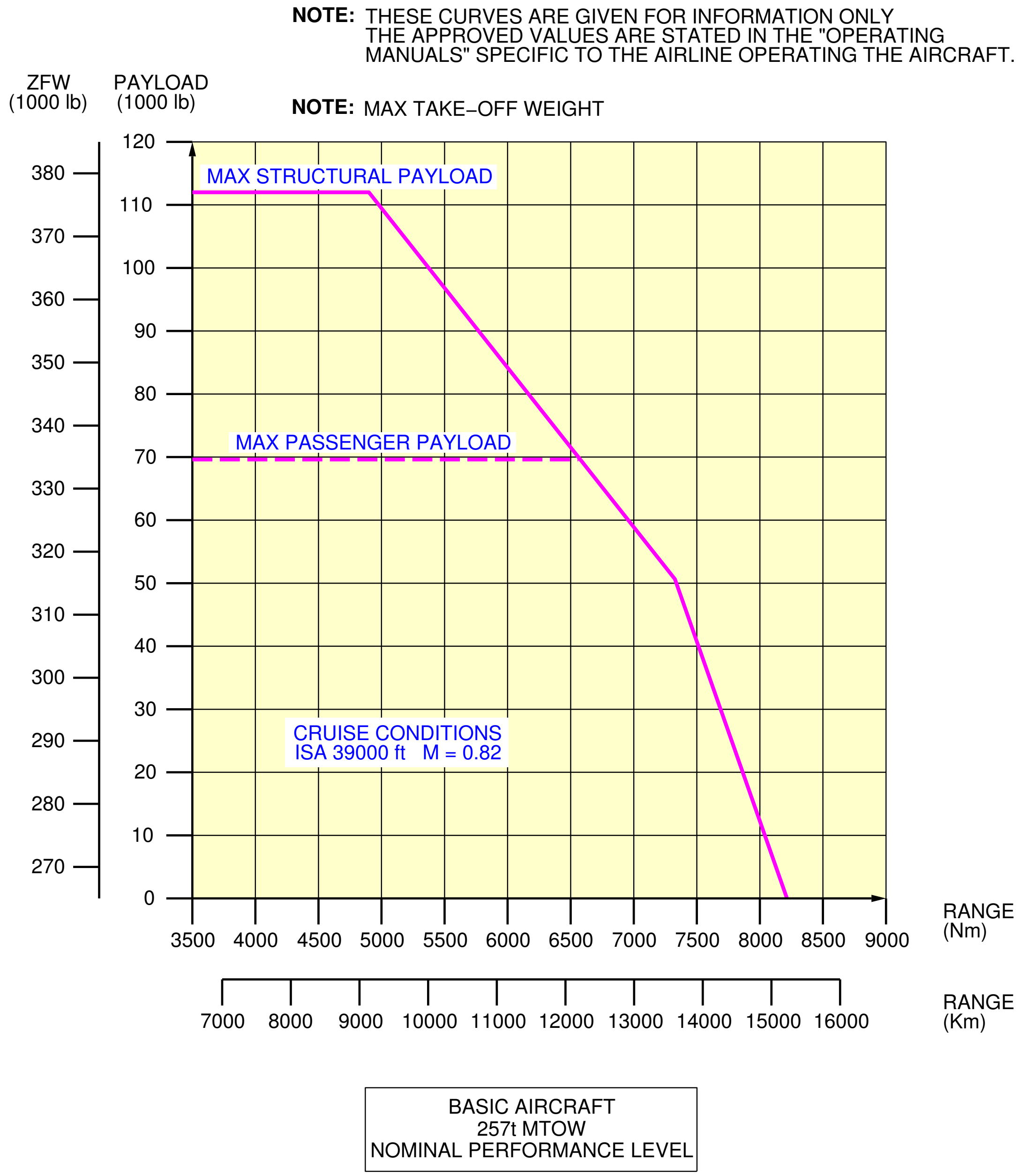
PAYLOAD / RANGE
CFM56-5C3 engine
FIGURE 3

**ON A/C A340-200



PAYLOAD / RANGE
CFM56-5C3 engine
FIGURE 4

**ON A/C A340-300



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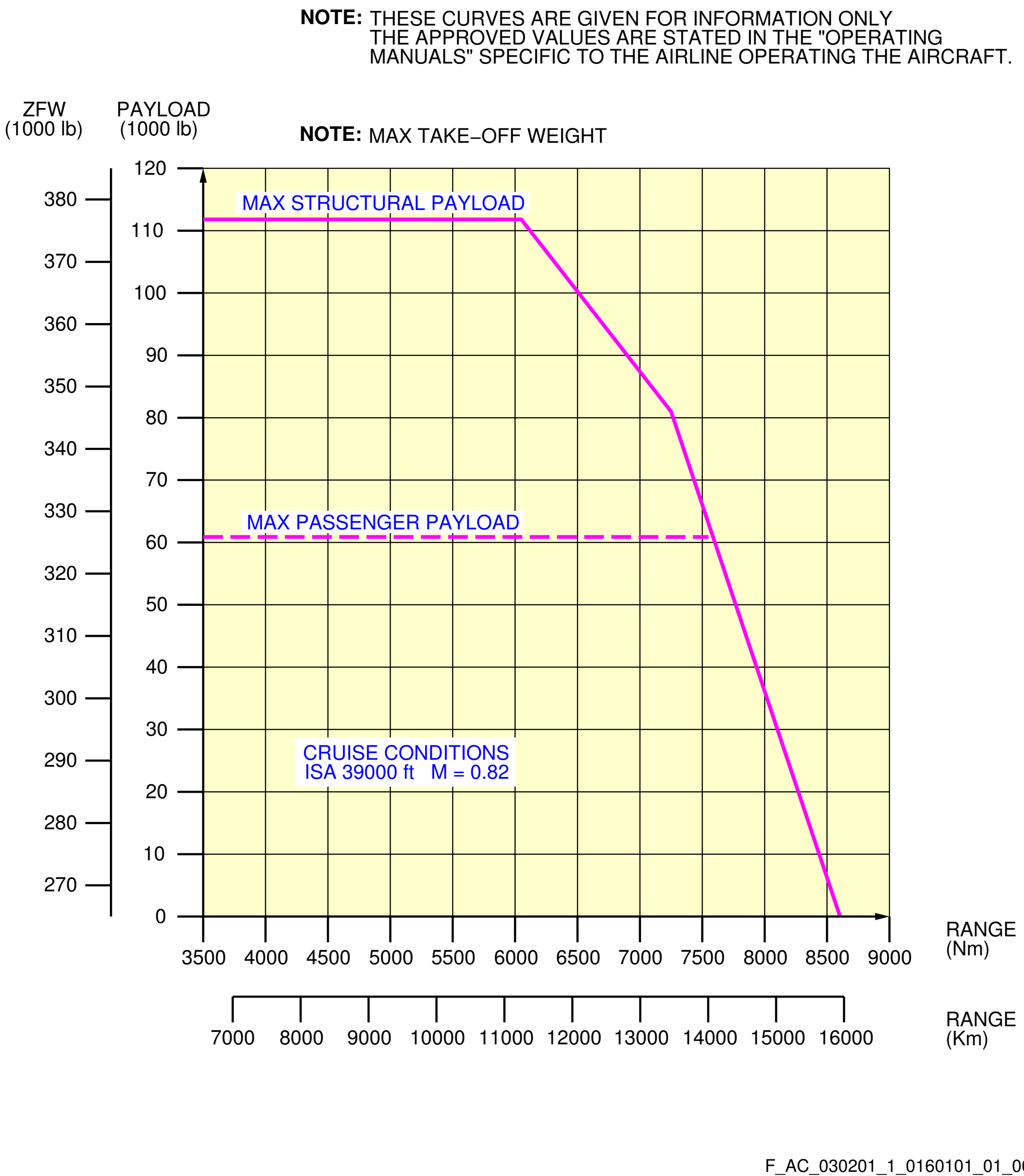
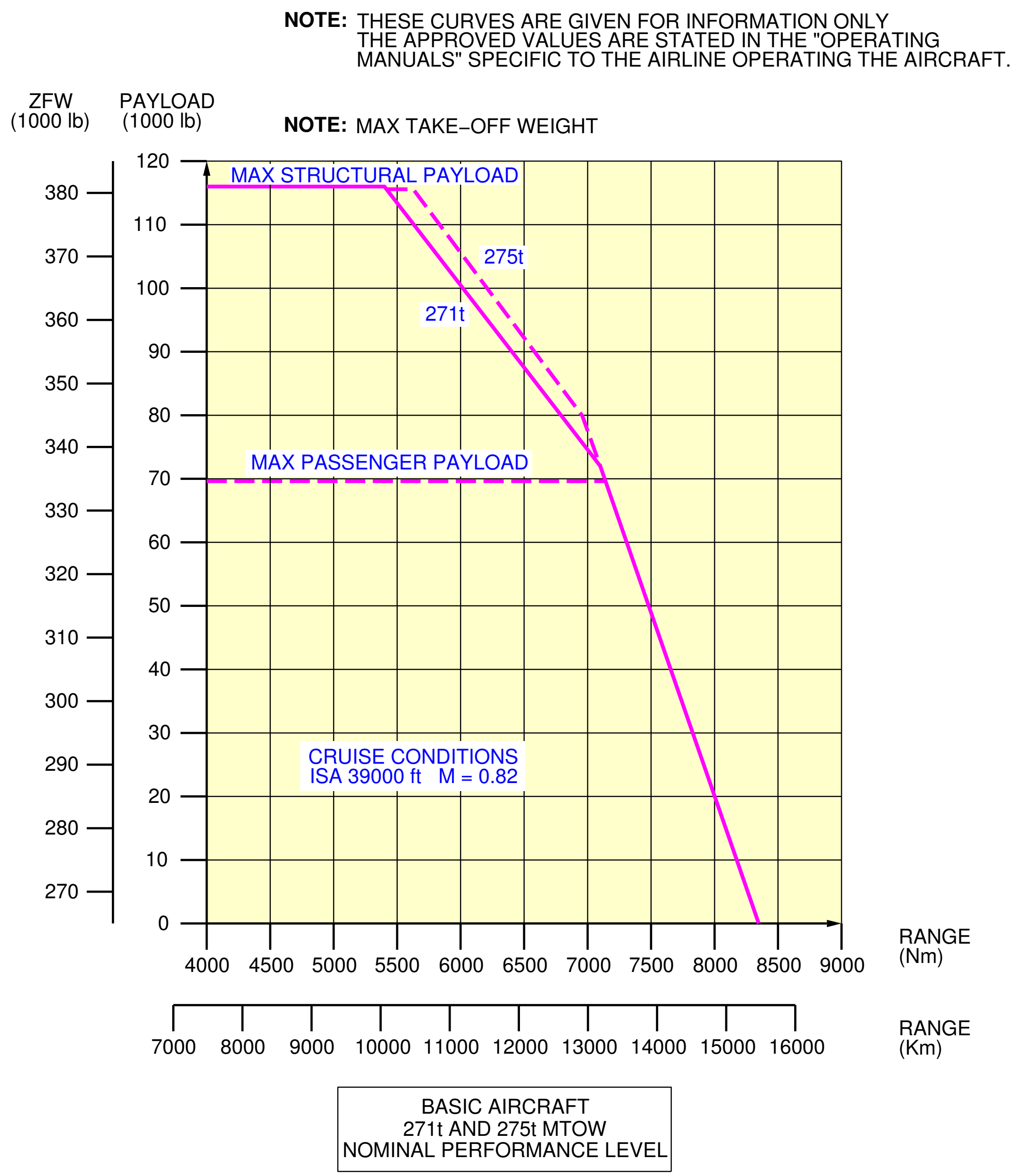
PAYLOAD / RANGE
CFM56-5C4 engine
FIGURE 5

**ON A/C A340-200



PAYLOAD / RANGE
CFM56-5C4 engine
FIGURE 6

**ON A/C A340-300



F_AC_030201_1_0170101_01_00

PAYLOAD / RANGE
CFM56-5C4 engine
FIGURE 7

3-3-0 FAR / JAR Takeoff Weight Limitation

****ON A/C A340-200 A340-300**

FAR / JAR Takeoff Weight Limitation

1. FAR / JAR Takeoff Weight Limitation

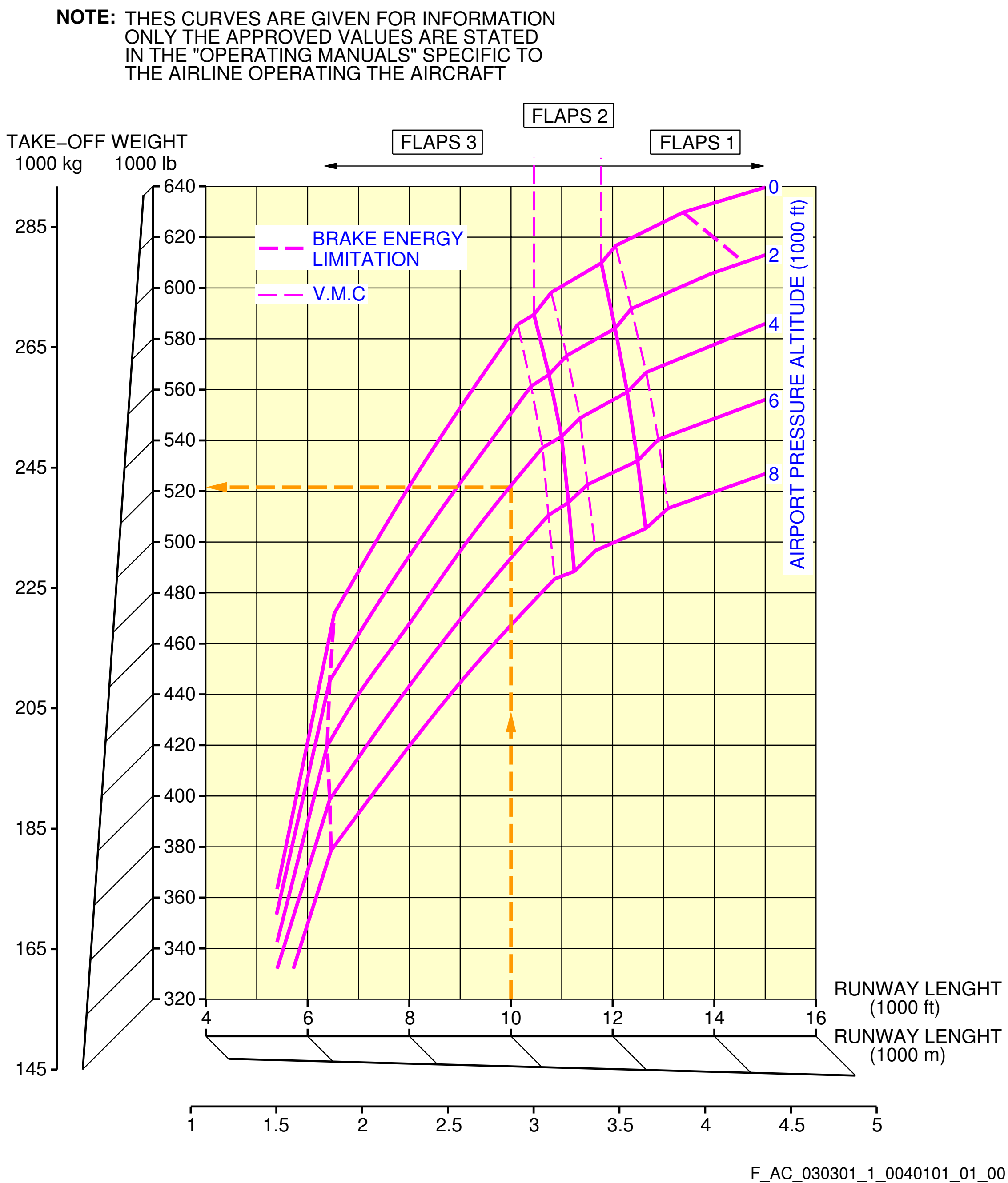
3-3-1 ISA Conditions

****ON A/C A340-200 A340-300**

FAR / JAR Takeoff Weight Limitation

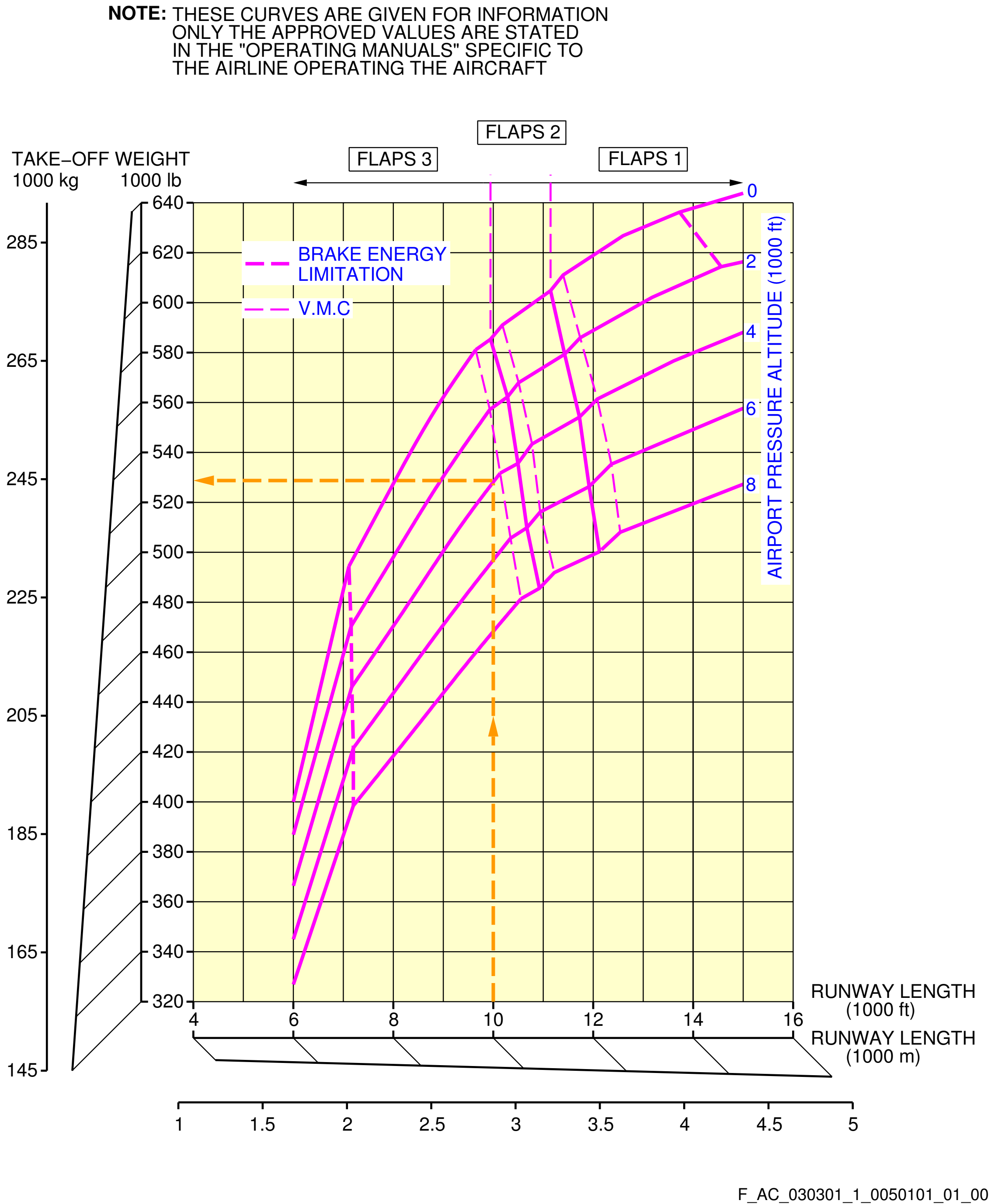
1. This section gives the takeoff weight limitation at ISA conditions.

**ON A/C A340-300



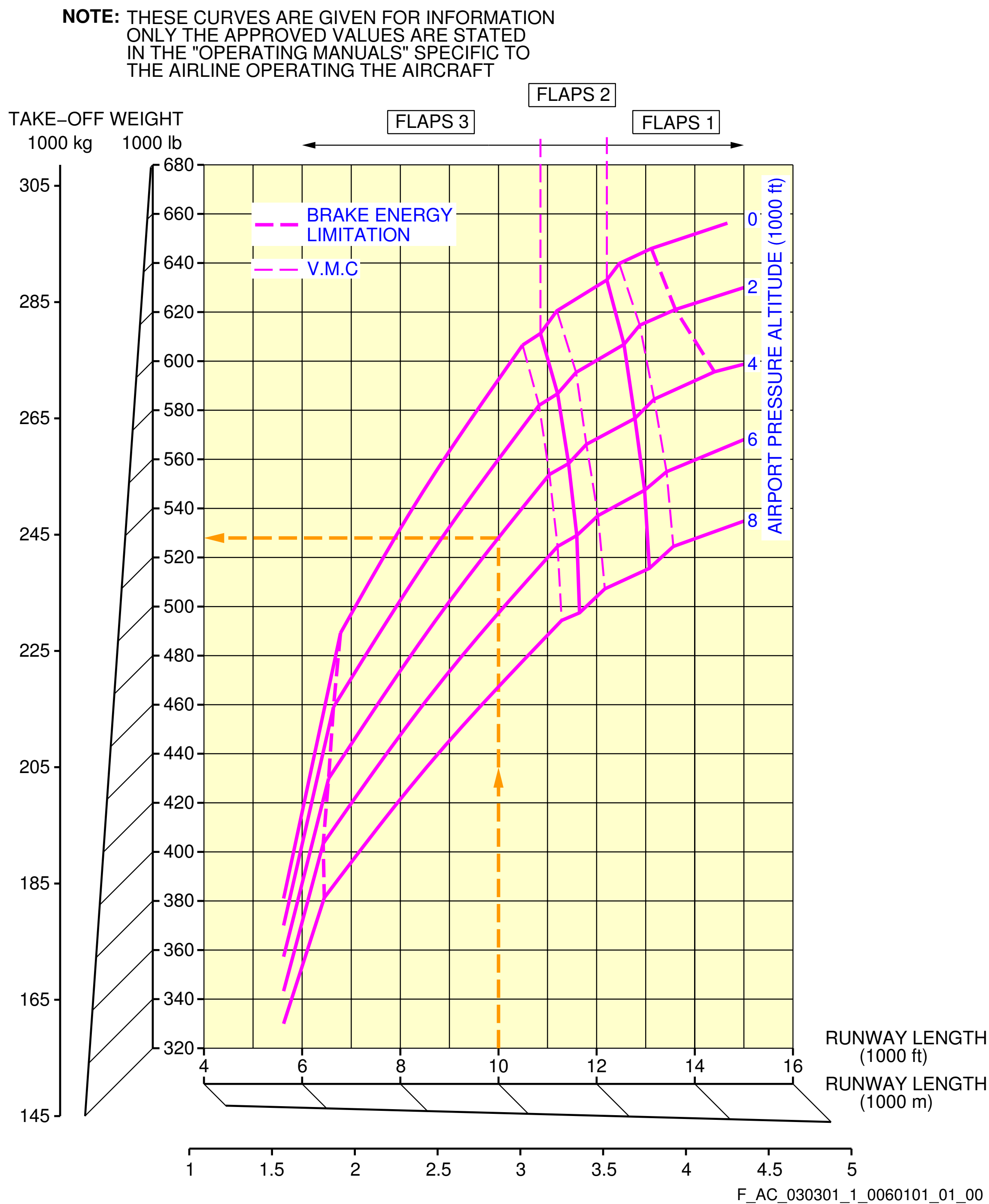
FAR / JAR Takeoff Weight Limitation
ISA Conditions – CFM56-5C2 engine
FIGURE 1

**ON A/C A340-200



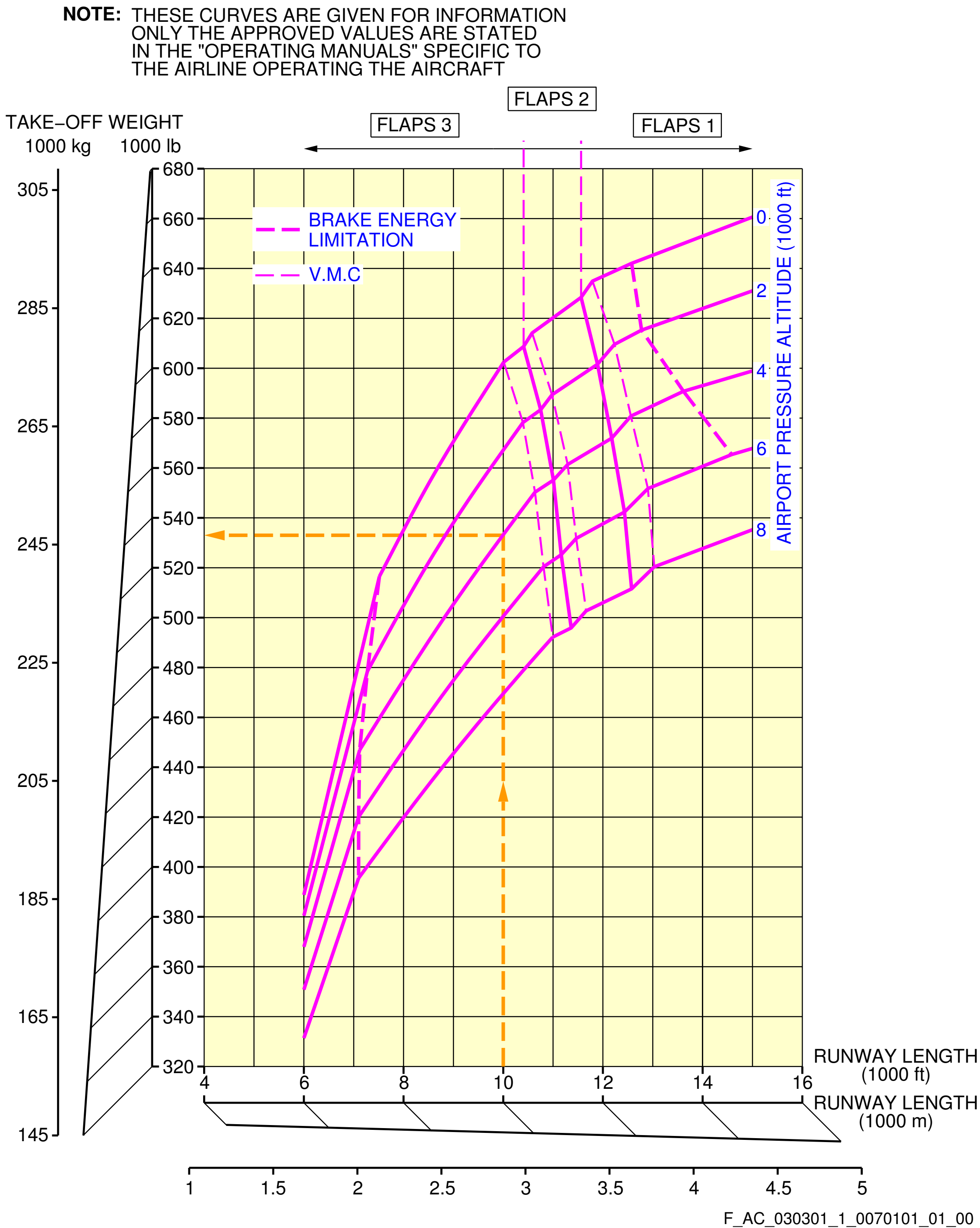
FAR / JAR Takeoff Weight Limitation
ISA Conditions – CFM56-5C2 engine
FIGURE 2

**ON A/C A340-300



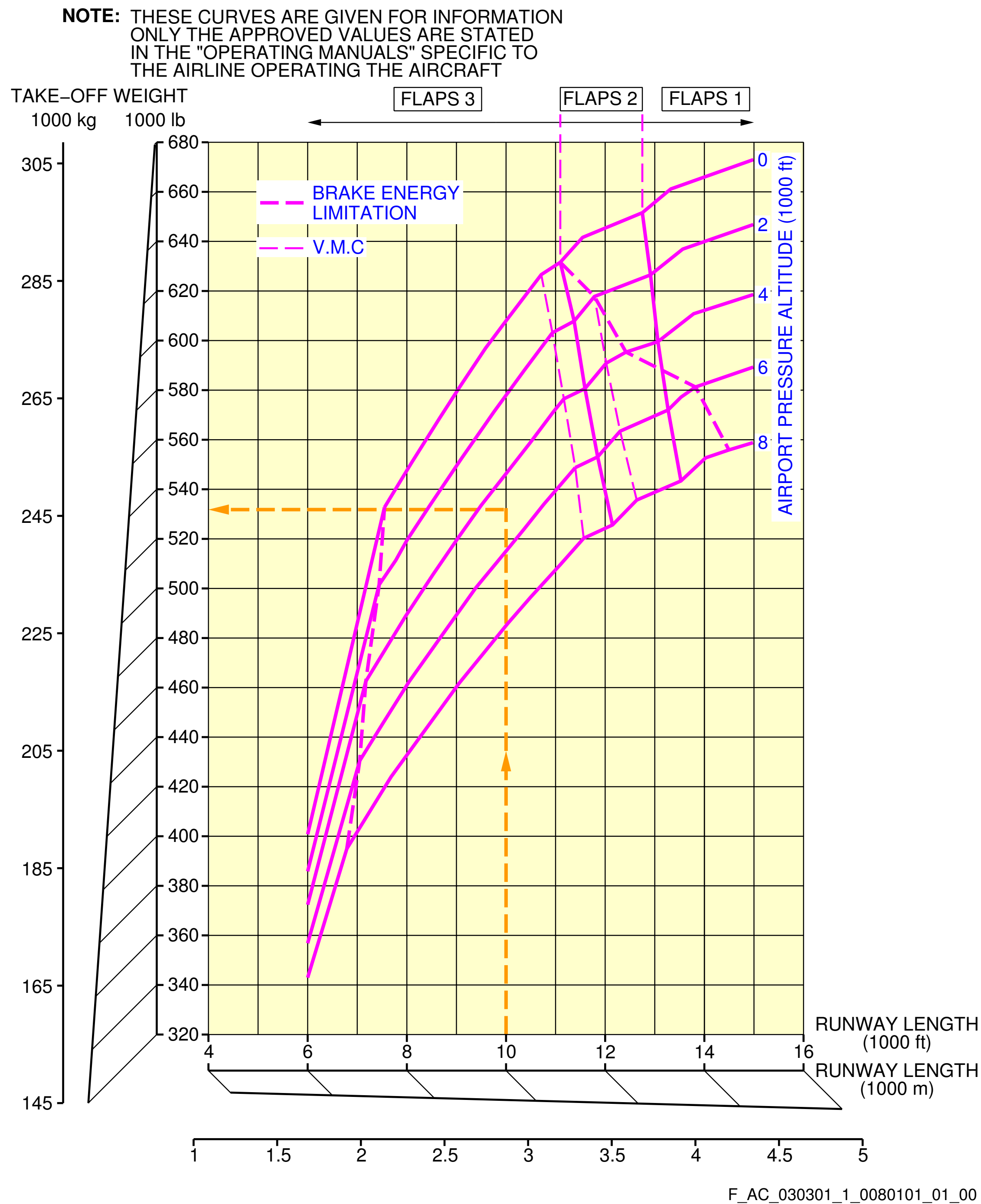
FAR / JAR Takeoff Weight Limitation
ISA Conditions – CFM56-5C3 engine
FIGURE 3

**ON A/C A340-200



FAR / JAR Takeoff Weight Limitation
ISA Conditions – CFM56-5C3 engine
FIGURE 4

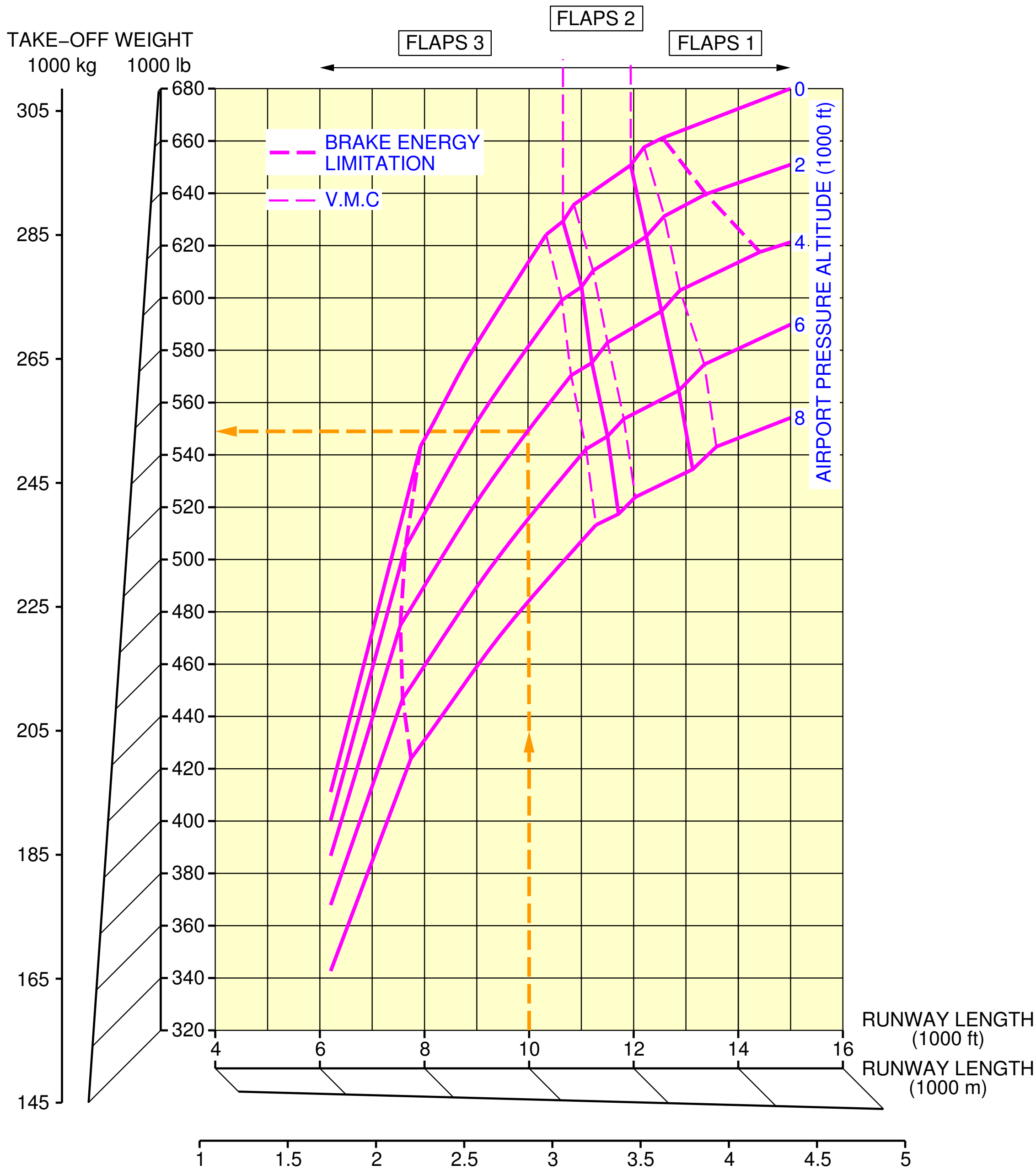
**ON A/C A340-300



FAR / JAR Takeoff Weight Limitation
ISA Conditions – CFM56-5C4 engine
FIGURE 5

**ON A/C A340-200

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



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FAR / JAR Takeoff Weight Limitation
ISA Conditions − CFM56-5C4 engine
FIGURE 6

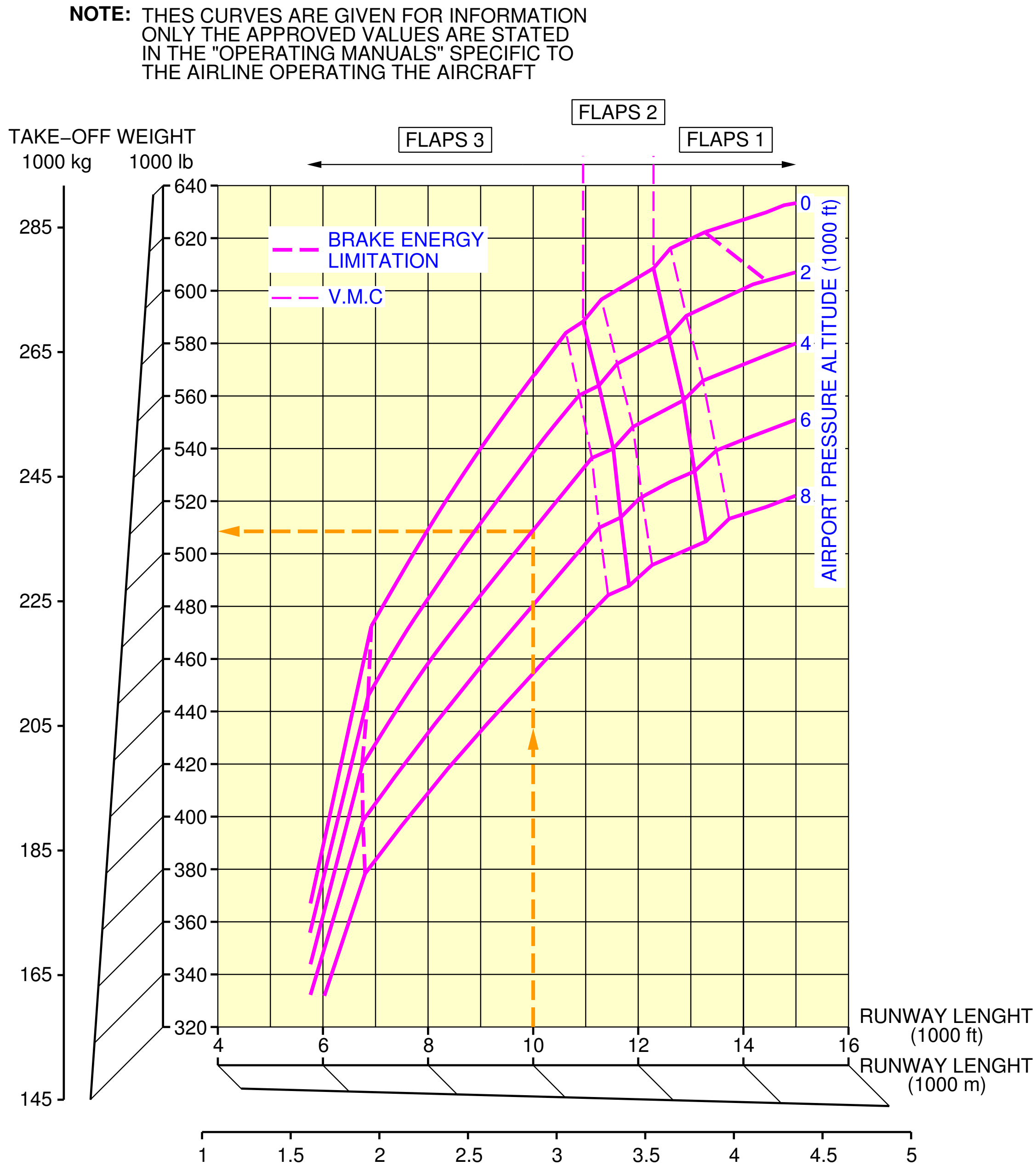
3-3-2 ISA +15°C (ISA +27°F) Conditions

**ON A/C A340-200 A340-300

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 A340-300



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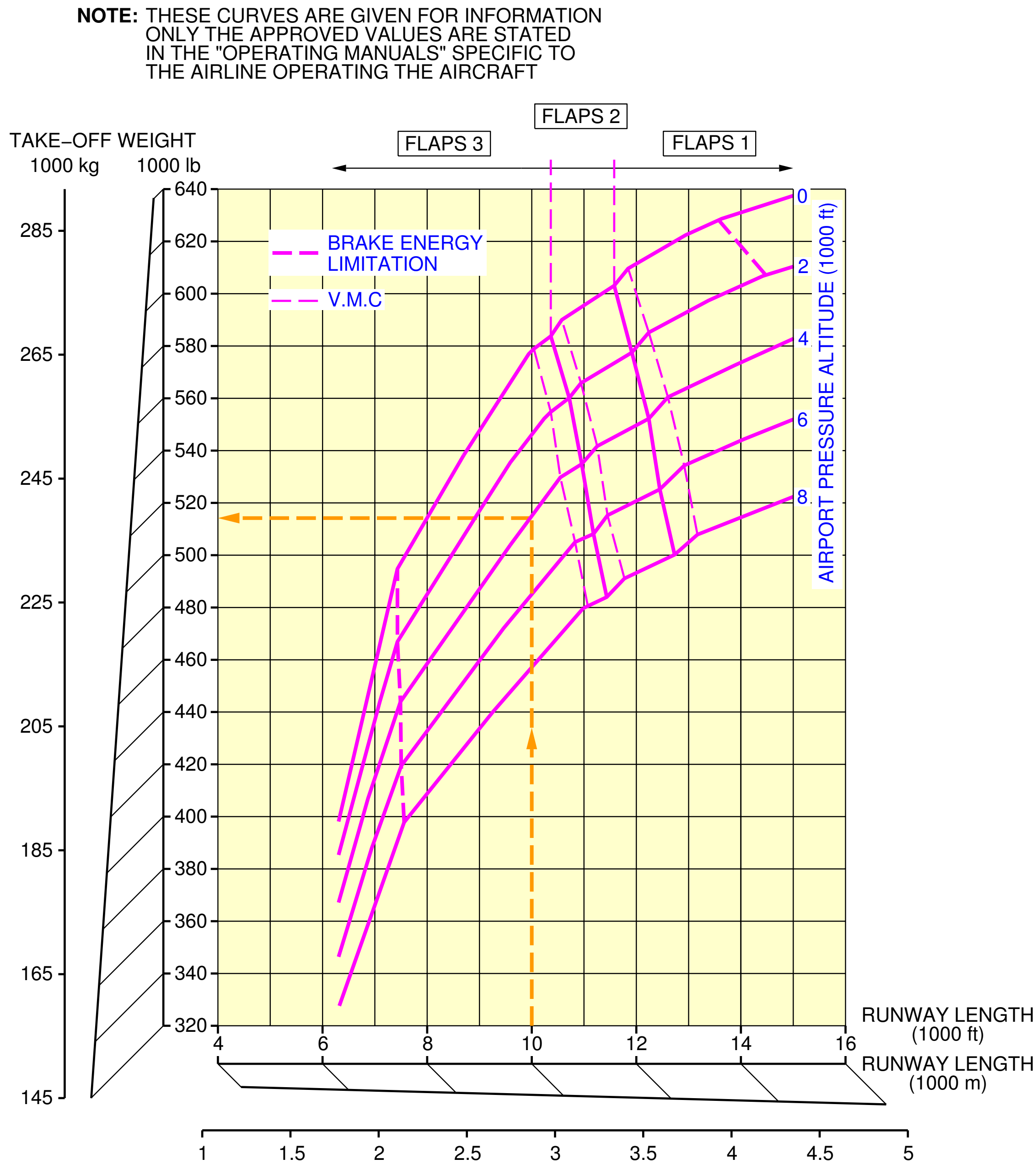
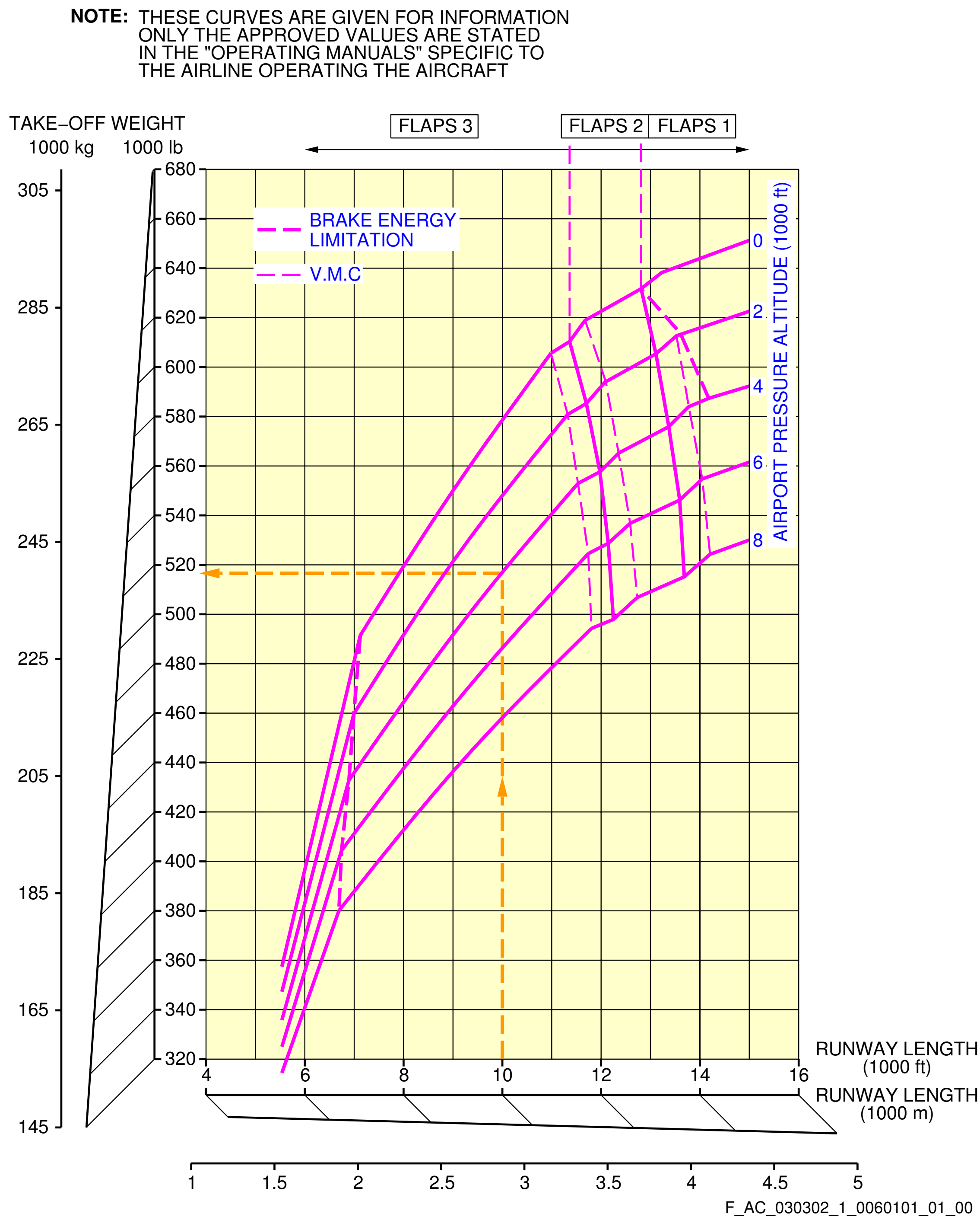
FAR / JAR Takeoff Weight Limitation
ISA +15 ° C (ISA +27 ° F) Conditions – CFM56-5C2 engine
FIGURE 1

**ON A/C A340-200



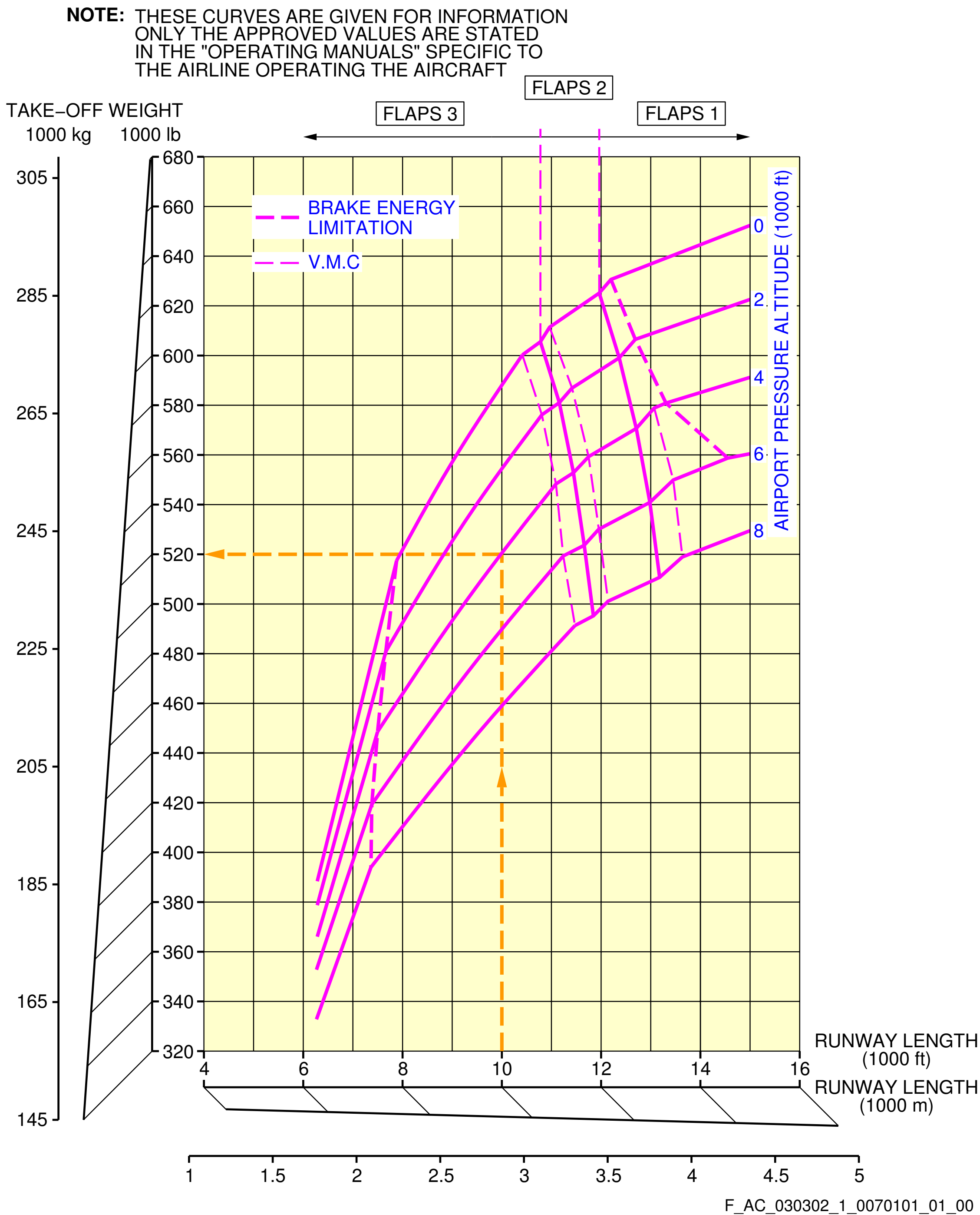
FAR / JAR Takeoff Weight Limitation
ISA +15°C (ISA +27°F) Conditions – CFM56-5C2 engine
FIGURE 2

**ON A/C A340-300



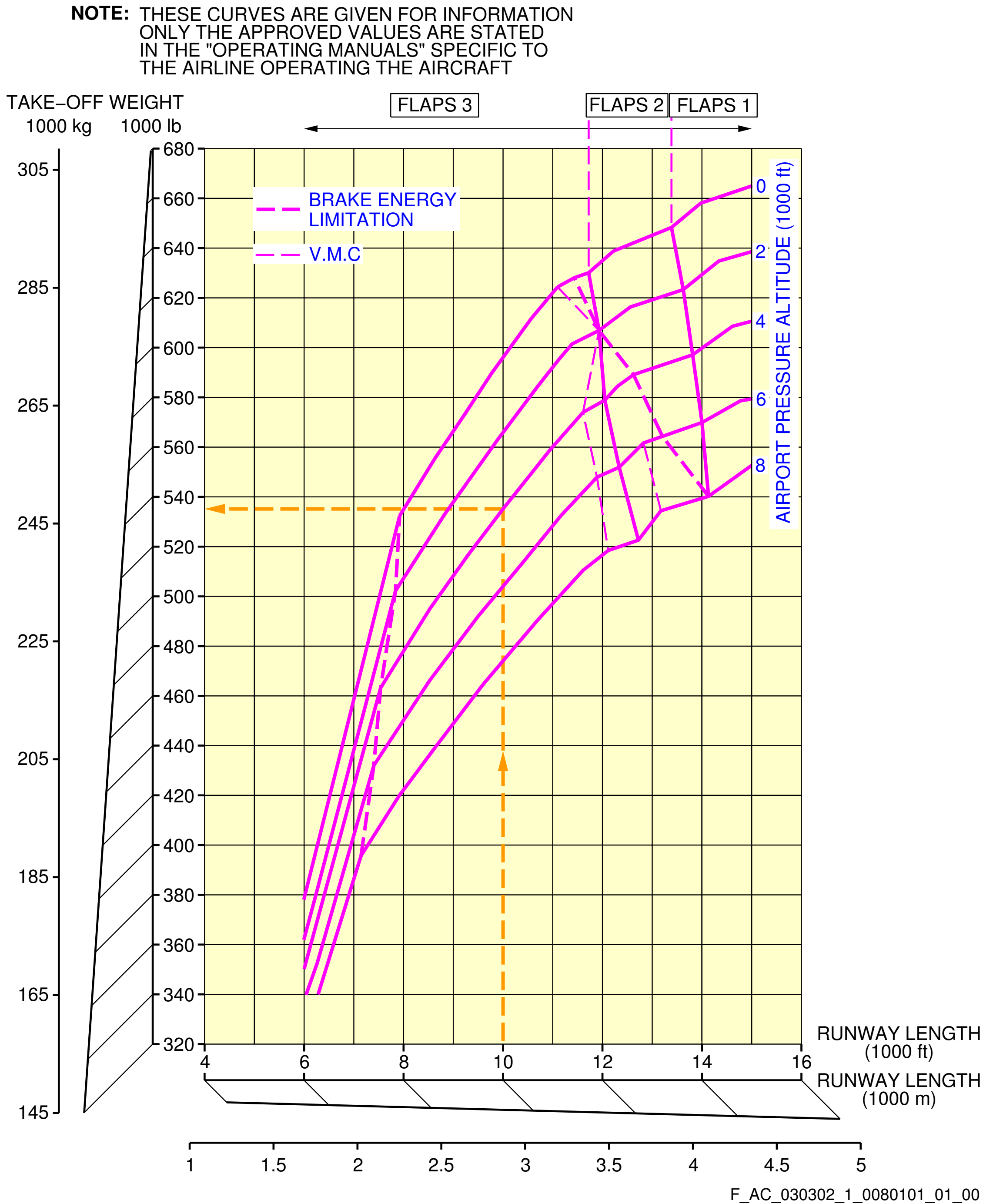
FAR / JAR Takeoff Weight Limitation
ISA +15°C (ISA +27°F) Conditions – CFM56-5C3 engine
FIGURE 3

**ON A/C A340-200



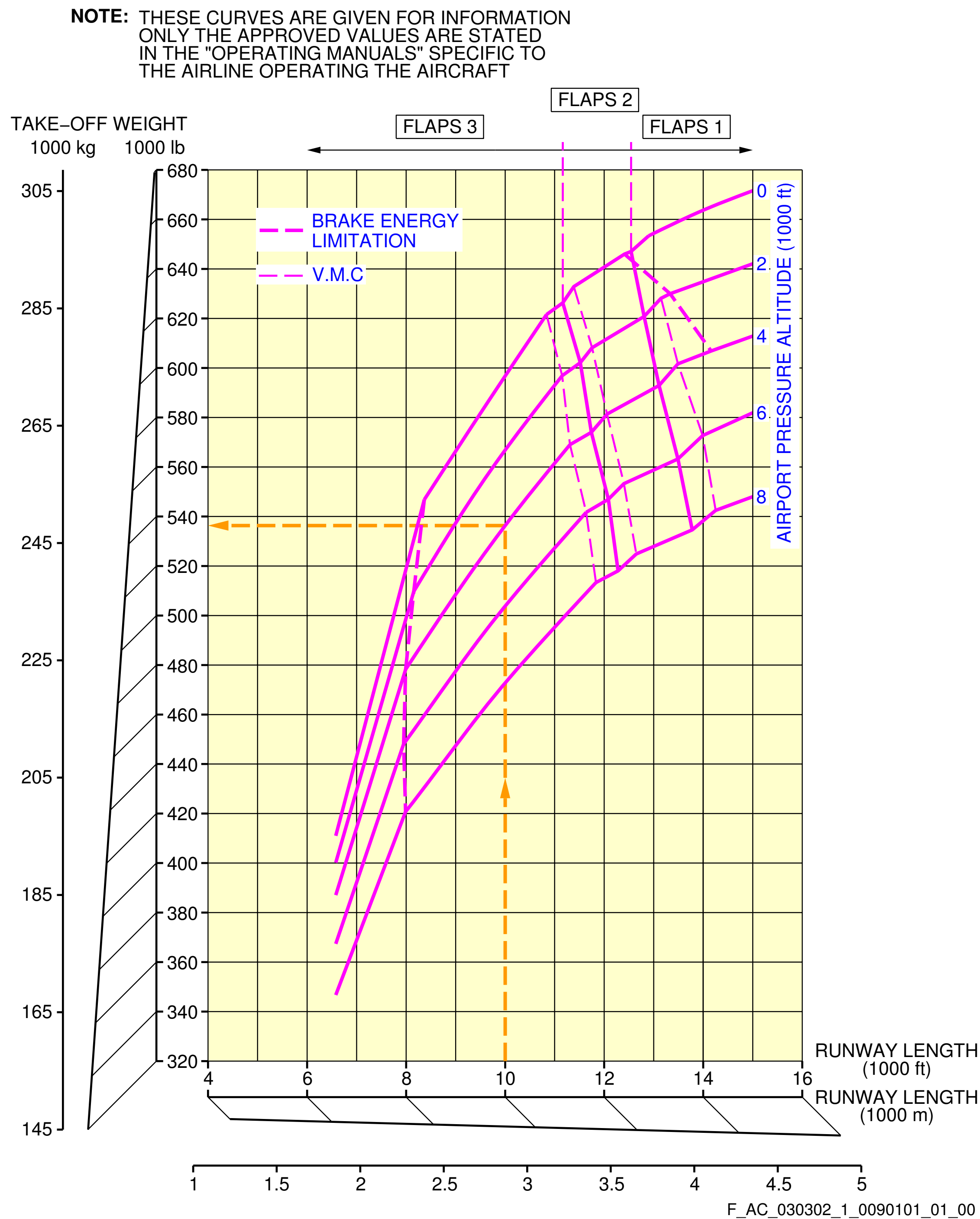
FAR / JAR Takeoff Weight Limitation
ISA +15 °C (ISA +27 °F) Conditions – CFM56-5C3 engine
FIGURE 4

**ON A/C A340-300



FAR / JAR Takeoff Weight Limitation
ISA +15°C (ISA +27°F) Conditions – CFM56-5C4 engine
FIGURE 5

**ON A/C A340-200



FAR / JAR Takeoff Weight Limitation
ISA +15 ° C (ISA +27 ° F) Conditions – CFM56-5C4 engine
FIGURE 6

3-4-0 FAR / JAR Landing Field Length

****ON A/C A340-200 A340-300**

Landing Field Length

1. Landing Field Length

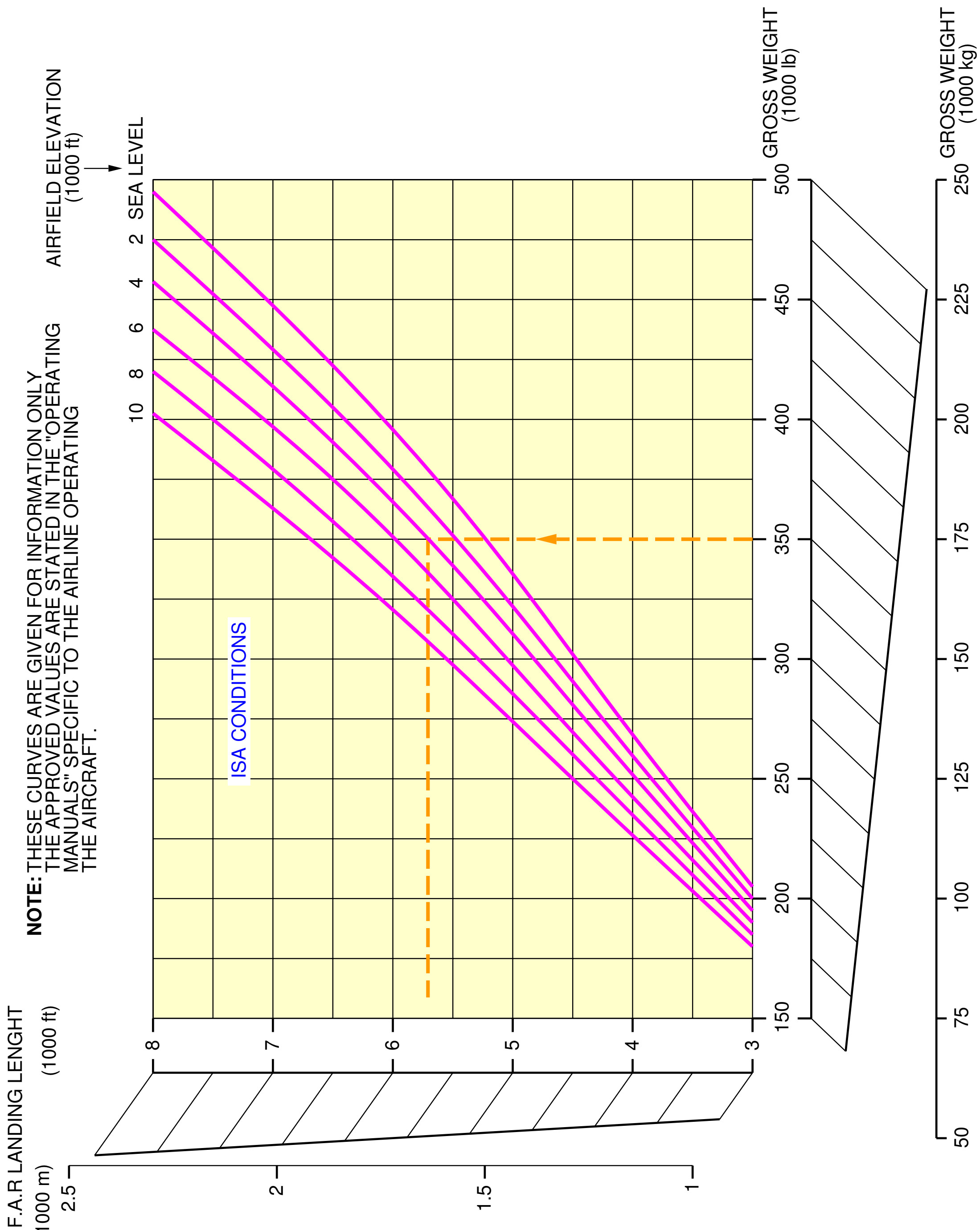
3-4-1 ISA Conditions All series engines

****ON A/C A340-200 A340-300**

ISA Conditions All series engine

1. This section gives the landing field length.

**ON A/C A340-300



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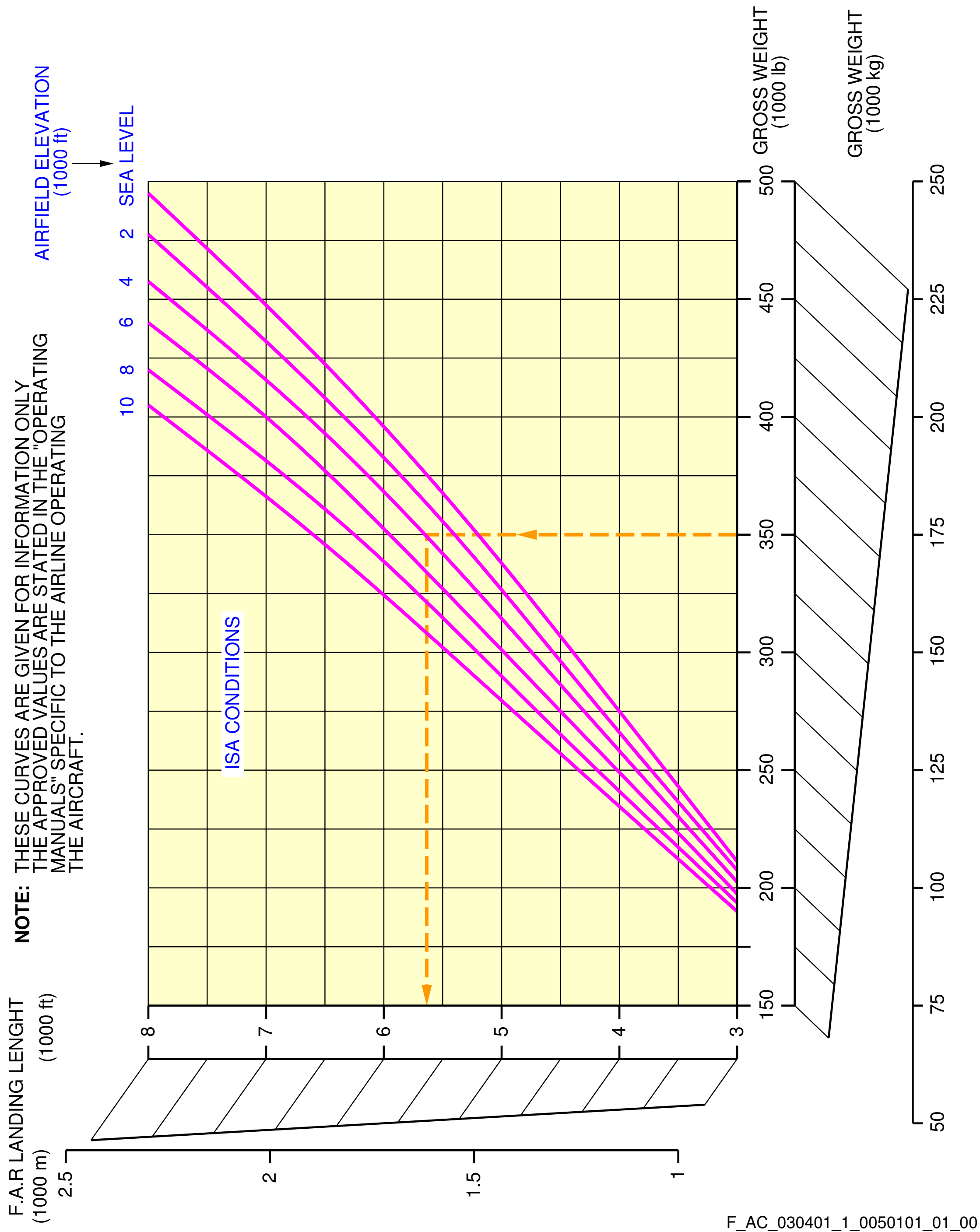
FAR / JAR Landing Field Length
ISA Conditions – CFM56-5C2 engine
FIGURE 1

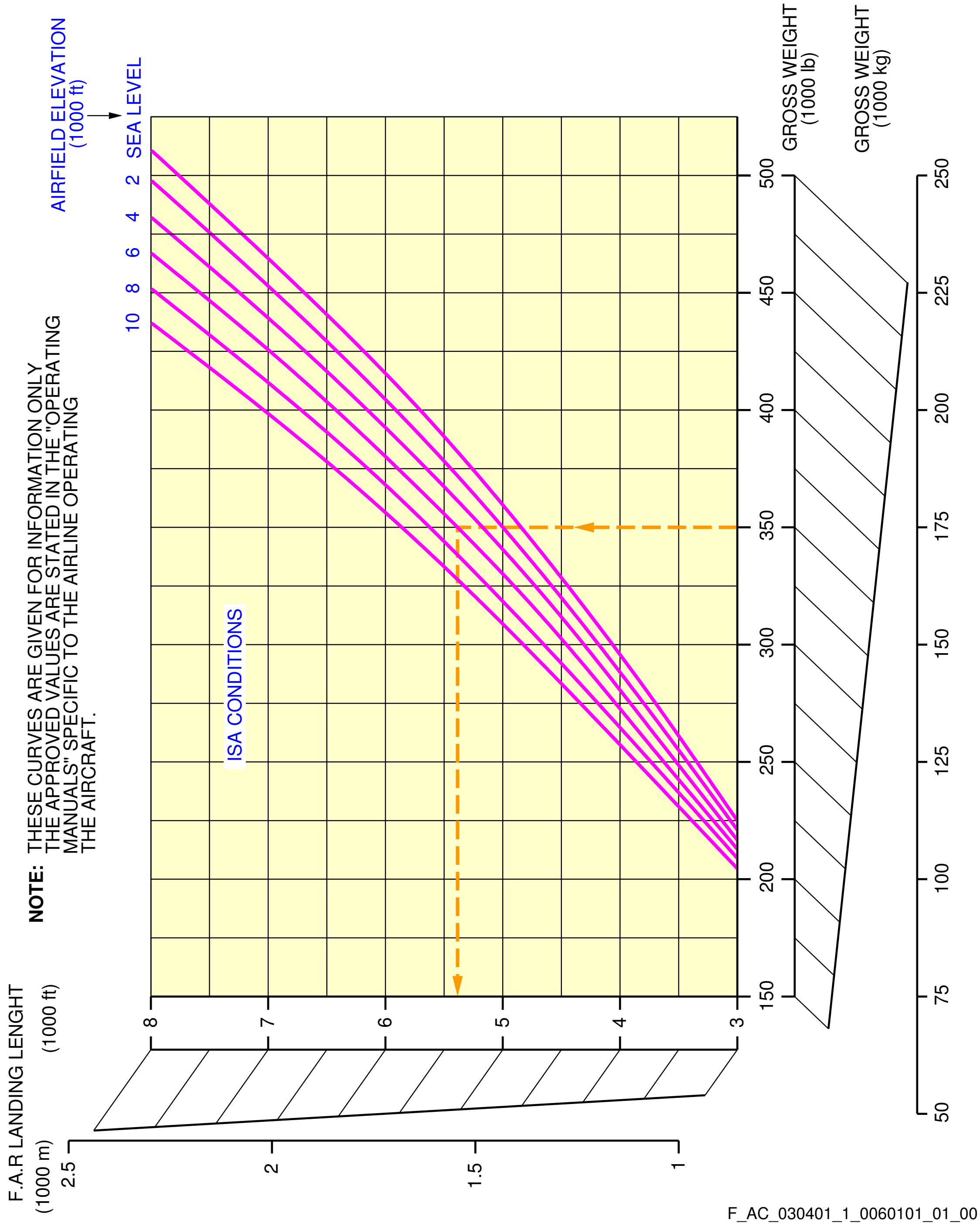
**ON A/C A340-200



F_AC_030401_1_0050101_01_00

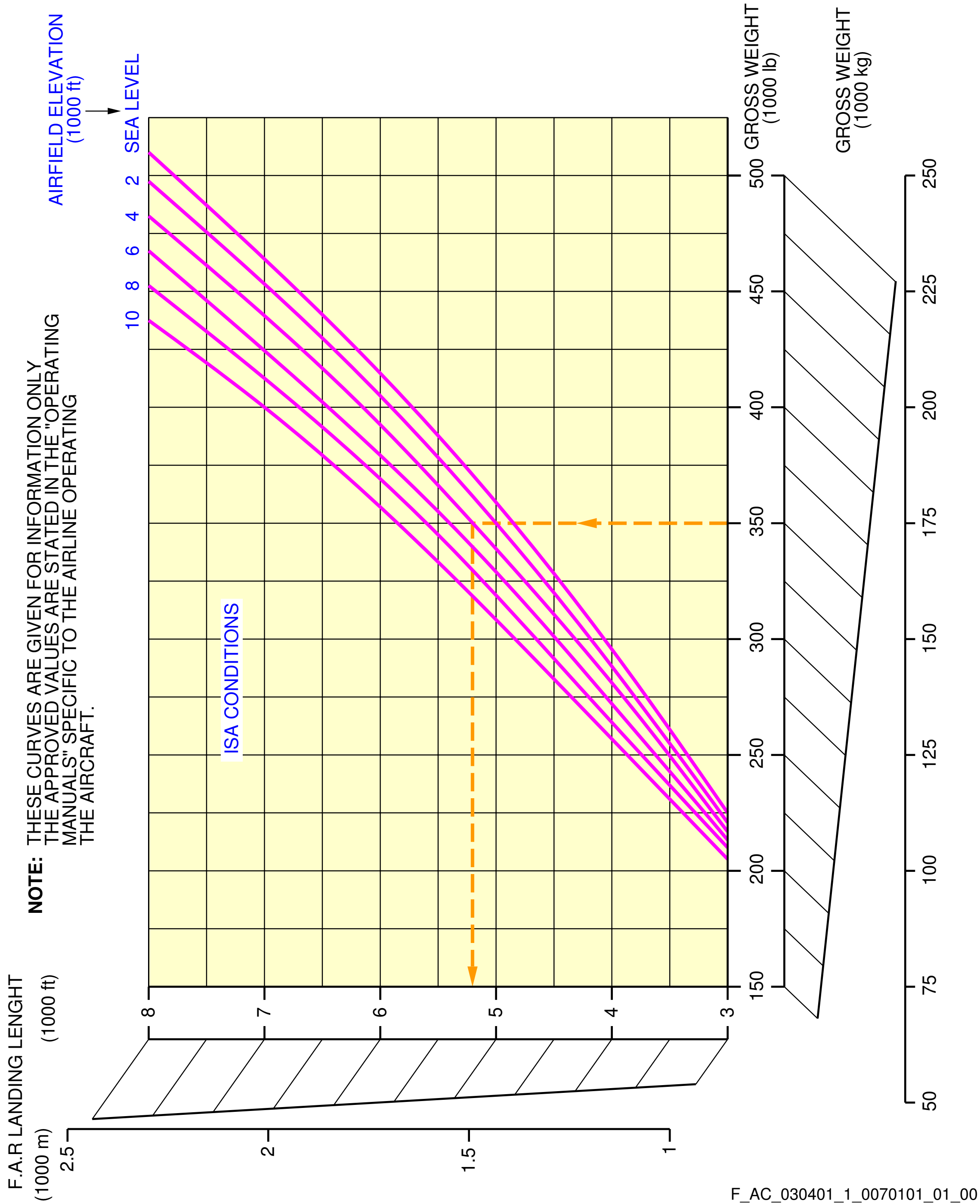
FAR / JAR Landing Field Length
ISA Conditions – CFM56-5C2 engine
FIGURE 2

**ON A/C A340-300



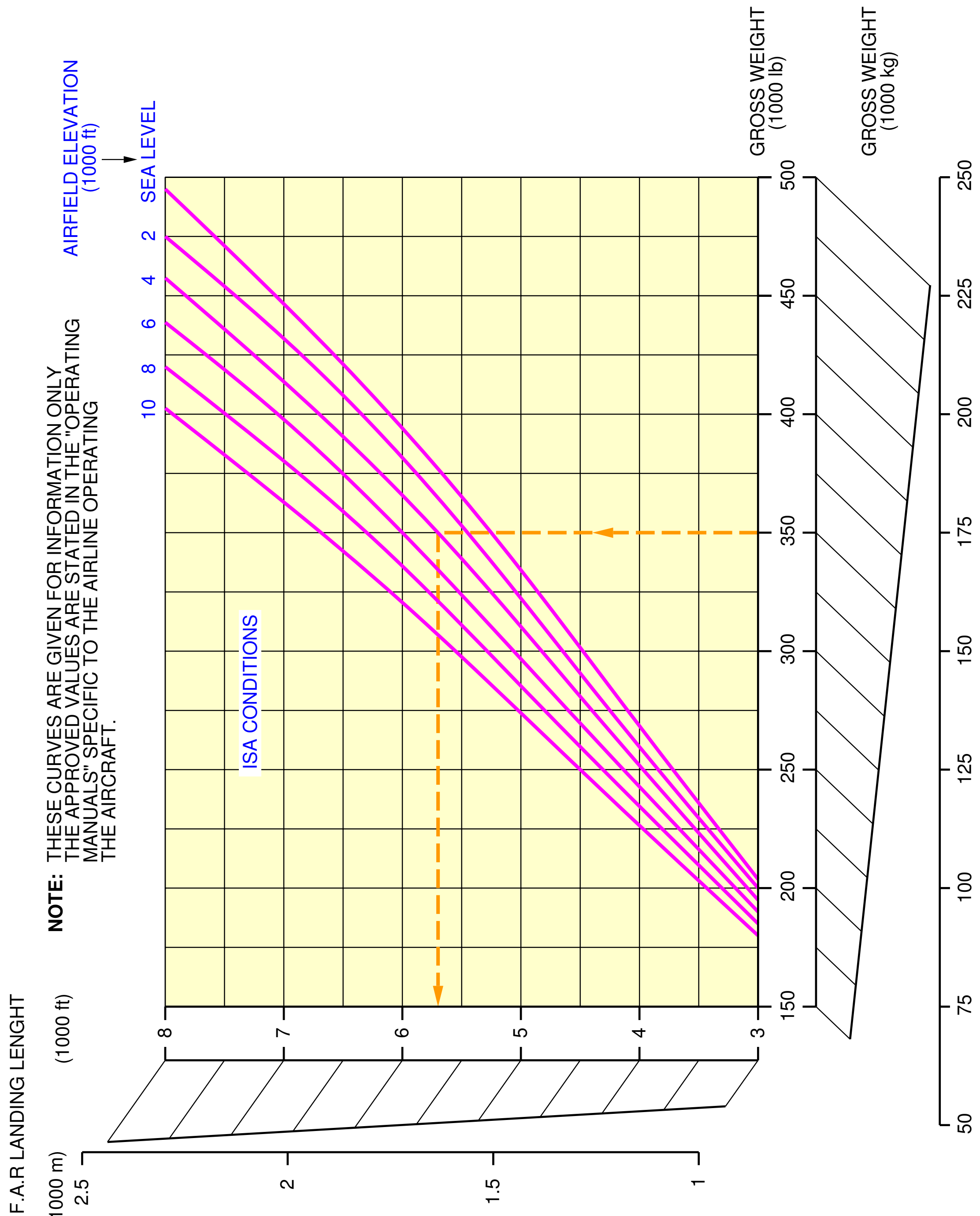
FAR / JAR Landing Field Length
ISA Conditions – CFM56-5C3 engine
FIGURE 3

**ON A/C A340-200



FAR / JAR Landing Field Length
ISA Conditions – CFM56-5C3 engine
FIGURE 4

**ON A/C A340-300



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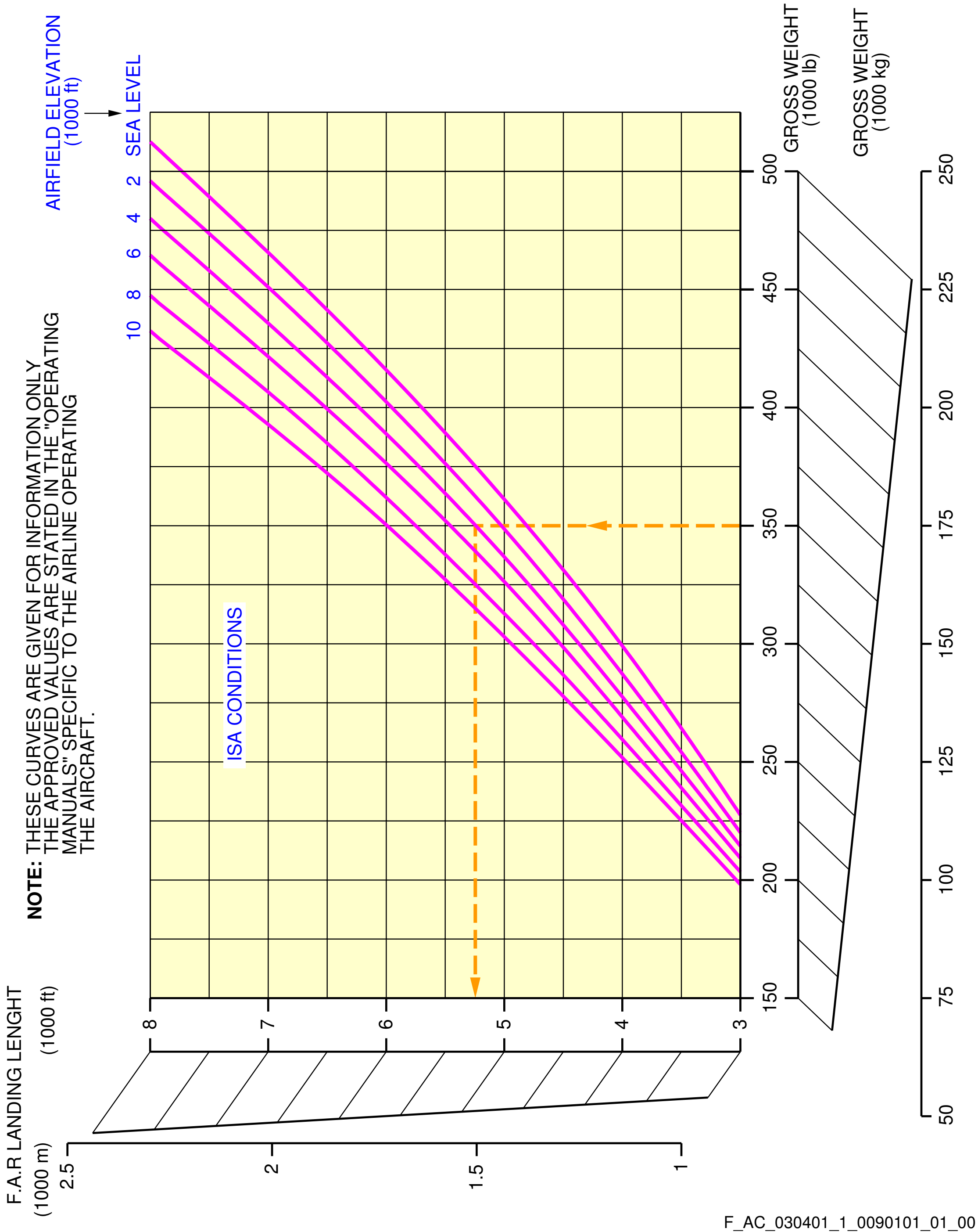
FAR / JAR Landing Field Length
ISA Conditions – CFM56-5C4 engine
FIGURE 5

**ON A/C A340-200



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FAR / JAR Landing Field Length
ISA Conditions – CFM56-5C4 engine
FIGURE 6

3-5-0 Final Approach Speed

****ON A/C A340-200 A340-300**

Final Approach Speed

1. Final Approach Speed

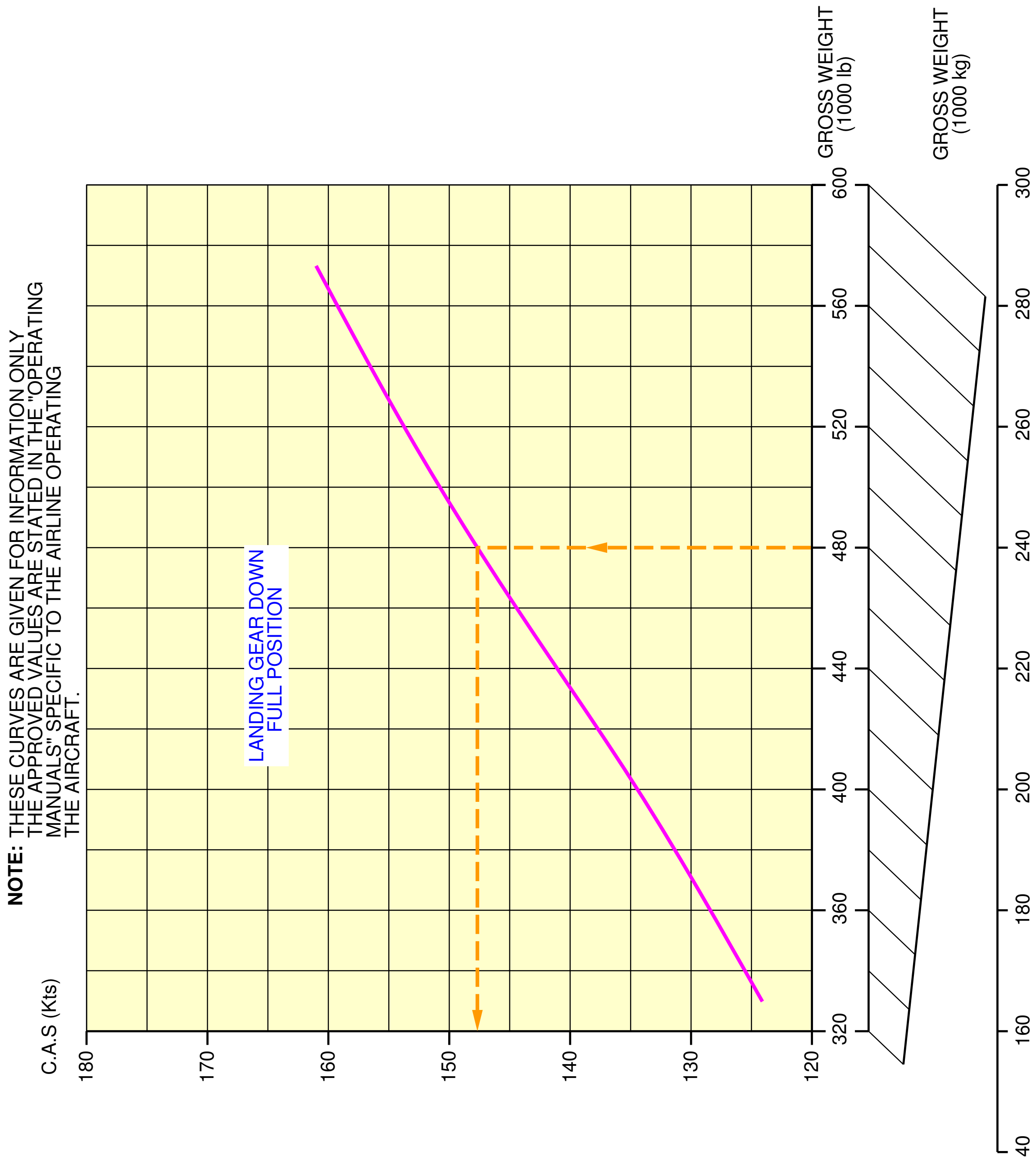
3-5-1 Final Approach Speed

**ON A/C A340-200 A340-300

Final Approach Speed

1. This section gives the final approach speed.

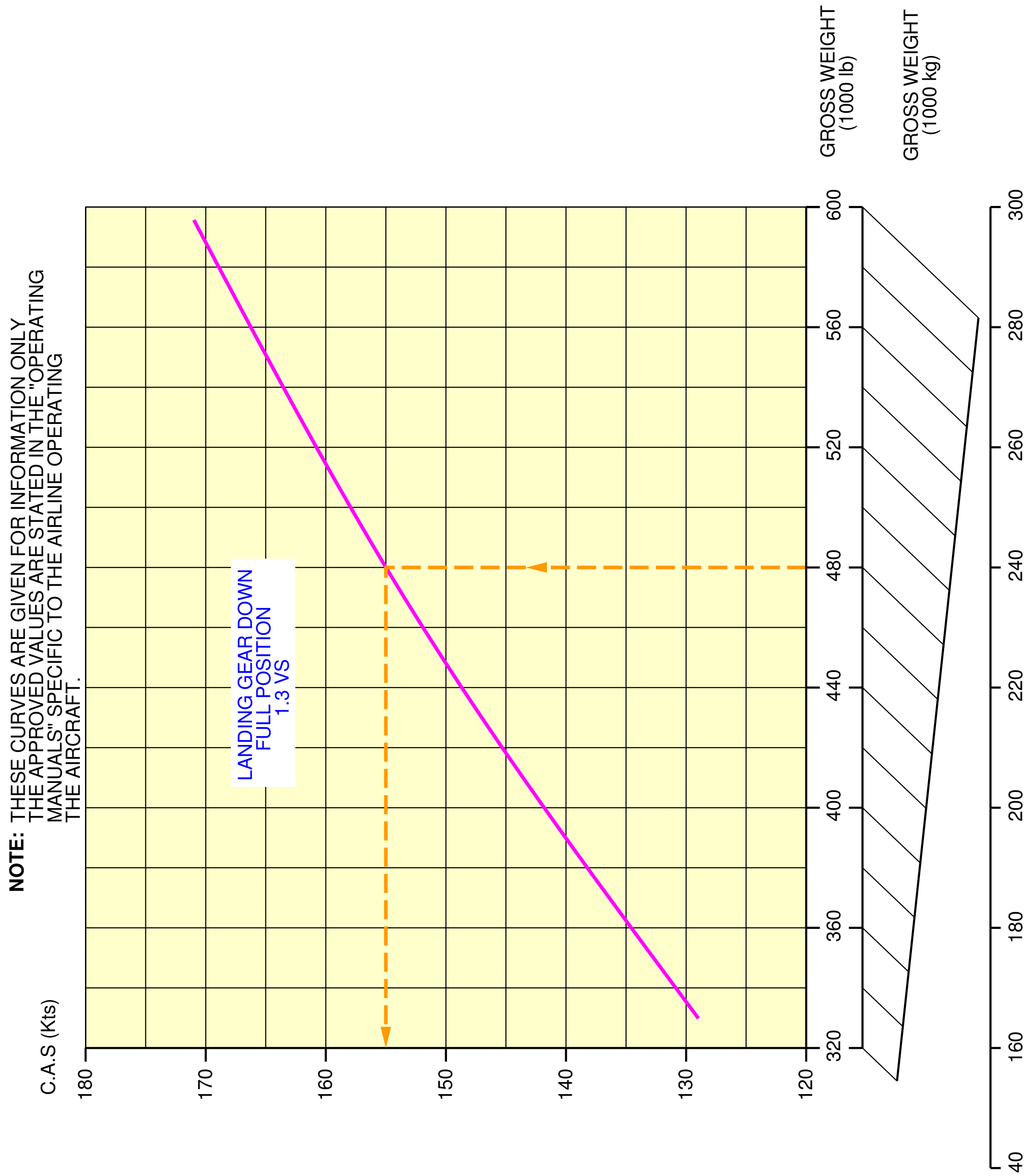
**ON A/C A340-300



F_AC_030501_1_0060101_01_00

Final Approach Speed
CFM56-5C2 engine
FIGURE 1

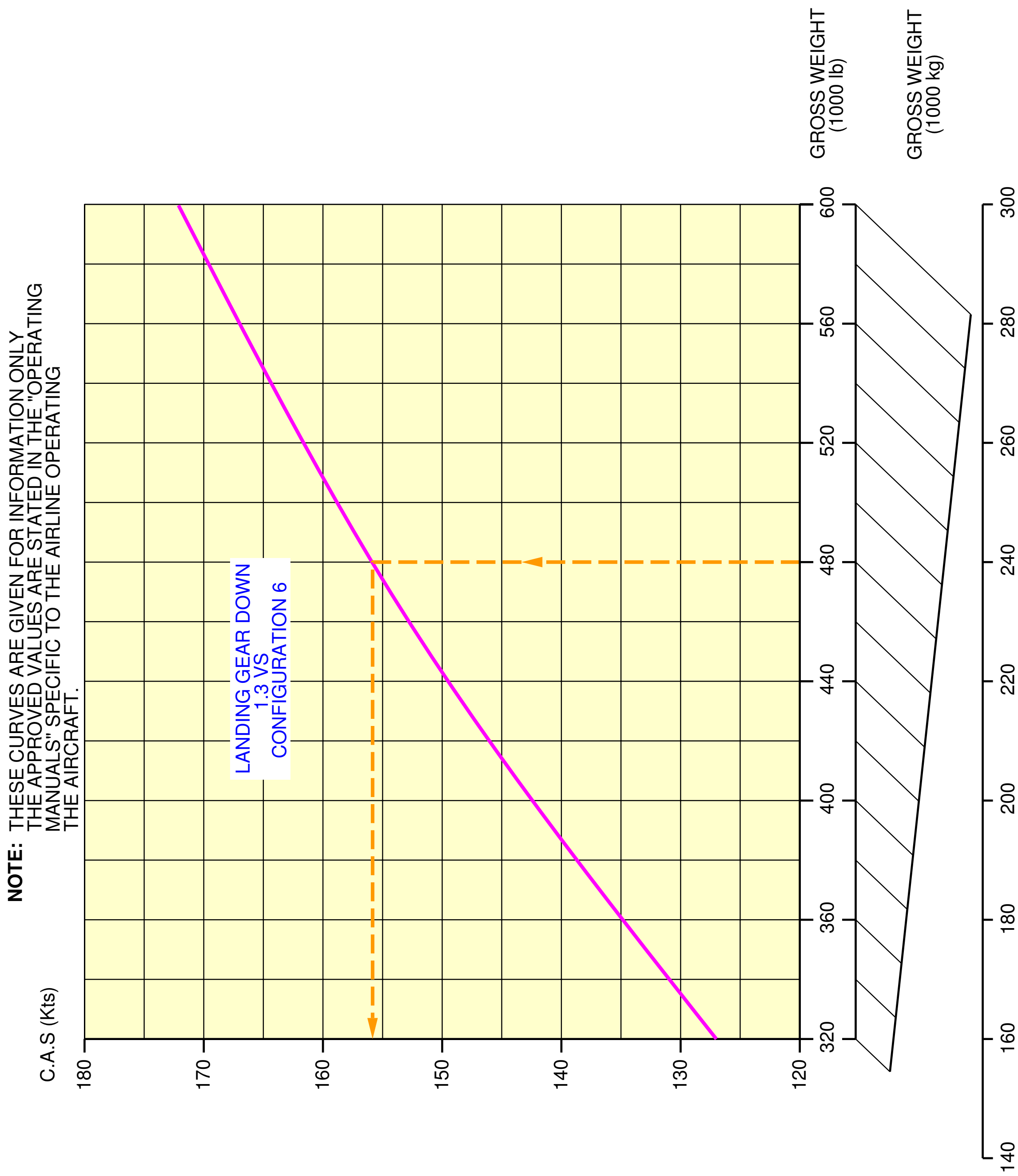
****ON A/C A340-200**



F_AC_030501_1_0070101_01_00

Final Approach Speed
CFM56-5C2 engine
FIGURE 2

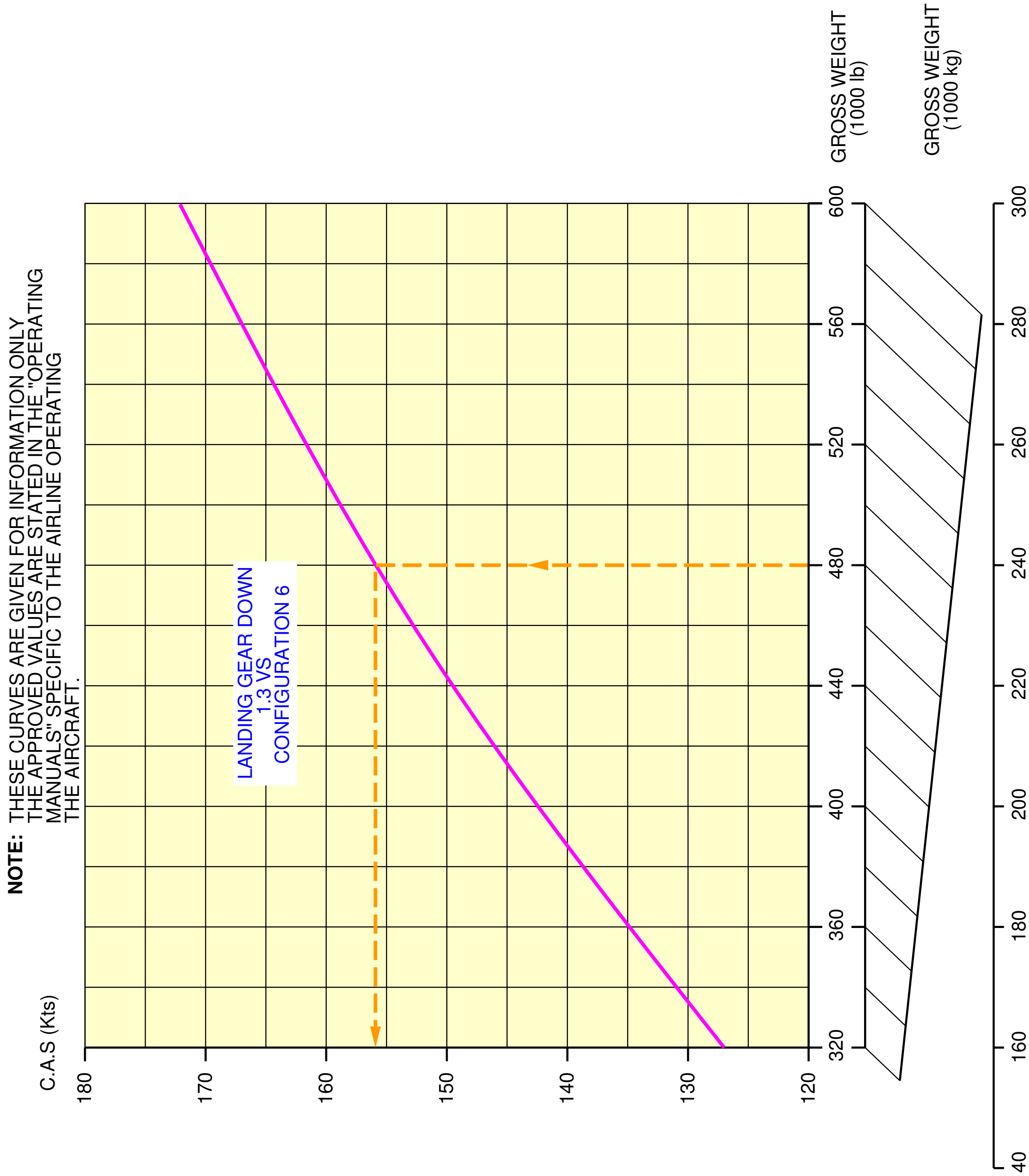
**ON A/C A340-300



F_AC_030501_1_0080101_01_00

Final Approach Speed
CFM56-5C3 engine
FIGURE 3

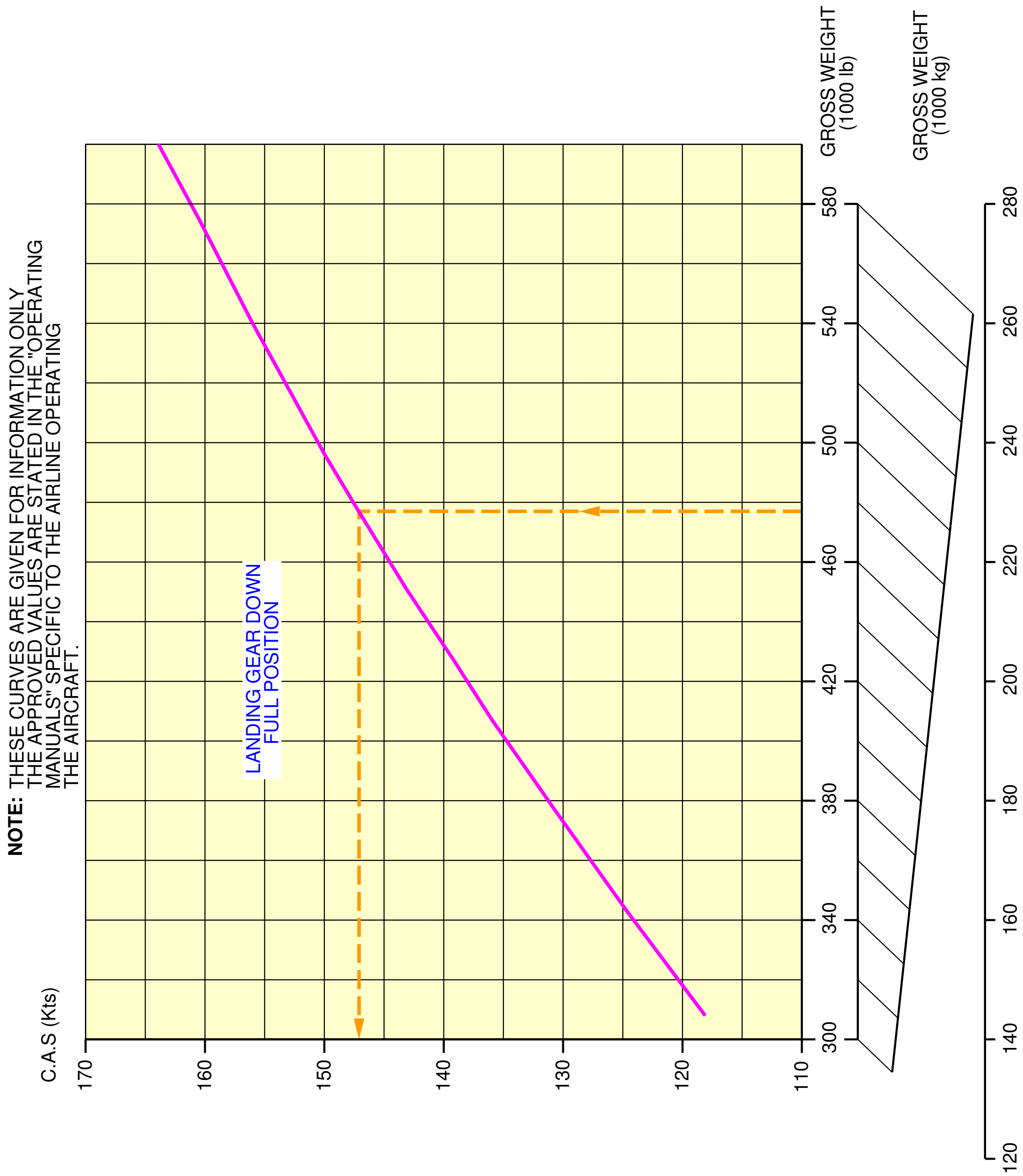
**ON A/C A340-200



F_AC_030501_1_0090101_01_00

Final Approach Speed
CFM56-5C3 engine
FIGURE 4

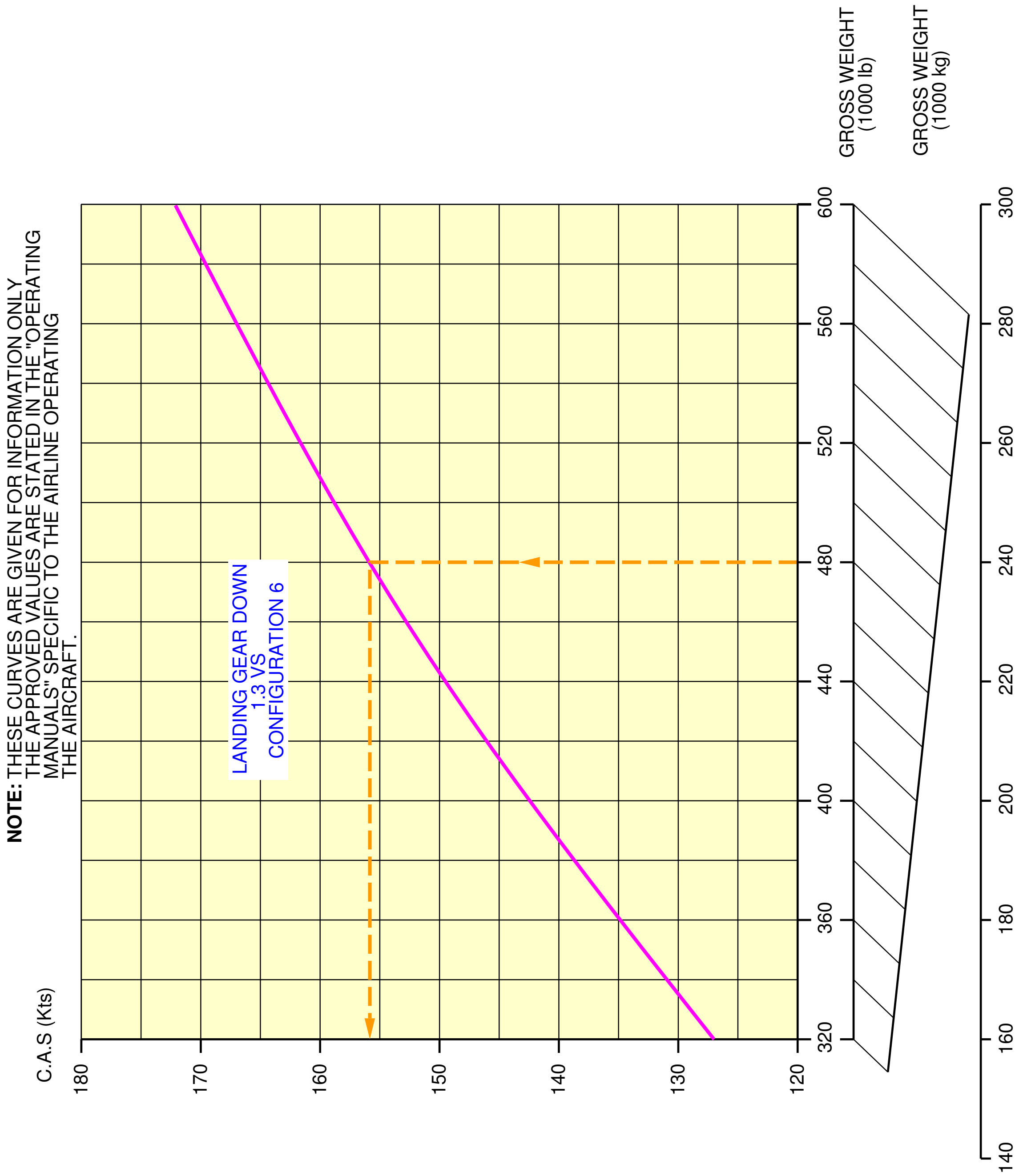
**ON A/C A340-300



F_AC_030501_1_0100101_01_00

Final Approach Speed
CFM56-5C4 engine
FIGURE 5

**ON A/C A340-200



F_AC_030501_1_0110101_01_00

Final Approach Speed
CFM56-5C4 engine
FIGURE 6

GROUND MANEUVERING

4-1-0 General Information

****ON A/C A340-200 A340-300**

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.

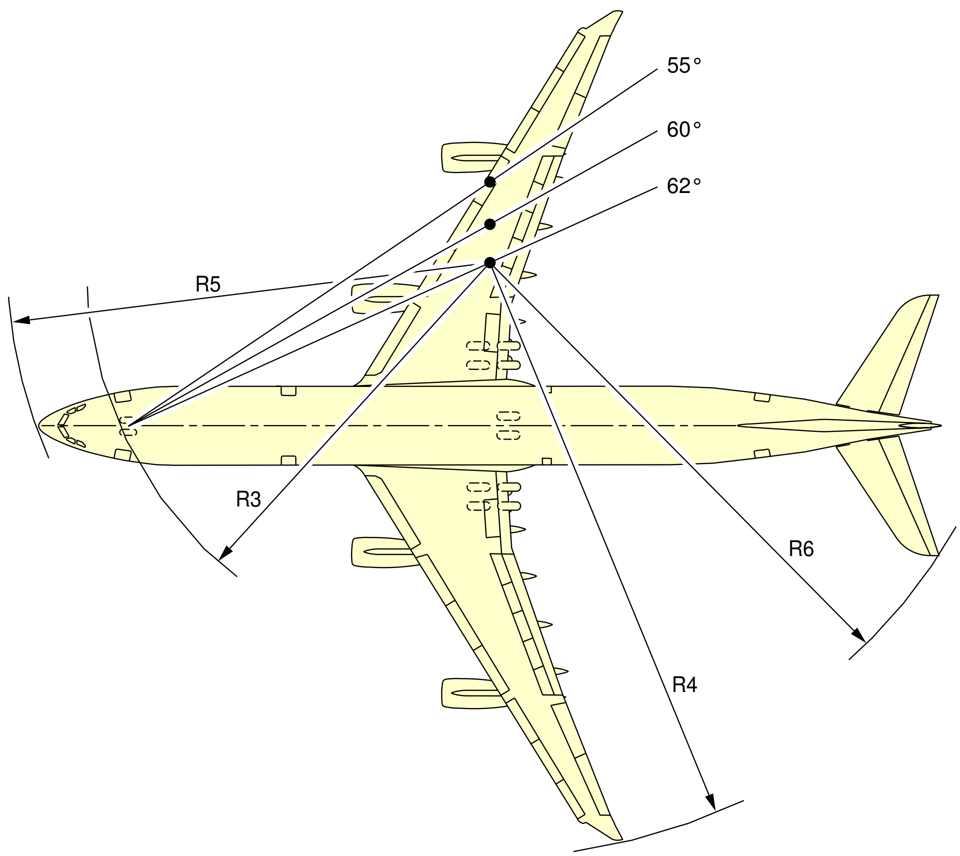
4-2-0 Turning Radii

**ON A/C A340-200 A340-300

Turning Radii

1. This section gives the turning radii.

**ON A/C A340-200 A340-300



Turning Radii
All Models
FIGURE 1

**ON A/C A340-300

A340–300 TURNING RADII						
STEERING ANGLE	EFFECTIVE STEERING ANGLE		R3 NLG	R4 WING	R5 NOSE	R6 TAIL
41°	40°	m	40.3	61.4	44.4	51
		ft	132	201	146	167
46.3°	45°	m	36.8	56.6	41.2	47.3
		ft	121	186	135	155
51.9°	50°	m	34	52.5	38.8	44.3
		ft	112	172	127	145
57.9°	55°	m	31.8	49	36.9	41.9
		ft	105	161	121	137
65.1°	60°	m	30.2	46	35.5	39.9
		ft	99	151	116	131
68.4°	62°	m	29.6	44.8	35	39.2
		ft	97	147	115	129

TURNING RADII TABLE

NOTE: SYMMETRIC THRUST–NO BRAKING

F_AC_040200_1_0100101_01_00

Turning Radii
Steady State Turning Radii
FIGURE 2

**ON A/C A340-200

A340–200 TURNING RADII						
STEERING ANGLE	EFFECTIVE STEERING ANGLE		R3 NLG	R4 WING	R5 NOSE	R6 TAIL
41.2°	40°	m	36.9	58.9	41.1	45.4
		ft	121	193	135	149
46.6°	45°	m	33.6	54.5	38.2	41.8
		ft	110	179	125	137
52.3°	50°	m	31.1	50.8	36	38.9
		ft	102	167	118	128
58.7°	55°	m	29.1	47.6	34.3	36.5
		ft	95	156	112	120
66.3°	60°	m	27.5	44.8	33	34.5
		ft	90	147	108	113
69.1°	62°	m	27	43.7	32.5	33.8
		ft	89	143	107	111

TURNING RADII TABLE

NOTE: SYMMETRIC THRUST–NO BRAKING

F_AC_040200_1_0110101_01_00

Turning Radii
Steady State Turning Radii
FIGURE 3

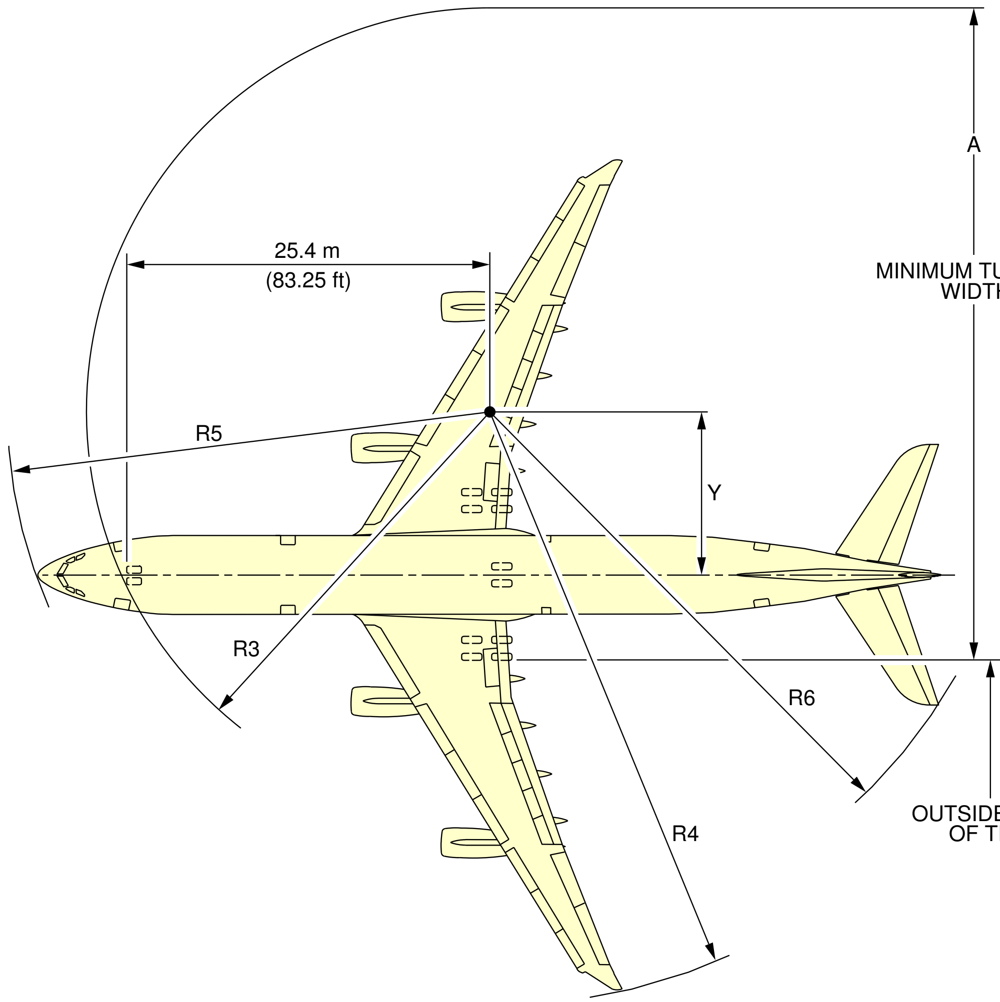
4-3-0 Minimum Turning Radii

****ON A/C A340-200 A340-300**

Minimum Turning Radii

1. This section gives the minimum turning radii.

**ON A/C A340-300



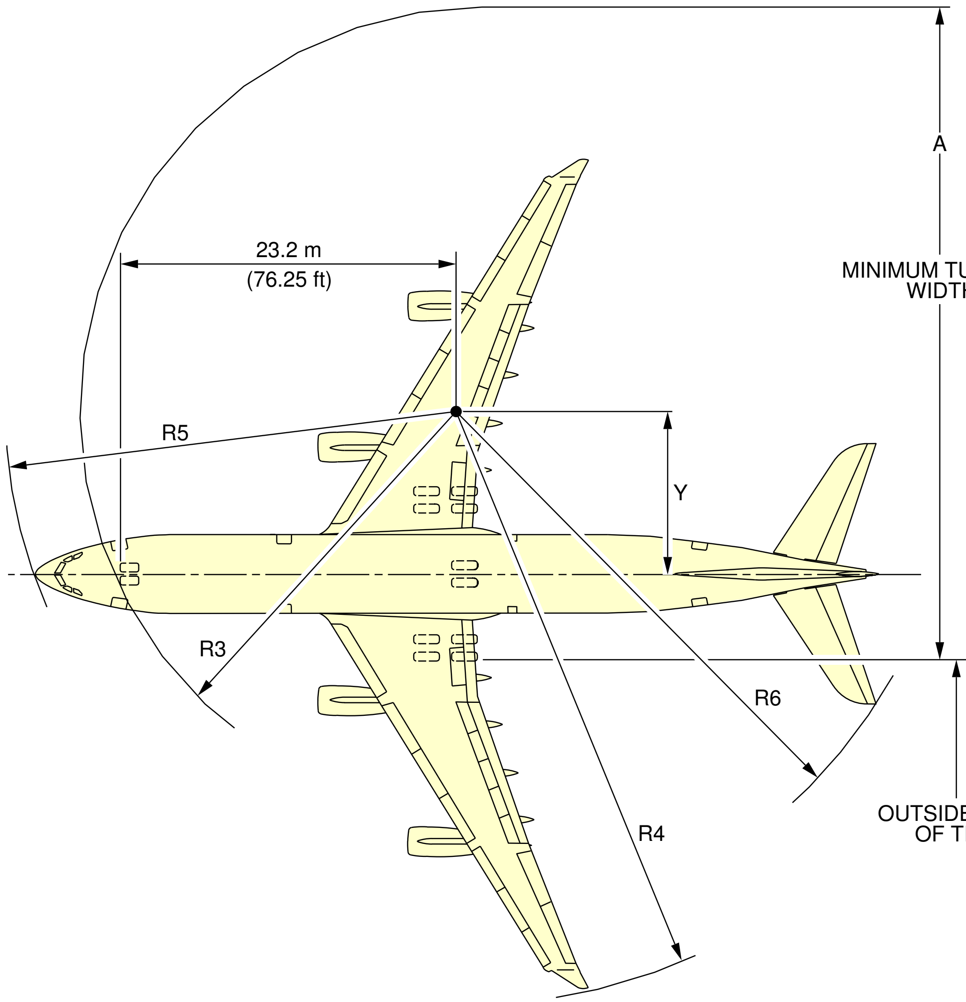
TYPE OF TURN	EFFECTIVE TURN ANGLE		Y	A	R3	R4	R5	R6
2	62.0°	m	13.6	49.5	29.6	44.8	35.0	39.2
		ft	44.6	162.4	97.1	147.1	114.9	128.5

NOTE: TYPE OF TURN:
2–SYMMETRIC THRUST–NO BRAKING

F_AC_040300_1_0030101_01_01

Minimum Turning Radii
FIGURE 1

**ON A/C A340-200



TYPE OF TURN	EFFECTIVE TURN ANGLE		Y	A	R3	R4	R5	R6
2	62.0°	m	12.5	45.8	27.0	43.7	32.5	33.8
		ft	40.9	150.2	88.7	143.4	106.8	110.8

NOTE: TYPE OF TURN:
2–SYMMETRIC THRUST–NO BRAKING

F_AC_040300_1_0040101_01_01

Minimum Turning Radii
FIGURE 2

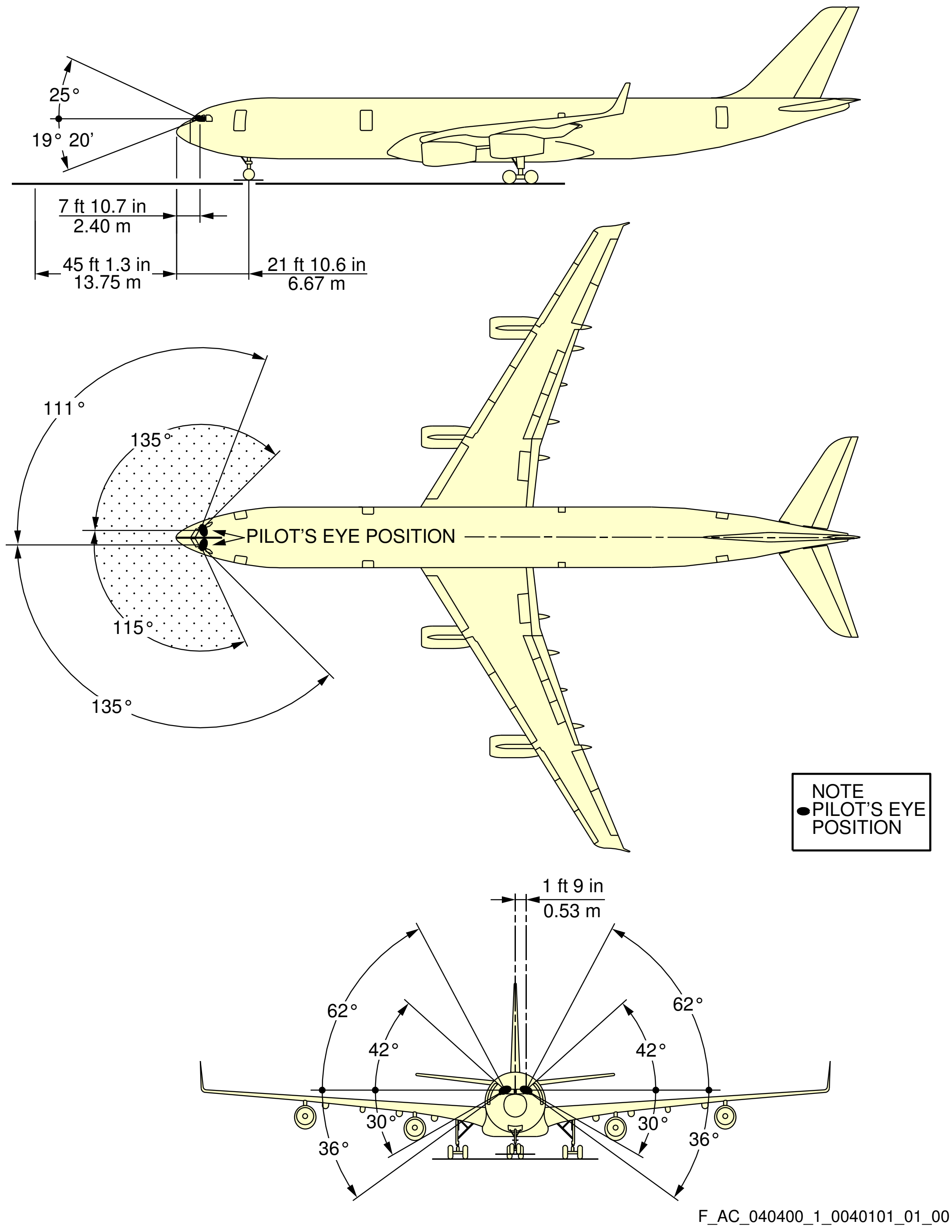
4-4-0 Visibility from Cockpit in Static Position

****ON A/C A340-200 A340-300**

Visibility from Cockpit in Static Position

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

**ON A/C A340-200 A340-300



Visibility from Cockpit in Static Position
FIGURE 1

4-5-0 Runway and Taxiway Turn Paths

**ON A/C A340-200 A340-300

Runway and Taxiway Turn Paths

1. Runway and Taxiway Turn Paths.

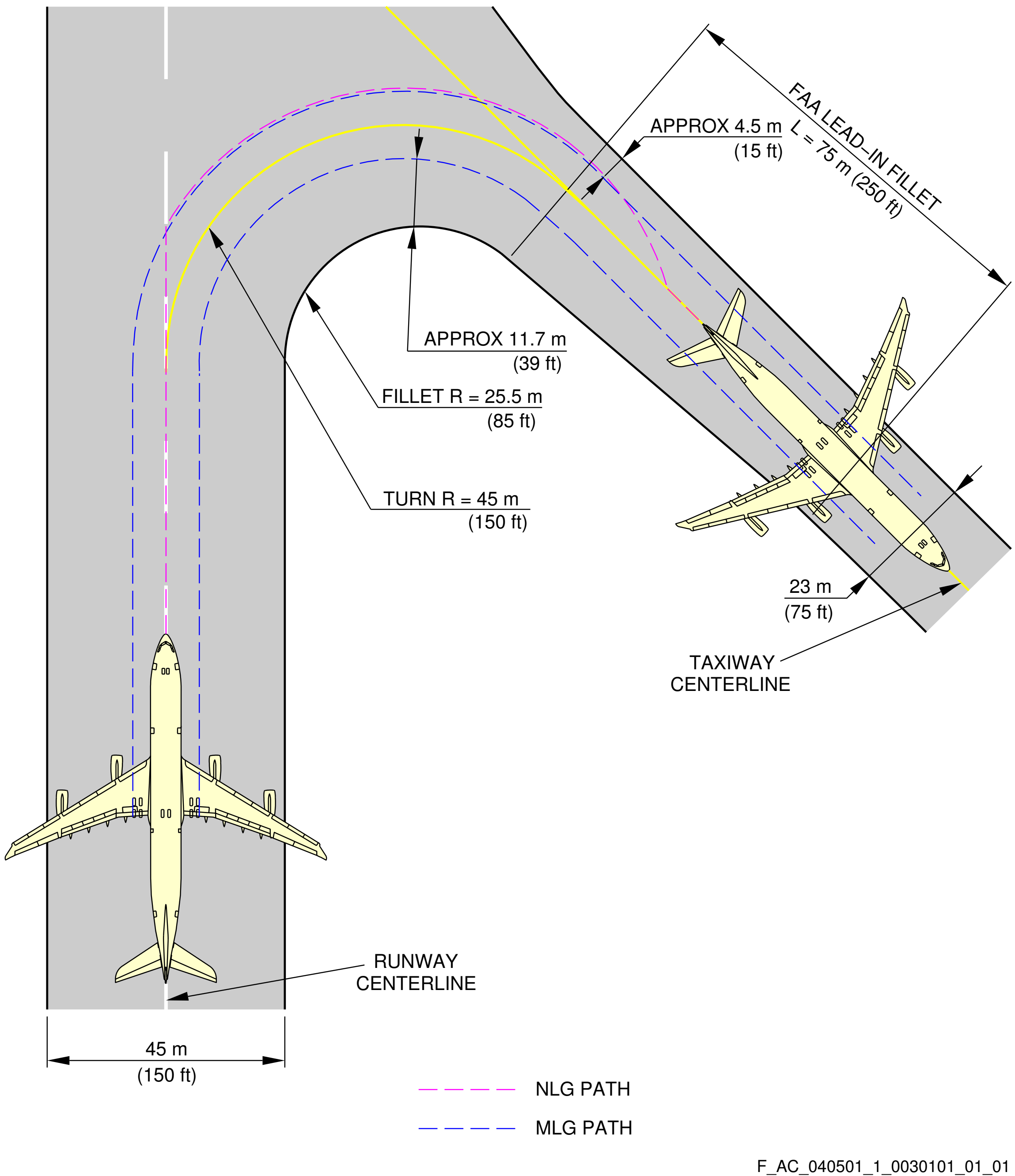
4-5-1 135° Turn - Runway to Taxiway

**ON A/C A340-200 A340-300

135° Turn - Runway to Taxiway

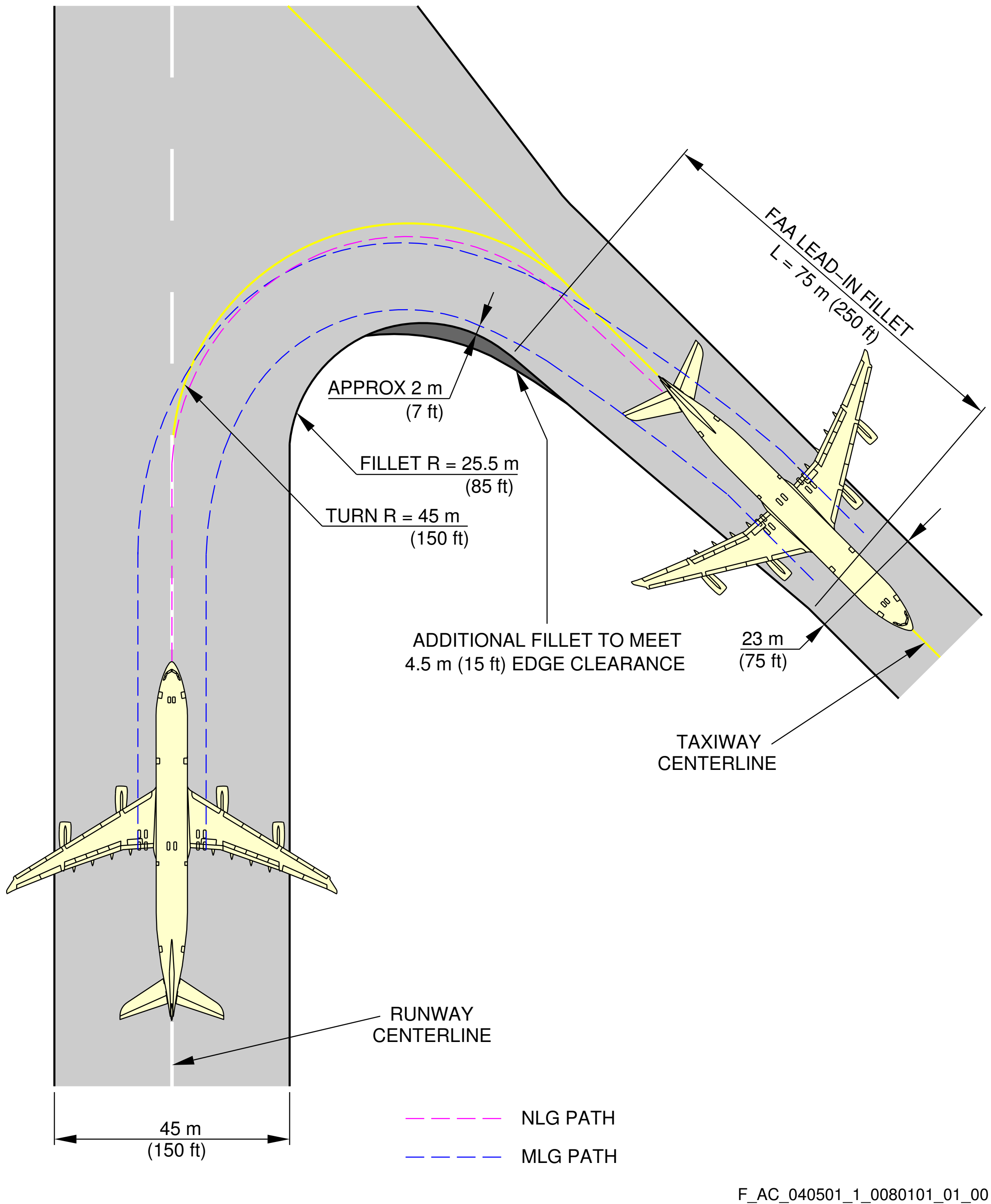
1. This section gives the 135° turn - runway to taxiway.

**ON A/C A340-300



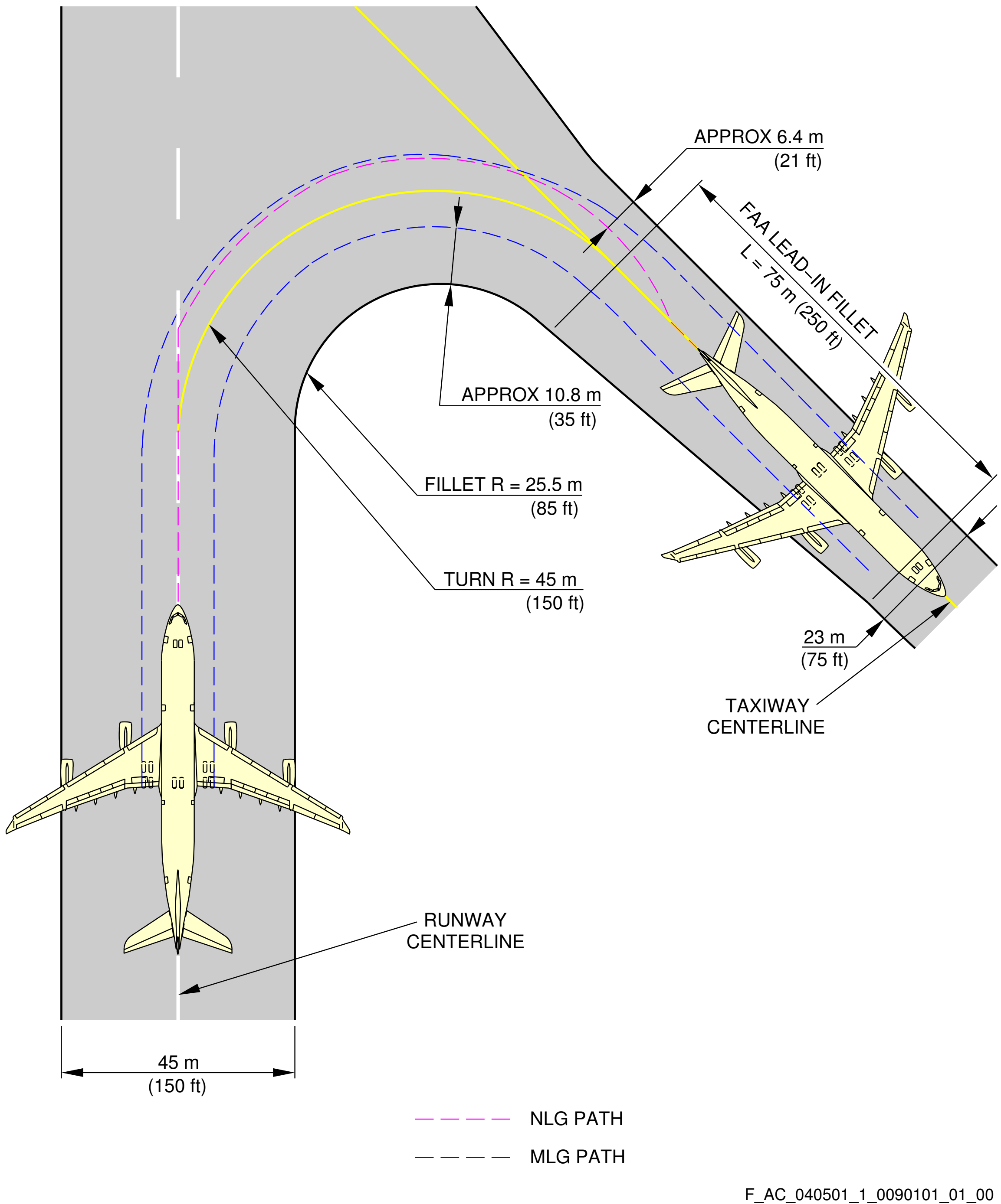
135° Turn - Runway to Taxiway
Judgemental Oversteering Method
FIGURE 1

**ON A/C A340-300



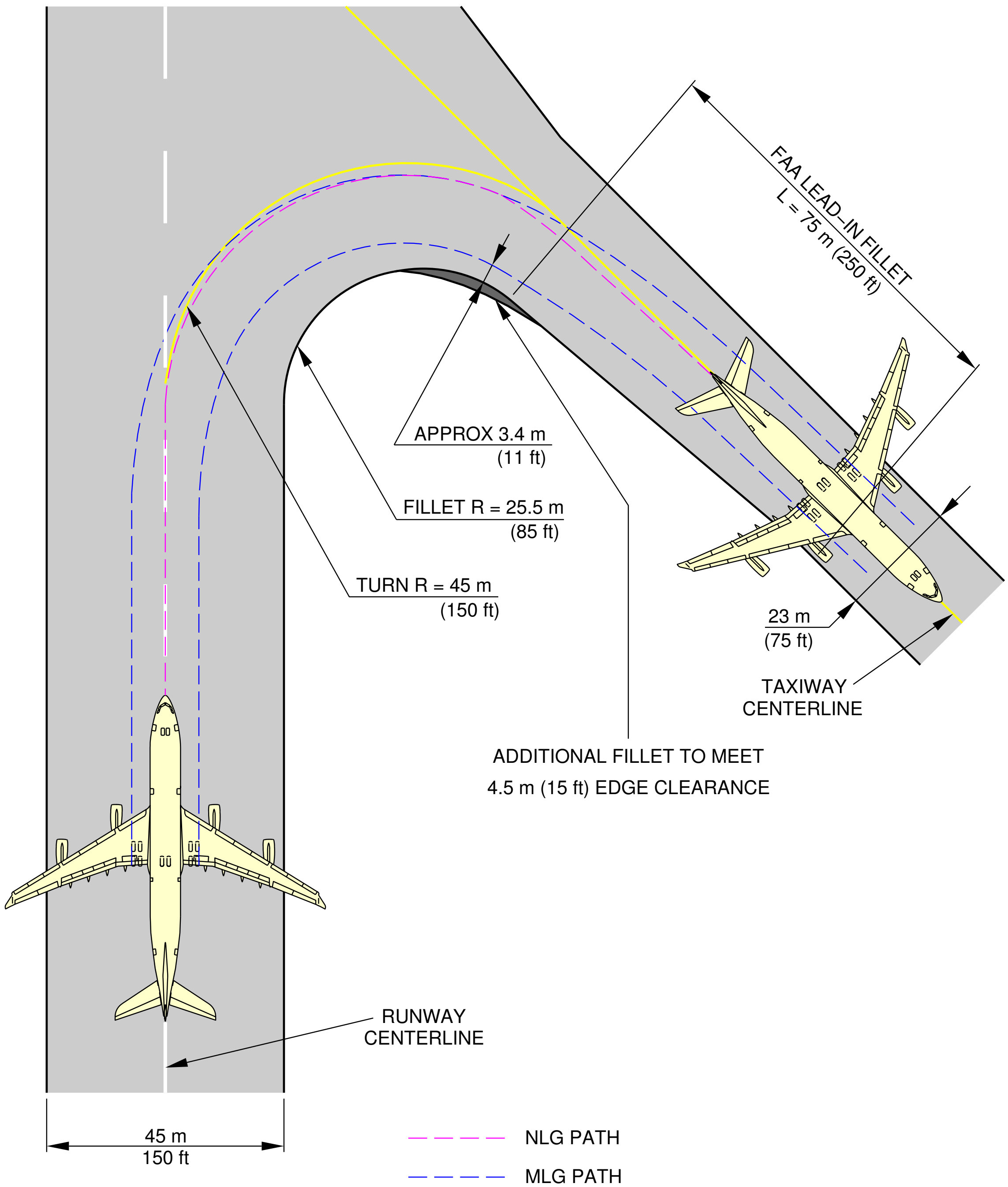
135° Turn - Runway to Taxiway
Cockpit Over Centerline Method
FIGURE 2

**ON A/C A340-200



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

**ON A/C A340-200



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

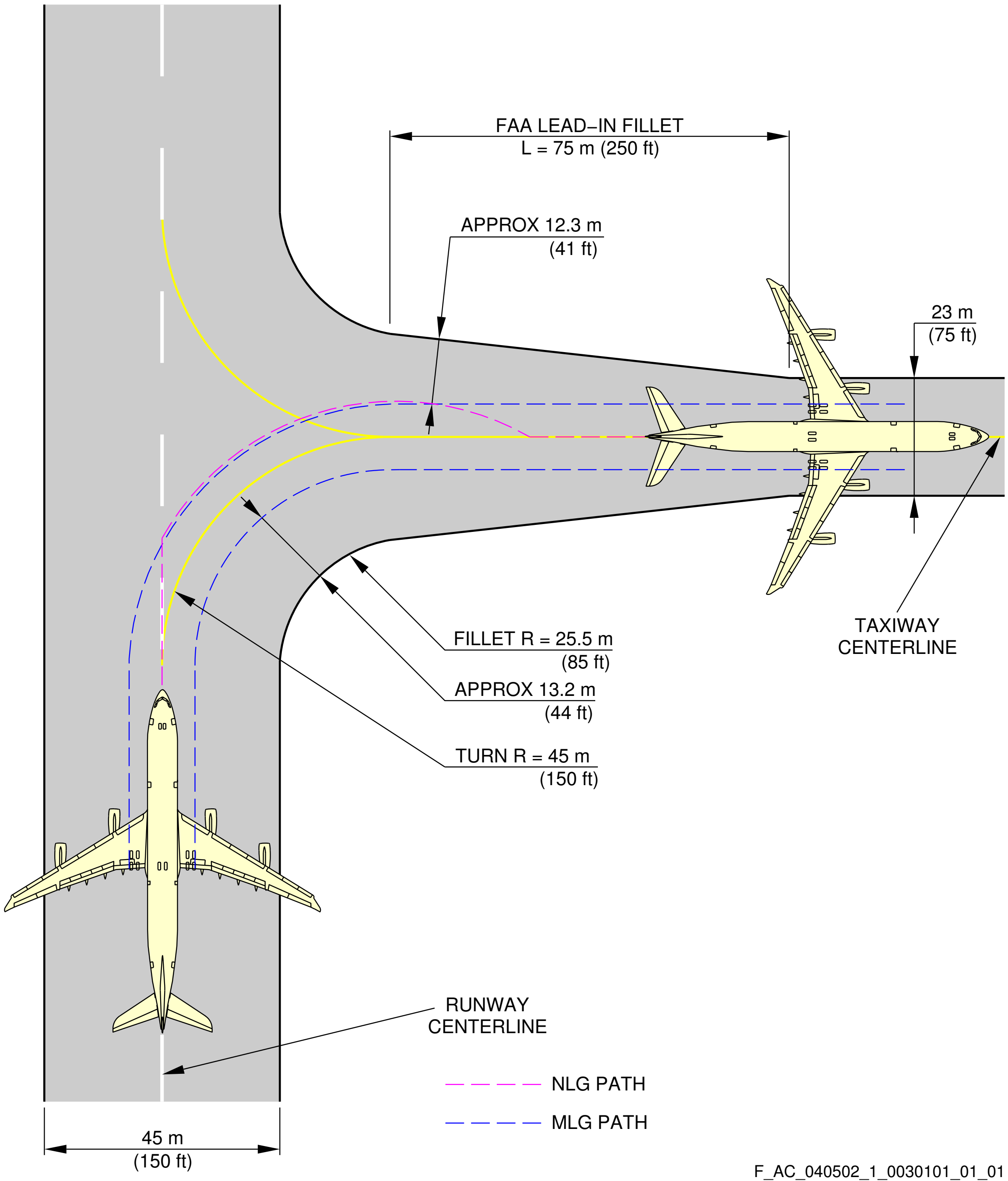
4-5-2 90° Turn - Runway to Taxiway

****ON A/C A340-200 A340-300**

90° Turn - Runway to Taxiway

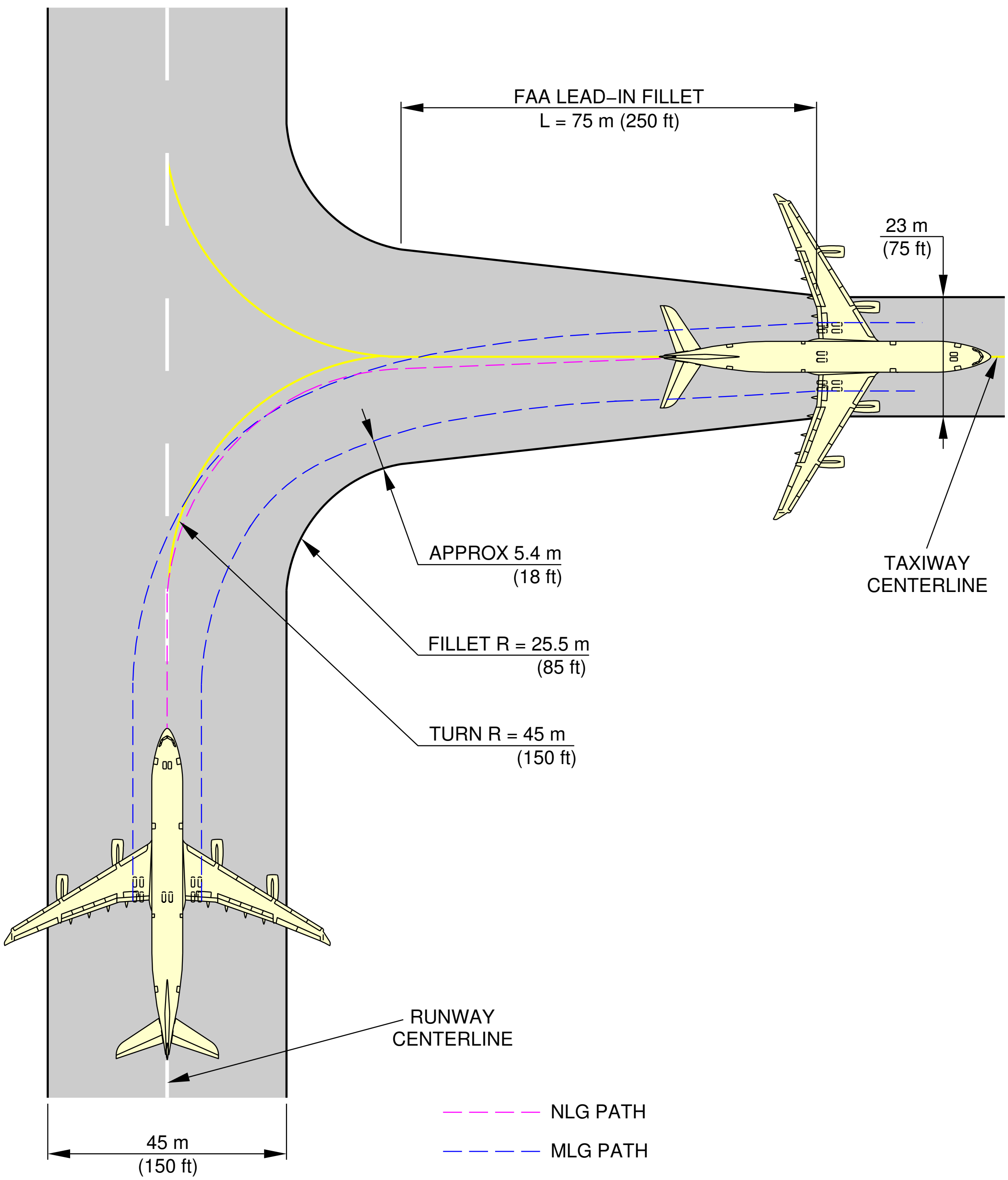
1. This section gives the 90° turn - runway to taxiway.

**ON A/C A340-300



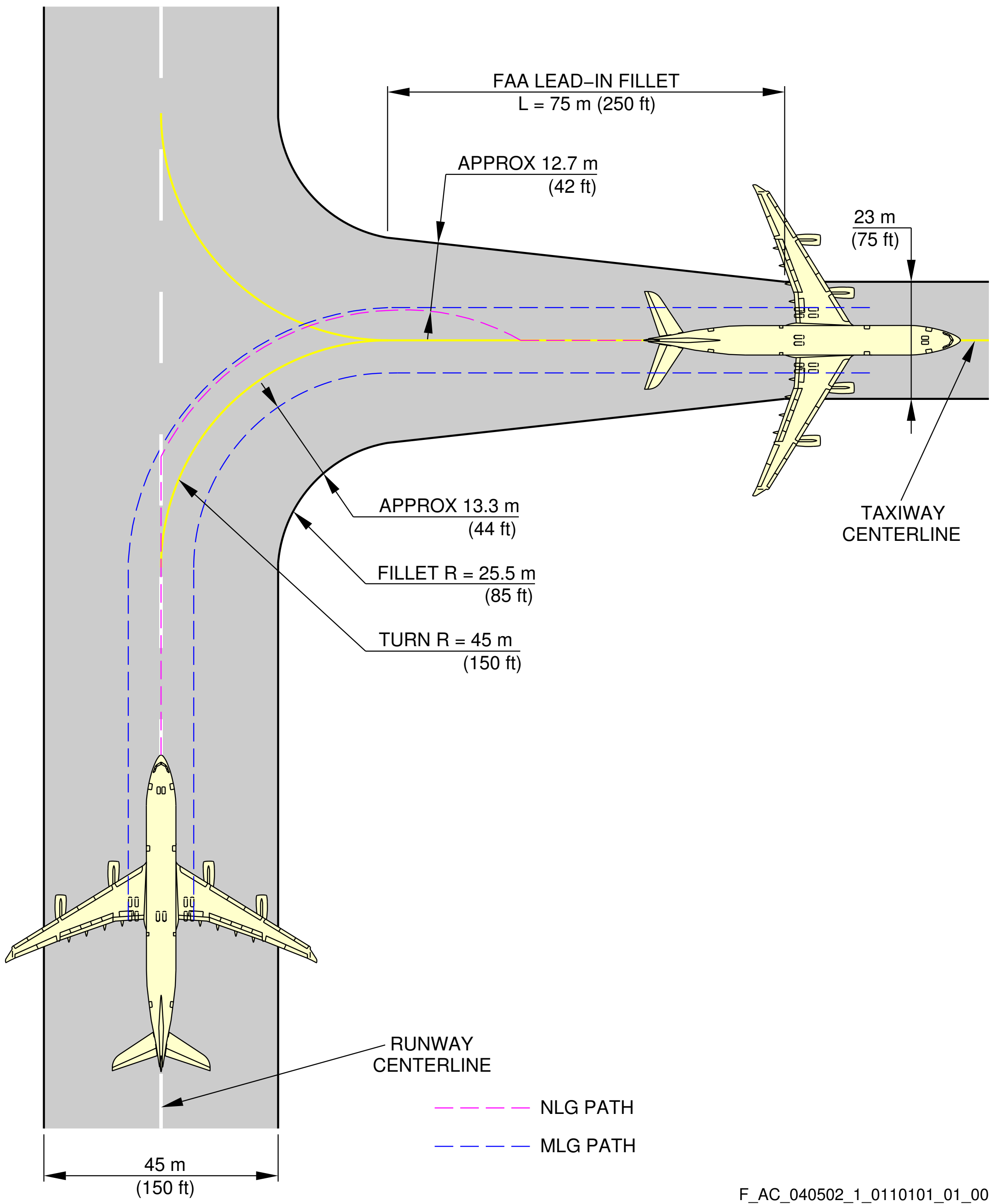
90° Turn - Runway to Taxiway
Judgement Oversteering Method
FIGURE 1

**ON A/C A340-300



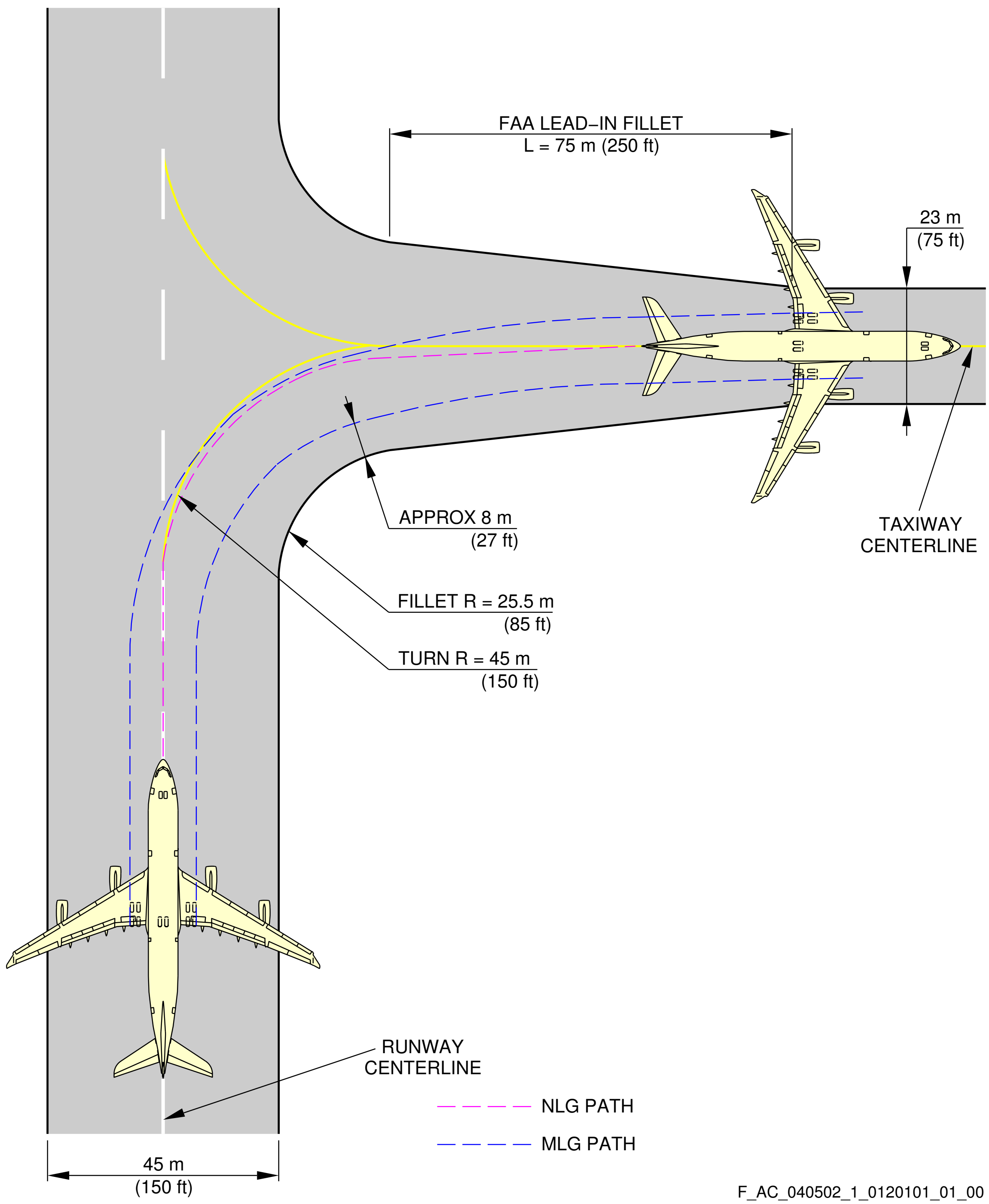
90° Turn - Runway to Taxiway
Cockpit Over Centerline Method
FIGURE 2

**ON A/C A340-200



90° Turn - Runway to Taxiway
Judgement Oversteering Method
FIGURE 3

**ON A/C A340-200



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

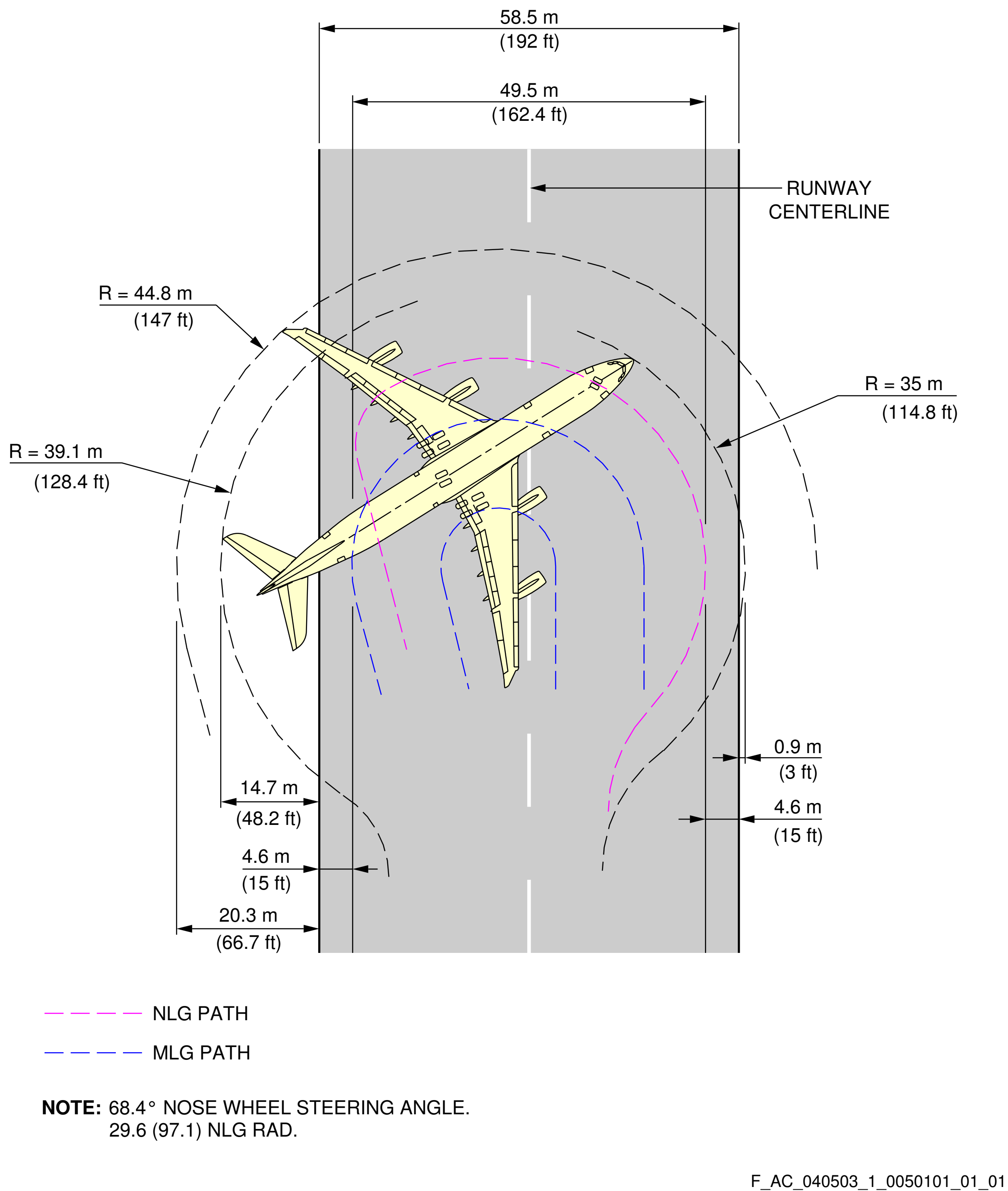
4-5-3 180° Turn on a Runway

**ON A/C A340-200 A340-300

180° Turn on a Runway

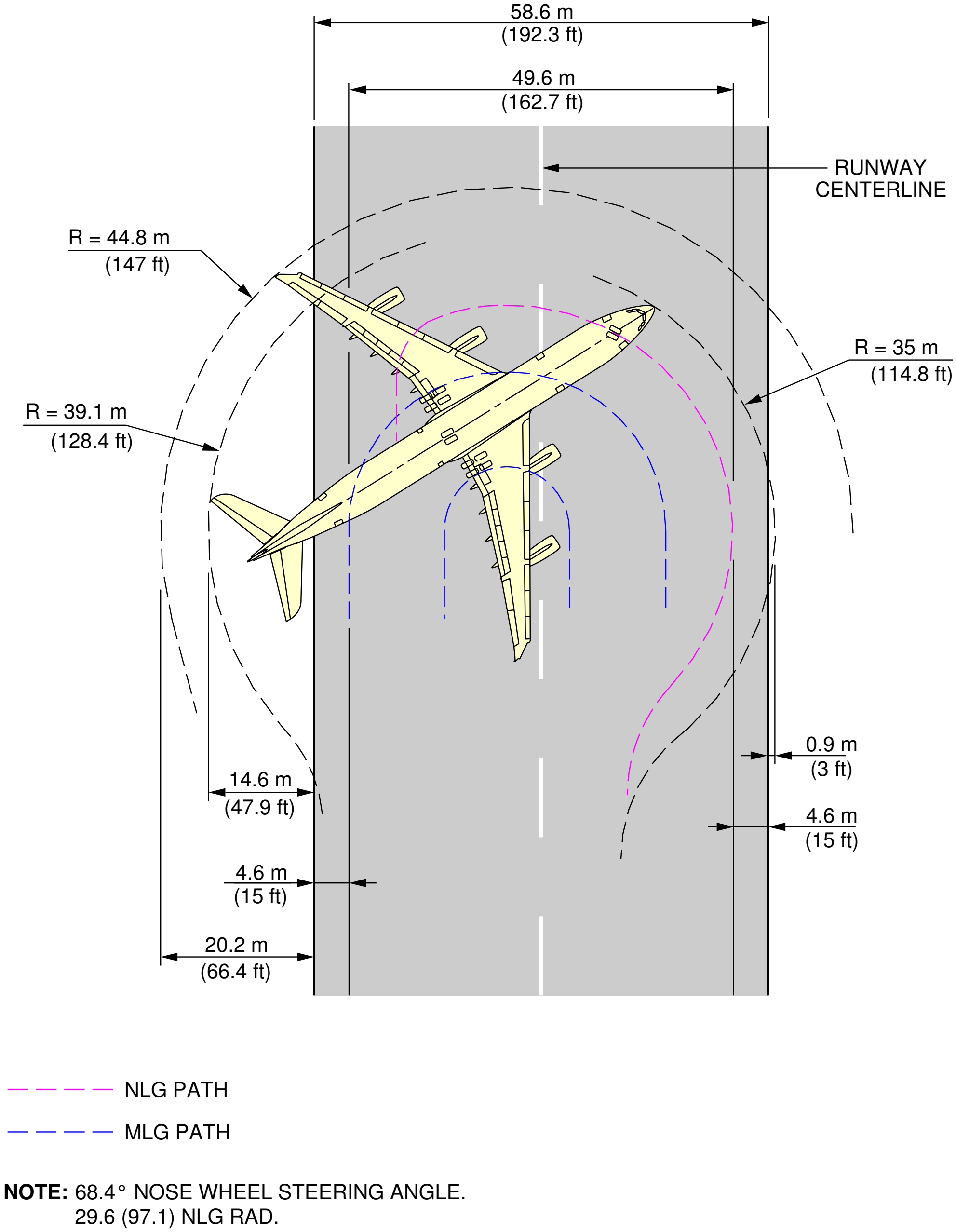
1. This section gives the 180° turn on a runway.

**ON A/C A340-300



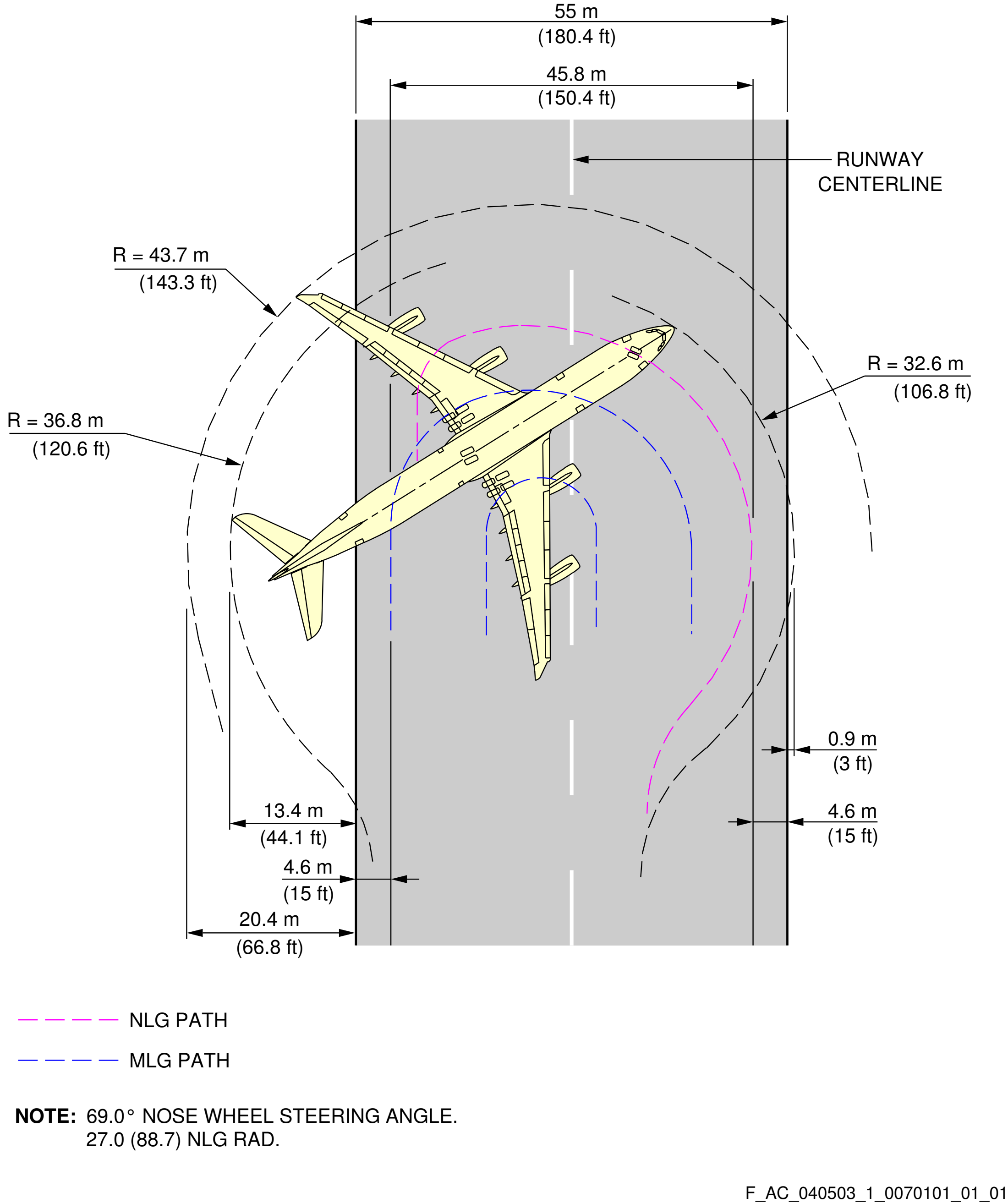
180° Turn on a Runway
180° Turn on a 202 ft Wide Runway
FIGURE 1

**ON A/C A340-300



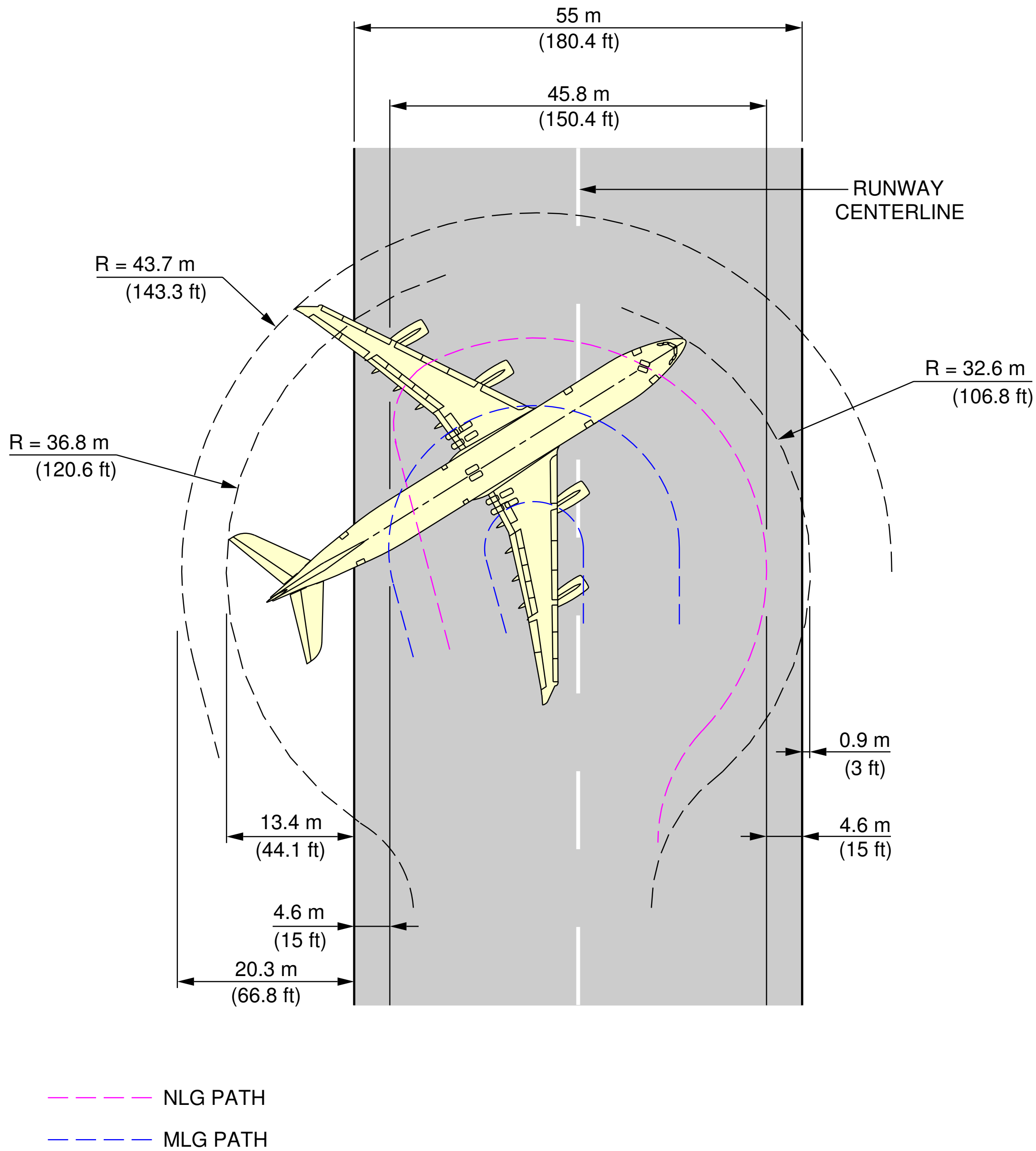
180° Turn on a Runway
180° Turn on a 203 ft Wide Runway
FIGURE 2

**ON A/C A340-200



180° Turn on a Runway
180° Turn on a 194 ft Wide Runway
FIGURE 3

**ON A/C A340-200



NOTE: 69.0° NOSE WHEEL STEERING ANGLE.
27.0 (88.7) NLG RAD.

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180° Turn on a Runway
180° Turn on a 194 ft Wide Runway
FIGURE 4

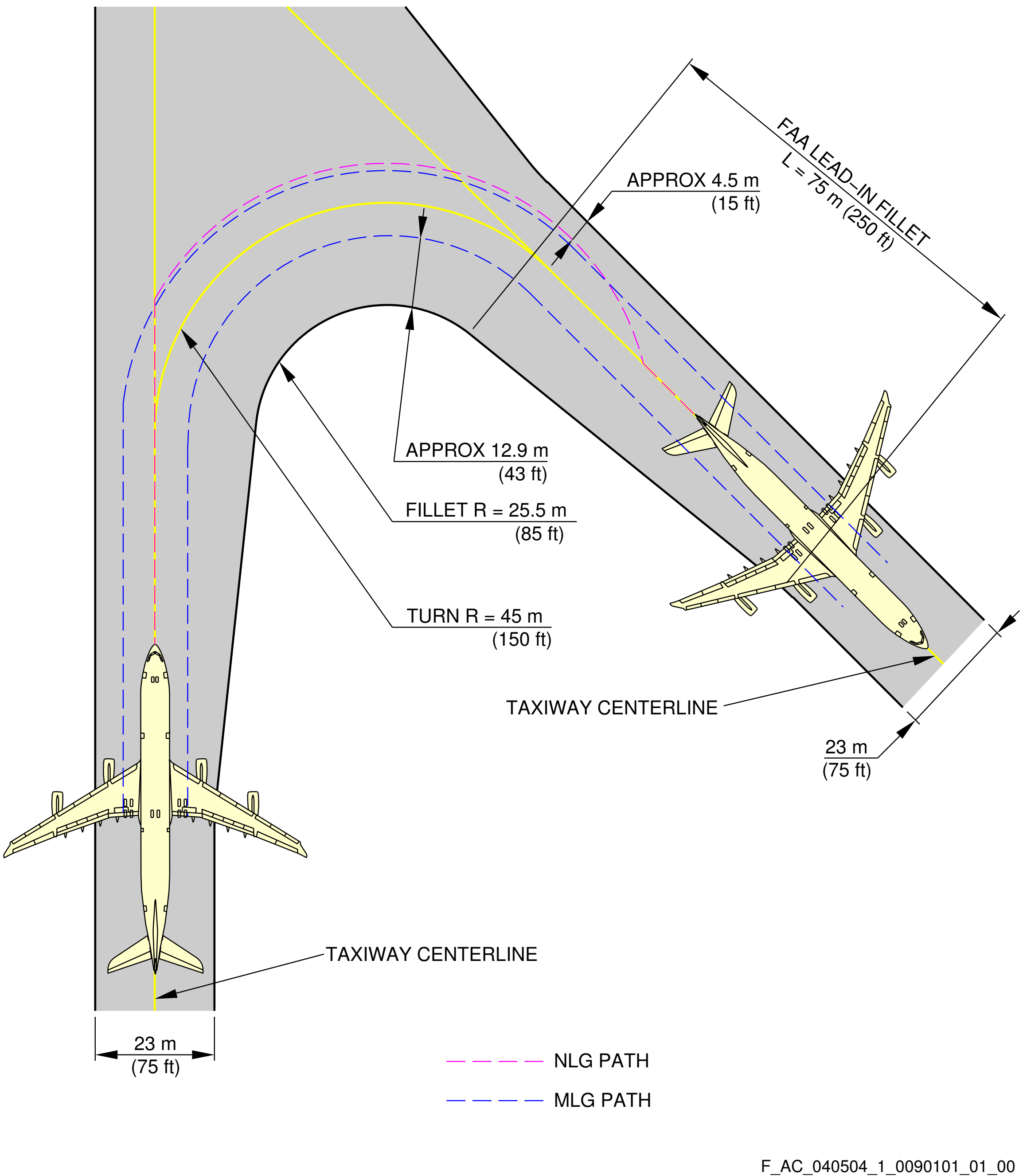
4-5-4 135° Turn - Taxiway to Taxiway

****ON A/C A340-200 A340-300**

135° Turn - Taxiway to Taxiway

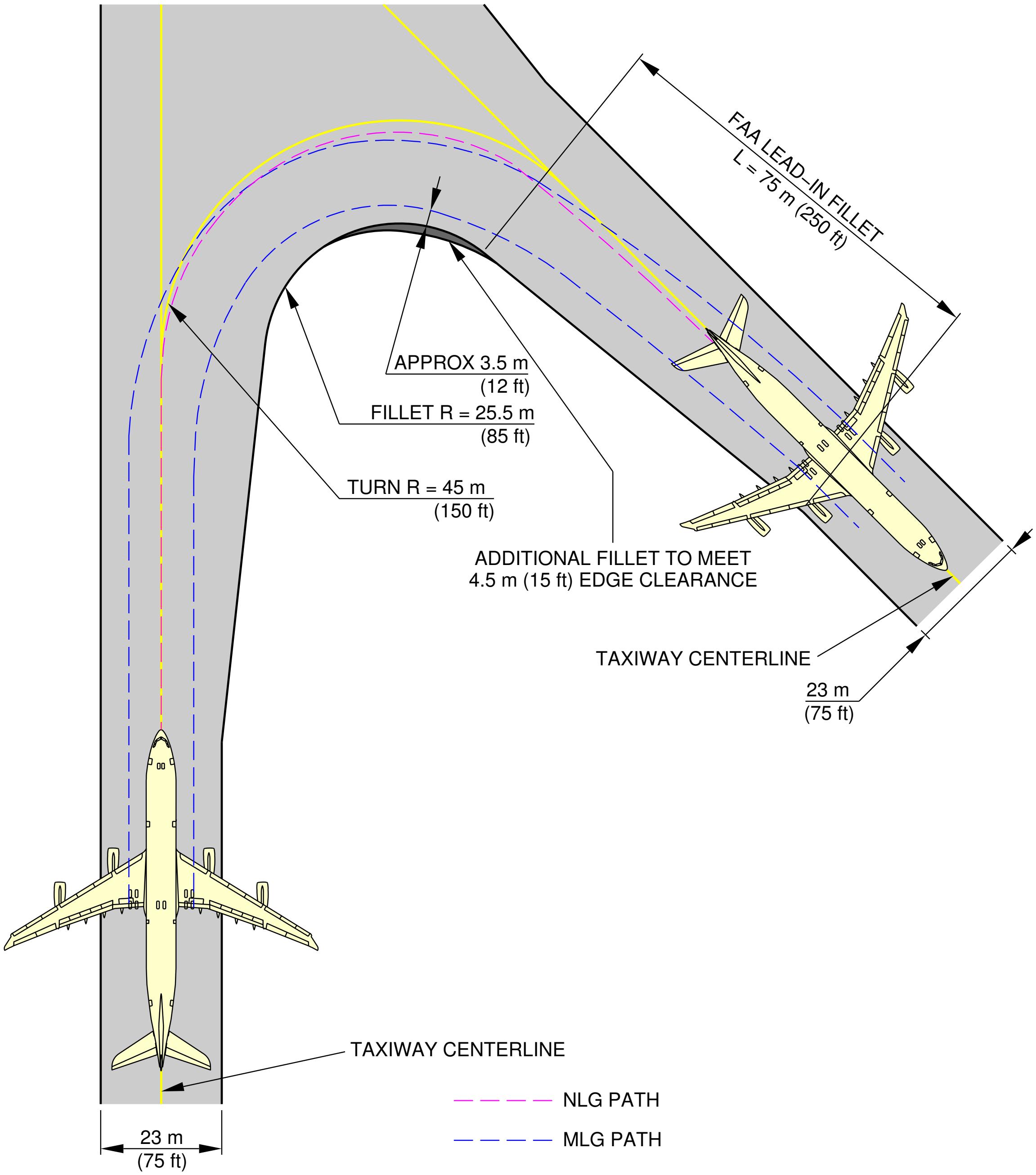
1. This section gives the 135° turn - taxiway to taxiway

**ON A/C A340-300



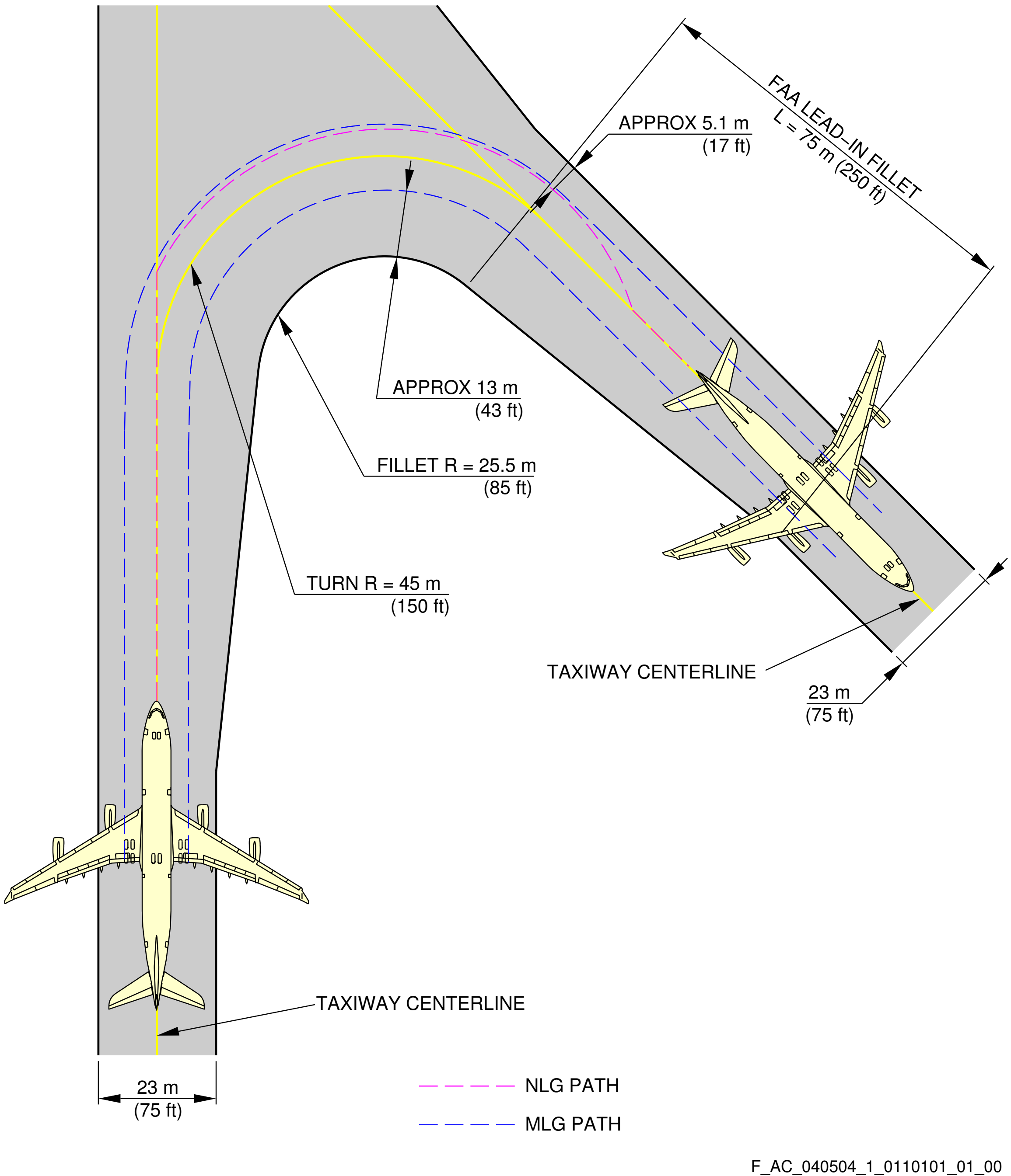
135° Turn - Taxiway to Taxiway
Judgemental Oversteering Method
FIGURE 1

**ON A/C A340-300



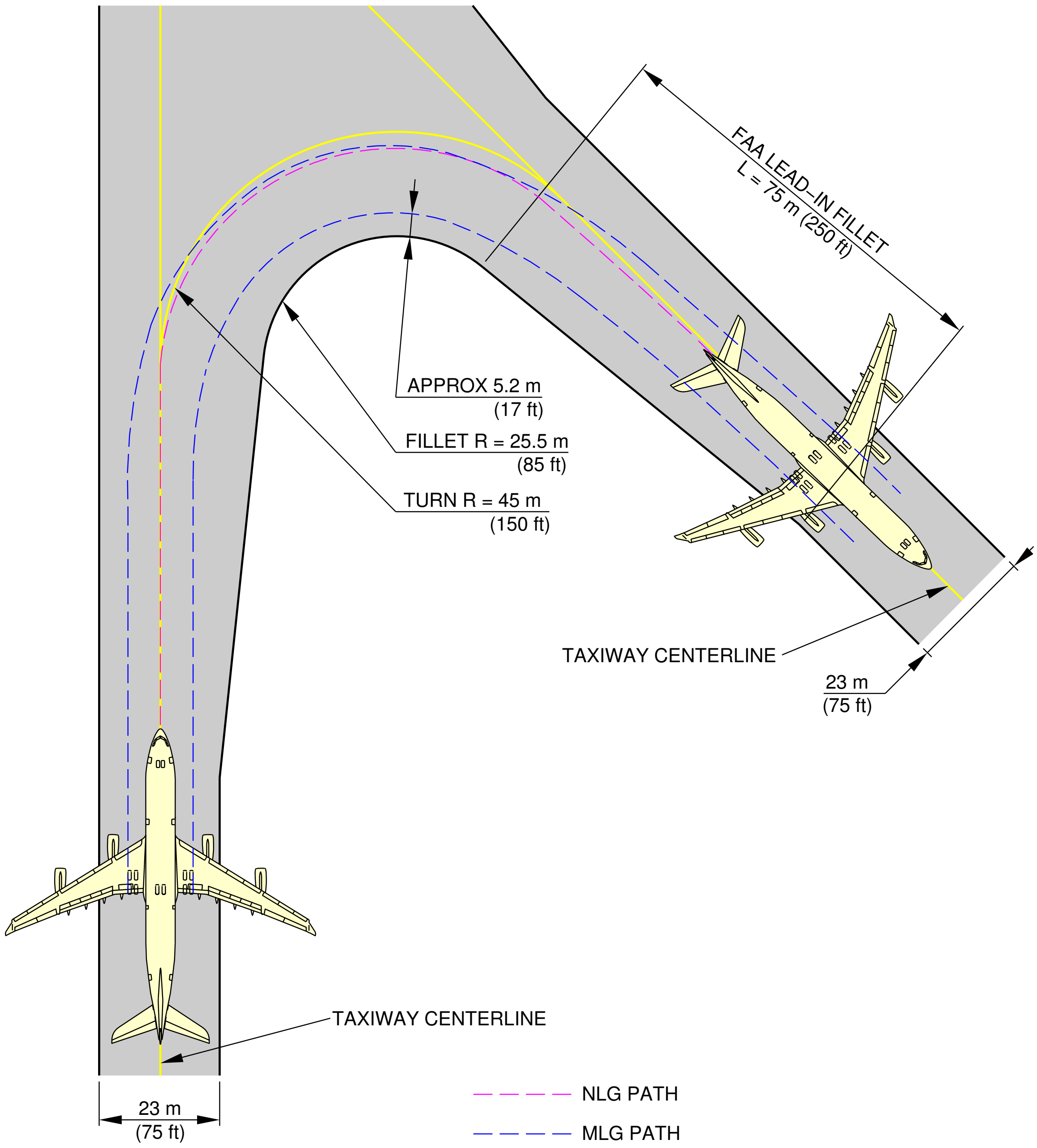
135° Turn - Taxiway to Taxiway
Cockpit Over Centerline Method
FIGURE 2

**ON A/C A340-200



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

**ON A/C A340-200



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

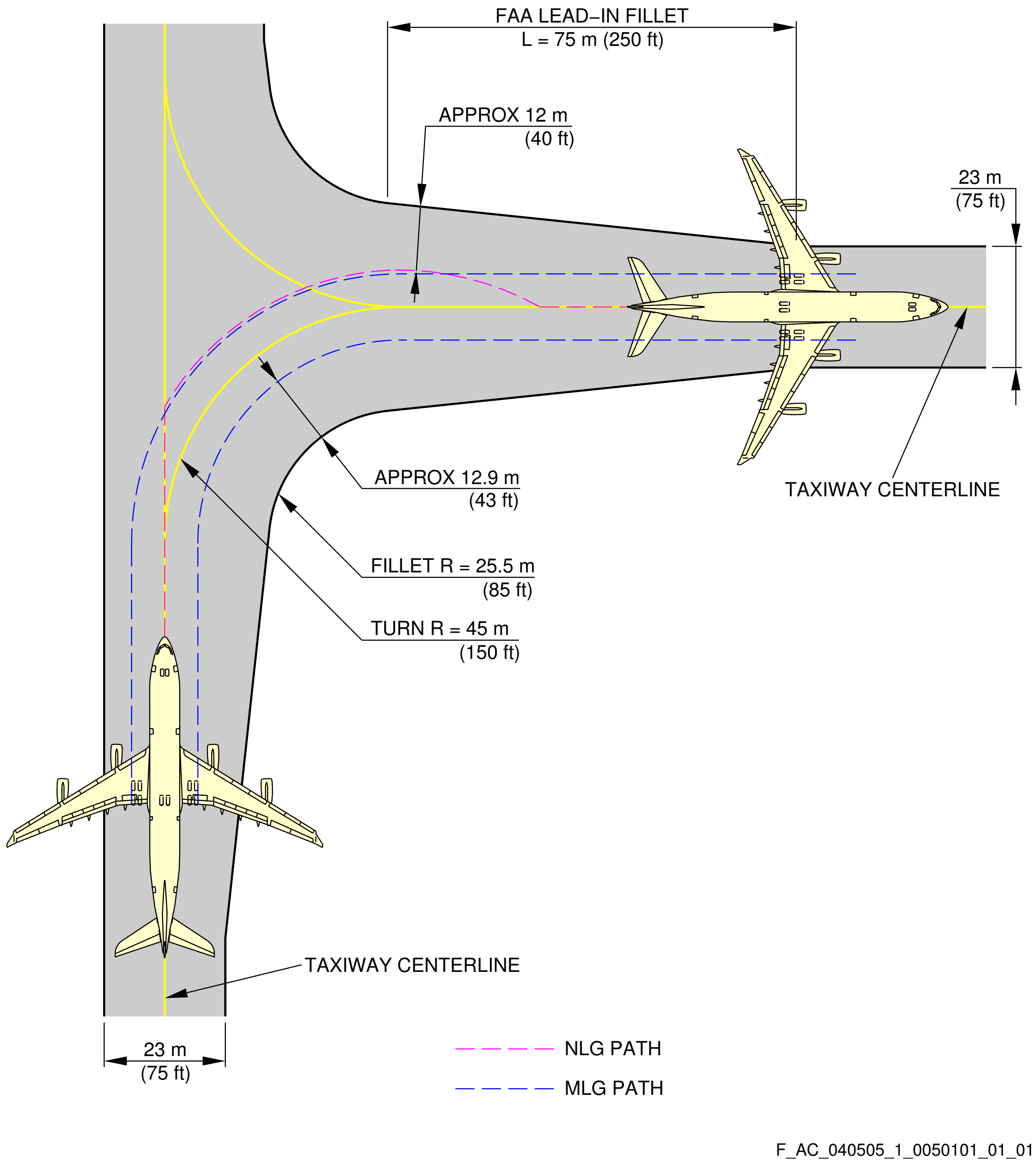
4-5-5 90° Turn - Taxiway to Taxiway

****ON A/C A340-200 A340-300**

90° Turn - Taxiway to Taxiway

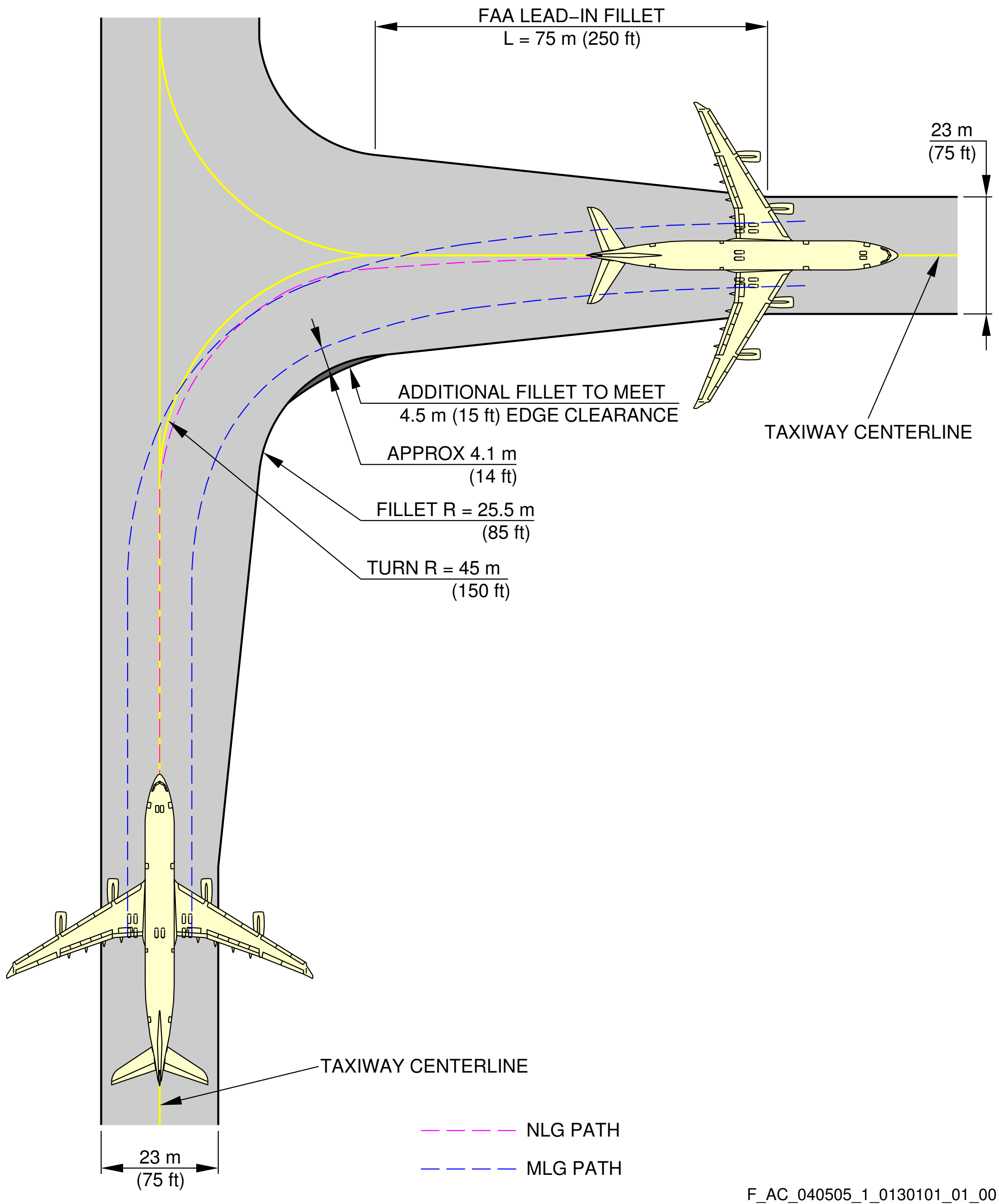
1. This section gives the 90° turn - taxiway to taxiway.

**ON A/C A340-300



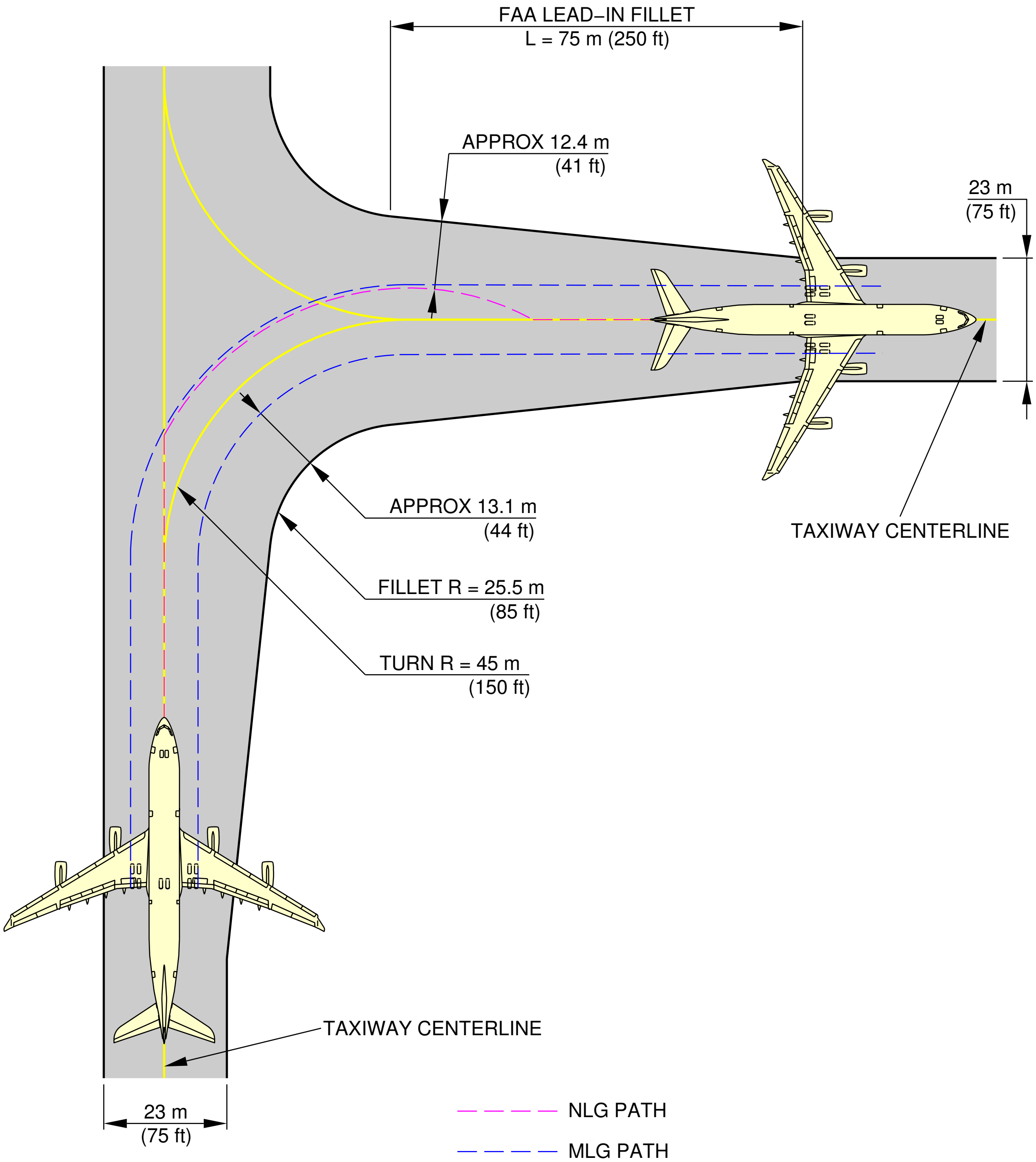
90° Turn - Taxiway to Taxiway
Judgement Oversteering Method
FIGURE 1

**ON A/C A340-300



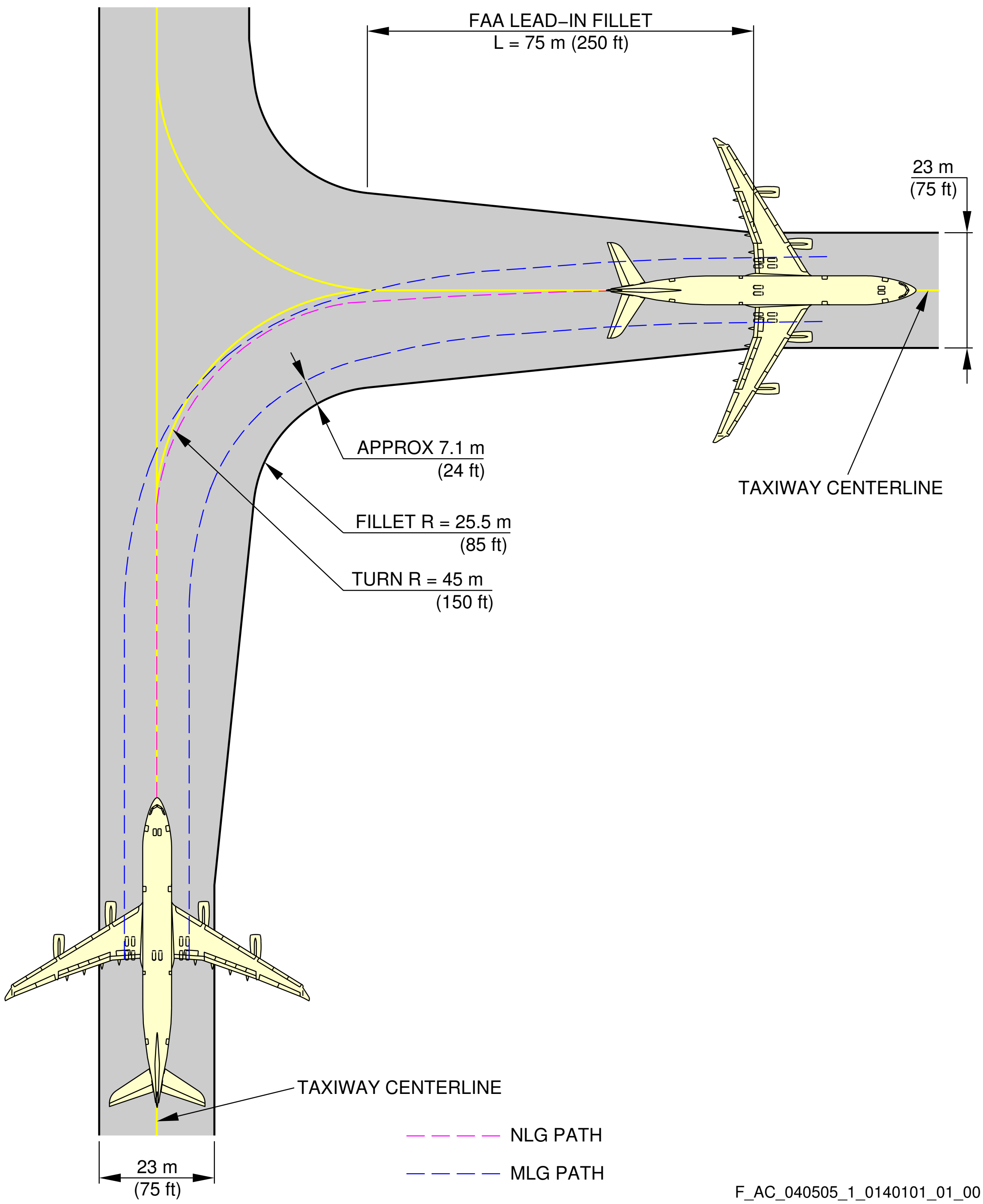
90° Turn - Taxiway to Taxiway
Cockpit Over Centerline Method
FIGURE 2

**ON A/C A340-200



90° Turn - Taxiway to Taxiway
Judgement Oversteering Method
FIGURE 3

**ON A/C A340-200



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

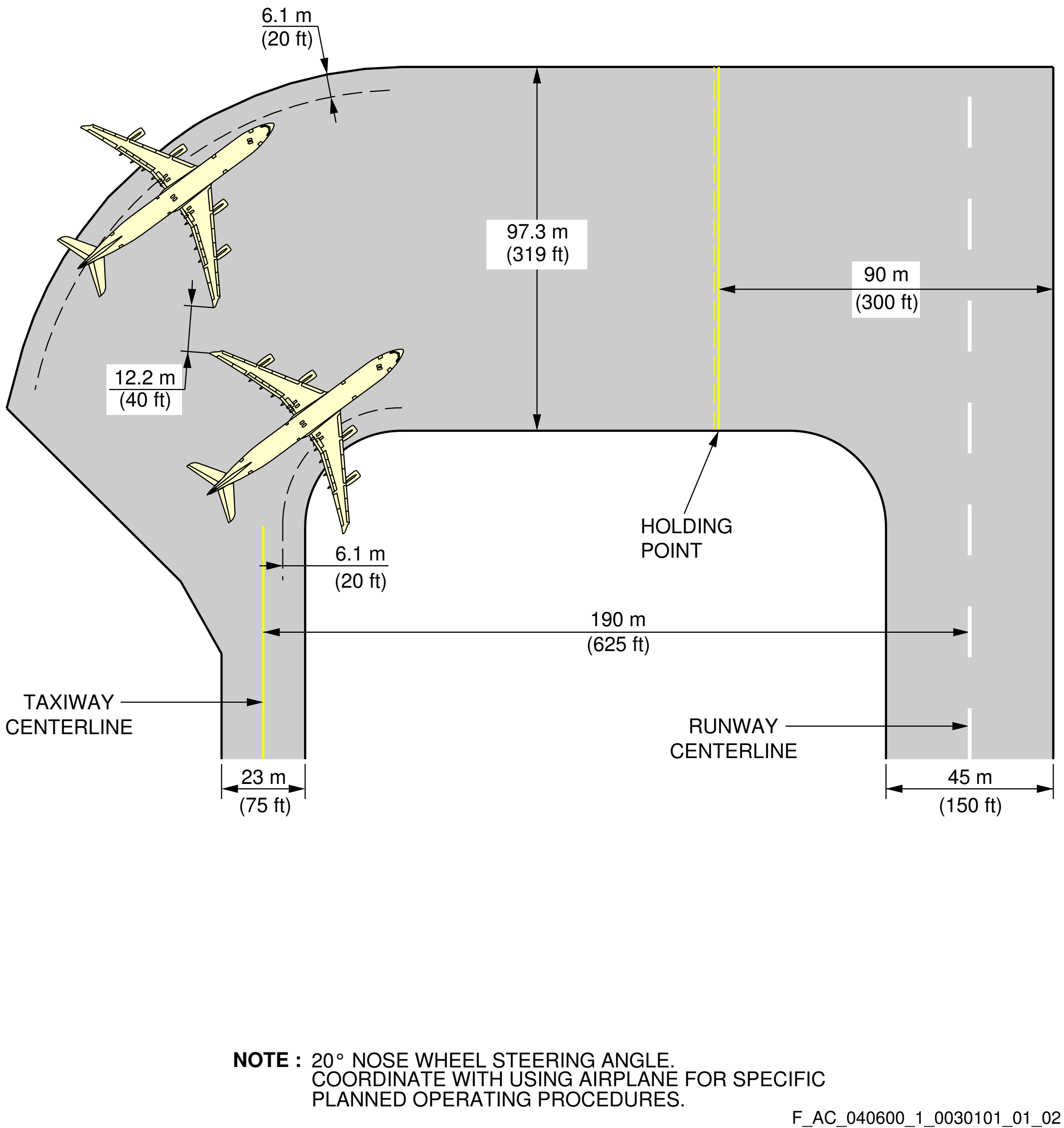
4-6-0 Runway Holding Bay (Apron)

**ON A/C A340-200 A340-300

Runway Holding Bay (Apron)

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

**ON A/C A340-200 A340-300



Runway Holding Bay (Apron)
FIGURE 1

4-7-0 Airplane Parking

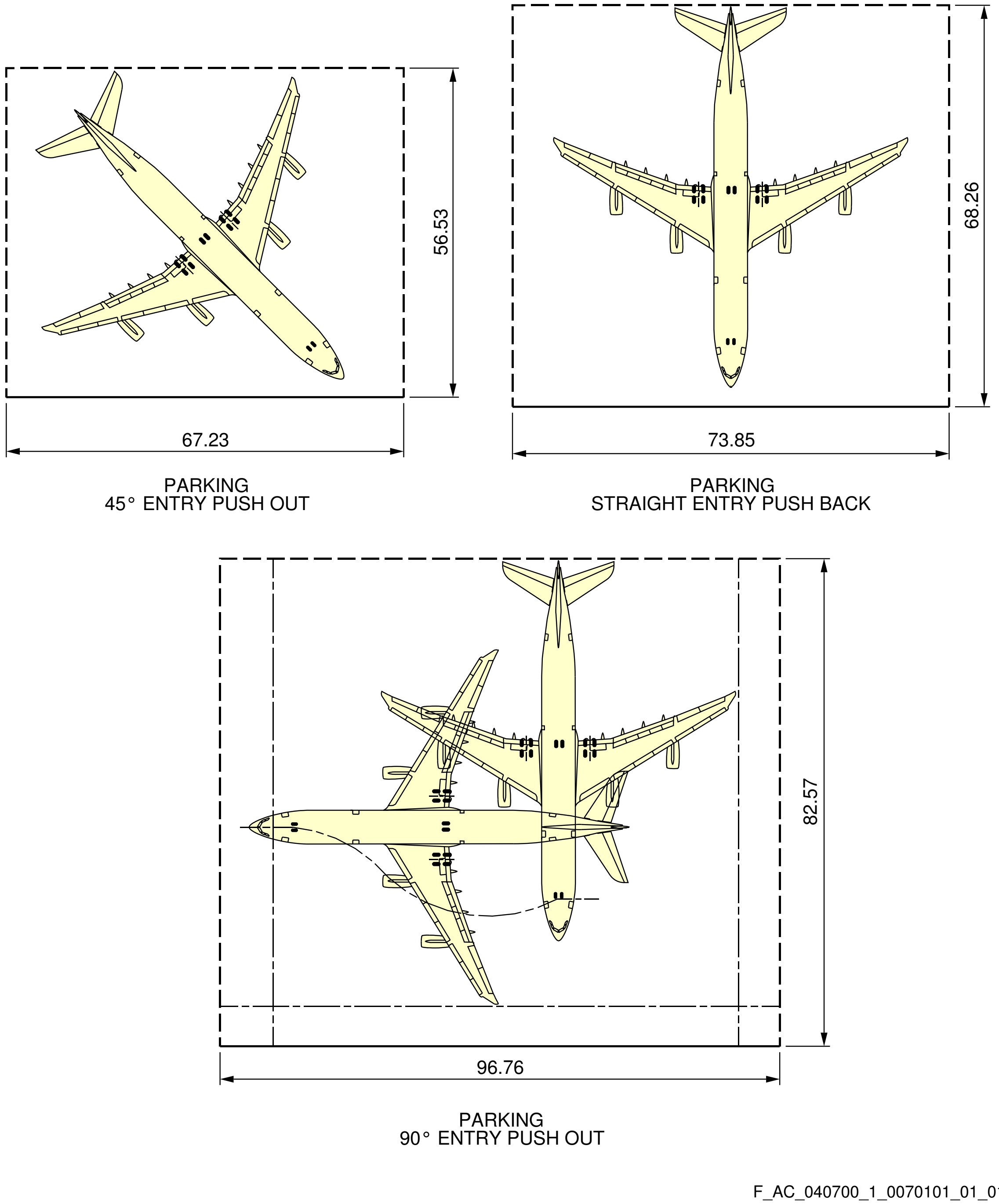
****ON A/C A340-200 A340-300**

Airplane Parking

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

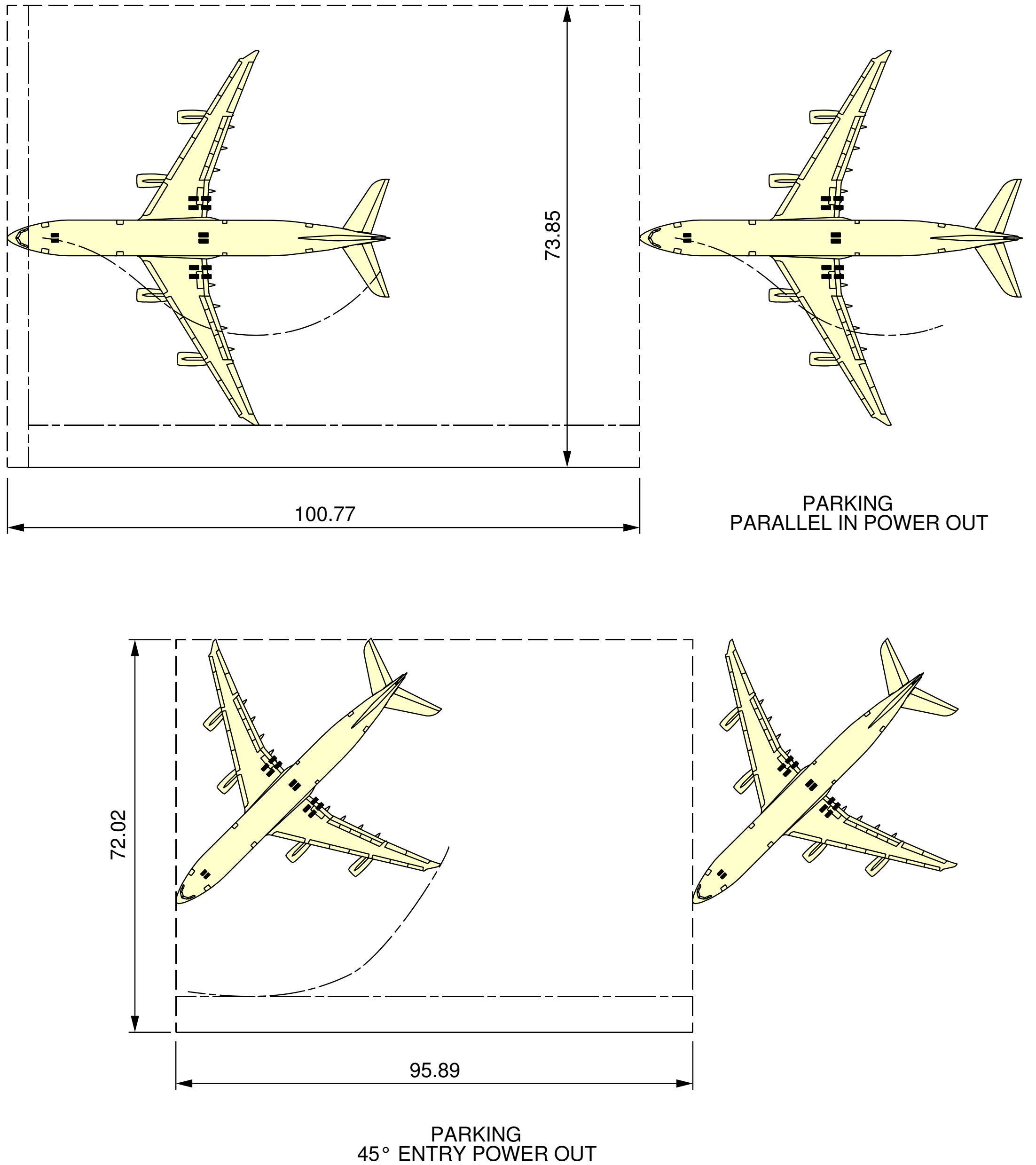
   The rectangle includes allowance for swinging the airplane on arrival and departure.
   - Steering Geometry
   - Minimum Parking Space Requirements

**ON A/C A340-300



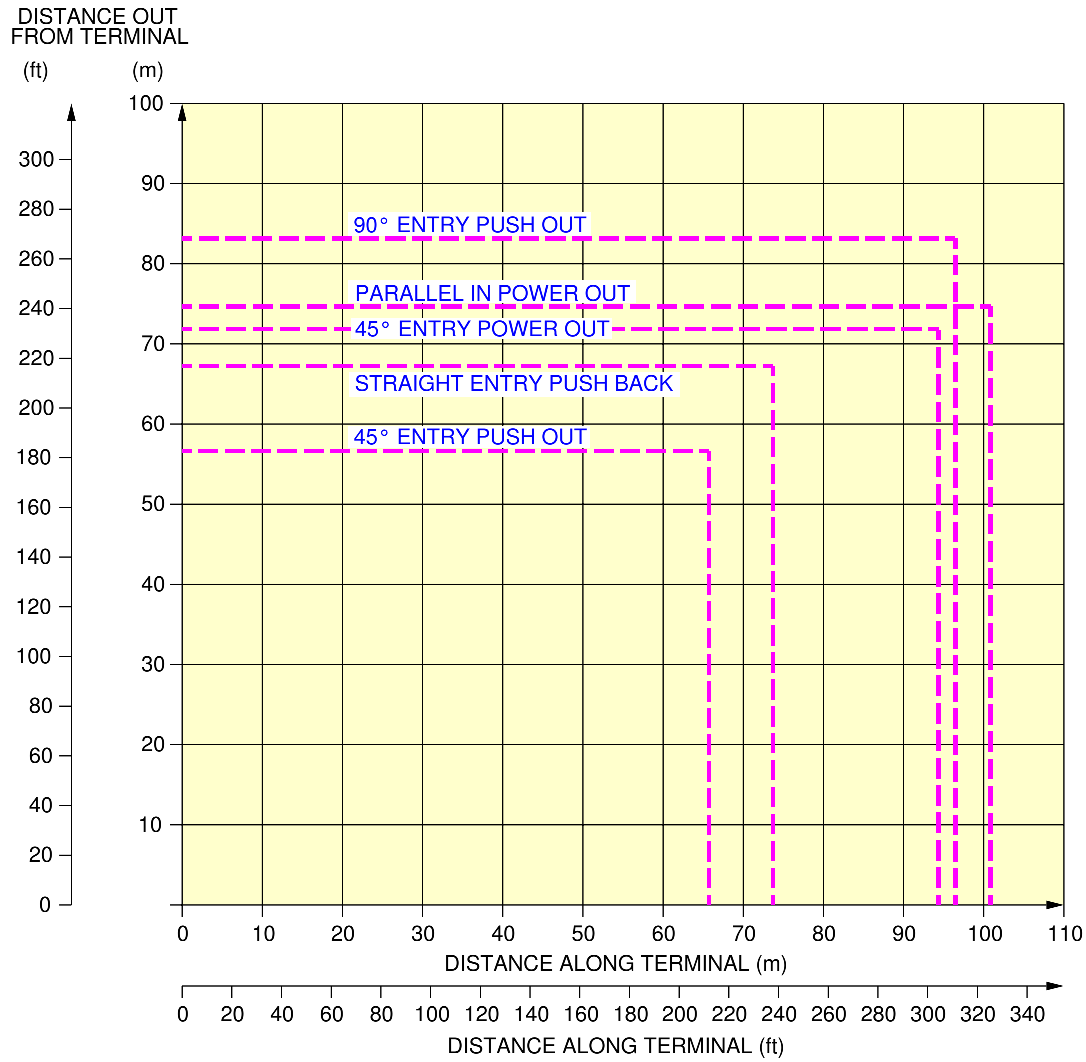
Airplane Parking
Steering Geometry
FIGURE 1

**ON A/C A340-300



Airplane Parking
Steering Geometry
FIGURE 2

**ON A/C A340-300



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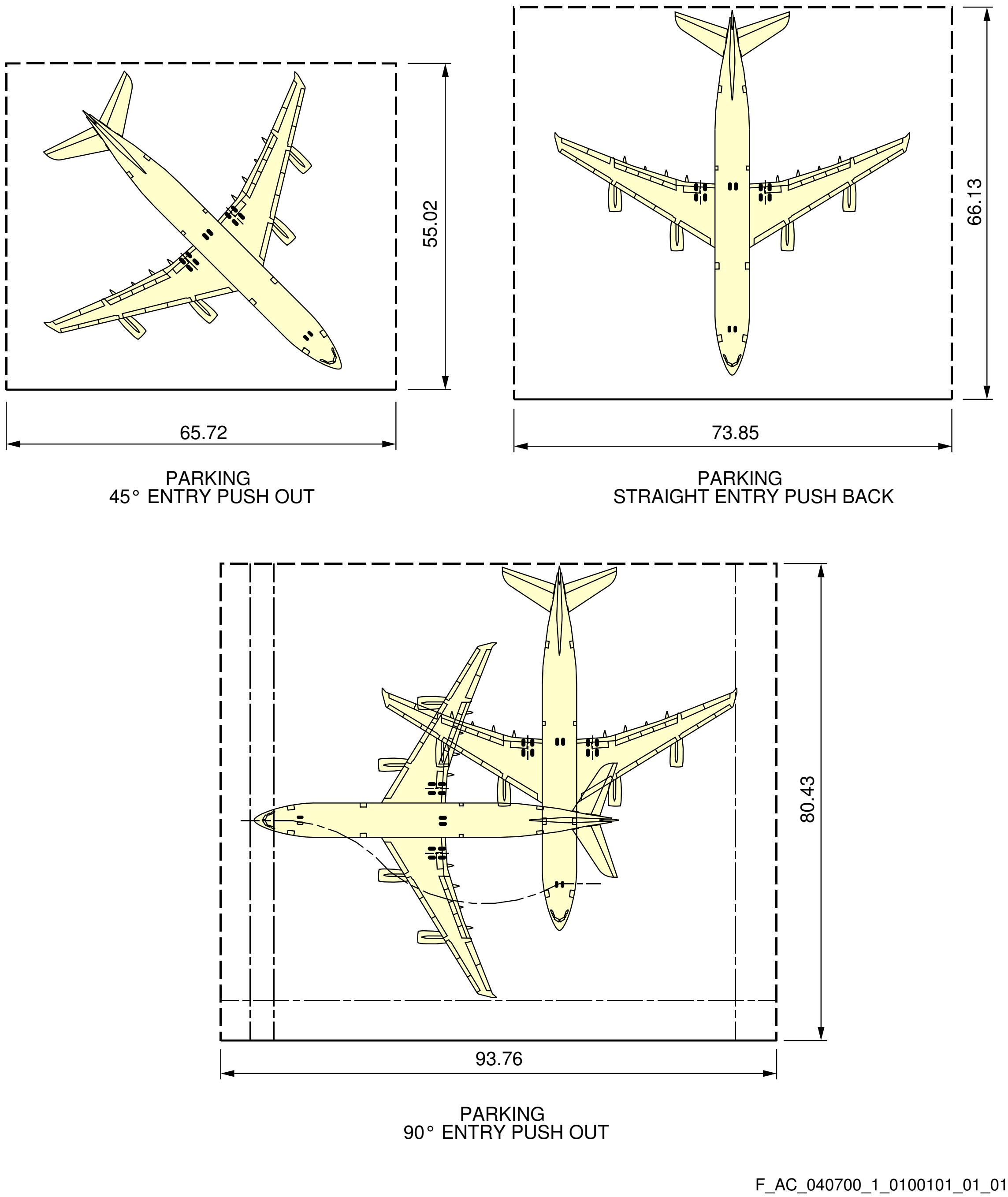
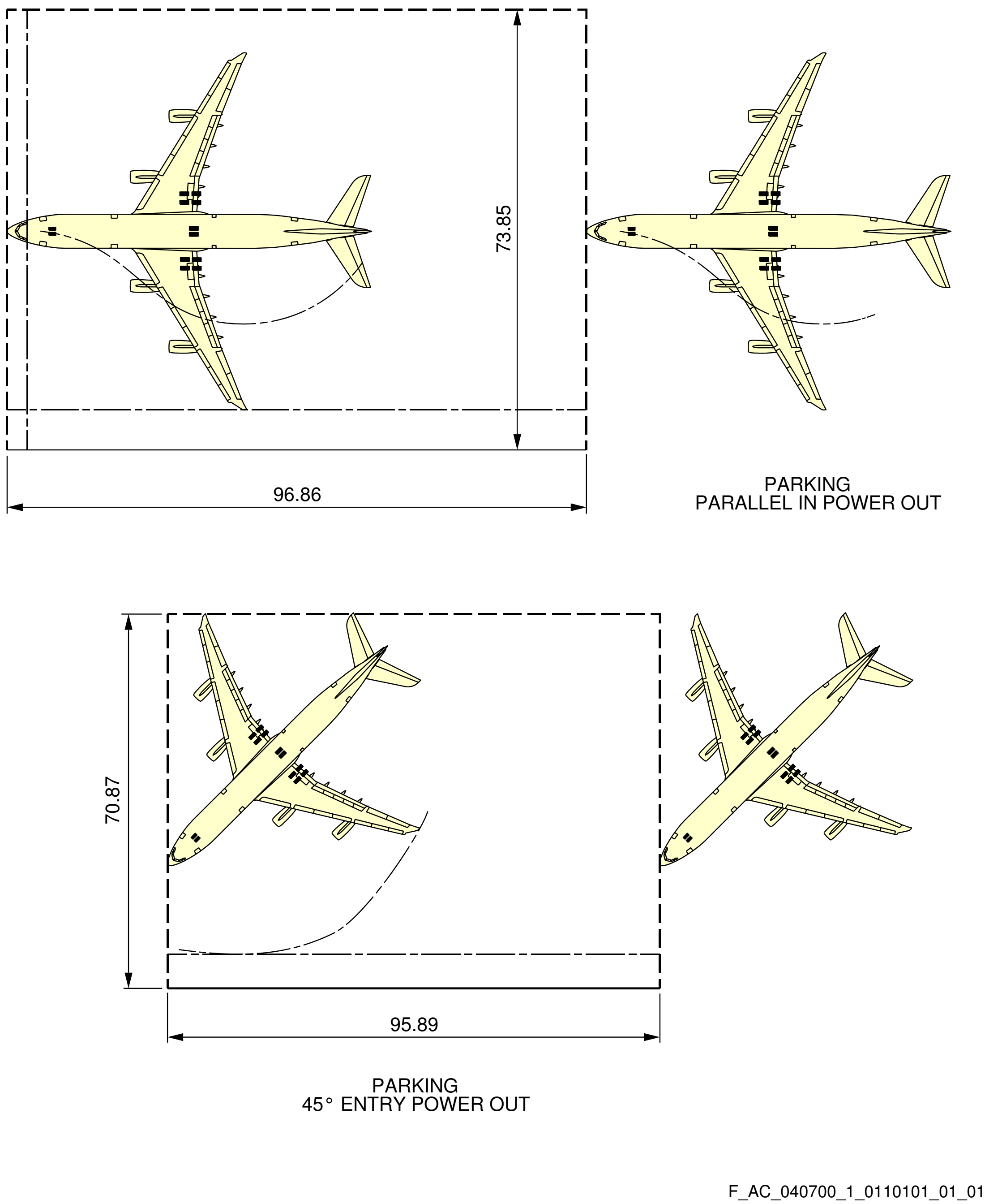
Airplane Parking
Minimum Parking Space Requirements
FIGURE 3

**ON A/C A340-200



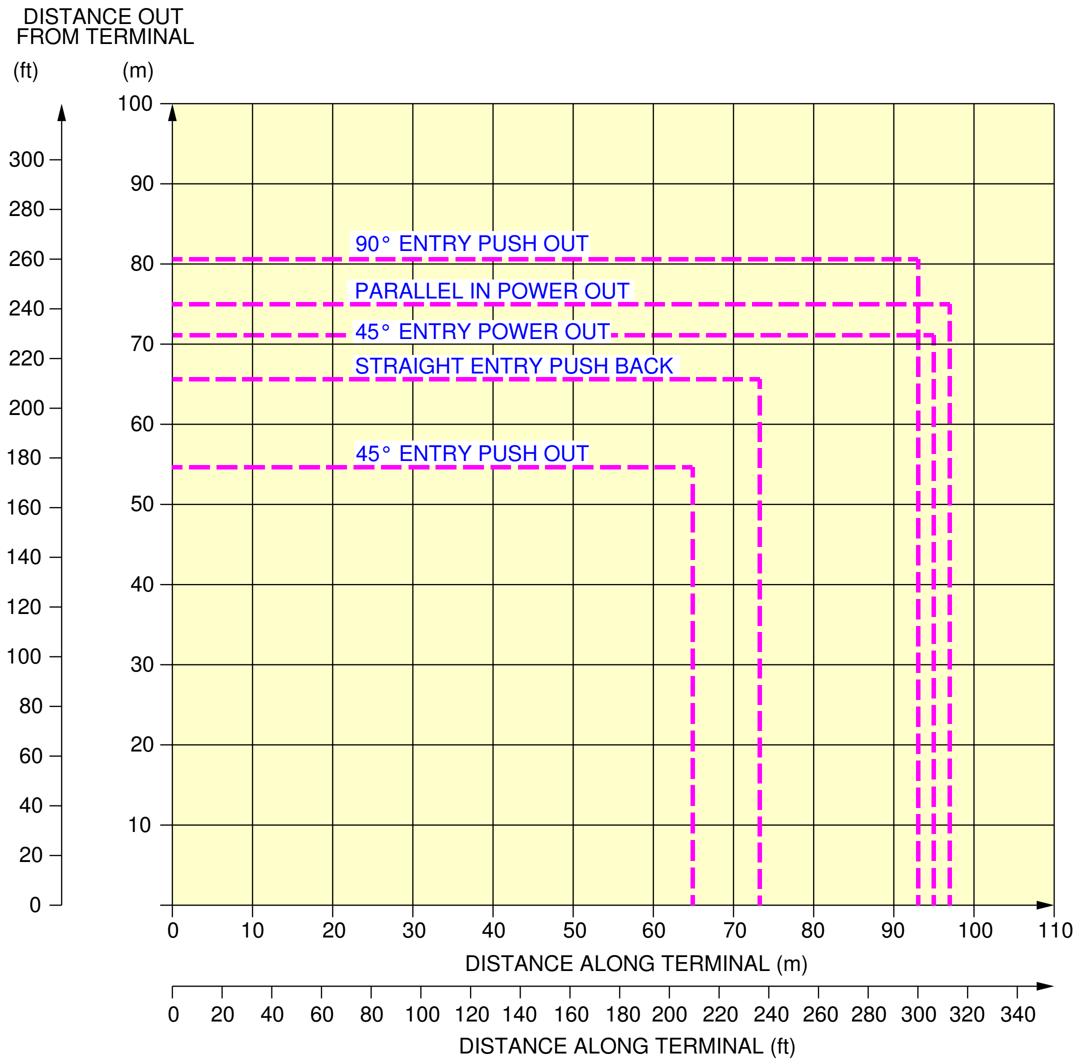
Airplane Parking
Steering Geometry
FIGURE 4

**ON A/C A340-200



Airplane Parking
Steering Geometry
FIGURE 5

**ON A/C A340-200



Airplane Parking
Minimum Parking Space Requirements
FIGURE 6

TERMINAL SERVICING

5-0-0 TERMINAL SERVICING

****ON A/C A340-200 A340-300**

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 A340-200 A340-300**

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.

5-1-1 Symbols Used on Servicing Diagrams

****ON A/C A340-200 A340-300**

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

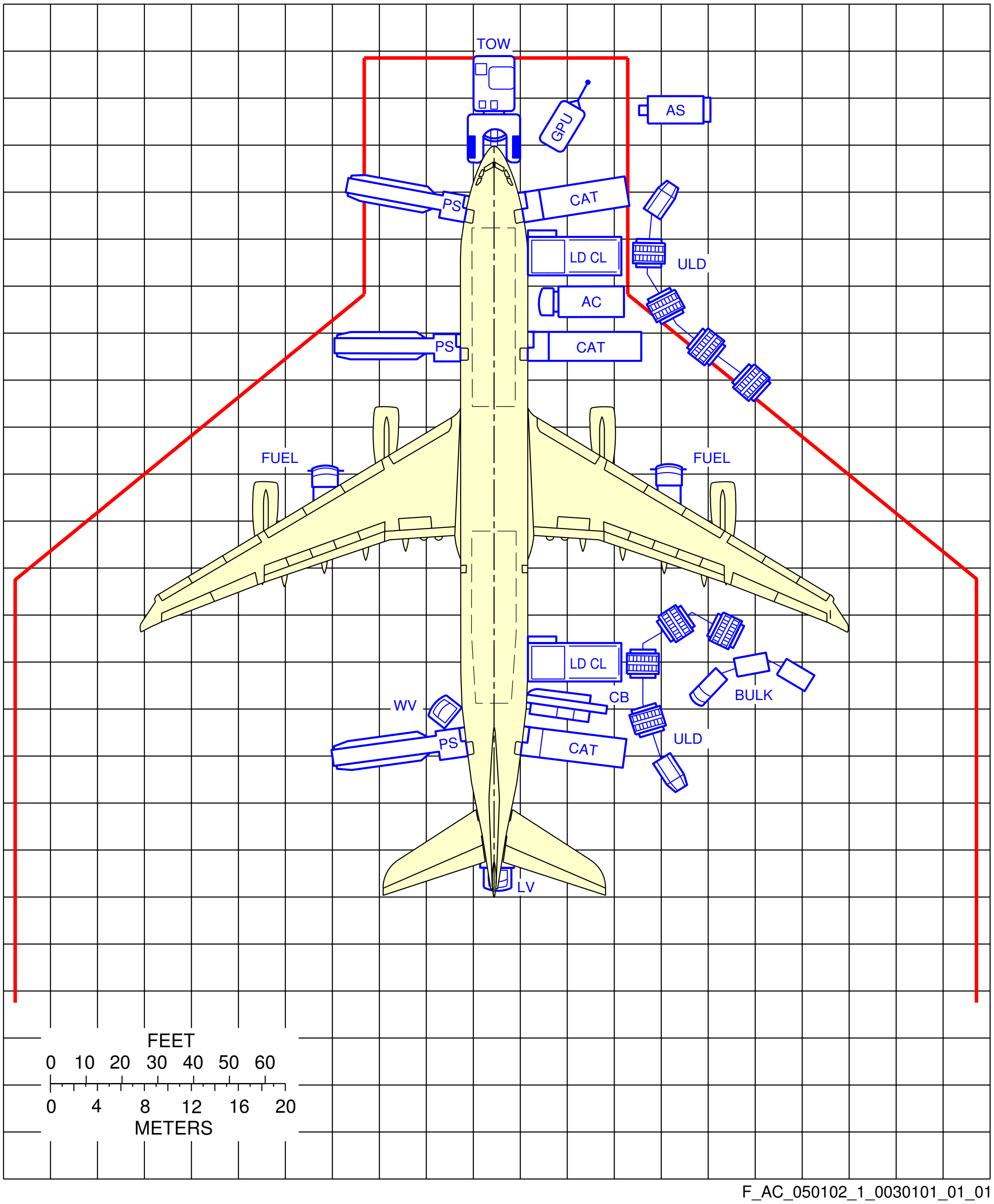
5-1-2 Loading (Open Apron)

****ON A/C A340-200 A340-300**

Loading (Open Apron)

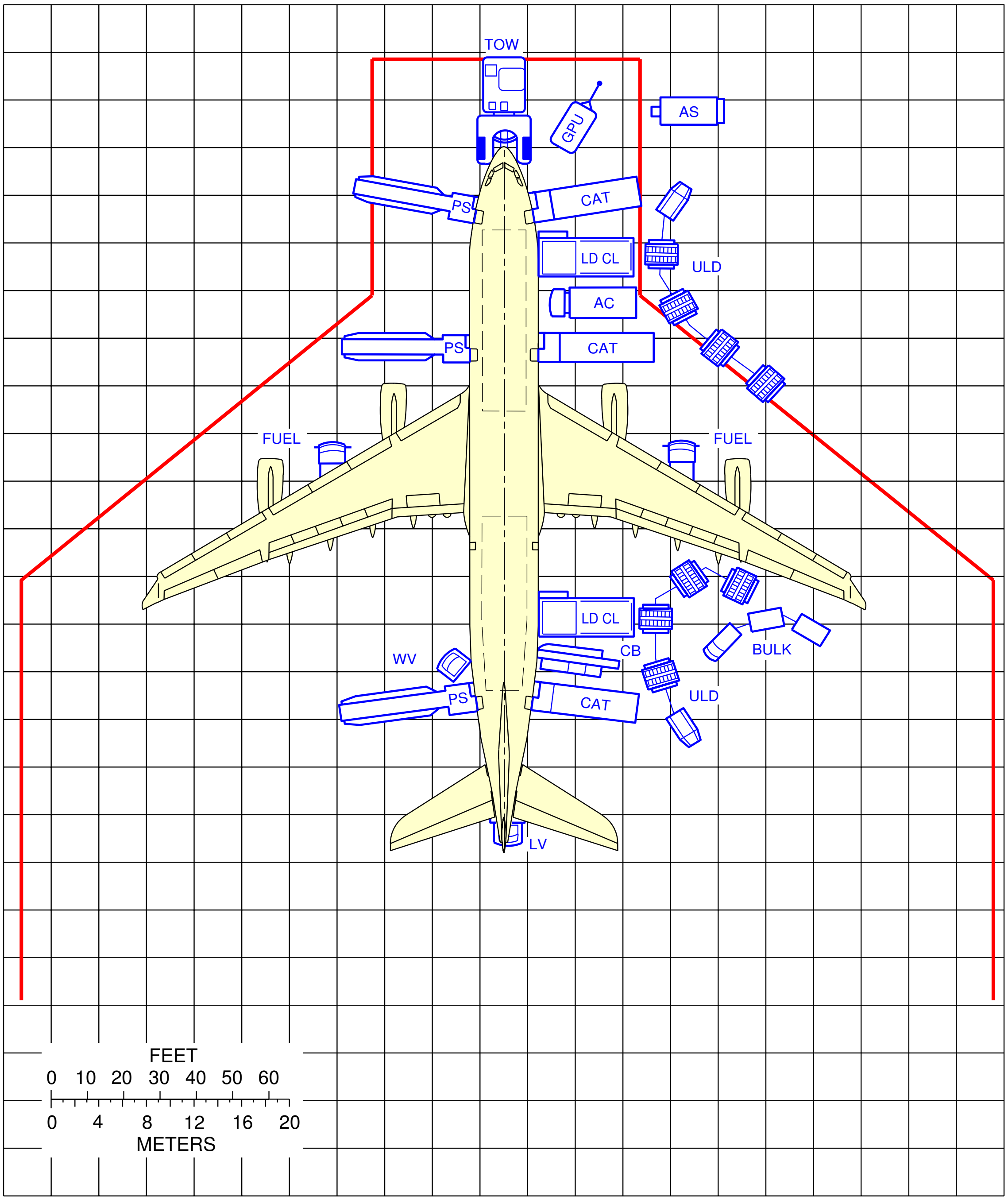
1. This section gives the typical ramp layout for the passenger aircraft on an Open Apron.

**ON A/C A340-300



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

**ON A/C A340-200



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

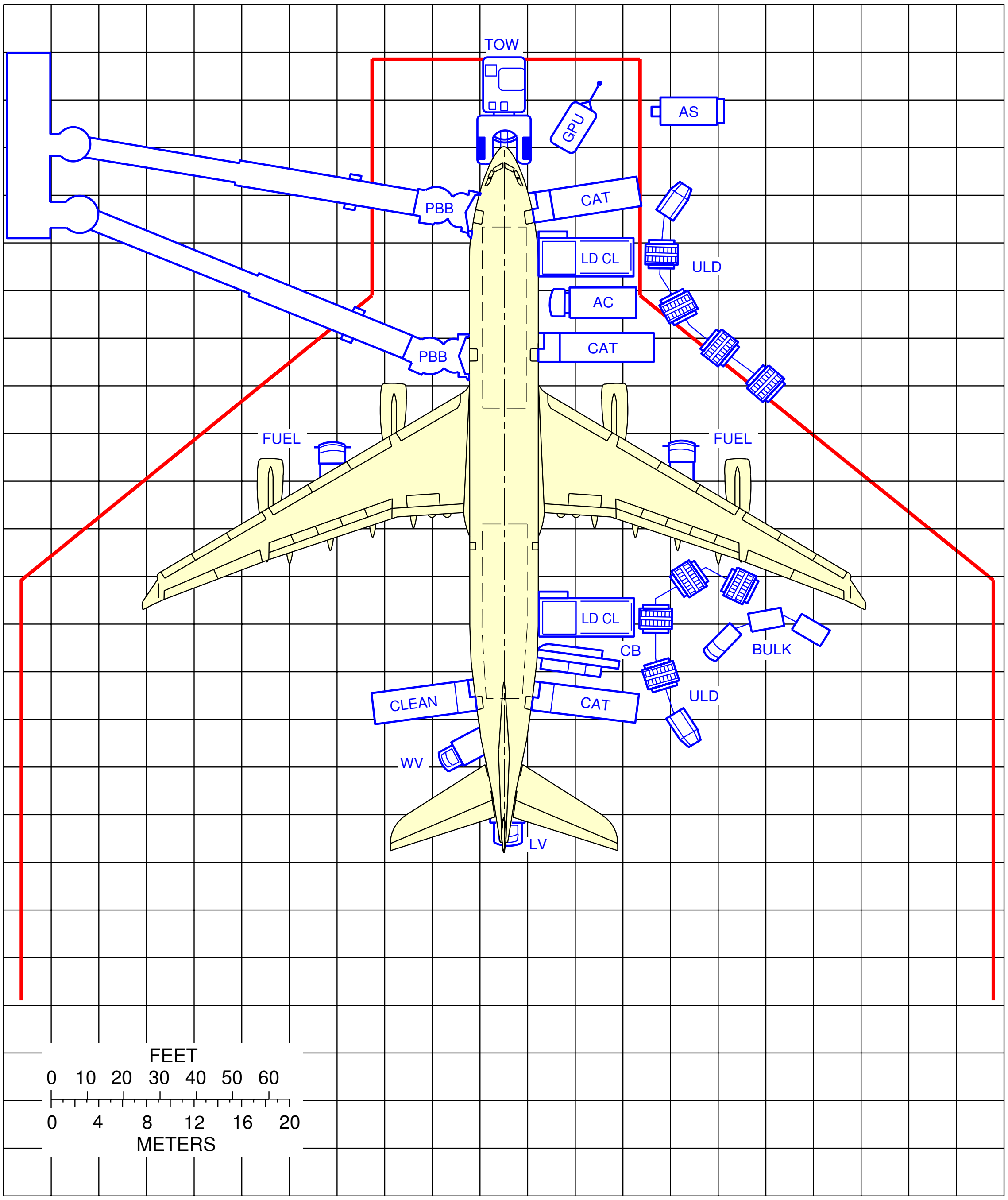
5-1-3 Loading (Passenger Bridge)

****ON A/C A340-200 A340-300**

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 A340-300



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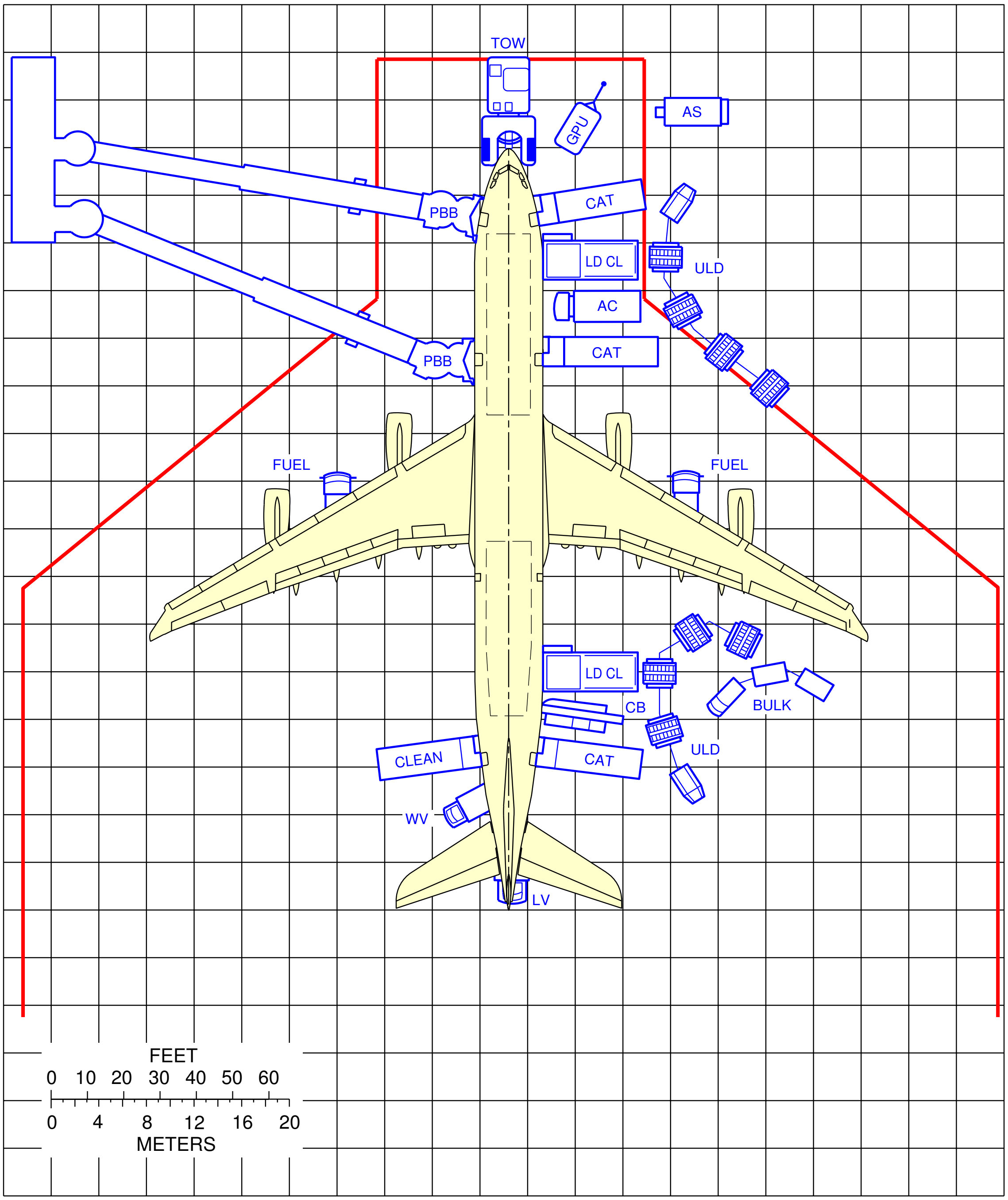
Airplane Servicing Arrangements
Typical Ramp Layout (gate area)
FIGURE 1

**ON A/C A340-200



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

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

**ON A/C A340-200 A340-300

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 A340-200 A340-300**

Full Servicing Turn Round Charts

****ON A/C A340-200**

1. Assumptions for full servicing turn round chart.

   A. PASSENGER BOARDING/DEBOARDING (PB/D)

   Deboarding : 231 passengers (10 first + 42 business + 179 tourists)
   - For full servicing, all passengers deboard and board
   - Doors used: L1 + L2
   - Deboarding:
     - 104 pax at L1 (10 first + 42 business + 52 tourists) and 127 pax at L2
     - Deboarding rate = 25 pax/min
     - Priority deboarding for premium passengers
   - Boarding:
     - 52 pax at L1 and 179 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
   - 127 000 l (33 550 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: 7 FST at R1, 9 FST at R2 and 20 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 A340-300

2. Assumptions for full servicing turn round chart.

A. PASSENGER BOARDING/DEBOARDING (PB/D)

Deboarding : 270 passengers (10 first + 28 business + 232 tourists)
- For full servicing, all passengers deboard and board
- Doors used: L1 + L2
- Deboarding:
  - 130 pax at L1 (10 first + 28 business + 92 tourists) and 140 pax at L2
  - Deboarding rate = 25 pax/min
  - Priority deboarding for premium passengers
- Boarding:
  - 38 pax at L1 and 232 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

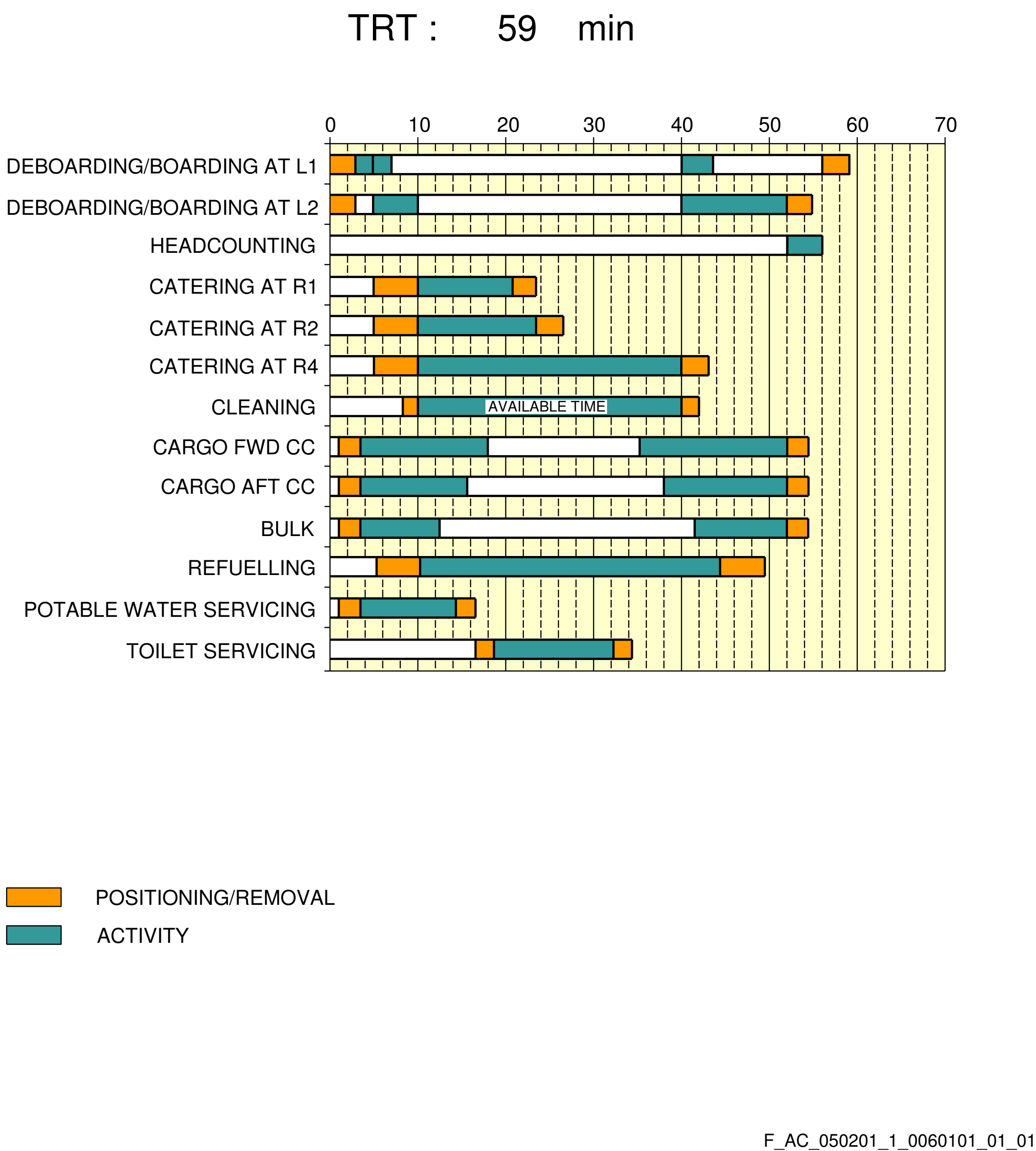
C. REFUELLING
- Block fuel for Nominal Range through 4 nozzles
- 127 000 l (33 550 US gal) at 50 psi
- Dispenser positioning or removal = 3 min (fuel truck change) / if any = 5 min

D. CLEANING
- Cleaning is performed in available time

E. CATERING
- 3 catering vehicles
- 48 Full size trolley: 10 FSTE at R1, 13 FSTE at R2 and 25 FST at R4
- FST exchange time = 1.5 min/FST

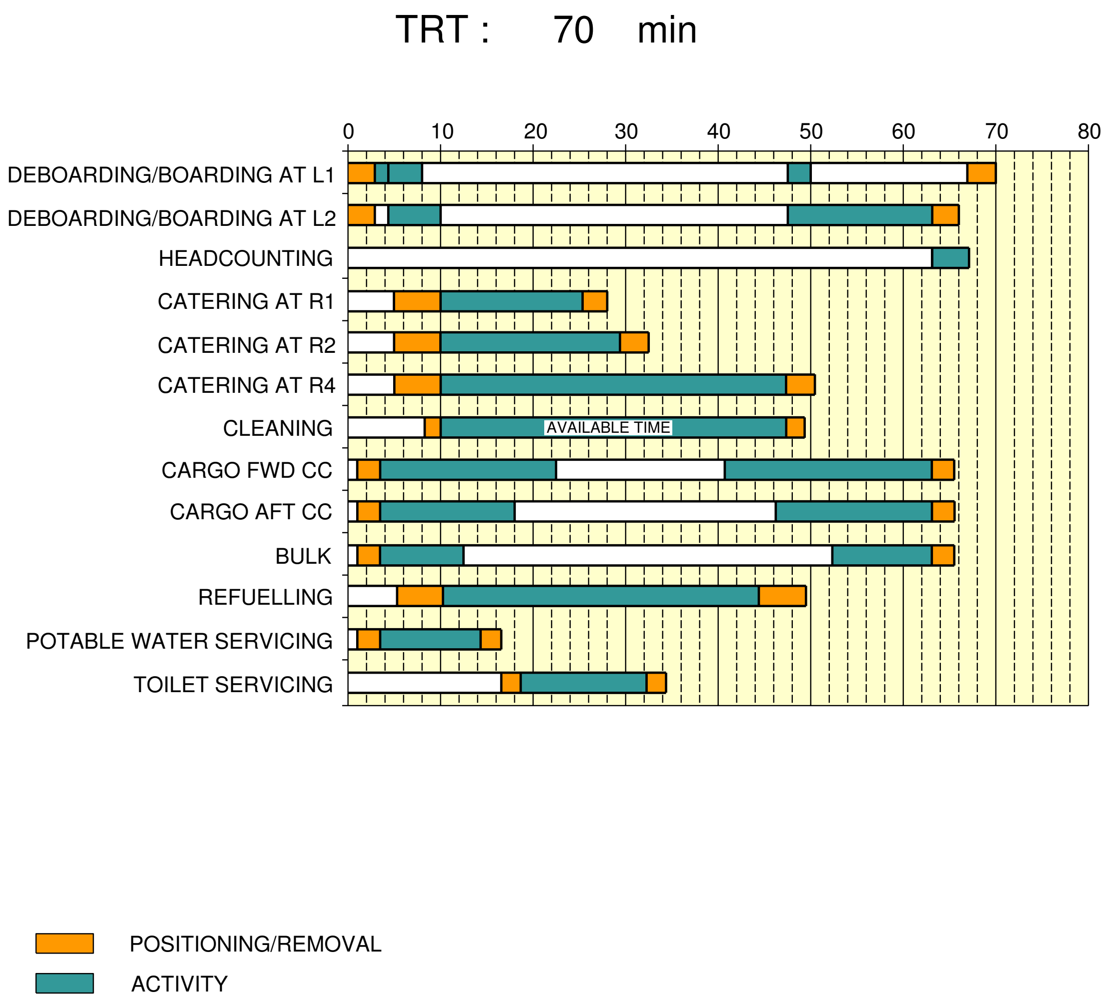
F. GROUND HANDLING/SERVICING
- Start of operations :
  (1) Bridges = t0 = 0
  (2) Others = t0 + 1 min
- Vehicle positioning/removal = 2 min (fuel truck excluded)
- Ground Power Unit (GPU) = up to 2 × 90 kVA
- Air conditioning = two carts
- Potable water servicing: replenish 700 l (185 US gal); flow rate: 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 A340-200



Turn around charts
Turn Round Time 59 min.
FIGURE 1

**ON A/C A340-300



Turn around charts
Turn Round Time 70 min.
FIGURE 2

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

****ON A/C A340-200 A340-300**

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 A340-200 A340-300

Transit Turn Round Charts

**ON A/C A340-200

1. Assumptions for transit turn round chart.

A. PASSENGER BOARDING/DEBOARDING (PB/D)

Deboarding : 231 passengers (10 first + 42 business + 179 tourists)

- 50% pax in transit, all passengers deboard and board
- Doors used: L1 + L2
- Deboarding:
  - 104 pax at L1 (10 first + 42 business and 52 tourists) and 127 pax at L2
  - Deboarding rate = 25 pax/min
  - Priority deboarding for premium passengers
- Boarding:
  - 52 pax at L1 and 179 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
- 4 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 = 155 040 l (40 957 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 A340-300**

2. Assumptions for transit turn round chart.

A. PASSENGER BOARDING/DEBOARDING (PB/D)

Deboarding :270 passengers (10 first + 28 business + 232 tourists)
- 50% pax in transit, all passengers deboard and board
- Doors used: L1 + L2
- Deboarding:
  - 130 pax at L1 (10 first + 28 business and 92 tourists) and 140 pax at L2
  - Deboarding rate = 25 pax/min
  - Priority deboarding for premium passengers
- Boarding:
  - 38 pax at L1 and 232 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
- 4 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 = 141 500 l (37 380 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

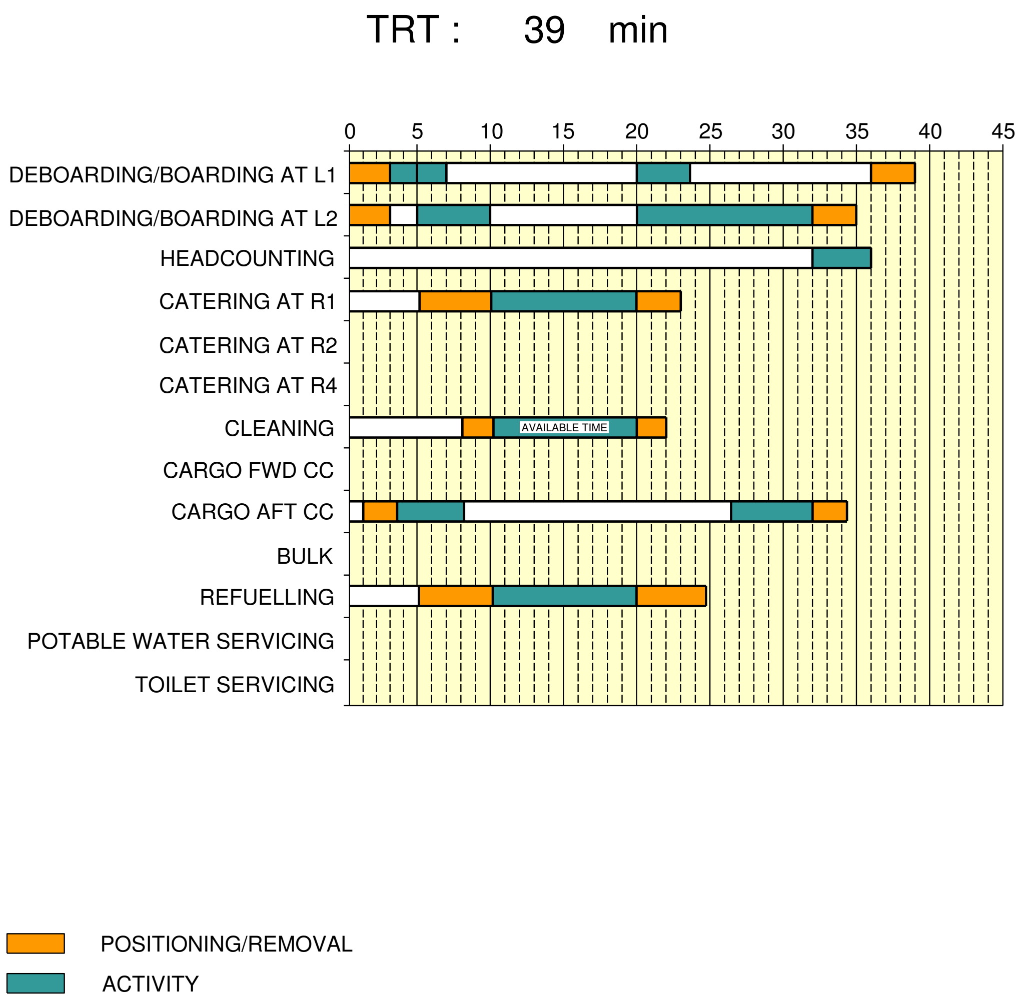
E. CATERING

- 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 A340-200



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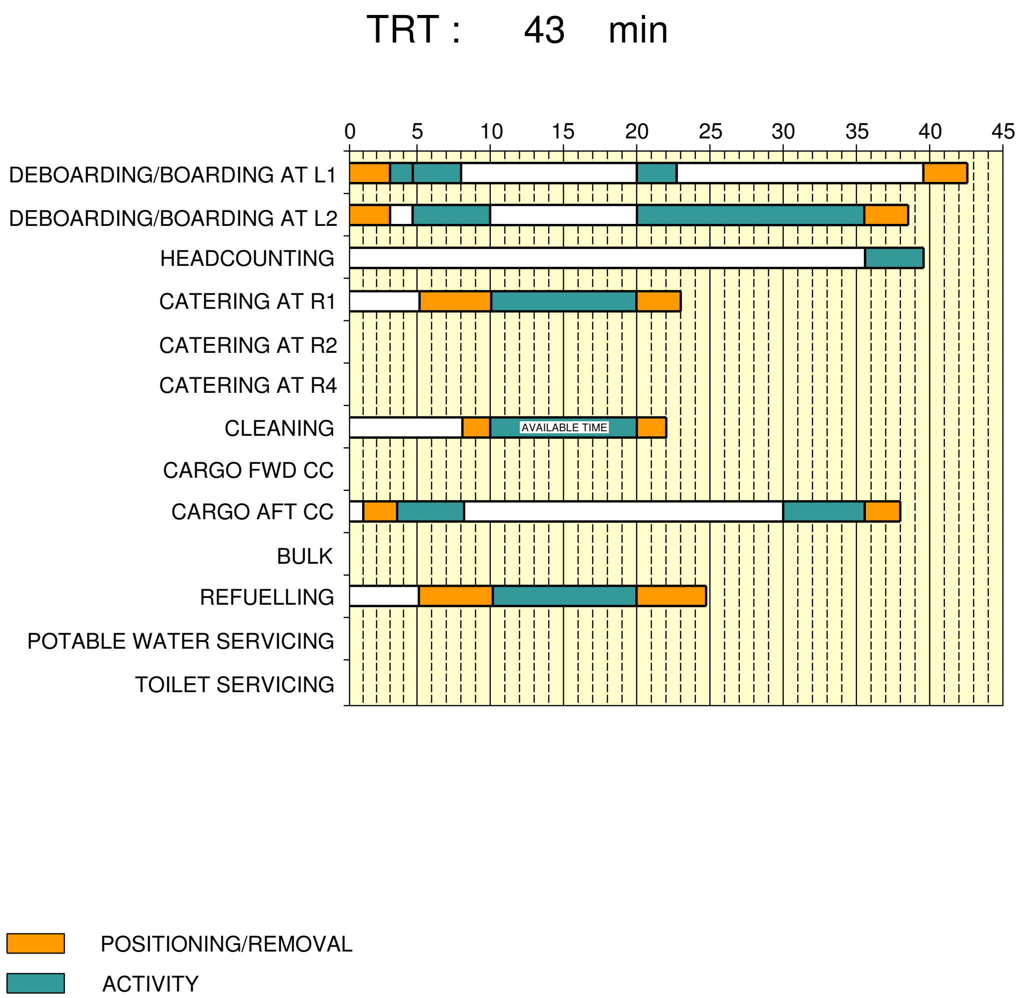
Transit Turn Round Charts
Turn Round Time 39 min.
FIGURE 1

**ON A/C A340-300



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Transit Turn Round Charts
Turn Round Time 43 min.
FIGURE 2

5-4-0 Ground Service Connections

****ON A/C A340-200 A340-300**

Ground Service Connections

1. Ground Service Connections.

5-4-1 Ground Service Connections Layout

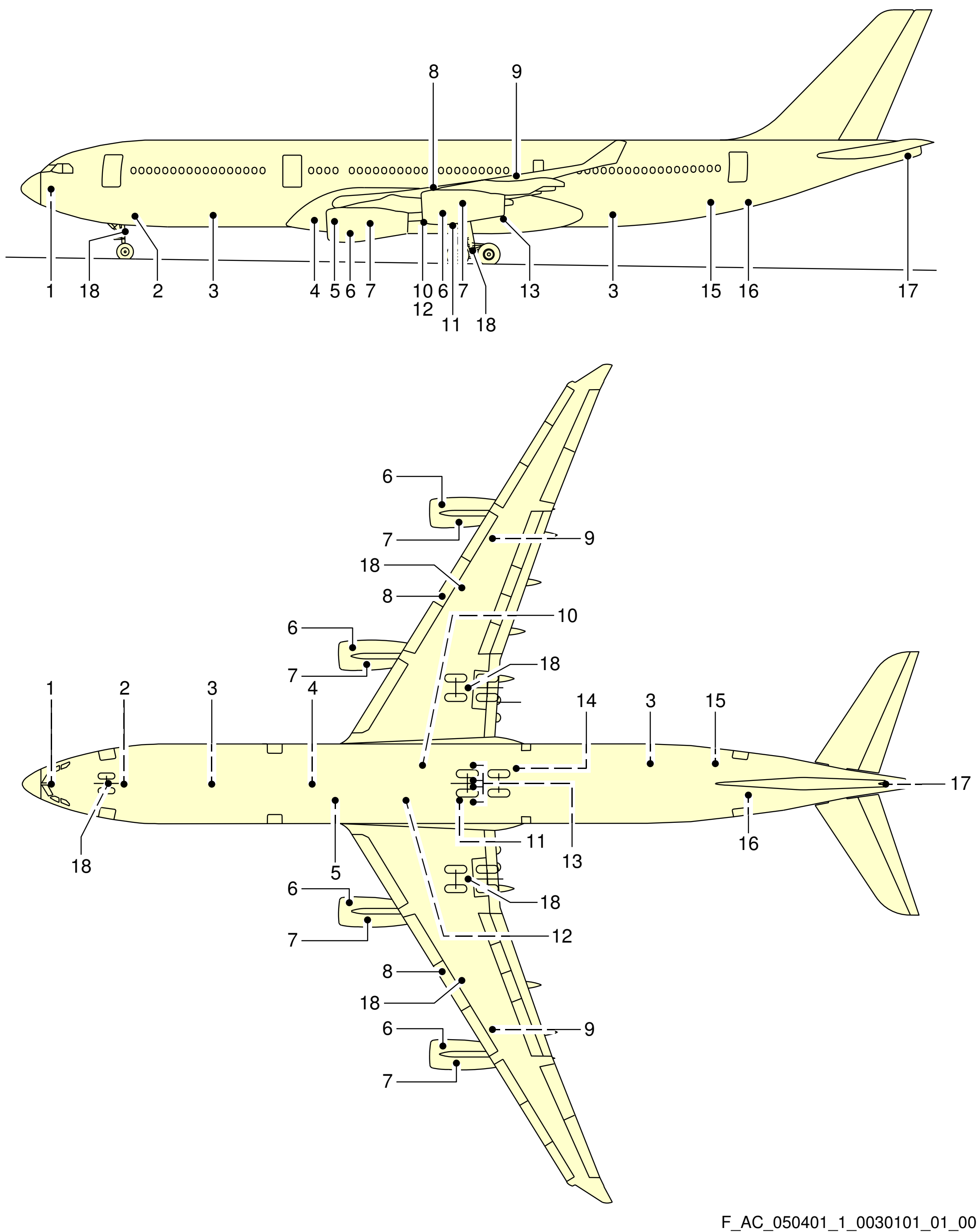
**ON A/C A340-200 A340-300

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 A340-200 A340-300**



Ground Service Connections
Ground Service Connections Layout
FIGURE 1

5-4-2 Grounding Points

****ON A/C A340-200 A340-300**

Grounding Points

****ON A/C A340-300**

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:	6.57 m (21.56 ft)	on centerline		1.40 m (4.59 ft)
On left Main Landing Gear leg:	31.58 m (103.61 ft)		5.34 m (17.52 ft)	1.50 m (4.92 ft)
On right Main Landing Gear leg:	31.58 m (103.61 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 A340-200**

2. Grounding Points.

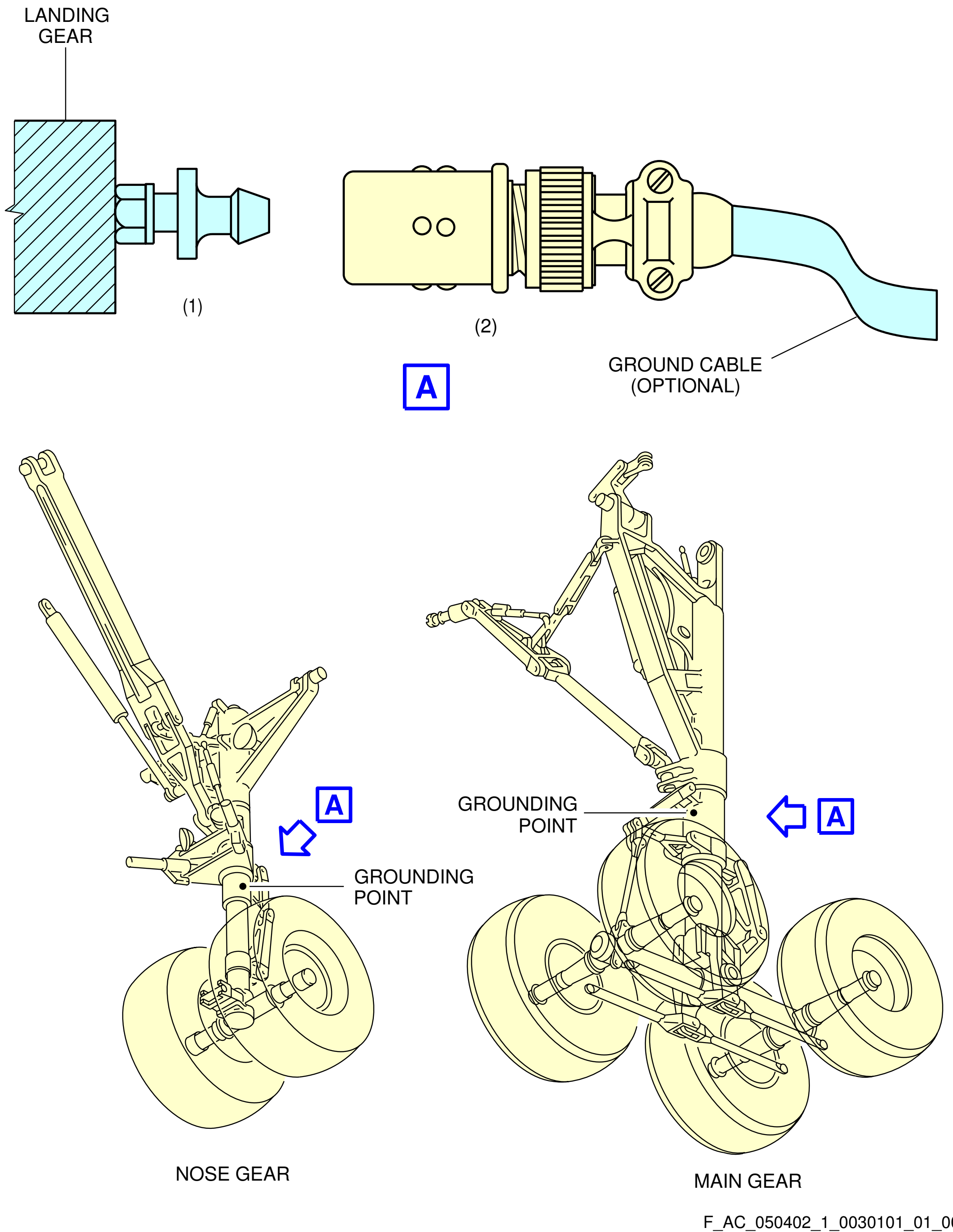
	DISTANCE: Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
On Nose Landing Gear leg:	6.57 m (21.56 ft)	on centerline		1.40 m (4.59 ft)
On left Main Landing Gear leg:	29.40 m (96.46 ft)		5.34 m (17.52 ft)	1.50 m (4.92 ft)
On right Main Landing Gear leg:	29.40 m (96.46 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.

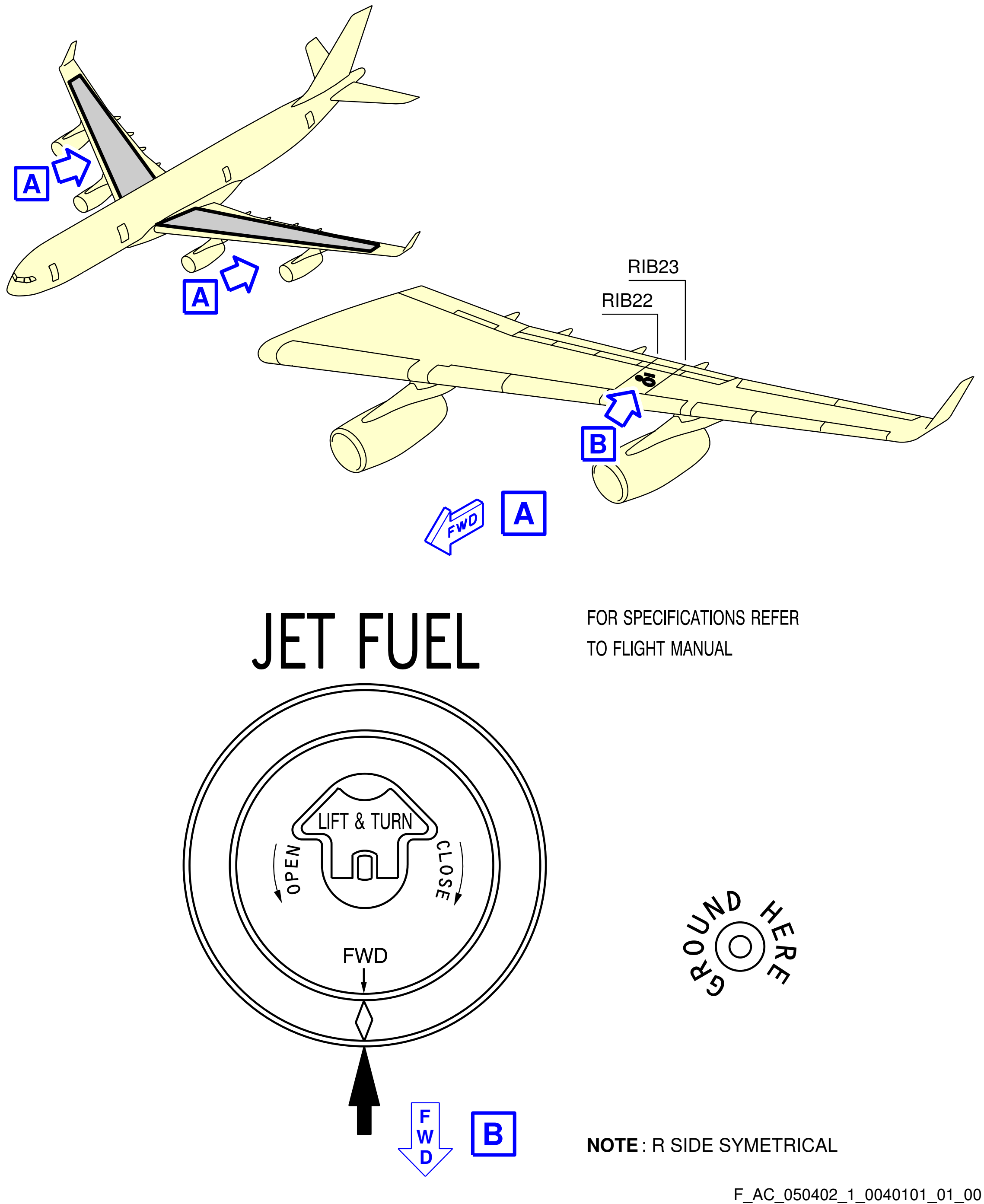
NOTE : In all other conditions, the electrostatic discharge through the tyre is sufficient.

**ON A/C A340-200 A340-300



Ground Service Connections
Grounding Points
FIGURE 1

**ON A/C A340-200 A340-300



Ground Service Connections
Grounding Points
FIGURE 2

5-4-3 Hydraulic System

****ON A/C A340-200 A340-300**

Hydraulic System

****ON A/C A340-300**

1. Ground service panels.

	DISTANCE: Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Green System:	41.30 m (135.50 ft)		1.34 m (4.40 ft)	2.23 m (7.32 ft)
Yellow System:	35.40 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)

****ON A/C A340-200**

2. Ground service panels.

	DISTANCE: Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Green System:	39.17 m (128.51 ft)		1.34 m (4.40 ft)	2.23 m (7.32 ft)
Yellow System:	33.27 m (109.15 ft)	1.30 m (4.27 ft)		1.95 m (6.40 ft)
Blue System:	32.28 m (105.91 ft)		1.28 m (4.20 ft)	1.94 m (6.36 ft)

****ON A/C A340-300**

3. 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 A340-200**

4. 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):	32.34 m (106.10 ft)		1.41 m (4.63 ft)	1.89 m (6.20 ft)

****ON A/C A340-300**

5. 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)

	DISTANCE: Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
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)	1.90 m (6.23 ft)
Blue System brake accumulator:	34.54 m (113.32 ft)		1.24 m (4.07 ft)	1.90 m (6.23 ft)

****ON A/C A340-200**

6. 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:	33.42 m (109.65 ft)	1.43 m (4.69 ft)		1.91 m (6.27 ft)
Green System accumulator:	39.39 m (129.23 ft)		1.33 m (4.36 ft)	2.19 m (7.19 ft)
Blue System accumulator:	32.41 m (106.33 ft)		1.38 m (4.53 ft)	1.90 m (6.23 ft)
Blue System brake accumulator:	32.41 m (106.33 ft)		1.18 m 3.87 ft	1.90 m (6.23 ft)

****ON A/C A340-300**

7. 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)		1.30 m (4.27 ft)	2.11 m (6.92 ft)

****ON A/C A340-200**

8. 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.	39.18 m (128.54 ft)		1.30 m (4.27 ft)	2.11 m (6.92 ft)

****ON A/C A340-300**

9. 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	
Yellow System:	29.03 m (95.24 ft)	2.12 m (6.96 ft)		2.40 m (7.87 ft)
Green 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)

ON A/C A340-200

10. 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	
Yellow System:	26.90 m (88.25 ft)	2.12 m (6.96 ft)		2.40 m (7.87 ft)
Green System:	31.04 m (101.84 ft)		0.70 m (2.30 ft)	3.80 m (12.47 ft)
Blue System:	26.90 m (88.25 ft)		2.12 m (6.96 ft)	2.40 m (7.87 ft)

ON A/C A340-300

11. 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)	2.20 m (7.22 ft)
Yellow System ground service panel:	29.03 m (95.24 ft)	1.30 m (4.27 ft)		2.00 m (6.56 ft)
Blue System ground service panel:	28.03 m (91.96 ft)		1.28 m (4.20 ft)	2.00 m (6.56 ft)

ON A/C A340-200

12. 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:	32.79 m (107.58 ft)		1.35 m (4.43 ft)	2.20 m (7.22 ft)
Yellow System ground service panel:	26.90 m (88.25 ft)	1.30 m (4.27 ft)		2.00 m (6.56 ft)
Blue System ground service panel:	25.90 m (84.97 ft)		1.28 m (4.20 ft)	2.00 m (6.56 ft)

5-4-4 Electrical System

****ON A/C A340-200 A340-300**

<u>Electrical System</u>

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.	7.01 m (23.00 ft)	on centerline		1.98 m (6.50 ft)

- Supply: 115/200 Volt, 3-Phase, 400 Hz.
- Power required: 2 – (90 KVA).

5-4-5 Oxygen System

****ON A/C A340-200 A340-300**

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 A340-200 A340-300**

Fuel System

****ON A/C A340-300**

1. 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 (98.43 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 (19.03 ft)
Refuel/defuel control panel	34.30 m (112.53 ft)	0.8 m (2.62 ft)		1.90 m (6.23 ft)

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

B. Two service connections (gravity refuel).

C. Flow Rate: 1250 l/min (330 US gal/min) per connection.

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

****ON A/C A340-200**

2. Refuel/defuel access

	DISTANCE: Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Refuel/defuel coupling	27.80 m (91.21 ft)	12.60 m (41.33 ft)	12.60 m (41.33 ft)	5.00 m (16.40 ft)
Overwing gravity refuel cap	31.20 m (102.30 ft)	17.20 m (56.43 ft)	17.20 m (56.43 ft)	5.80 m (19.02 ft)

	DISTANCE: Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Refuel/defuel control panel	32.20 m (105.64 ft)	0.80 m 2.62 ft		1.90 m (6.23 ft)

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

B. Two service connections (gravity refuel).

C. Flow Rate: 1250 l/min (330 US gal/min) per connection.

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

5-4-7 Pneumatic System

****ON A/C A340-200 A340-300**

Pneumatic System

****ON A/C A340-300**

1. 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:	23.90 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 3 in. TC20 connections for engine starting and cabin air conditioning.

2. 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)	1.89 m (6.20 ft)

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

****ON A/C A340-200**

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:	21.77 m (71.42 ft)		0.84 m (2.76 ft)	1.79 m (5.87 ft)
	22.12 m (72.57 ft)		0.84 m (2.76 ft)	1.79 m (5.87 ft)

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

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:	20.35 m (66.77 ft)		0.31 m (1.02 ft)	1.86 m (6.10 ft)
	20.35 m (66.77 ft)		0.76 m (2.49 ft	1.89 m (6.20 ft)

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

5-4-8 Potable Water System

****ON A/C A340-200 A340-300**

Potable Water System

****ON A/C A340-300**

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 A340-200**

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 69–70:	43.88 m (143.96 ft)	0.51 m (1.67 ft)		3.13 m (10.27 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 A340-300**

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 A340-200**

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 28–29 comprising:	14.70 m (48.23 ft)		0.60 m (1.97 ft)	1.92 m (6.30 ft)

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

****ON A/C A340-300**

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 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 A340-200**

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 55–56:	36.51 m (119.78 ft)	0.72 m (2.36 ft)		2.44 m (8.01 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 A340-200 A340-300**

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 A340-200 A340-300**

Oil System

****ON A/C A340-300**

1. Engine Oil Tank and IDG for CFM56-5C2 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
		LH SIDE	RH SIDE	
Engine Oil Gravity Filling Cap:	Engine 1-4 31.03 m (101.80 ft) Engine 2-3 24.46 m (80.25 ft)	Engine 1 20.56 m (67.45 ft) Engine 2 10.33 m (33.89 ft)	Engine 3 8.41 m (27.59 ft) Engine 4 18.64 m (61.15 ft)	Engine 1-4 3.47 m (11.38 ft) Engine 2-3 2.20 m (7.22 ft)
Engine Oil Pressure Filling Port:	Engine 1-4 30.90 m (101.38 ft) Engine 2-3 24.32 m (79.79 ft)	Engine 1 20.64 m (67.72 ft) Engine 2 10.41 m (34.15 ft)	Engine 3 8.32 m (27.30 ft) Engine 4 18.56 m (60.89 ft)	Engine 1-4 3.47 m (11.38 ft) Engine 2-3 2.20 m (7.22 ft)

      - Max delivery pressure required: 25 psi (1.72 bar).
      - Max delivery flow required: 66.00 US gal/hour (249.84 l/hour).

      (1) Tank capacity:
         - Full level: 20.70 Qts (22.79 l).
         - Minimum Usable: 9.70 Qts (10.68 l).

   B. IDG Oil Replenishment:

      One pressure filling connection per engine.

	DISTANCE: Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		LH SIDE	RH SIDE	
IDG Oil Pressure Filling Port:	Engine 1-4 30.12 m (98.82 ft) Engine 2-3 23.54 m (77.23 ft)	Engine 1 19.40 m (63.65 ft) Engine 2 9.17 m (30.09 ft)	Engine 3 9.57 m (31.40 ft) Engine 4 19.80 m (64.96 ft)	Engine 1-4 2.55 m (8.37 ft) Engine 2-3 1.35 m (4.43 ft)

- Max delivery pressure required: 40 psi (2.76 bar).
- Max OIL capacity of IDG: 1.10 US gal (4.16 l).

**ON A/C A340-200

2. Engine Oil Tank and IDG for CFM56-5C2 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
		LH SIDE	RH SIDE	
Engine Oil Gravity Filling Cap:	Engine 1-4 28.90 m (94.82 ft) Engine 2-3 22.33 m (73.26 ft)	Engine 1 20.56 m (67.45 ft) Engine 2 10.33 m (33.89 ft)	Engine 3 8.41 m (27.59 ft) Engine 4 18.64 m (61.15 ft)	Engine 1-4 3.47 m (11.38 ft) Engine 2-3 2.20 m (7.22 ft)
Engine Oil Pressure Filling Port:	Engine 1-4 28.77 m (94.39 ft) Engine 2-3 22.19 m (72.80 ft)	Engine 1 20.64 m (67.72 ft) Engine 2 10.41 m (34.15 ft)	Engine 3 8.32 m (27.30 ft) Engine 4 18.56 m (60.89 ft)	Engine 1-4 3.47 m (11.38 ft) Engine 2-3 2.20 m (7.22 ft)

- Max delivery pressure required: 25 psi (1.72 bar).
- Max delivery flow required: 66.00 US gal/hour (249.84 l/hour).

(1) Tank capacity:
- Full level: 20.70 Qts (22.79 l).
- Minimum Usable: 9.70 Qts (10.68 l).

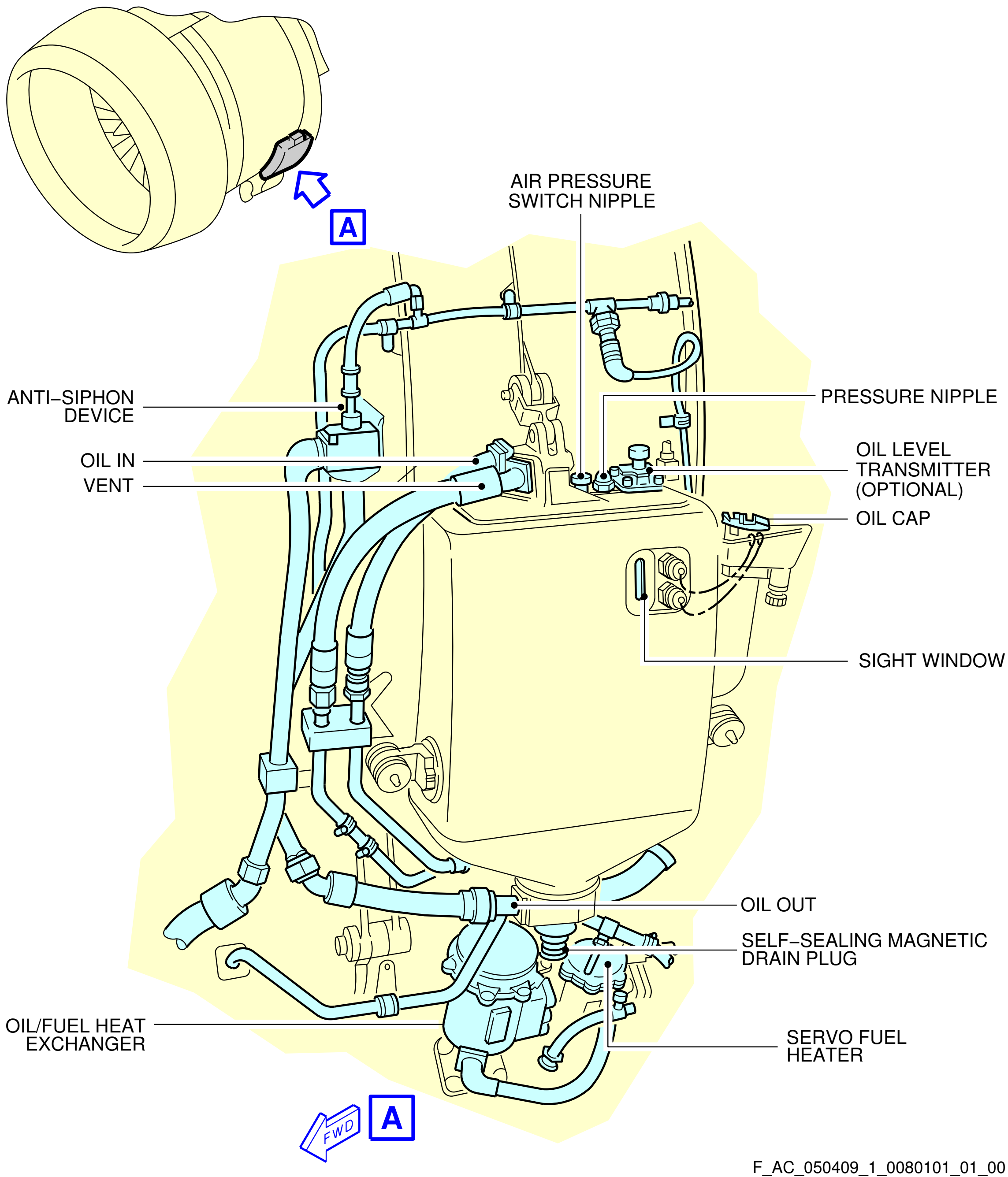
B. IDG Oil Replenishment:

One pressure filling connection per engine.

	DISTANCE: Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		LH SIDE	RH SIDE	
IDG Oil Pressure Filling Port:	Engine 1-4 27.99 m (91.83 ft) Engine 2-3 21.41 m (70.24 ft)	Engine 1 19.40 m (63.65 ft) Engine 2 9.17 m (30.09 ft)	Engine 3 9.57 m (31.40 ft) Engine 4 19.80 m (64.96 ft)	Engine 1-4 2.55 m (8.37 ft) Engine 2-3 1.35 m (4.43 ft)

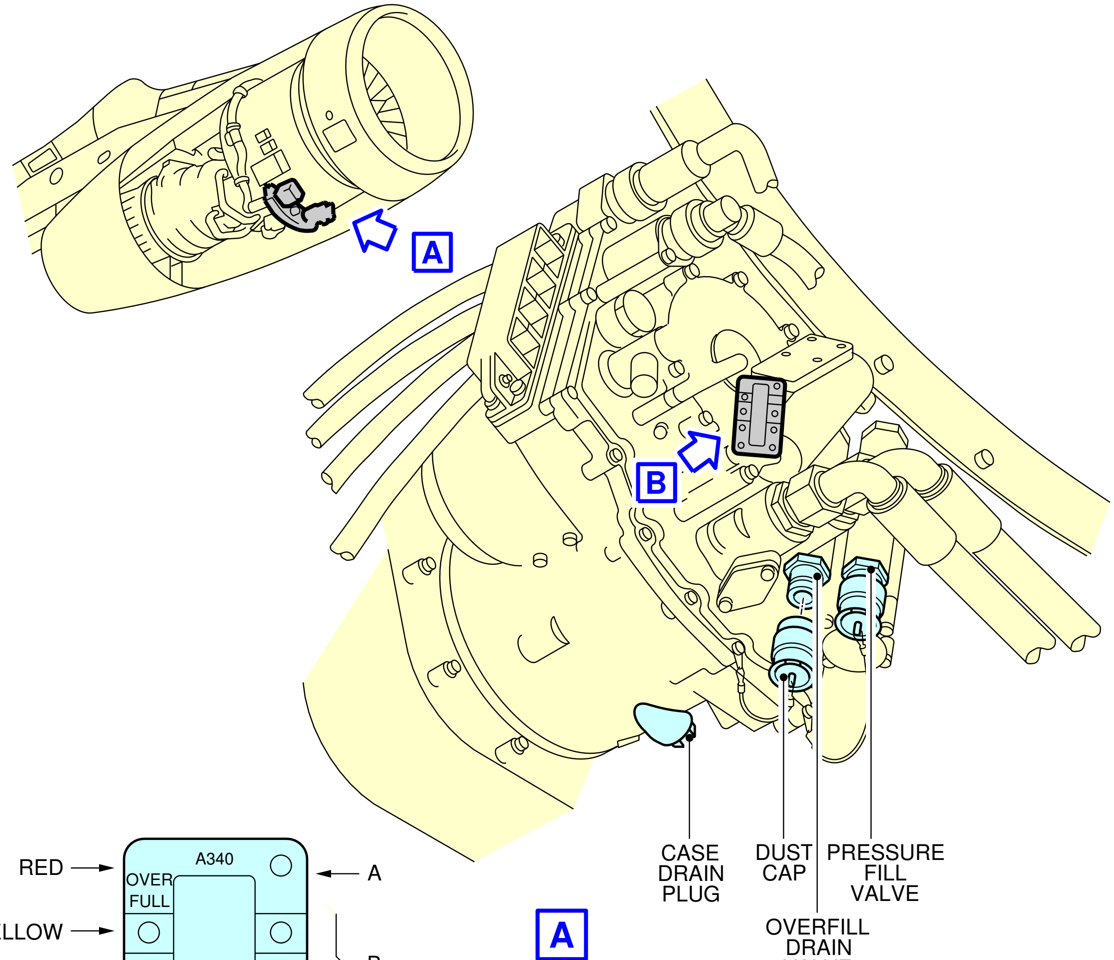
- Max delivery pressure required: 40 psi (2.76 bar).
- Max OIL capacity of IDG: 1.10 US gal (4.16 l).

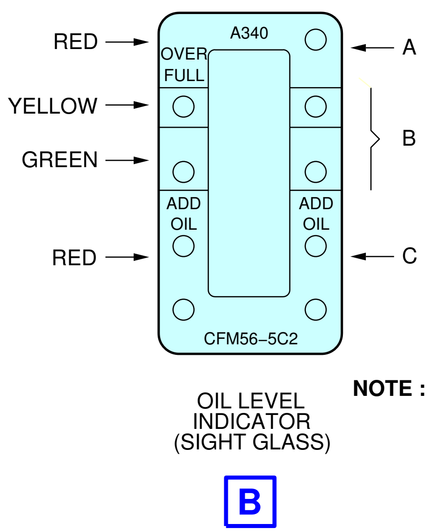
**ON A/C A340-200 A340-300



Ground Service Connections
Engine Oil Tank - CFM56-5C2 series engine
FIGURE 1

**ON A/C A340-200 A340-300





NOTE : A IF THE OIL LEVEL IS ABOVE THE YELLOW BAND, OIL SERVICING IS REQUIRED.
B IF THE OIL LEVEL IS WITHIN THE GREEN AND YELLOW BANDS, OIL SERVICING IS NOT REQUIRED.
C IF THE OIL LEVEL IS BELOW THE GREEN BAND, OIL SERVICING IS REQUIRED.

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Ground Service Connections
IDG Oil Tank - CFM56-5C2 series engine
FIGURE 2

****ON A/C A340-200 A340-300**

APU Oil System

****ON A/C A340-300**

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:	60.30 m (197.83 ft)	0.40 m (1.31 ft)	8.00 m (26.25 ft)

A. Tank capacity (usable):
- APU Type: 331-350: 7.30 l (1.93 US gal).
- APU Type: 331-600: 11.00 l (2.91 US gal).

****ON A/C A340-200**

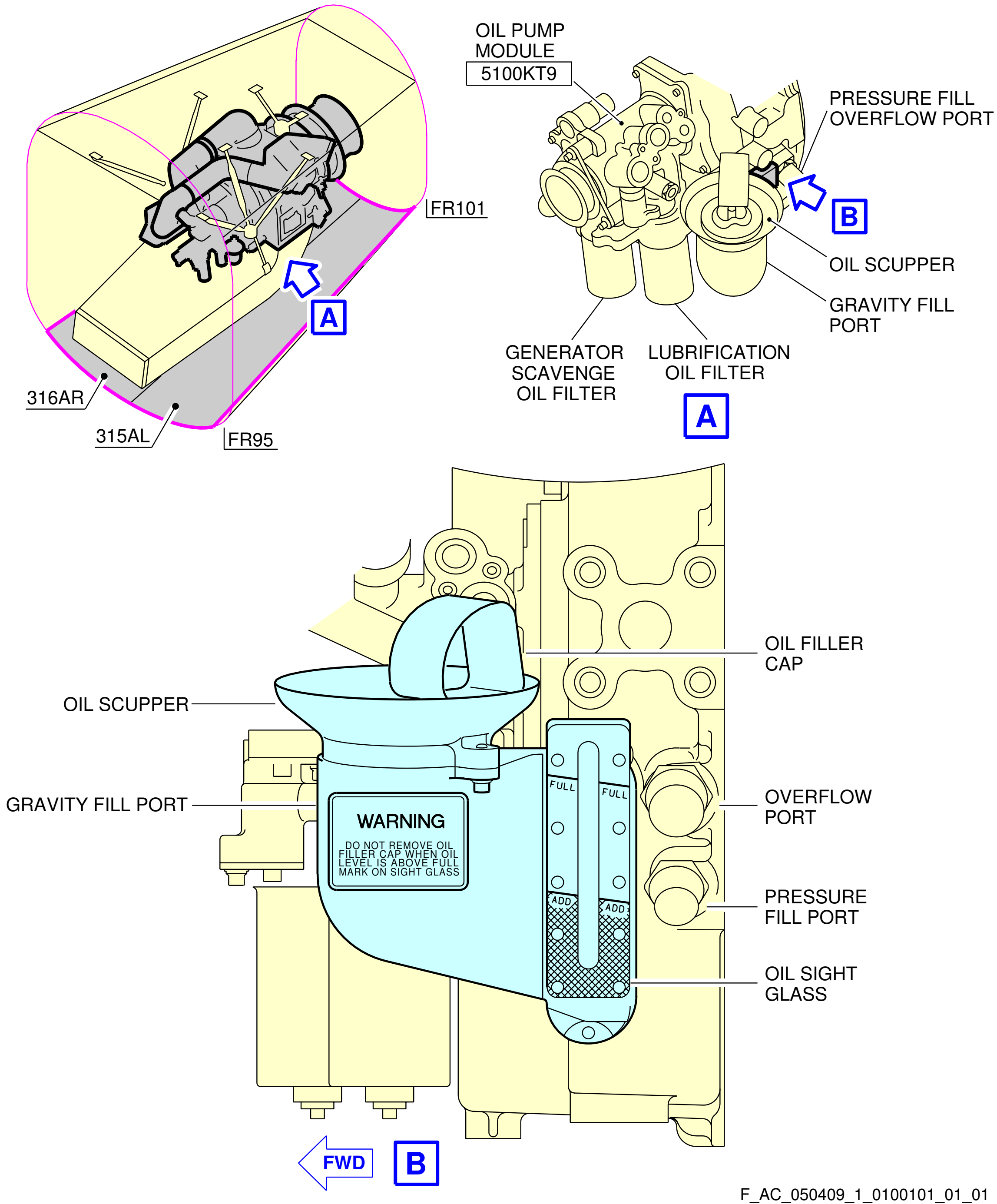
2. APU Oil System.

APU oil gravity filling cap.

	DISTANCE: Meters (ft)		
	AFT OF NOSE	FROM AIRPLANE CENTERLINE (LEFT HAND)	MEAN HEIGHT FROM GROUND
APU Oil Replenishment:	56.00 m (183.73 ft)	0.40 m (1.31 ft)	8.00 m (26.25 ft)

A. Tank capacity (usable):
- APU Type: 331-350: 7.30 l (1.93 US gal).
- APU Type: 331-600: 11.00 l (2.91 US gal).

**ON A/C A340-200 A340-300



Ground Service Connections
APU Oil Tank
FIGURE 3

5-4-10 Vacuum Toilet System

****ON A/C A340-200 A340-300**

Vacuum Toilet System

****ON A/C A340-300**

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)	3.60 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 A340-200**

2. Vacuum Toilet System.

	DISTANCE: Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Waste Service panel:	46.39 m (152.20 ft)		0.09 m (0.30 ft)	3.60 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).

5-5-0 Engine Starting Pneumatic Requirements

**ON A/C A340-200 A340-300

Engine Starting Pneumatic Requirements

1. Engine Starting Pneumatic Requirements.

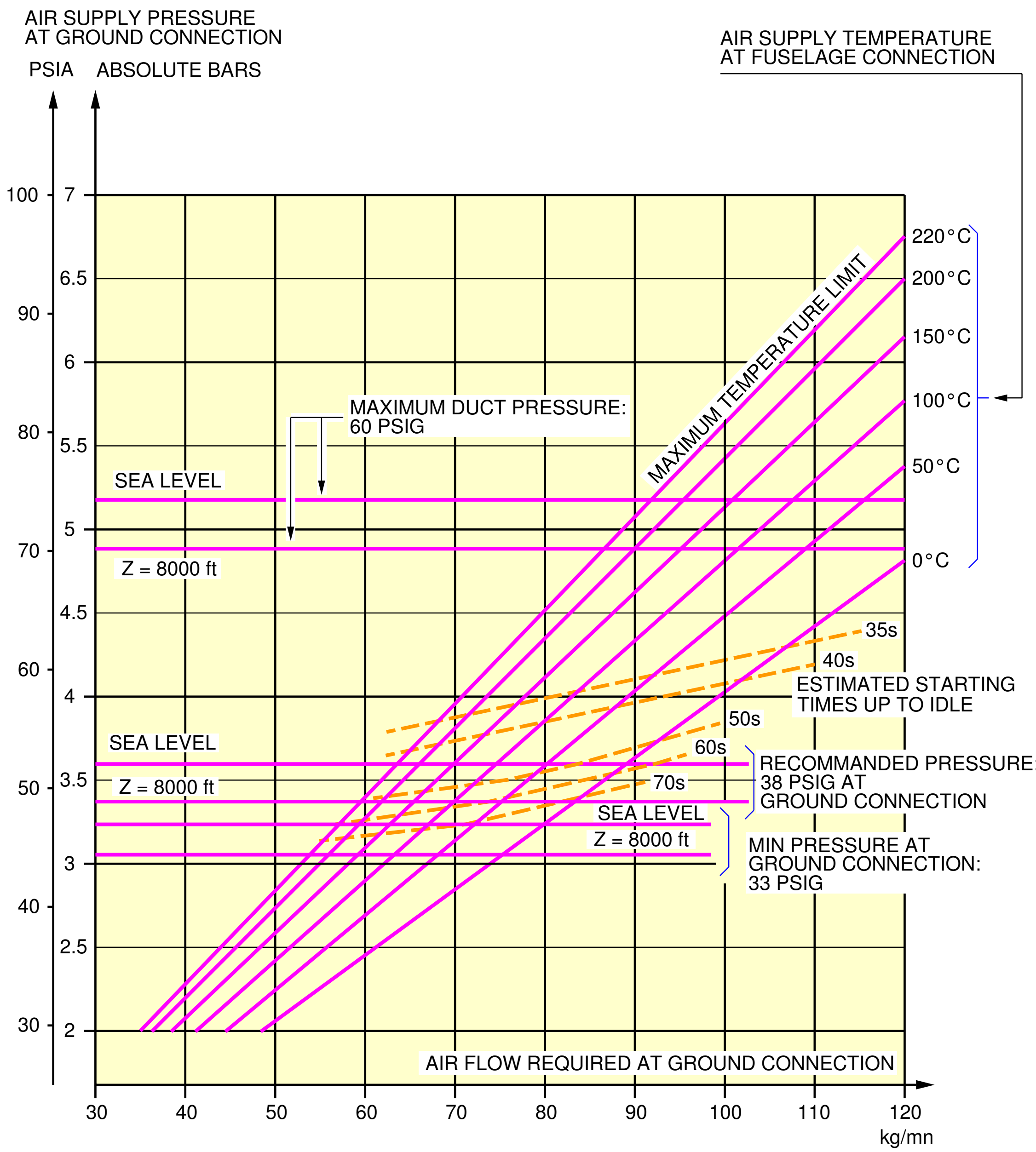
5-5-1 Low Temperatures

**ON A/C A340-200 A340-300

Low Temperature -40°C (-40°F)

1. This section provides the engine starting pneumatic requirements for a temperature of -40°C (-40°F).

**ON A/C A340-200 A340-300



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Engine Starting Pneumatic Requirements
Temperature -40°C (-40°F) – CFM56-5C2 series engine
FIGURE 1

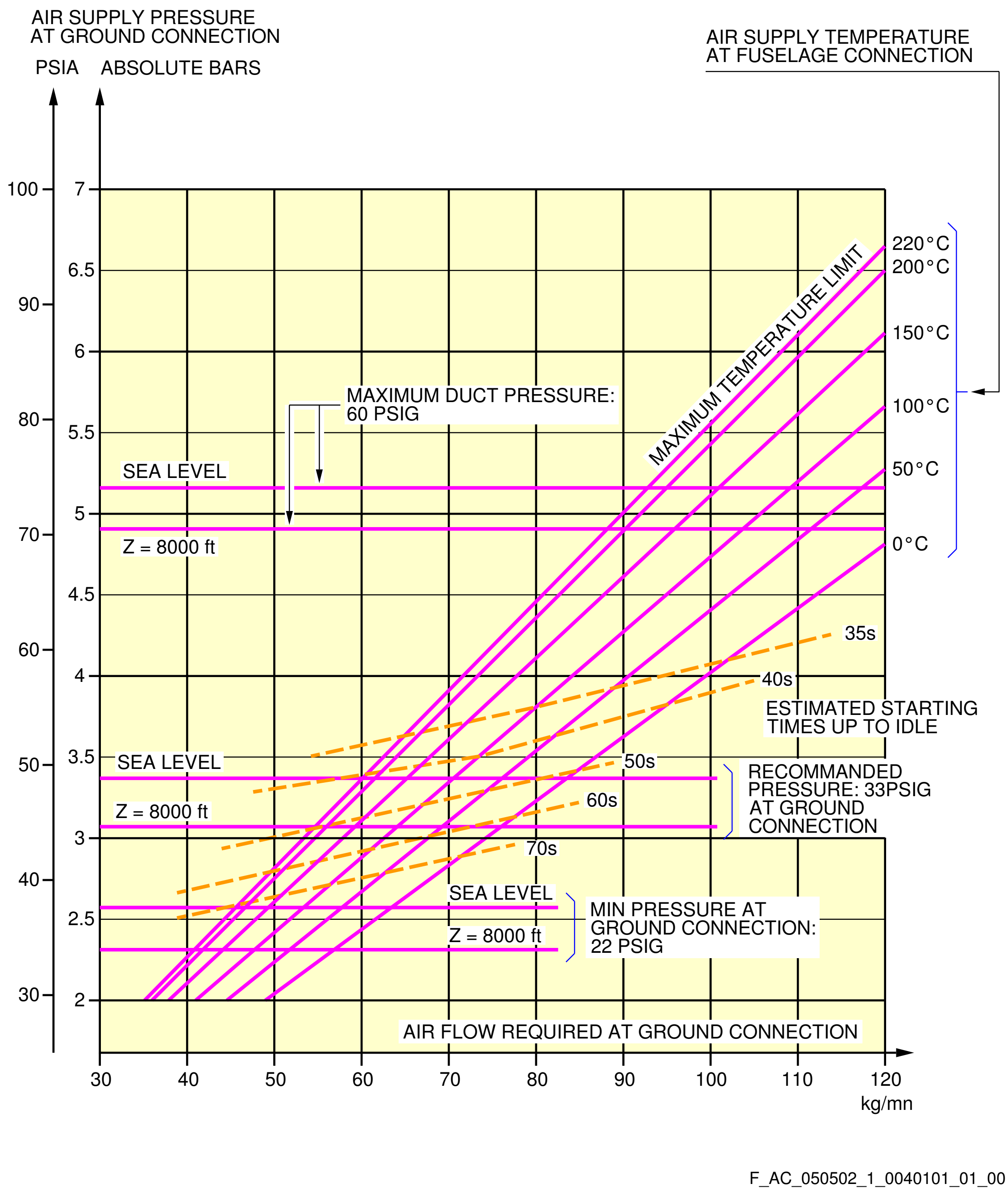
5-5-2 Ambient Temperatures

****ON A/C A340-200 A340-300**

Ambient Temperature +15°C (+59°F)

1. This section provides the engine starting pneumatic requirements for a temperature of +15°C (+59°F).

**ON A/C A340-200 A340-300



Engine Starting Pneumatic Requirements
Temperature +15°C (+59°F) – CFM56-5C2 series engine
FIGURE 1

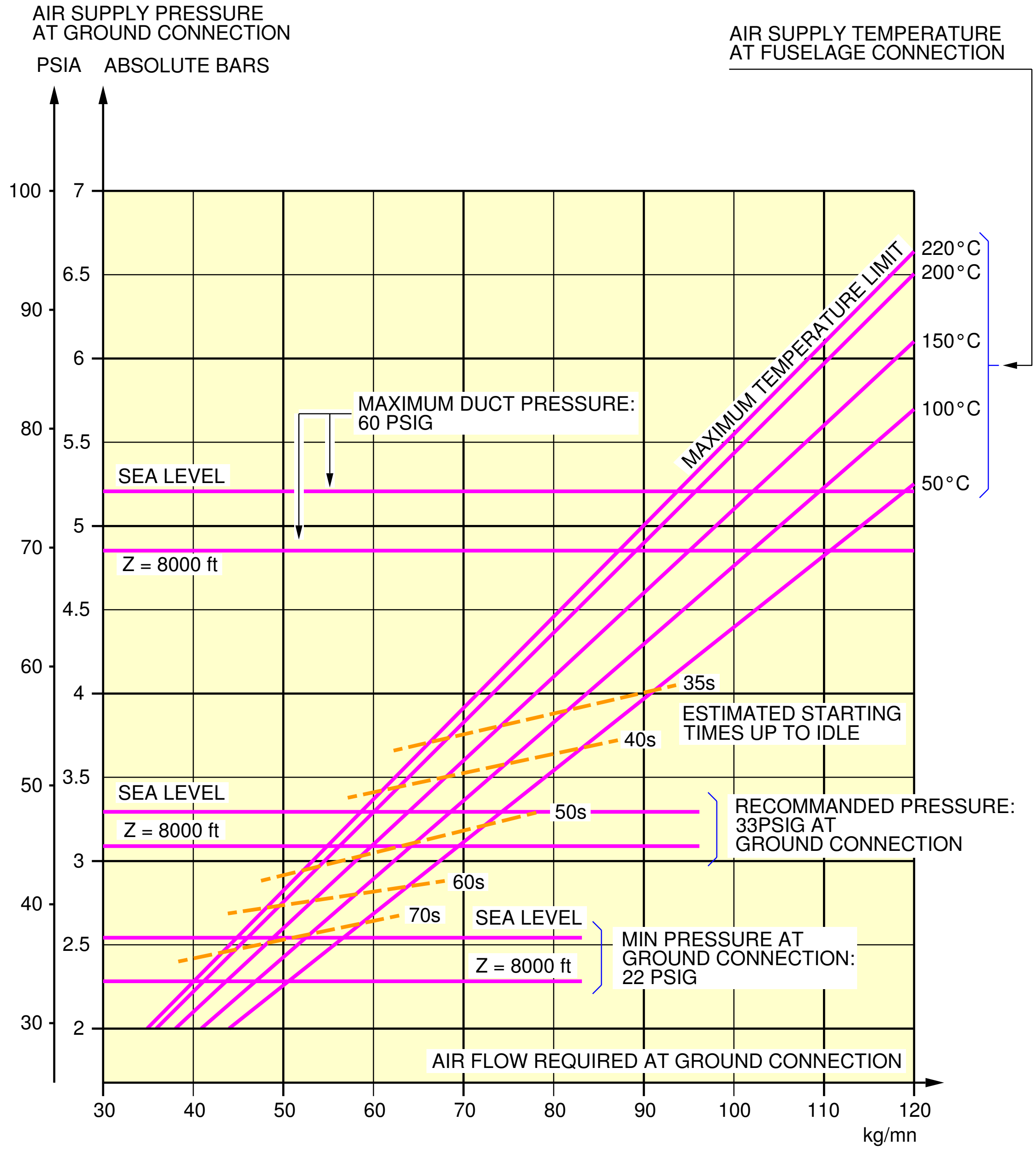
5-5-3 High Temperatures

****ON A/C A340-200 A340-300**

High Temperature +55°C (+131°F)

1. This section provides the engine starting pneumatic requirements for a temperature upper +55°C (+131°F).

**ON A/C A340-200 A340-300



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Engine Starting Pneumatic Requirements
Temperature +55°C (+131°F) – CFM56-5C2 series engine
FIGURE 1

5-6-0 Ground Pneumatic Power Requirements

****ON A/C A340-200 A340-300**

Ground Pneumatic Power Requirements

1. Ground Pneumatic Power Requirements.

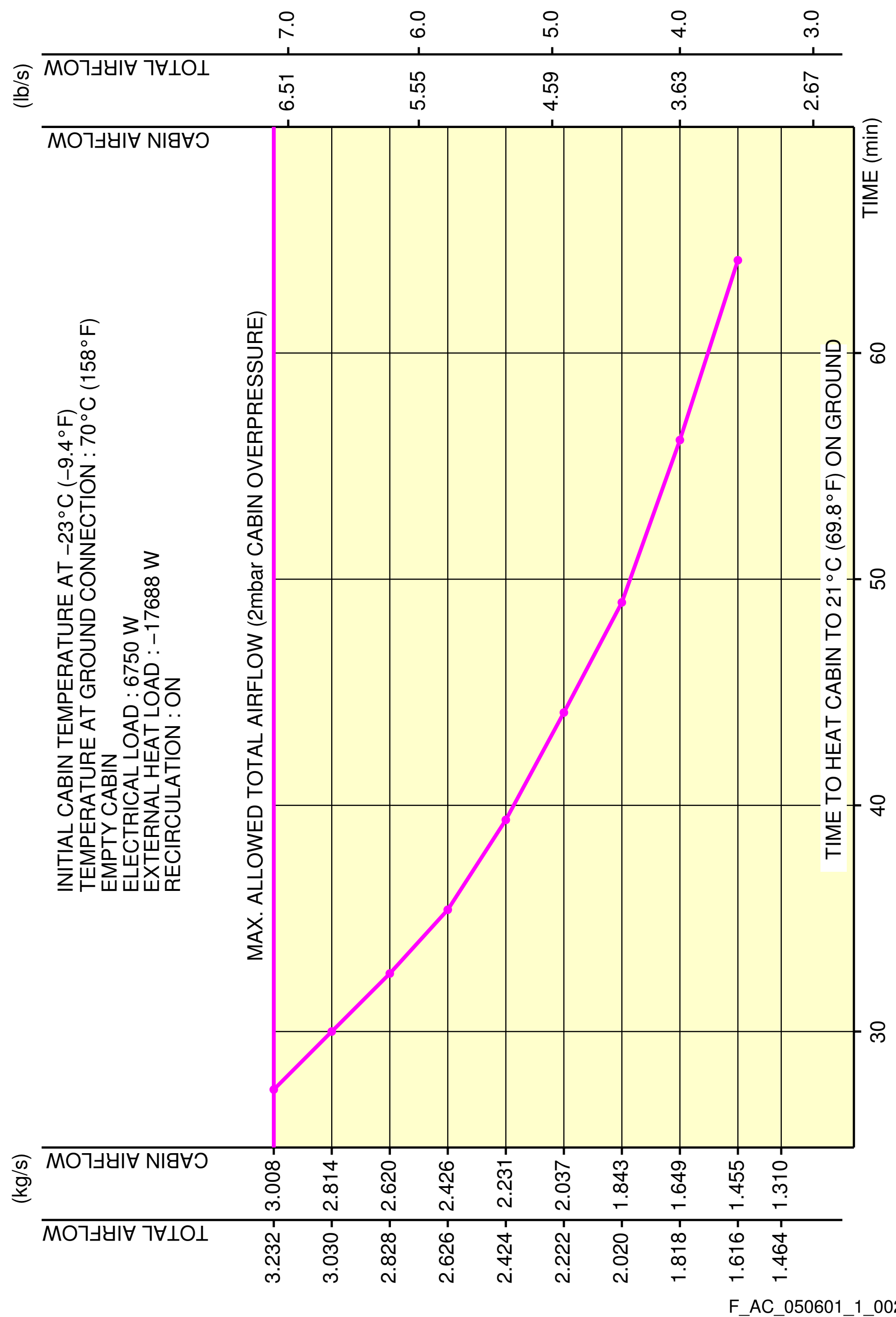
5-6-1 Heating

**ON A/C A340-200 A340-300

Heating

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

****ON A/C A340-200 A340-300**



Ground Pneumatic Power Requirements
Heating
FIGURE 1

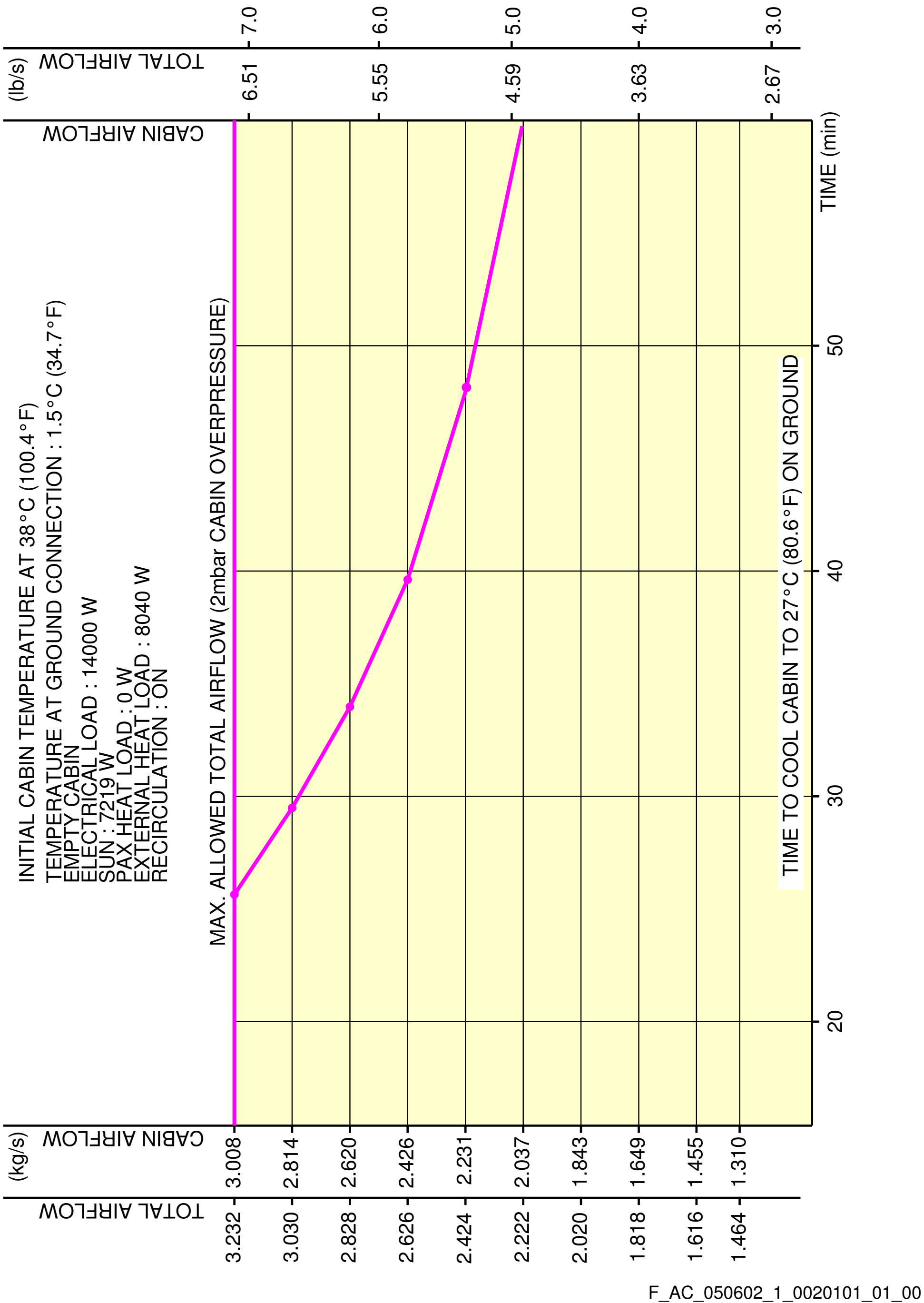
5-6-2 Cooling

ON A/C A340-200 A340-300

Cooling

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

**ON A/C A340-200 A340-300



Ground Pneumatic Power Requirements
Cooling
FIGURE 1

5-7-0 Preconditioned Airflow Requirements

****ON A/C A340-200 A340-300**

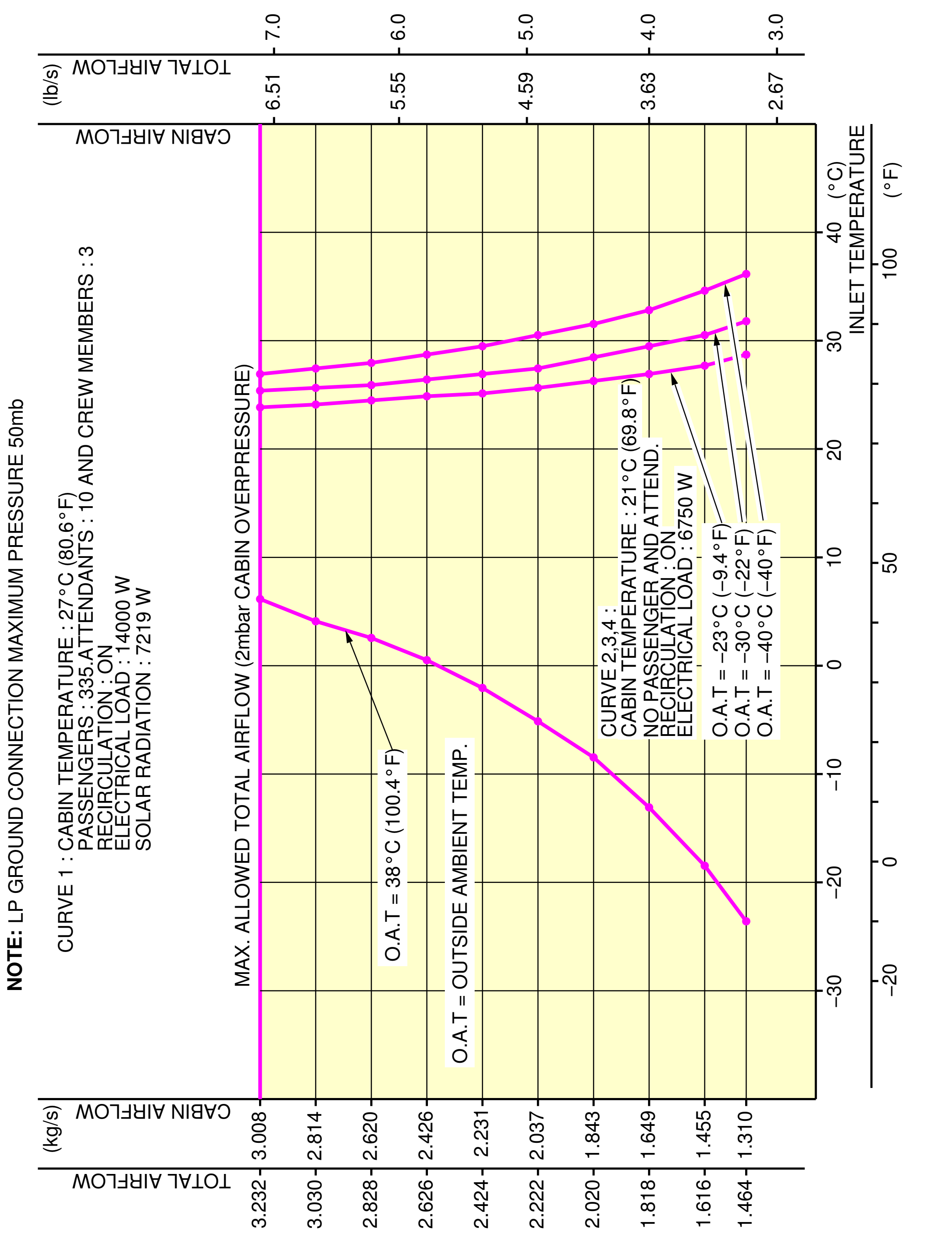
Preconditioned Airflow Requirements

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 A340-200 A340-300



Preconditioned Airflow Requirements
FIGURE 1

5-8-0 Ground Towing Requirements

****ON A/C A340-200 A340-300**

Ground Towing Requirements

1. This section provides information on aircraft towing.

   The A340 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 following chart is applicable to both A340-200 and -300 aircraft.

   - 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. Towbar design guidelines

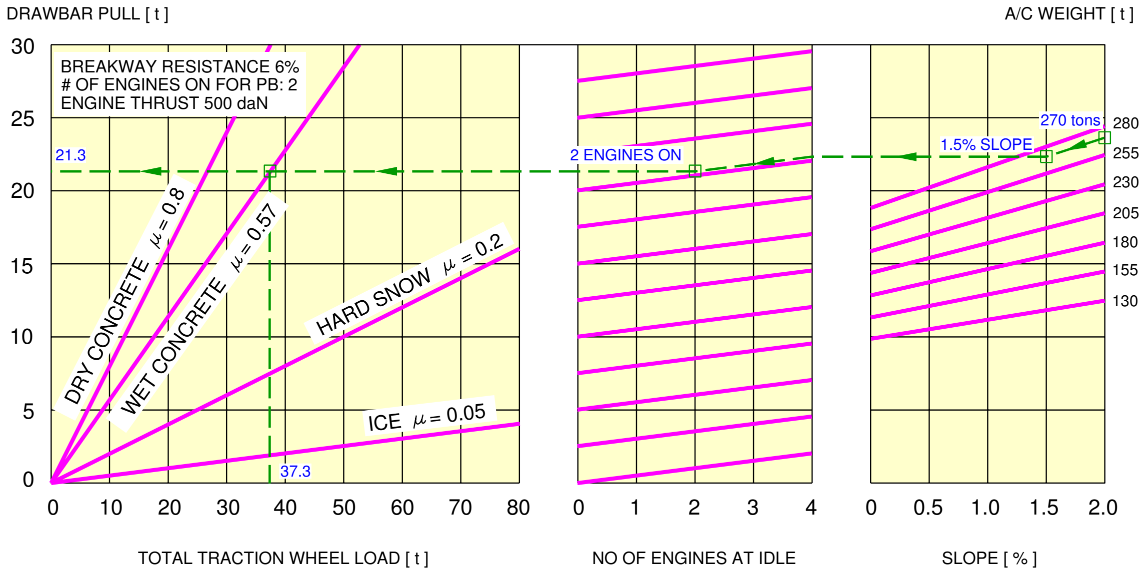
   The aircraft towbar shall respect the following norms:
   - SAE AS 1614, "Main Line Aircraft Tow Bar Attach Fitting Interface"
   - SAE ARP1915 Revision C, "Aircraft Tow Bar"
   - ISO 8267-1, "Aircraft - Tow bar attachment fitting - Interface requirements - Part 1: Main line aircraft"
   - ISO 9667, "Aircraft ground support equipment - Tow bars"
   - IATA Airport Handling Manual AHM 958, "Functional Specification for an Aircaft 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 28 620 daN (64 340 lbf)
   - A torsion pin calibrated at 3 130 m.daN (277 028 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 towbars.

**ON A/C A340-200 A340-300



EXAMPLE HOW TO DETERMINE THE MASS REQUIREMENT TO TOW A A340–200 OR –300 AT 270 t, AT 1.5% SLOPE, 2 ENGINES AT IDLE AND FOR WET TARMAC CONDITIONS:

- ON THE RIGHT HAND SIDE OF THE GRAPH, CHOOSE THE RELEVANT AIRCRAFT WEIGHT (270 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 = 4,
- 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 (21.3 t),
- SEARCH THE INTERSECTION WITH THE "WET CONCRETE" LINE.

THE OBTAINED X–COORDINATE IS THE RECOMMENDED MINIMUM TRACTOR WEIGHT (37.3 t).

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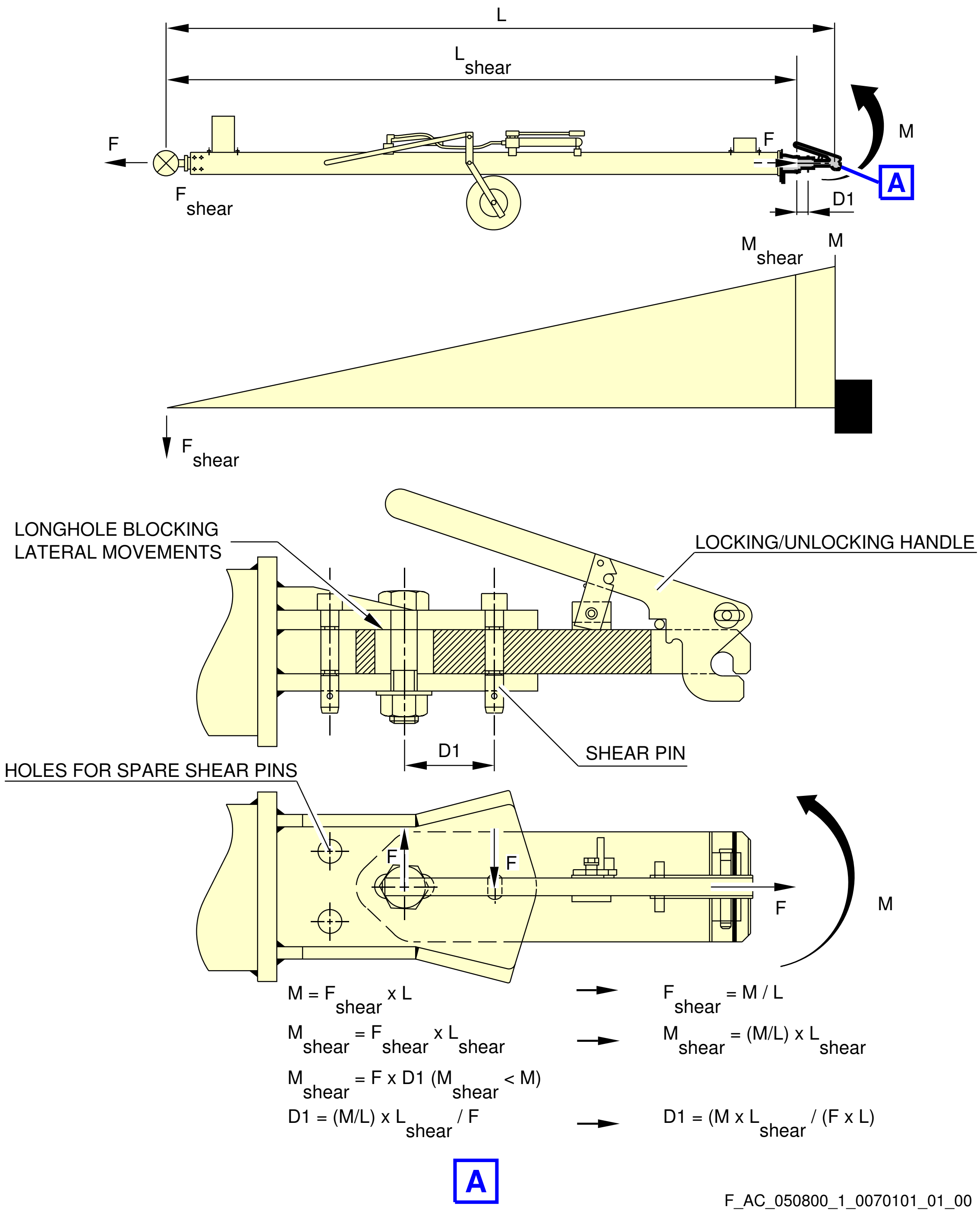
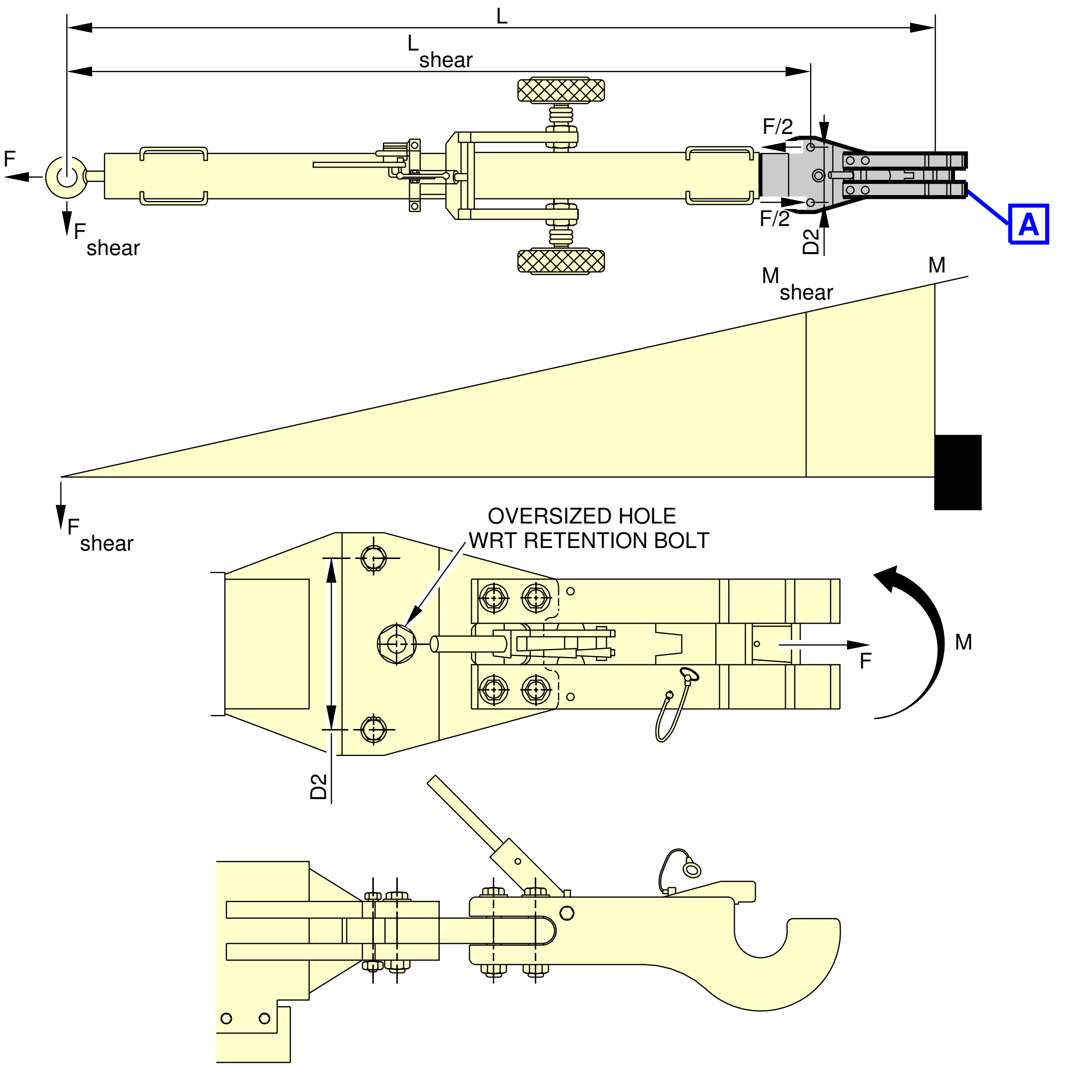
Ground Towing Requirements
FIGURE 1

**ON A/C A340-200 A340-300



Ground Towing Requirements
Typical tow bar configuration 1
FIGURE 2

**ON A/C A340-200 A340-300



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

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

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

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

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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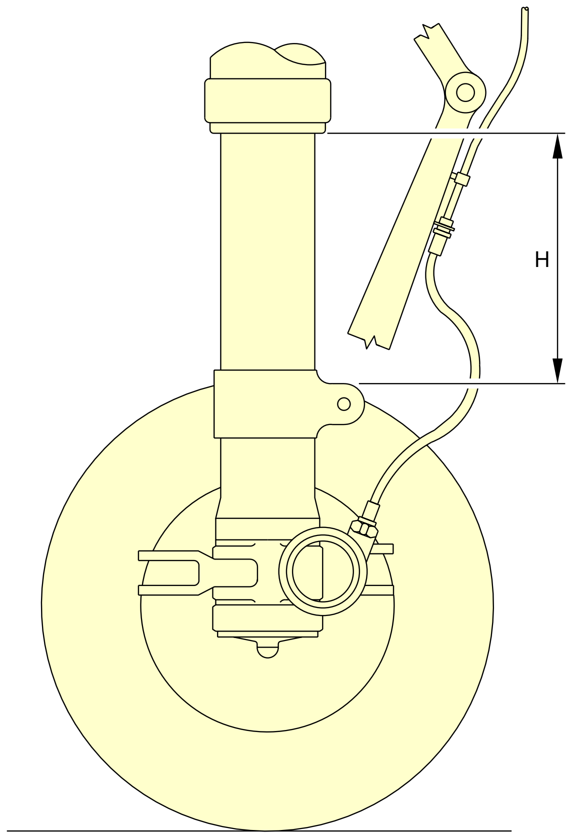
Ground Towing Requirements
Typical tow bar configuration 2
FIGURE 3

**ON A/C A340-200 A340-300



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 A340-200 A340-300**

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.

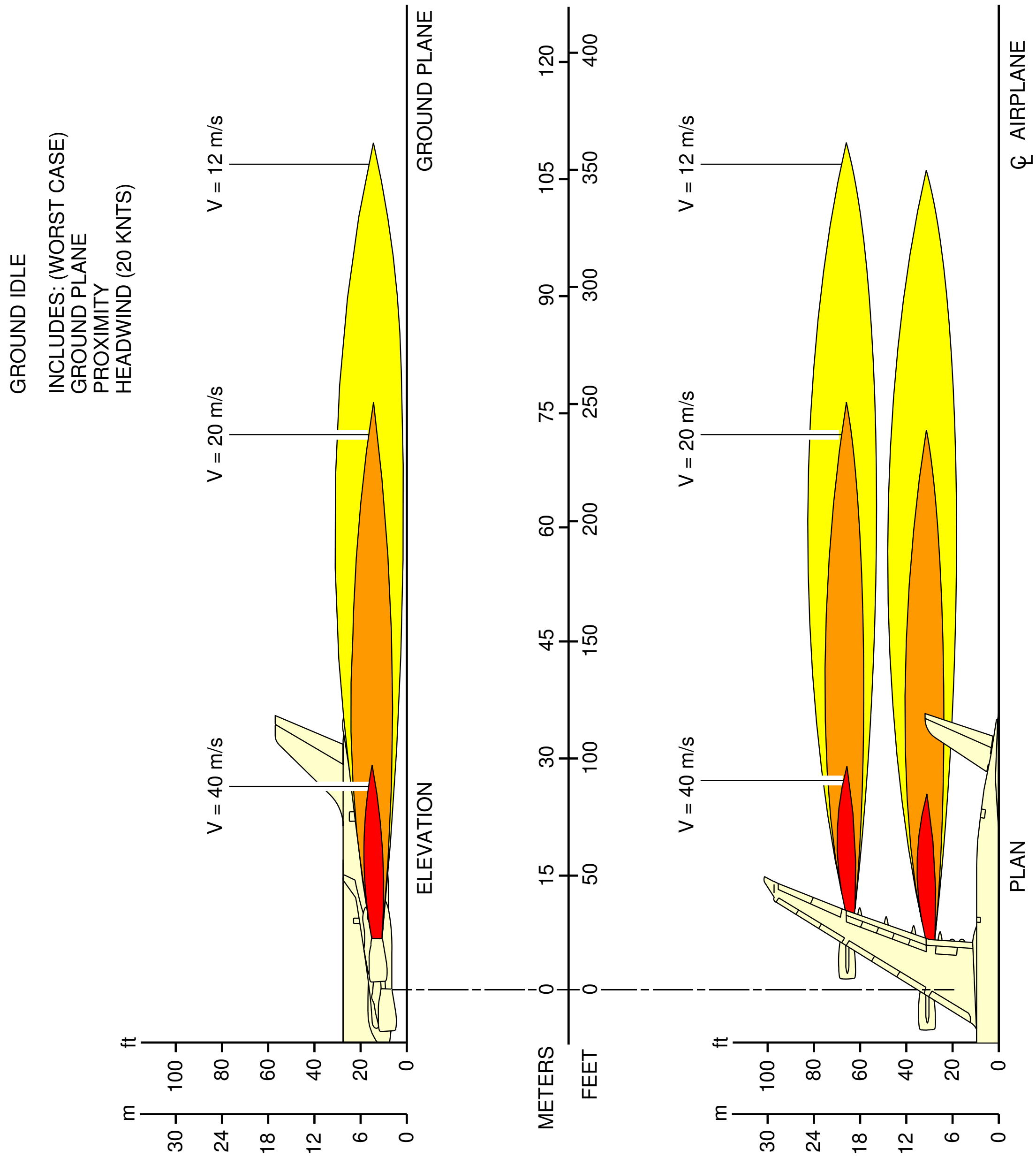
6-1-1 Engine Exhaust Velocities Contours - Ground Idle Power

****ON A/C A340-200 A340-300**

Engine Exhaust Velocities Contours - Ground Idle Power

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

****ON A/C A340-200 A340-300**



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Engine Exhaust Velocities
Ground Idle Power - CFM56-5C series engine
FIGURE 1

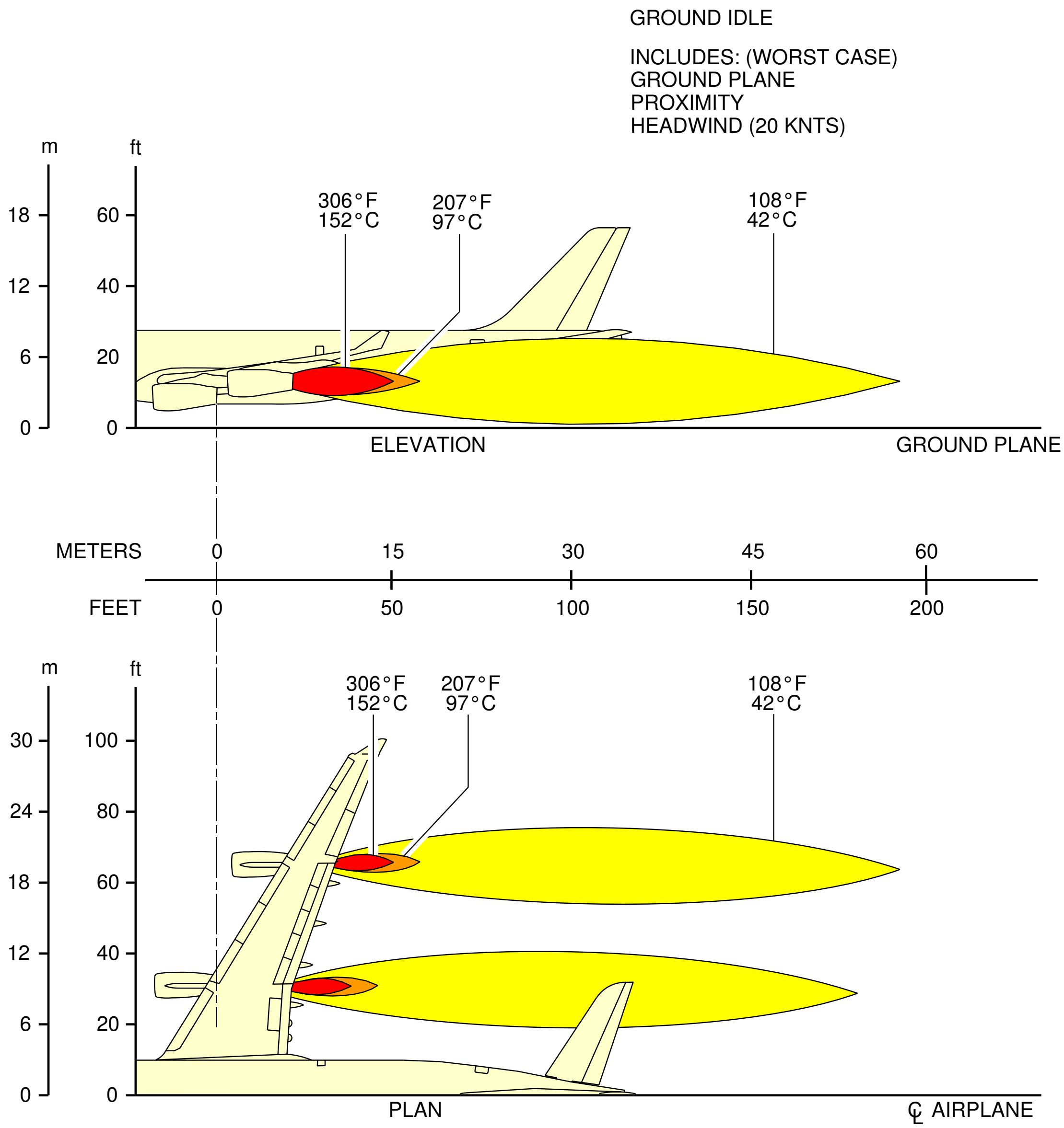
6-1-2 Engine Exhaust Temperatures Contours - Ground Idle Power

****ON A/C A340-200 A340-300**

Engine Exhaust Temperatures Contours - Ground Idle Power

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

**ON A/C A340-200 A340-300



Engine Exhaust Temperatures
Ground Idle Power - CFM56-5C series engine
FIGURE 1

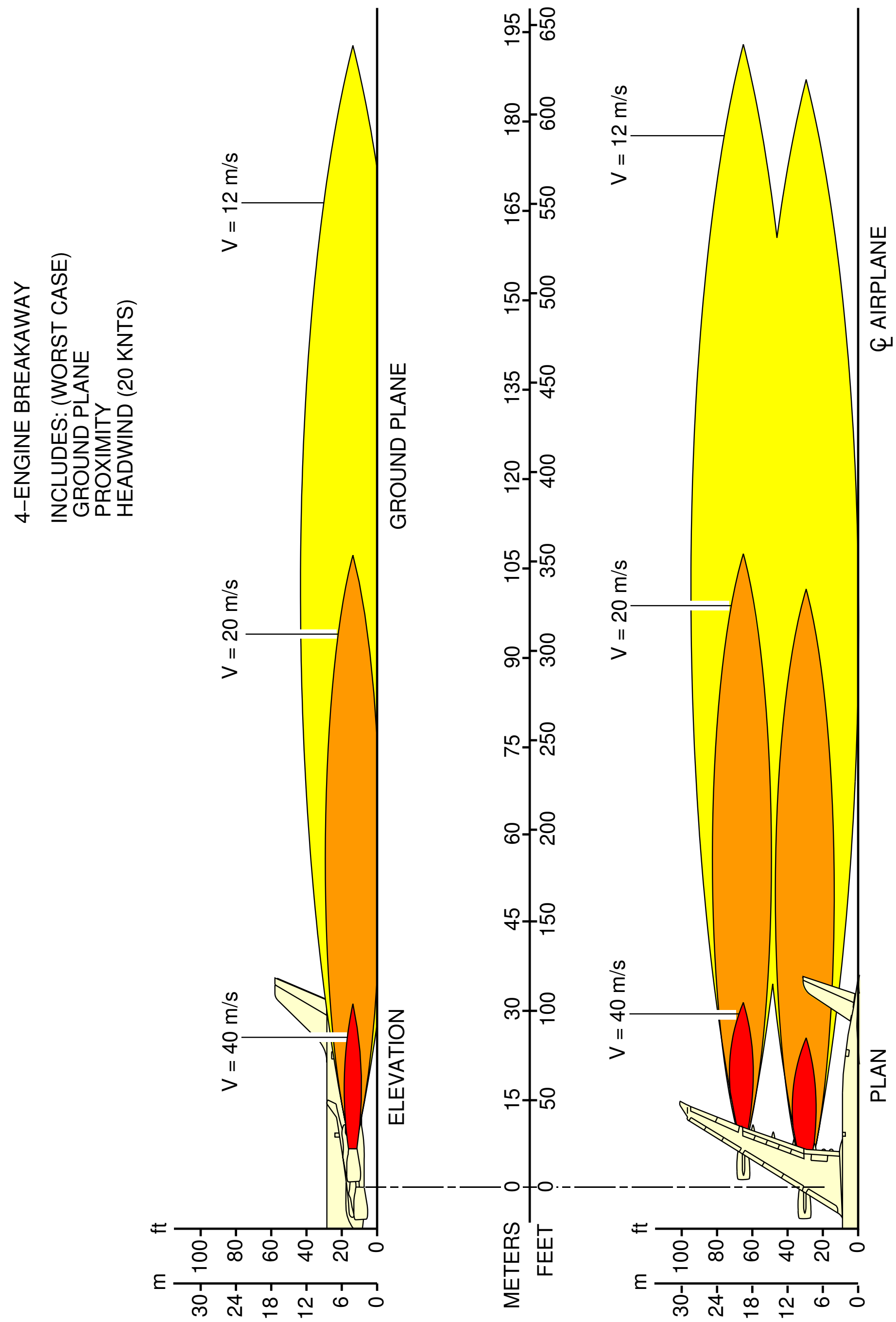
6-1-3 Engine Exhaust Velocities Contours - Breakaway Power

****ON A/C A340-200 A340-300**

Engine Exhaust Velocities Contours - Breakaway Power

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

****ON A/C A340-200 A340-300**



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Engine Exhaust Velocities
Breakaway Power - CFM56-5C series engine
FIGURE 1

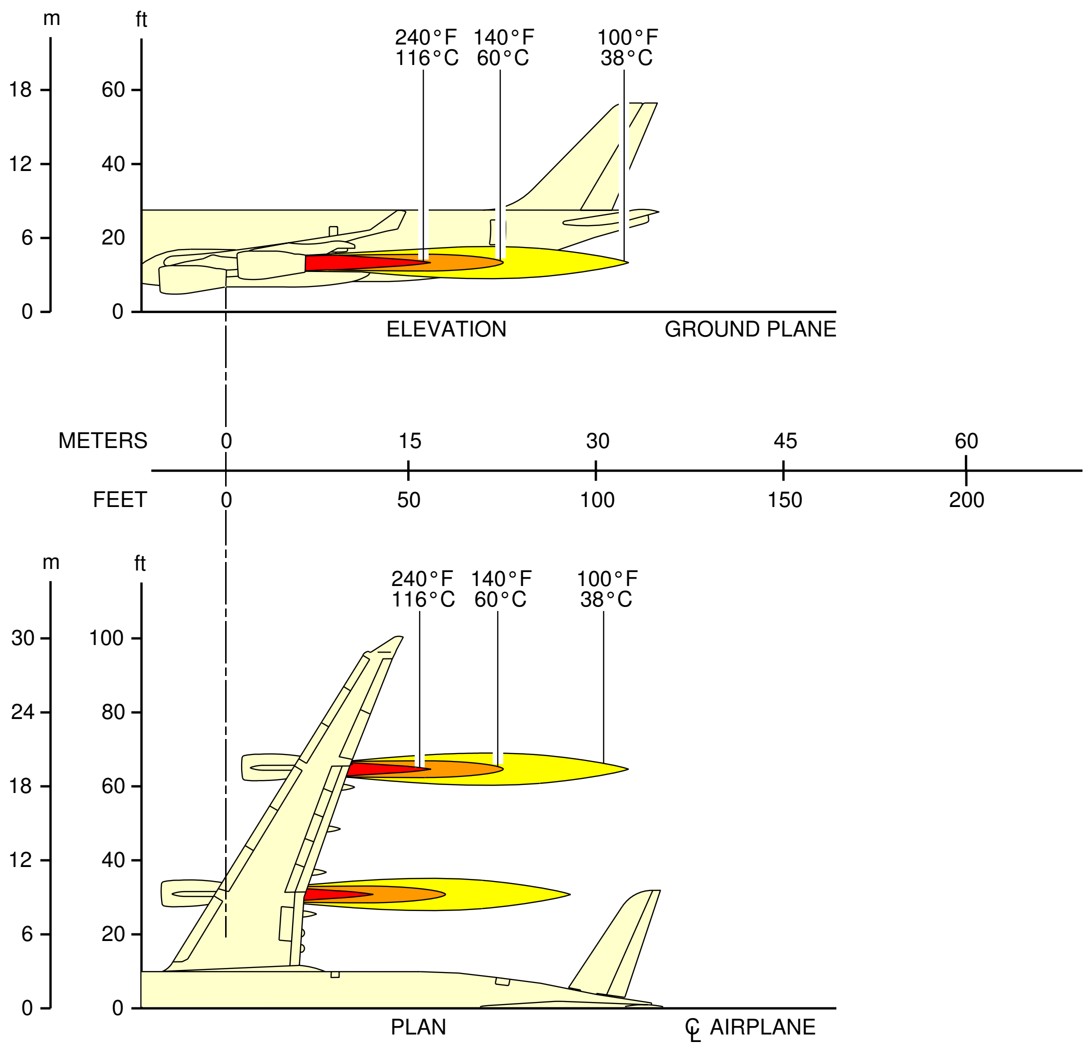
6-1-4 Engine Exhaust Temperatures Contours - Breakaway Power

****ON A/C A340-200 A340-300**

Engine Exhaust Temperatures Contours - Breakaway Power

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

**ON A/C A340-200 A340-300



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Engine Exhaust Temperatures
Breakaway Power - CFM56-5C series engine
FIGURE 1

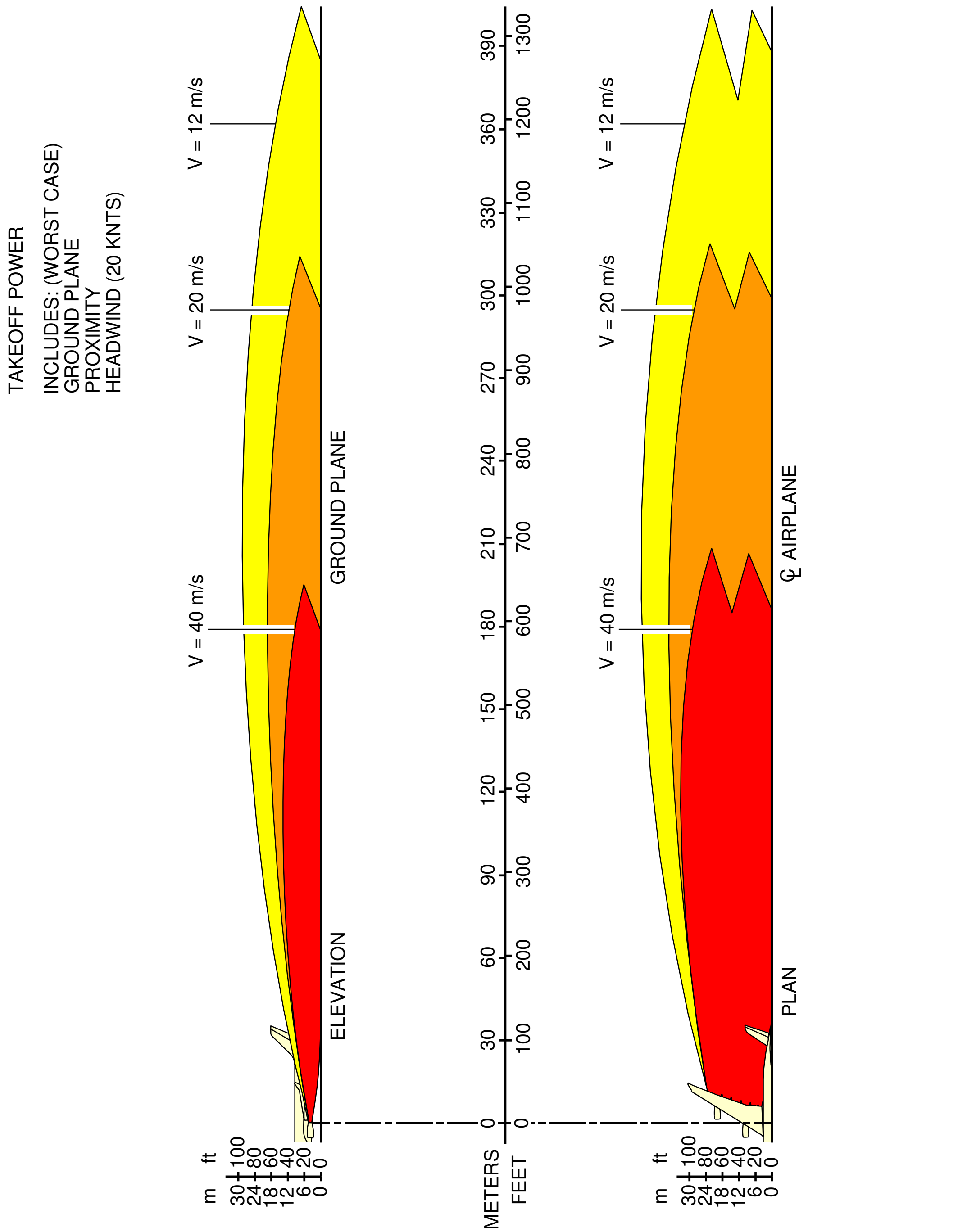
6-1-5 Engine Exhaust Velocities Contours - Takeoff Power

ON A/C A340-200 A340-300

Engine Exhaust Velocities Contours - Takeoff Power

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

****ON A/C A340-200 A340-300**



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Engine Exhaust Velocities
Takeoff Power - CFM56-5C series engine
FIGURE 1

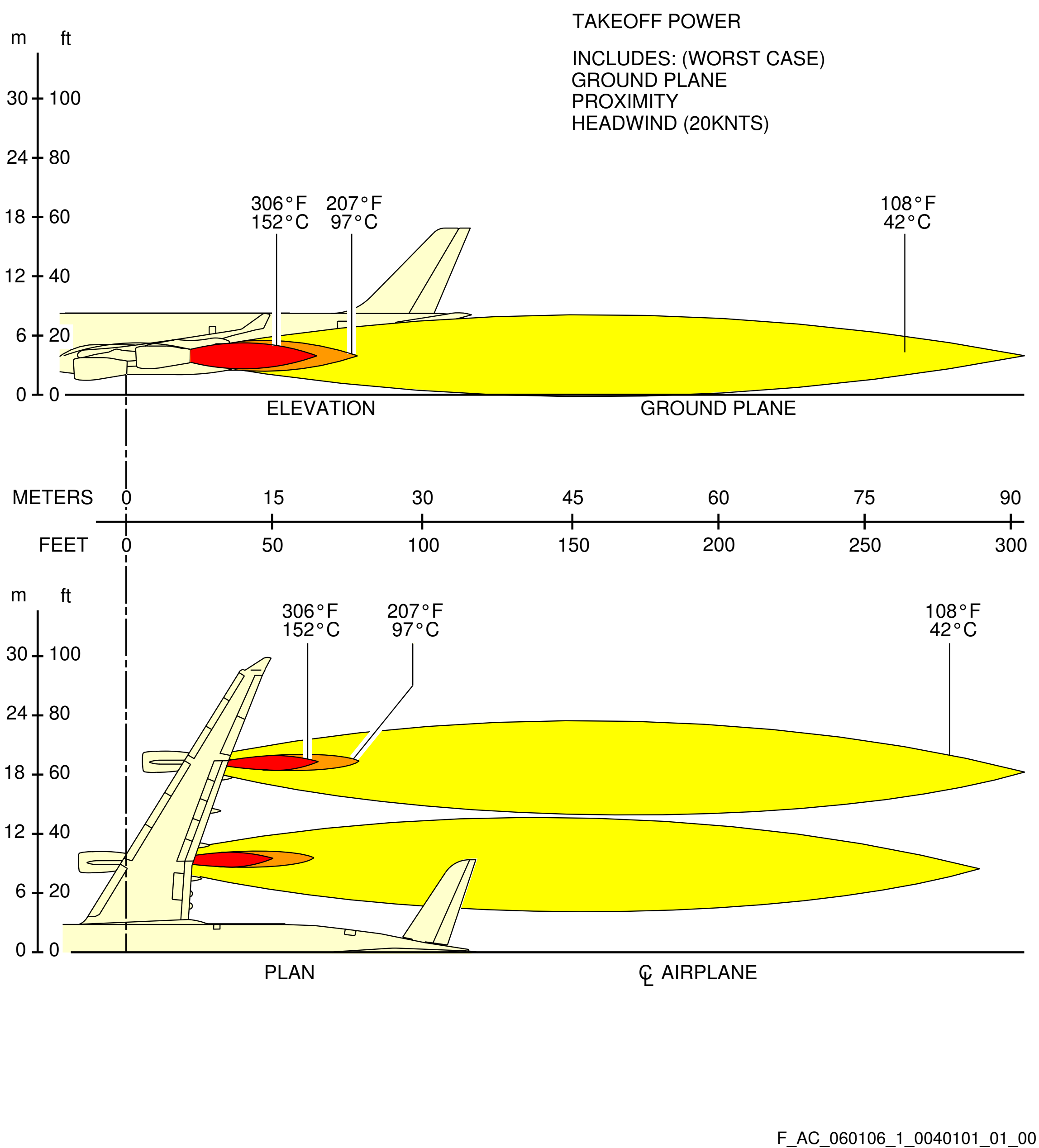
6-1-6 Engine Exhaust Temperatures Contours - Takeoff Power

****ON A/C A340-200 A340-300**

Engine Exhaust Temperatures Contours - Takeoff Power

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

**ON A/C A340-200 A340-300



Engine Exhaust Temperatures
Takeoff Power - CFM56-5C series engine
FIGURE 1

6-2-0 Airport and Community Noise

****ON A/C A340-200 A340-300**

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 A340-200 A340-300**

Noise Data

1. Noise Data for CFM56-5C 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.

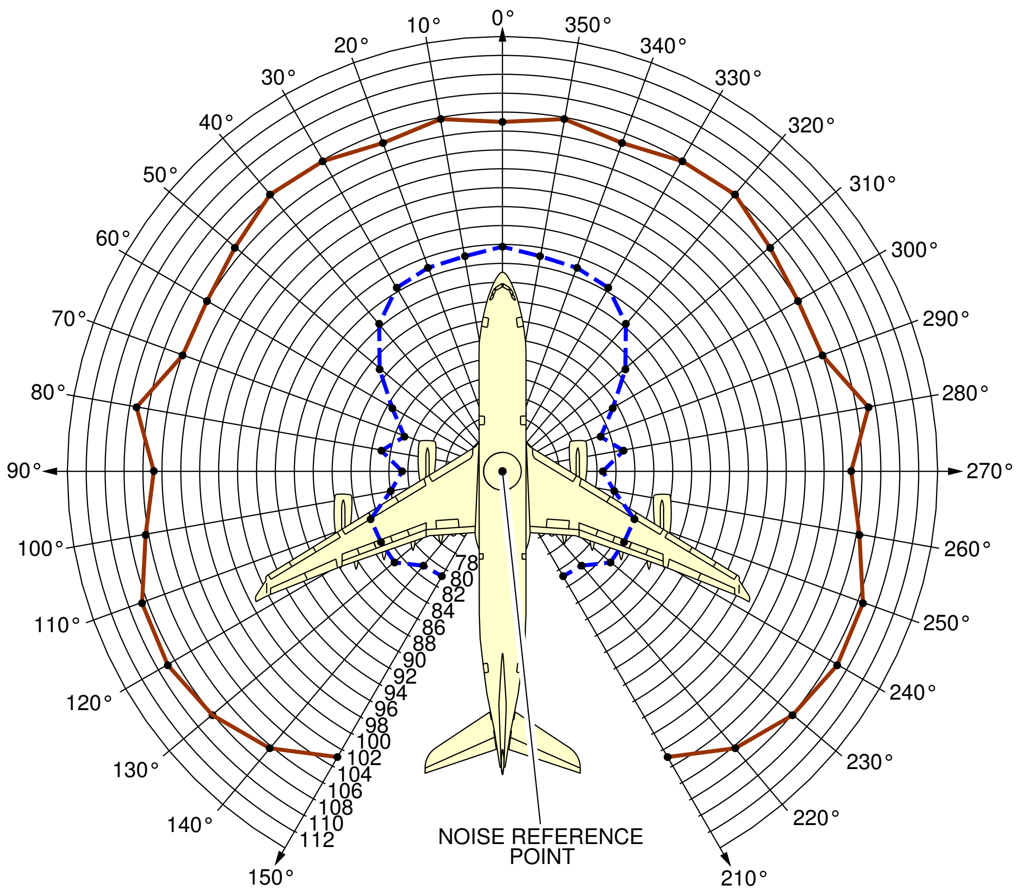
   B. Engine parameters: 2 engines running

   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: 19°C (66°F)
      - Relative humidity: 68%
      - Atmospheric pressure: 1004 hPa
      - Wind speed: Negligible
      - No rain

**ON A/C A340-200 A340-300

	GROUND IDLE	MAX THRUST POSSIBLE ON BRAKES
N1	21%	92.7%
CURVE	dashed blue line	solid brown line



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Airport and Community Noise
CFM56-5C series engine
FIGURE 1

6-3-0 Danger Areas of Engines

**ON A/C A340-200 A340-300

Danger Areas of Engines

1. Danger Areas of the Engines.

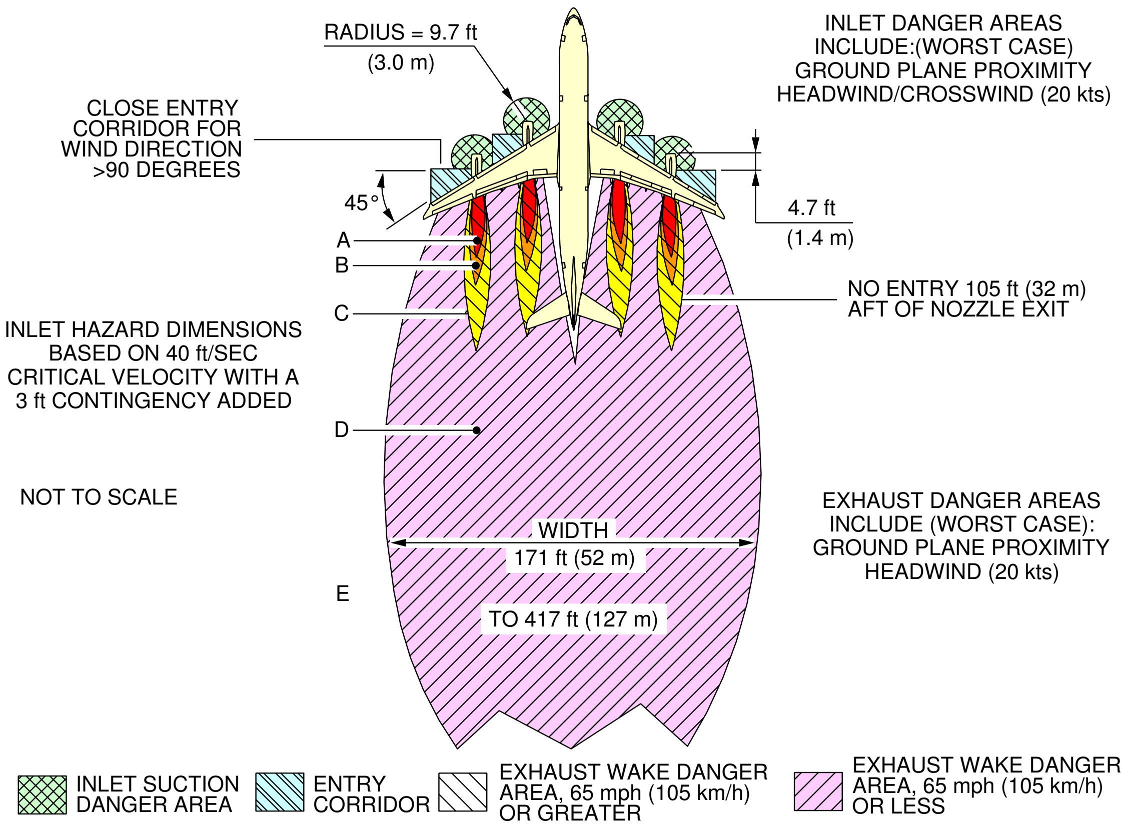
6-3-1 Ground Idle Power

**ON A/C A340-200 A340-300

Ground Idle Power

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

**ON A/C A340-200 A340-300



AREA	APPROX. WIND VELOCITY mph (km/h)	POSSIBLE EFFECTS WITHIN DANGER ZONE BASED ON "RADIOLOGICAL DEFENSE", VOL. II, ARMED FORCES SPECIAL WEAPONS PROJECT, NOV 1951.
A	210–145 (338–233)	A MAN STANDING WILL BE PICKED UP AND THROWN; AIRCRAFT WILL BE COMPLETELY DESTROYED OR DAMAGED BEYOND ECONOMICAL REPAIR; COMPLETE DESTRUCTION OF FRAME OR BRICK HOMES.
B	145–105 (233–169)	A MAN STANDING FACE – ON WILL BE PICKED UP AND THROWN; DAMAGE NEARING TOTAL DESTRUCTION TO LIGHT INDUSTRIAL BUILDINGS OR RIGID STEEL FRAMING; CORRUGATED STEEL STRUCTURES LESS SEVERELY.
C	105–65 (169–105)	MODERATE DAMAGE TO LIGHT INDUSTRIAL BUILDINGS AIR TRANSPORT – TYPE AIRCRAFT.
D	65–20 (105–32)	LIGHT TO MODERATE DAMAGE TO TRANSPORT – TYPE AIRCRAFT.
E	< 20 (32)	BEYOND DANGER AREA.

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Danger Areas of Engines
CFM56-5C series engine
FIGURE 1

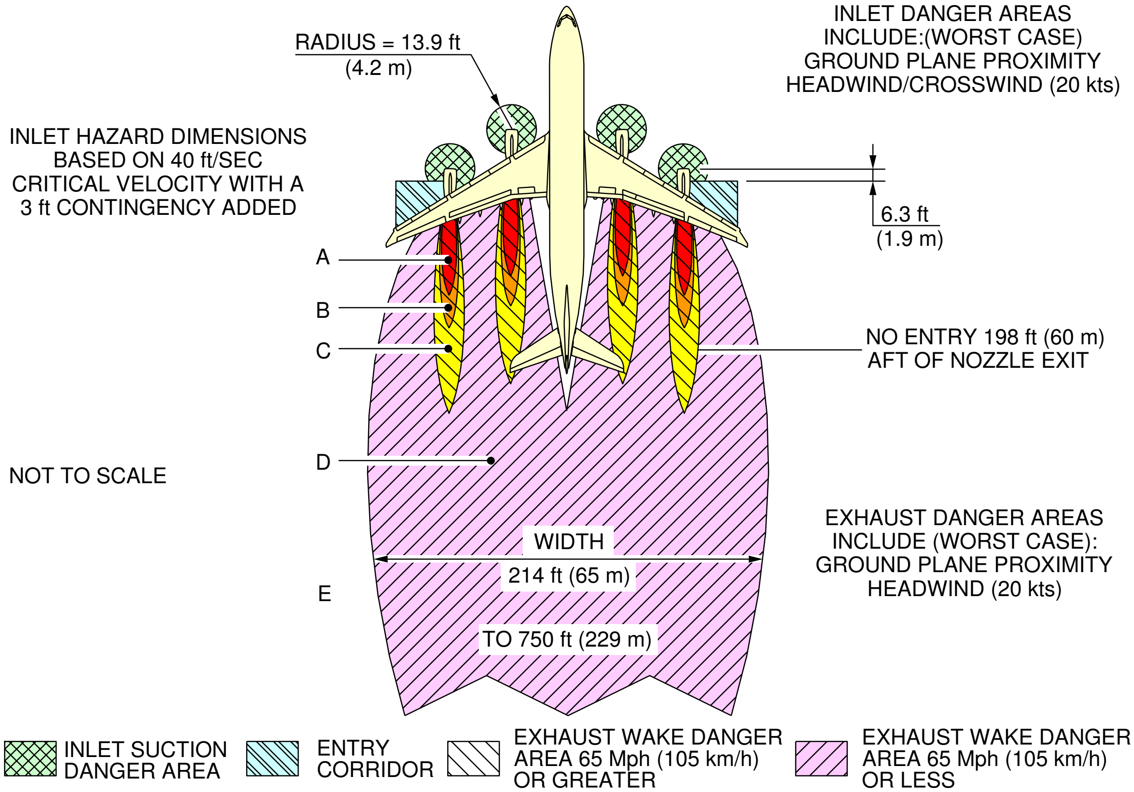
6-3-2 Breakaway Power

****ON A/C A340-200 A340-300**

Breakaway Power

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

**ON A/C A340-200 A340-300



AREA	APPROX. WIND VELOCITY mph (km/h)	POSSIBLE EFFECTS WITHIN DANGER ZONE BASED ON "RADIOLOGICAL DEFENSE", VOL. II, ARMED FORCES SPECIAL WEAPONS PROJECT, NOV 1951.
A	210–145 (338–233)	A MAN STANDING WILL BE PICKED UP AND THROWN; AIRCRAFT WILL BE COMPLETELY DESTROYED OR DAMAGED BEYOND ECONOMICAL REPAIR; COMPLETE DESTRUCTION OF FRAME OR BRICK HOMES.
B	145–105 (233–169)	A MAN STANDING FACE – ON WILL BE PICKED UP AND THROWN; DAMAGE NEARING TOTAL DESTRUCTION TO LIGHT INDUSTRIAL BUILDINGS OR RIGID STEEL FRAMING; CORRUGATED STEEL STRUCTURES LESS SEVERELY.
C	105–65 (169–105)	MODERATE DAMAGE TO LIGHT INDUSTRIAL BUILDINGS AIR TRANSPORT – TYPE AIRCRAFT.
D	65–20 (105–32)	LIGHT TO MODERATE DAMAGE TO TRANSPORT – TYPE AIRCRAFT.
E	< 20 (32)	BEYOND DANGER AREA.

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Danger Areas of Engines
CFM56-5C series engine
FIGURE 1

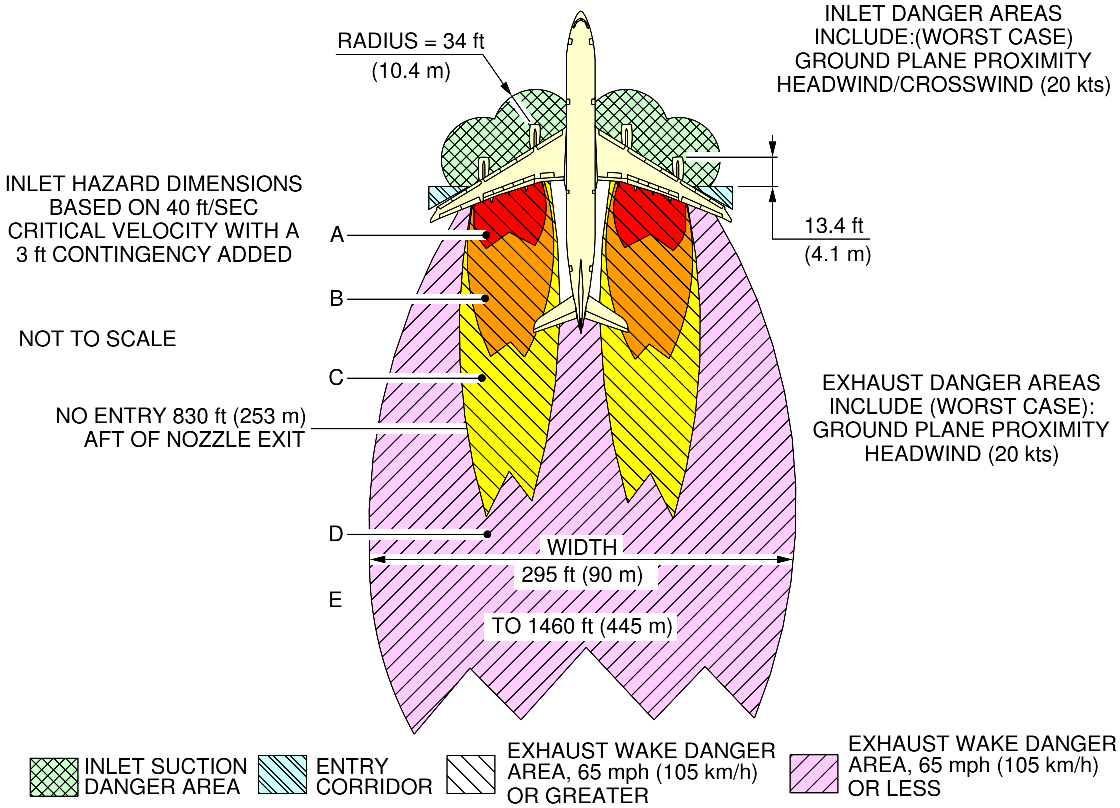
6-3-3 Takeoff Power

****ON A/C A340-200 A340-300**

Takeoff Power

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

**ON A/C A340-200 A340-300



AREA	APPROX. WIND VELOCITY mph (km/h)	POSSIBLE EFFECTS WITHIN DANGER ZONE BASED ON "RADIOLOGICAL DEFENSE", VOL. II, ARMED FORCES SPECIAL WEAPONS PROJECT, NOV 1951.
A	210–145 (338–233)	A MAN STANDING WILL BE PICKED UP AND THROWN; AIRCRAFT WILL BE COMPLETELY DESTROYED OR DAMAGED BEYOND ECONOMICAL REPAIR; COMPLETE DESTRUCTION OF FRAME OR BRICK HOMES.
B	145–105 (233–169)	A MAN STANDING FACE – ON WILL BE PICKED UP AND THROWN; DAMAGE NEARING TOTAL DESTRUCTION TO LIGHT INDUSTRIAL BUILDINGS OR RIGID STEEL FRAMING; CORRUGATED STEEL STRUCTURES LESS SEVERELY.
C	105–65 (169–105)	MODERATE DAMAGE TO LIGHT INDUSTRIAL BUILDINGS AIR TRANSPORT – TYPE AIRCRAFT.
D	65–20 (105–32)	LIGHT TO MODERATE DAMAGE TO TRANSPORT – TYPE AIRCRAFT.
E	< 20 (32)	BEYOND DANGER AREA.

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Danger Areas of Engines
CFM56-5C series engine
FIGURE 1

6-4-0 APU Exhaust Velocities and Temperatures

****ON A/C A340-200 A340-300**

APU Exhaust Velocities and Temperatures

1. APU Exhaust Velocities and Temperatures.

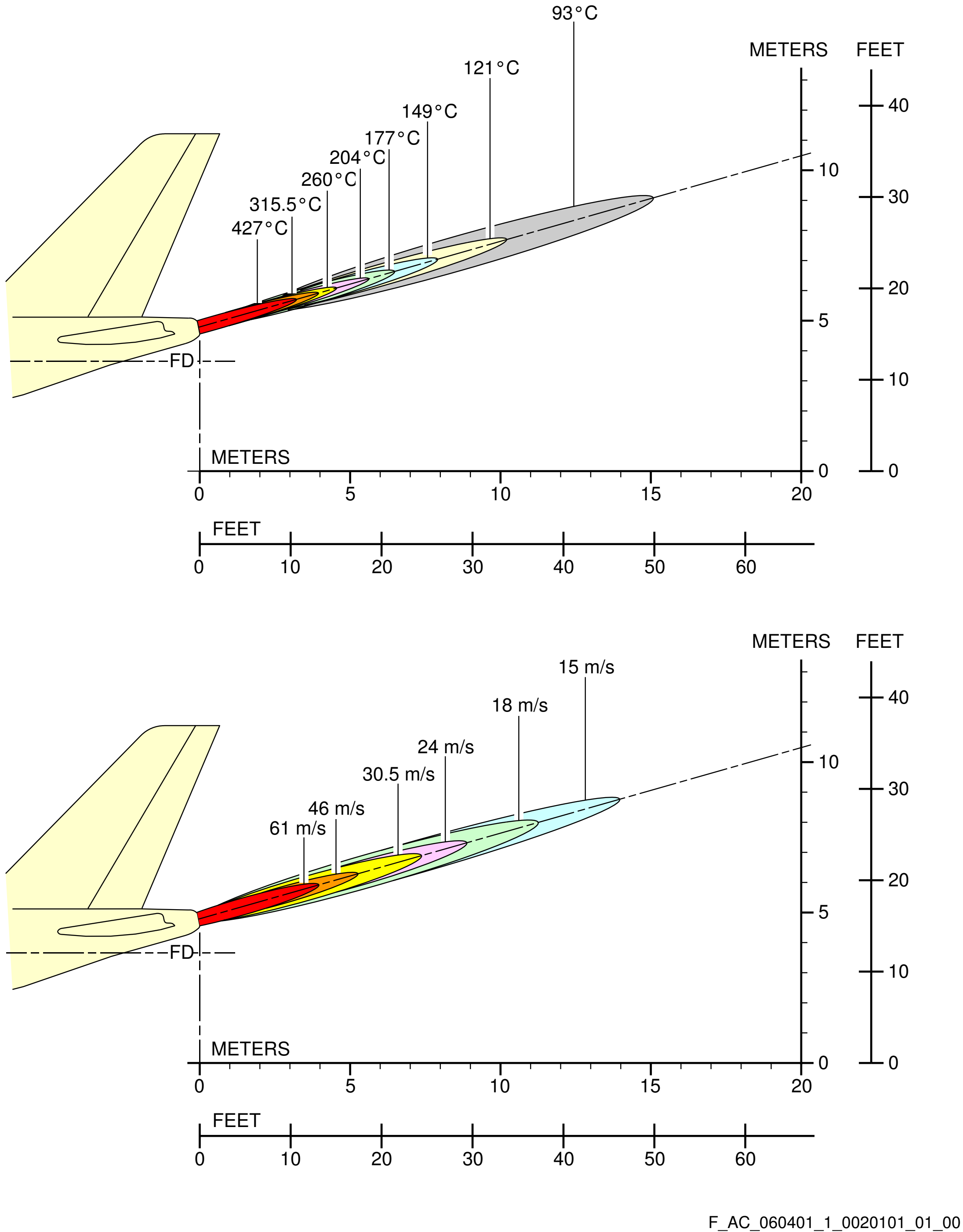
6-4-1 APU

**ON A/C A340-200 A340-300

APU - GARRETT

1. This section gives APU exhaust velocities and temperatures.

**ON A/C A340-200 A340-300



Exhaust Velocities and Temperatures
GARRETT GTCP 331-350
FIGURE 1

PAVEMENT DATA

7-1-0 General Information

**ON A/C A340-200 A340-300

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.

How the main landing gear load is distributed to the wing and center gears is shown on Section 7-4-3.
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, interpolating load values where necessary.

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 Third Edition July 1999, incorporating Amendments 1 to 3.

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

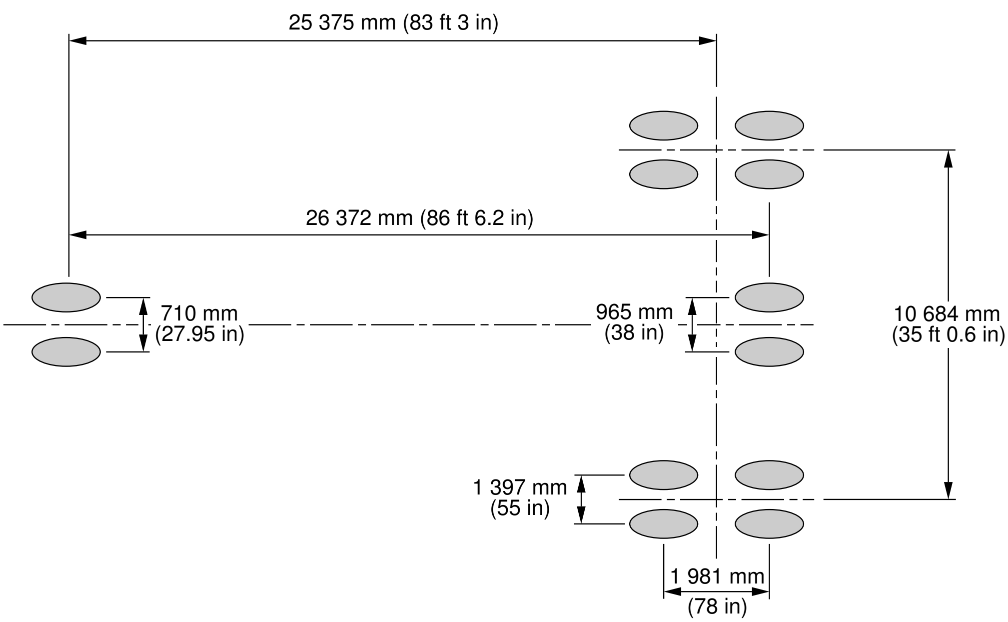
****ON A/C A340-200 A340-300**

Landing Gear Footprint

1. This section gives Landing Gear Footprint and Aircraft Identification.

**ON A/C A340-300

MAXIMUM RAMP WEIGHT	254 400 kg (560 850 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 253 500 kg – A340–300
NOSE GEAR TIRE SIZE	1 050x395R16
NOSE GEAR TIRE PRESSURE	11.4 bar (165 psi)
WING GEAR TIRE SIZE	1 400x530R23 or 54x21–23 (bias)
WING GEAR TIRE PRESSURE	13.1 bar (190 psi)
CENTER GEAR TIRE SIZE	1 400x530R23 or 54x21–23 (bias)
CENTER GEAR TIRE PRESSURE	10.4 bar (150 psi)



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

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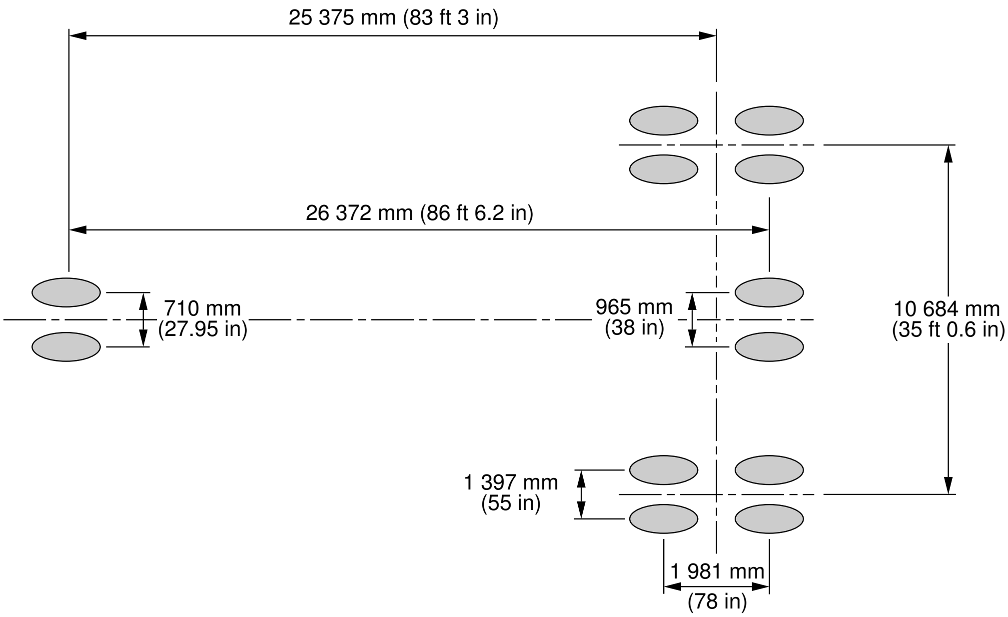
Landing Gear Footprint
MTOW 253 500 kg
FIGURE 1

**ON A/C A340-300

MAXIMUM RAMP WEIGHT	257 900 kg (568 575 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 257 000 kg – A340–300 and MTOW 260 000 kg – A340–300
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	13.2 bar (191 psi)
CENTER GEAR TIRE SIZE	1 400 x 530R23 or 54 x 21–23 (bias)
CENTER GEAR TIRE PRESSURE	10.9 bar (158 psi)



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

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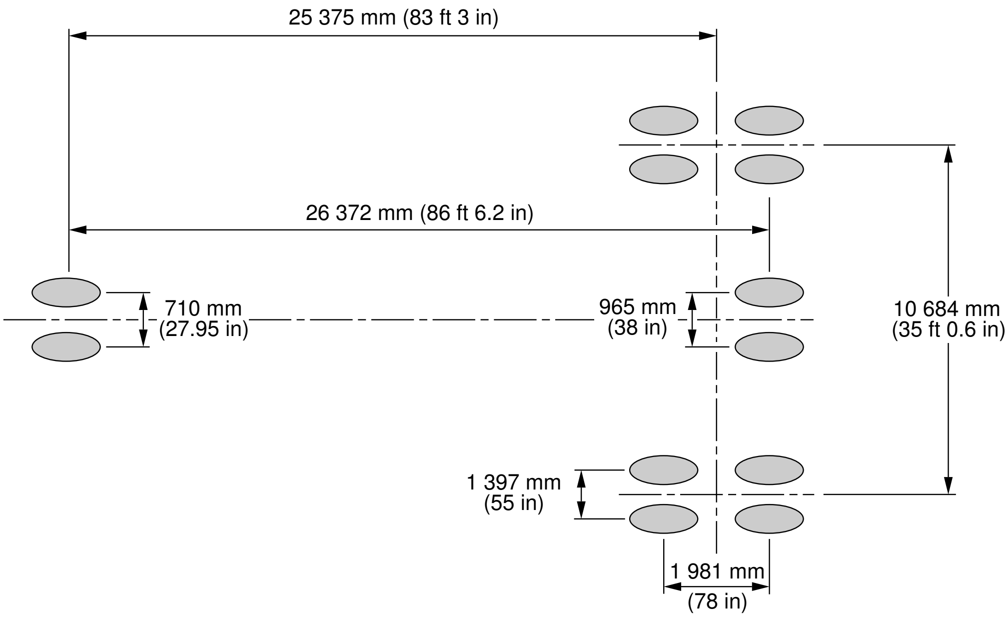
Landing Gear Footprint
MTOW 257 000 kg
FIGURE 2

**ON A/C A340-300

MAXIMUM RAMP WEIGHT	260 900 kg (575 175 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 260 000 kg – A340–300
NOSE GEAR TIRE SIZE	1 050 x 395R16
NOSE GEAR TIRE PRESSURE	11.6 bar (168 psi)
WING GEAR TIRE SIZE	1 400x530R23 or 54x21–23 (bias)
WING GEAR TIRE PRESSURE	13.2 bar (191 psi)
CENTER GEAR TIRE SIZE	1 400x530R23 or 54x21–23 (bias)
CENTER GEAR TIRE PRESSURE	10.9 bar (158 psi)



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

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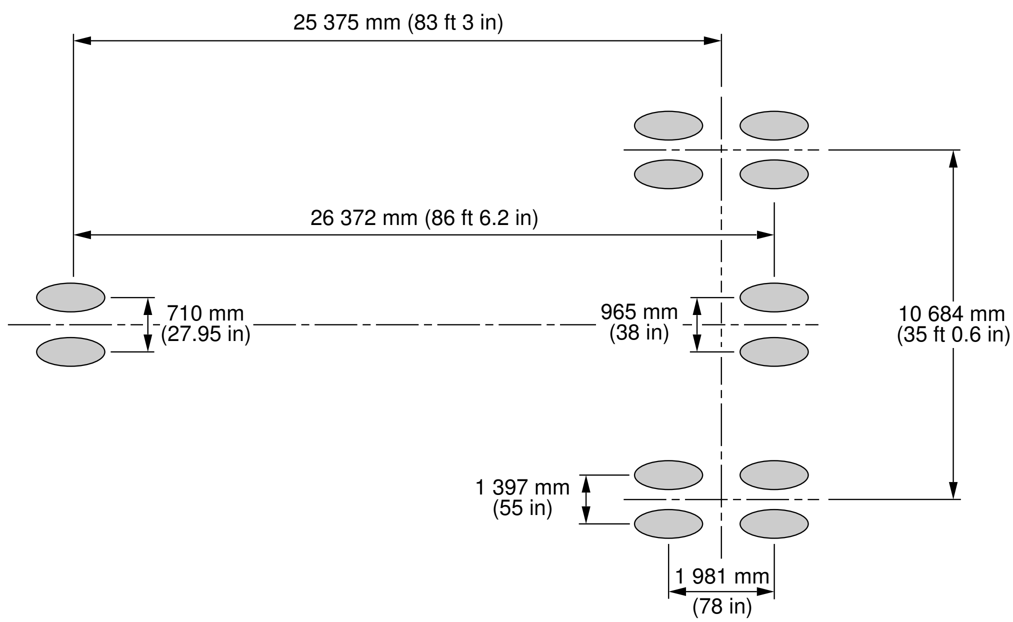
Landing Gear Footprint
MTOW 260 000 kg (Sheet 1 of 2)
FIGURE 3

**ON A/C A340-300

MAXIMUM RAMP WEIGHT	260 900 kg (575 175 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 260 000 kg – A340–300
NOSE GEAR TIRE SIZE	1 050x395R16
NOSE GEAR TIRE PRESSURE	12.1 bar (175 psi)
WING GEAR TIRE SIZE	1 400x530R23 or 54x21–23 (bias)
WING GEAR TIRE PRESSURE	14.2 bar (206 psi)
CENTER GEAR TIRE SIZE	1 400x530R23 or 54x21–23 (bias)
CENTER GEAR TIRE PRESSURE	10.9 bar (158 psi)



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

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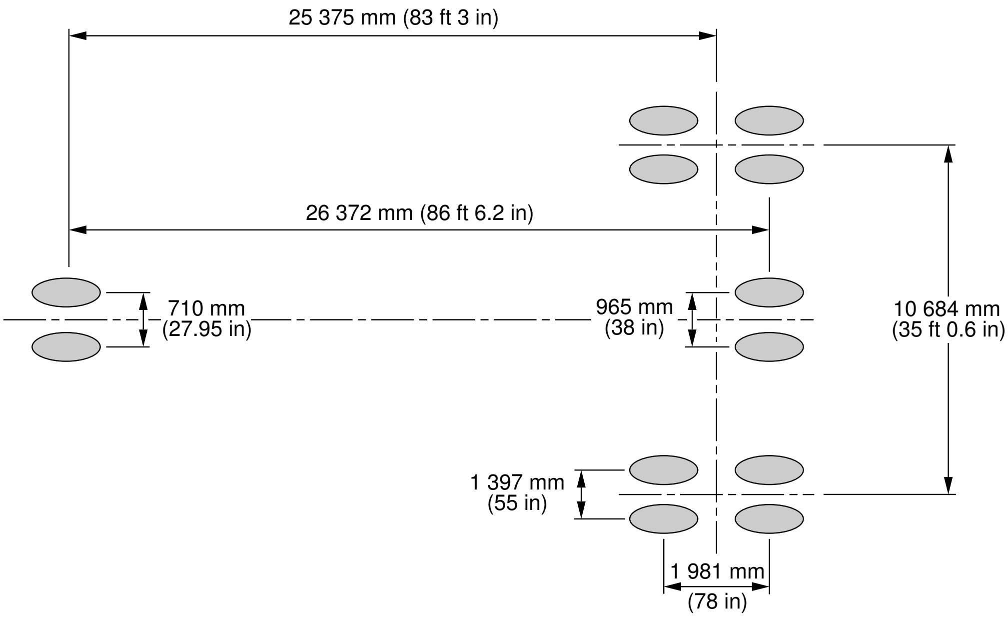
Landing Gear Footprint
MTOW 260 000 kg (Sheet 2 of 2)
FIGURE 4

**ON A/C A340-300

MAXIMUM RAMP WEIGHT	262 900 kg (575 175 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 262 000 kg – A340–300
NOSE GEAR TIRE SIZE	1 050x395R16
NOSE GEAR TIRE PRESSURE	12.1 bar (175 psi)
WING GEAR TIRE SIZE	1 400x530R23 or 54x21–23 (bias)
WING GEAR TIRE PRESSURE	14.2 bar (206 psi)
CENTER GEAR TIRE SIZE	1 400x530R23 or 54x21–23 (bias)
CENTER GEAR TIRE PRESSURE	10.9 bar (158 psi)



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

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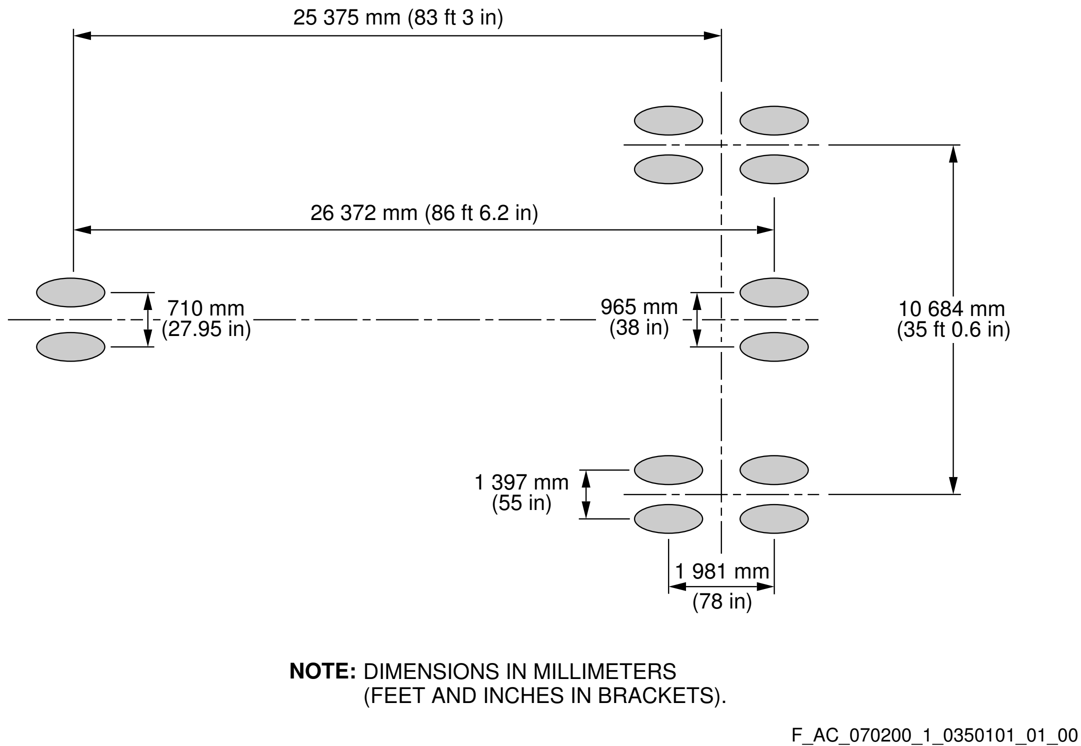
Landing Gear Footprint
MTOW 262 000 kg
FIGURE 5

**ON A/C A340-300

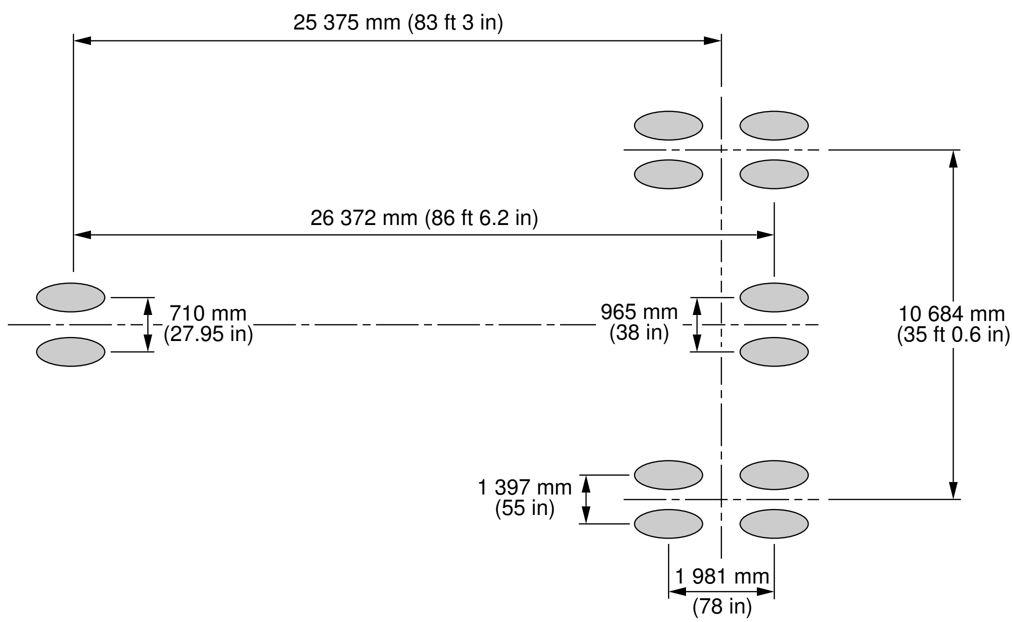
MAXIMUM RAMP WEIGHT	271 900 kg (599 425 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 271 000 kg – A340–300
NOSE GEAR TIRE SIZE	1 050x395R16
NOSE GEAR TIRE PRESSURE	12.1 bar (175 psi)
WING GEAR TIRE SIZE	1 400x530R23 or 54x21–23 (bias)
WING GEAR TIRE PRESSURE	14.2 bar (206 psi)
CENTER GEAR TIRE SIZE	1 400x530R23 or 54x21–23 (bias)
CENTER GEAR TIRE PRESSURE	10.9 bar (158 psi)



Landing Gear Footprint
MTOW 271 000 kg
FIGURE 6

**ON A/C A340-300

MAXIMUM RAMP WEIGHT	275 900 kg (608 250 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 275 000 kg – A340–300
NOSE GEAR TIRE SIZE	1 050x395R16
NOSE GEAR TIRE PRESSURE	12.1 bar (175 psi)
WING GEAR TIRE SIZE	1 400x530R23 or 54x21–23 (bias)
WING GEAR TIRE PRESSURE	14.2 bar (206 psi)
CENTER GEAR TIRE SIZE	1 400x530R23 or 54x21–23 (bias)
CENTER GEAR TIRE PRESSURE	10.9 bar (158 psi)



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

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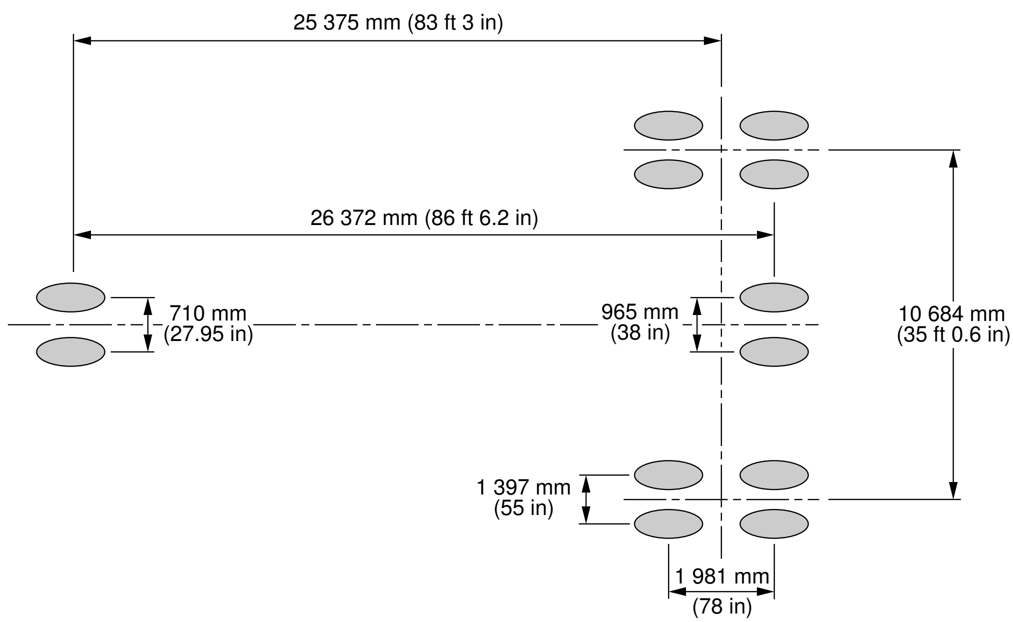
Landing Gear Footprint
MTOW 275 000 kg
FIGURE 7

**ON A/C A340-300

MAXIMUM RAMP WEIGHT	277 400 kg (611 550 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 276 500 kg – A340–300
NOSE GEAR TIRE SIZE	1 050x395R16
NOSE GEAR TIRE PRESSURE	12.1 bar (175 psi)
WING GEAR TIRE SIZE	1 400x530R23 or 54x21–23 (bias)
WING GEAR TIRE PRESSURE	14.2 bar (206 psi)
CENTER GEAR TIRE SIZE	1 400x530R23 or 54x21–23 (bias)
CENTER GEAR TIRE PRESSURE	10.9 bar (158 psi)



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

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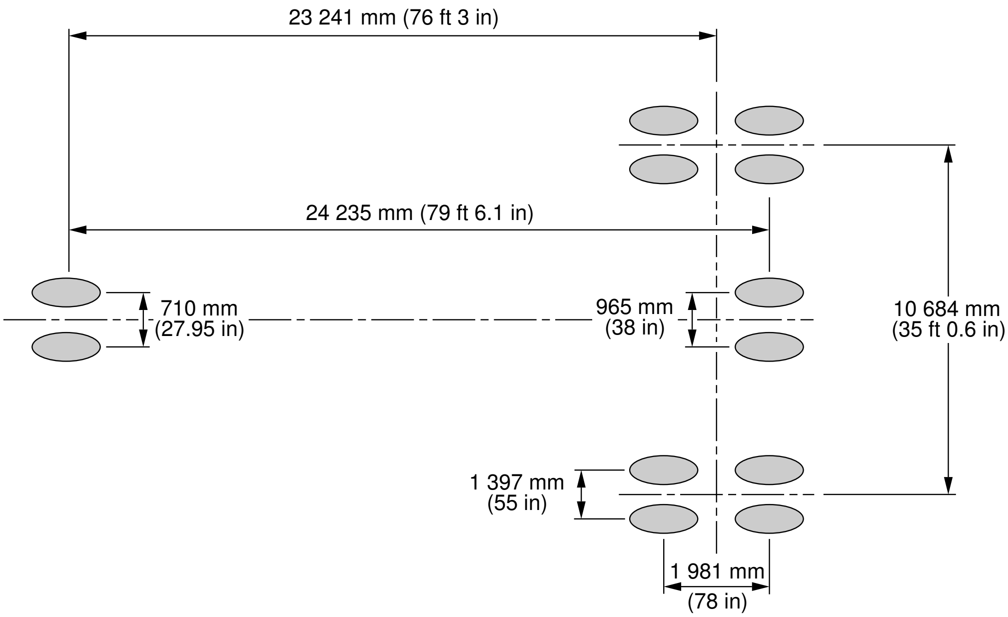
Landing Gear Footprint
MTOW 276 500 kg
FIGURE 8

**ON A/C A340-200

MAXIMUM RAMP WEIGHT	254 400 kg (560 850 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 253 500 kg – A340–200
NOSE GEAR TIRE SIZE	1 050x395R16
NOSE GEAR TIRE PRESSURE	11.4 bar (165 psi)
WING GEAR TIRE SIZE	1 400x530R23 or 54x21–23 (bias)
WING GEAR TIRE PRESSURE	13 bar (189 psi)
CENTER GEAR TIRE SIZE	1 400x530R23 or 54x21–23 (bias)
CENTER GEAR TIRE PRESSURE	10.3 bar (149 psi)



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

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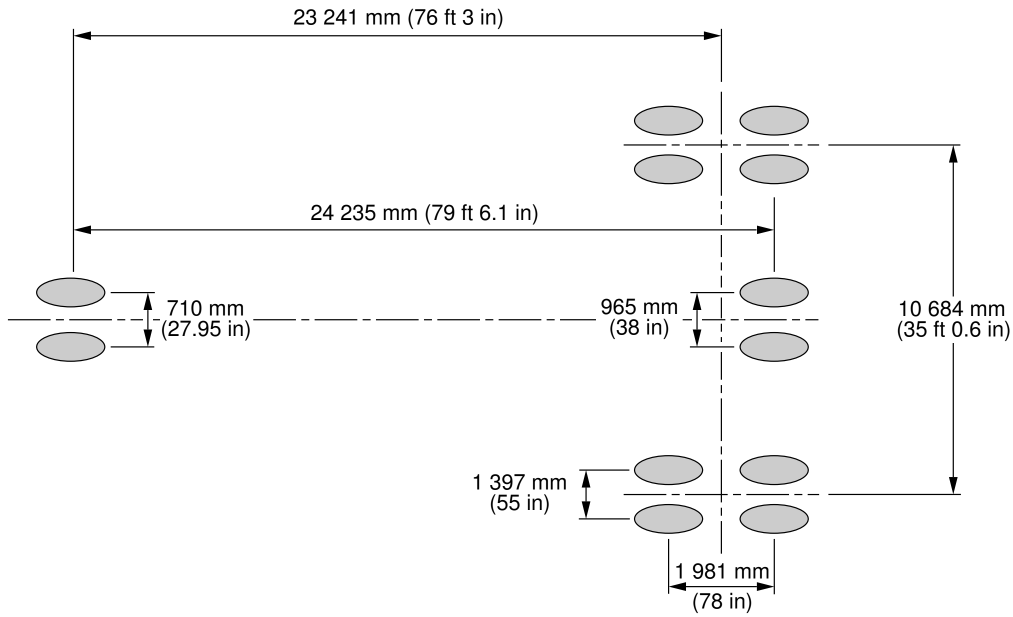
Landing Gear Footprint
MTOW 253 500 kg
FIGURE 9

**ON A/C A340-200

MAXIMUM RAMP WEIGHT	257 900 kg (568 575 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 257 000 kg – A340–200
NOSE GEAR TIRE SIZE	1 050x395R16
NOSE GEAR TIRE PRESSURE	11.6 bar (168 psi)
WING GEAR TIRE SIZE	1 400x530R23 or 54x21–23 (bias)
WING GEAR TIRE PRESSURE	13.2 bar (191 psi)
CENTER GEAR TIRE SIZE	1 400x530R23 or 54x21–23 (bias)
CENTER GEAR TIRE PRESSURE	10.9 bar (158 psi)



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

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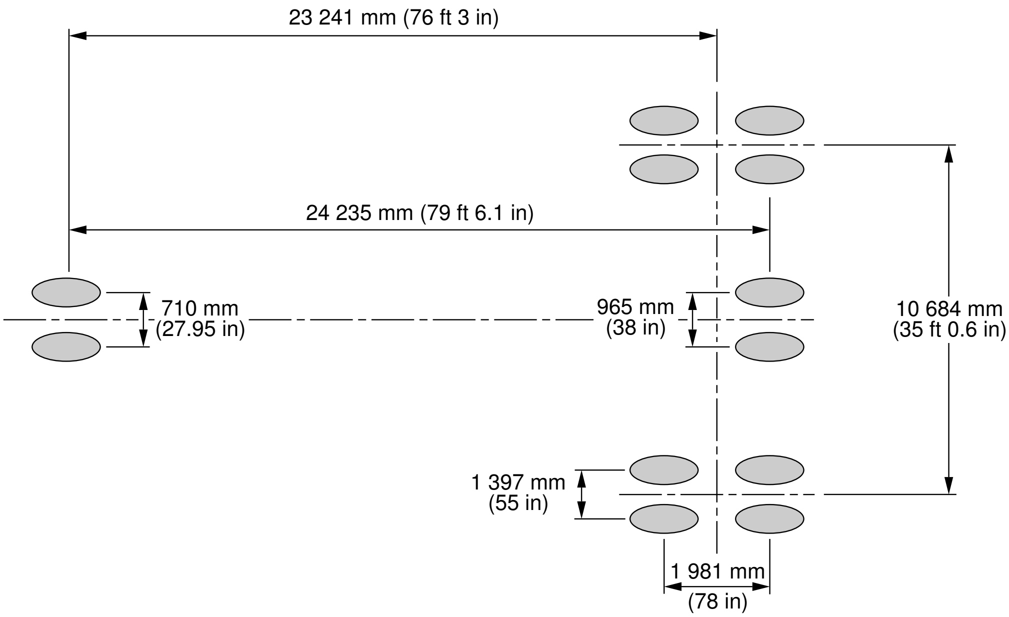
Landing Gear Footprint
MTOW 257 000 kg
FIGURE 10

**ON A/C A340-200

MAXIMUM RAMP WEIGHT	260 900 kg (575 175 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 260 000 kg – A340–200
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	13.2 bar (191 psi)
CENTER GEAR TIRE SIZE	1 400 x 530R23 or 54 x 21–23 (bias)
CENTER GEAR TIRE PRESSURE	10.9 bar (158 psi)



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

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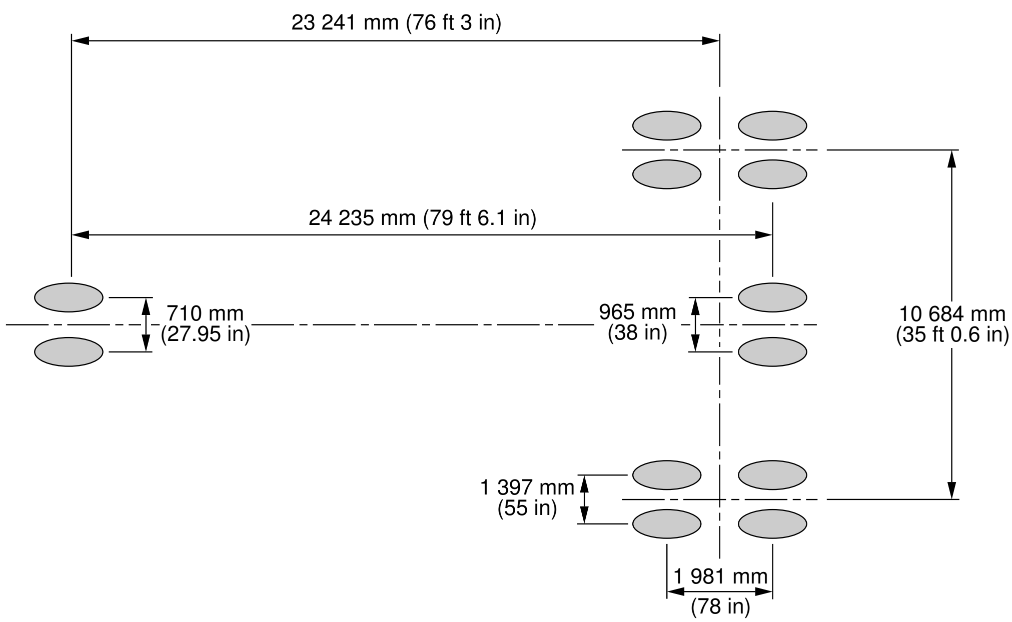
Landing Gear Footprint
MTOW 260 000 kg
FIGURE 11

**ON A/C A340-200

MAXIMUM RAMP WEIGHT	275 900 kg (608 250 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 275 000 kg – A340–200
NOSE GEAR TIRE SIZE	1 050 x 395R16
NOSE GEAR TIRE PRESSURE	13.1 bar (190 psi)
WING GEAR TIRE SIZE	1 400 x 530R23 or 54 x 21–23 (bias)
WING GEAR TIRE PRESSURE	14.2 bar (206 psi)
CENTER GEAR TIRE SIZE	1 400 x 530R23 or 54 x 21–23 (bias)
CENTER GEAR TIRE PRESSURE	10.9 bar (158 psi)



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

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Landing Gear Footprint
MTOW 275 000 kg
FIGURE 12

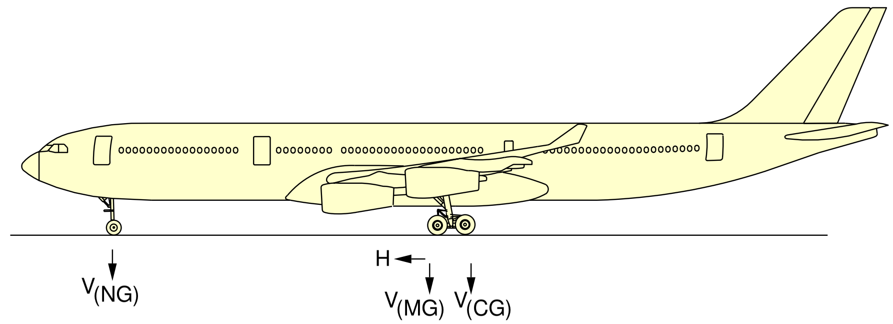
7-3-0 Maximum Pavement Loads

****ON A/C A340-200 A340-300**

Maximum Pavement Loads

1. This section gives Maximum Pavement Loads.

**ON A/C A340-300



1	2		3		4		5		6		7			
			VNG				VMG (PER STRUT)		VCG		H (PER STRUT)			
MODEL	MAXIMUM RAMP WEIGHT		STATIC LOAD AT MOST FWD C.G (1)		STATIC BRAKING @ 10 F.P.S ² DECELERATION		STATIC LOAD AT MAX AFT C.G (2)		STATIC LOAD AT MAX AFT C.G		STEADY BRAKING @ 10 F.P.S ² DECELERATION		AT INSTANTANEOUS BRAKING COEFFICIENT = 0.8	
	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg
–300	599 425	271 900	60 100	27 260	92 600	42 000	239 650	108 710	88 000	39 920	93 150	42 250	191 725	86 970
–300	579 600	262 900	59 725	27 090	91 225	41 380	231 825	105 160	85 300	38 690	90 075	40 860	185 475	84 130
–300	575 175	260 900	59 575	27 030	90 850	41 210	230 325	104 480	84 350	38 260	89 375	40 550	184 275	83 580

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

(1) MRW = 271 900 kg FWD CG = 21.5 % MAC
MRW = 262 900 kg FWD CG = 20.5 % MAC
MRW = 260 900 kg FWD CG = 20.3 % MAC

(2) MRW = 271 900 kg AFT CG = 37.63 % MAC
MRW = 262 900 kg AFT CG = 37.9 % MAC
MRW = 260 900 kg AFT CG = 38.02 % MAC

NOTE: ALL LOADS CALCULATED USING AIRPLANE MAXIMUM RAMP WEIGHT

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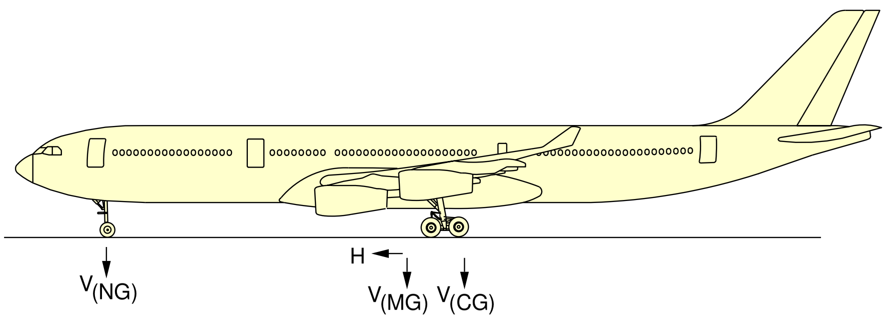
Maximum Pavement Loads
FIGURE 1

**ON A/C A340-300



1	2		3		4		5		6		7			
			VNG				VMG (PER STRUT)		VCG		H (PER STRUT)			
MODEL	MAXIMUM RAMP WEIGHT		STATIC LOAD AT MOST FWD C.G (1)		STATIC BRAKING @ 10 F.P.S ² DECELERATION		STATIC LOAD AT MAX AFT C.G (2)		STATIC LOAD AT MAX AFT C.G		STEADY BRAKING @ 10 F.P.S ² DECELERATION		AT INSTANTANEOUS BRAKING COEFFICIENT = 0.8	
	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg
–300	611 550	277 400	56 950	25 830	90 050	40 850	242 750	110 120	88 600	40 190	95 050	43 110	194 200	88 090
–300	608 250	275 900	60 300	27 350	93 250	42 300	243 200	110 310	89 100	40 410	94 525	42 880	194 550	88 250

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

(1) MRW = 277 400 kg FWD CG = 24 % MAC
MRW = 275 900 kg FWD CG = 21.9 % MAC

(2) RMW = 277 400 kg AFT CG = 35 % MAC
MRW = 275 900 kg AFT CG = 37.5 % MAC

NOTE: ALL LOADS CALCULATED USING AIRPLANE MAXIMUM RAMP WEIGHT

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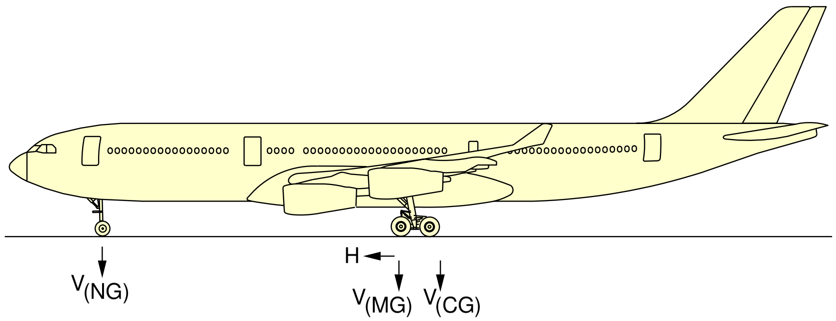
Maximum Pavement Loads
FIGURE 2

**ON A/C A340-200



1	2		3		4		5		6		7			
			VNG				VMG (PER STRUT)		VCG		H (PER STRUT)			
MODEL	MAXIMUM RAMP WEIGHT		STATIC LOAD AT MOST FWD C.G (1)		STATIC BRAKING @ 10 F.P.S ² DECELERATION		STATIC LOAD AT MAX AFT C.G (2)		STATIC LOAD AT MAX AFT C.G		STEADY BRAKING @ 10 F.P.S ² DECELERATION		AT INSTANTANEOUS BRAKING COEFFICIENT = 0.8	
	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg
–200	608 250	275 900	62 575	28 380	98 525	44 690	241 675	109 620	87 925	39 880	94 525	42 880	193 350	87 700
–200	575 175	260 900	56 850	25 790	90 725	41 160	225 400	102 230	90 200	40 910	89 375	40 550	180 300	81 790
–200	560 850	254 400	57 100	25 900	90 200	40 920	219 250	99 450	89 250	40 480	87 152	39 530	175 400	79 560

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

(1) MRW = 275 900 kg FWD CG = 23.7 % MAC
MRW = 260 900 kg FWD CG = 25.15 % MAC
MRW = 254 400 kg FWD CG = 24.2 % MAC

(2) MRW = 275 900 kg AFT CG = 37 % MAC
MRW = 260 900 kg AFT CG = 37.5 % MAC
MRW = 254 400 kg FWD CG = 37.7 % MAC

NOTE: ALL LOADS CALCULATED USING AIRPLANE MAXIMUM RAMP WEIGHT

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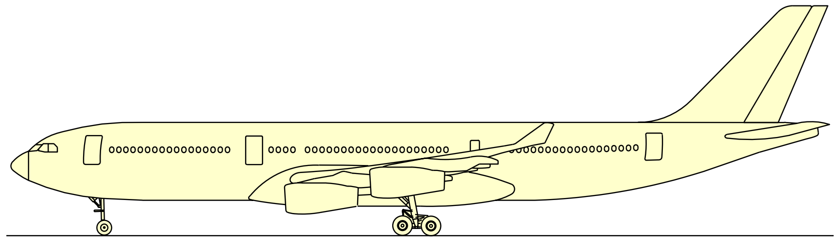
Maximum Pavement Loads
FIGURE 3

**ON A/C A340-200



1	2		3		4		5		6		7			
			VNG				VMG (PER STRUT)		VCG		H (PER STRUT)			
MODEL	MAXIMUM RAMP WEIGHT		STATIC LOAD AT MOST FWD C.G (1)		STATIC BRAKING @ 10 F.P.S ² DECELERATION		STATIC LOAD AT MAX AFT C.G (2)		STATIC LOAD AT MAX AFT C.G		STEADY BRAKING @ 10 F.P.S ² DECELERATION		AT INSTANTANEOUS BRAKING COEFFICIENT = 0.8	
	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg
–200	575 175	260 900	55 450	25 160	86 525	39 250	228 800	103 780	82 350	37 360	89 375	40 550	183 050	83 030
–200	568 575	257 900	55 675	25 250	86 400	39 190	224 200	101 700	90 275	40 945	88 350	40 080	179 350	81 360
–200	560 850	254 400	55 700	25 270	86 050	39 040	220 875	100 190	89 775	40 720	87 150	39 530	176 700	80 150

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

(1) MRW = 260 900 kg FWD CG = 23 % MAC
MRW = 257 900 kg FWD CG = 22.5 % MAC
MRW = 254 400 kg FWD CG = 22 % MAC

(2) MRW = 260 900 kg AFT CG = 35 % MAC
MRW = 257 900 kg AFT CG = 38.05 % MAC
MRW = 254 400 kg FWD CG = 38.18 % MAC

NOTE: ALL LOADS CALCULATED USING AIRPLANE MAXIMUM RAMP WEIGHT

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Maximum Pavement Loads
FIGURE 4

7-4-0 Landing Gear Loading on Pavement

****ON A/C A340-200 A340-300**

Landing Gear Loading on Pavement

****ON A/C A340-300**

1. General

In the example shown in Section 7-4-1, Figure: Landing Gear Loading on Pavement - MTOW 253 500 kg - A340-300
The Gross Aircraft Weight is 200 000 kg (440 925 lb) and the percentage weight on the Main Landing Gear is 94.8 %.
For these conditions the total weight on the Main Landing Gear Group is 189 500 kg (417 775 lb).

****ON A/C A340-200**

2. General

In the example shown in Section 7-4-1, Figure: Landing Gear Loading on Pavement - MTOW 253 500 kg - A340-200
The Gross Aircraft Weight is 200 000 kg (440 925 lb) and the percentage weight on the Main Landing Gear is 94.1 %.
For these conditions the total weight on the Main Landing Gear Group is 188 300 kg (415 130 lb).

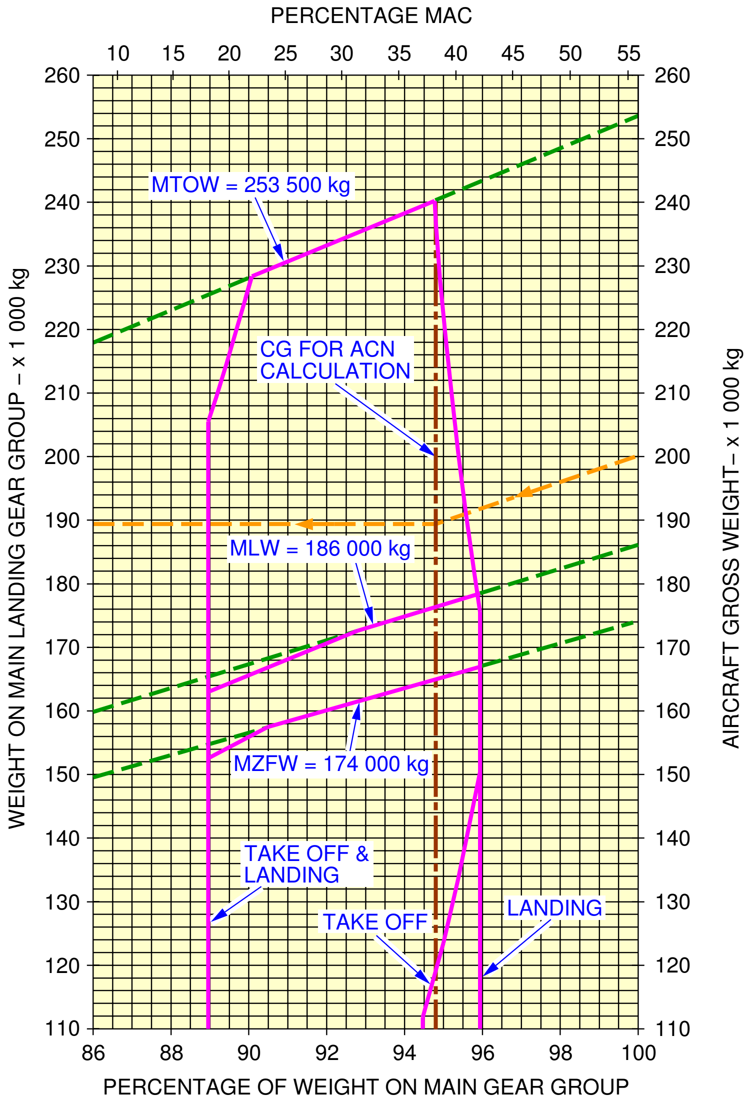
7-4-1 Landing Gear Loading on Pavement

**ON A/C A340-200 A340-300

Landing Gear Loading on Pavement

1. This section gives Landing Gear Loading on Pavement.

**ON A/C A340-300



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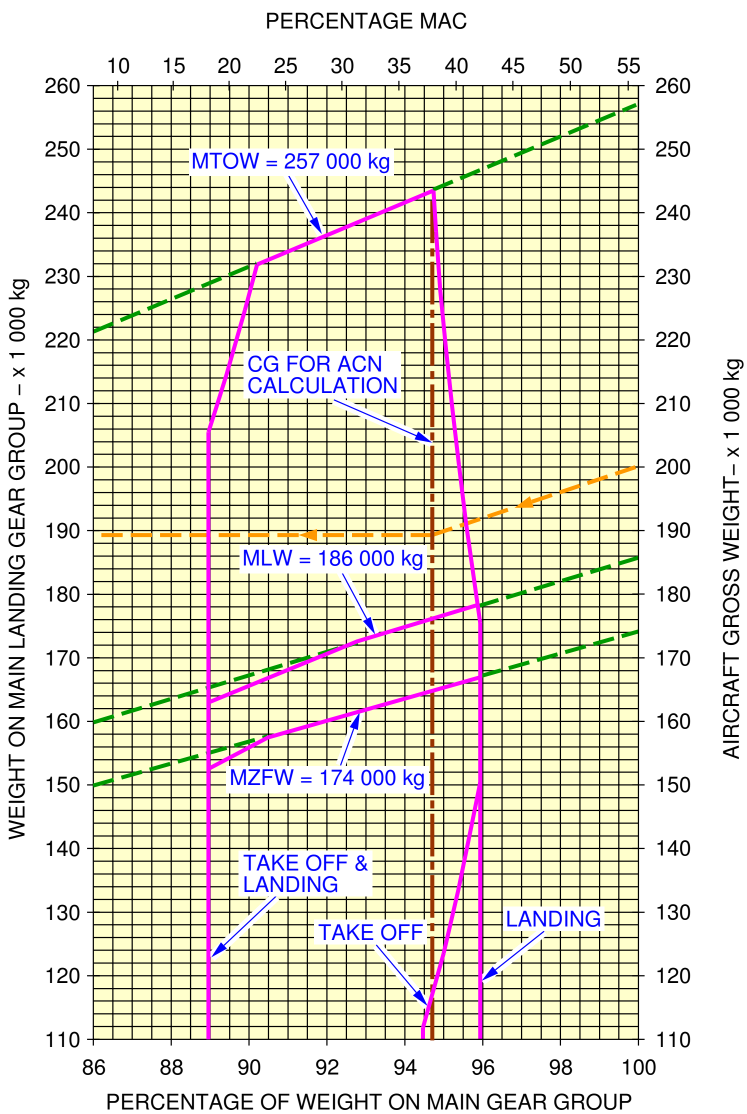
Landing Gear Loading on Pavement
MTOW 253 500 kg
FIGURE 1

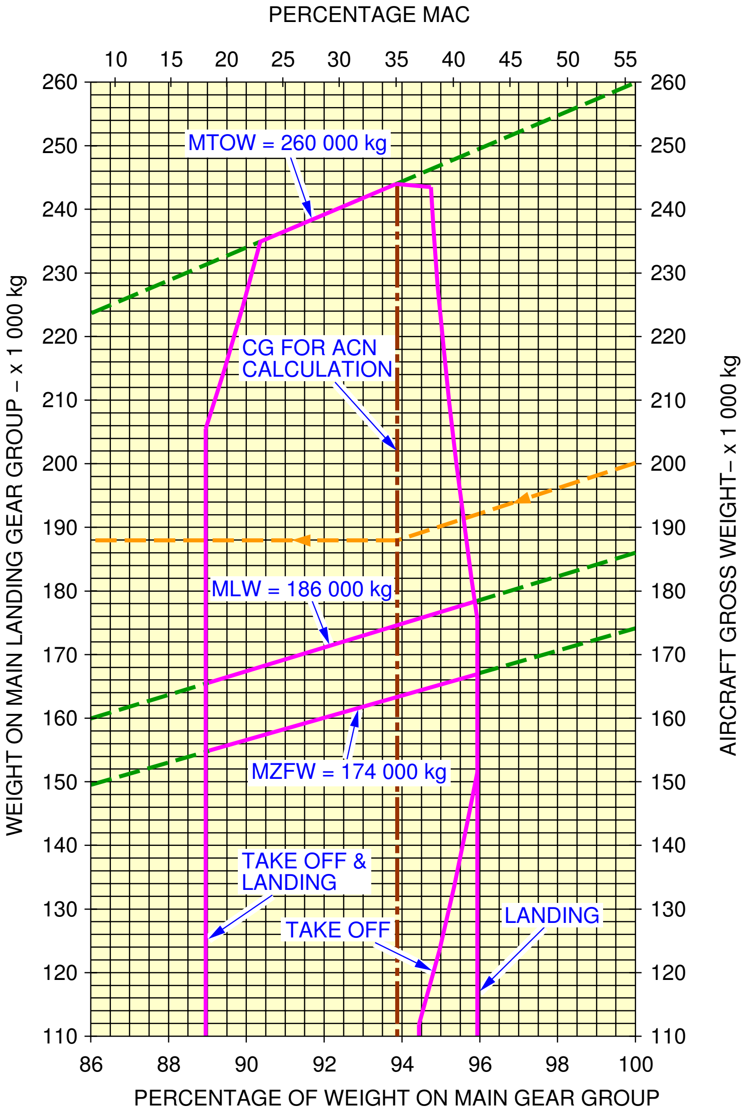
**ON A/C A340-300



F_AC_070401_1_0170101_01_02

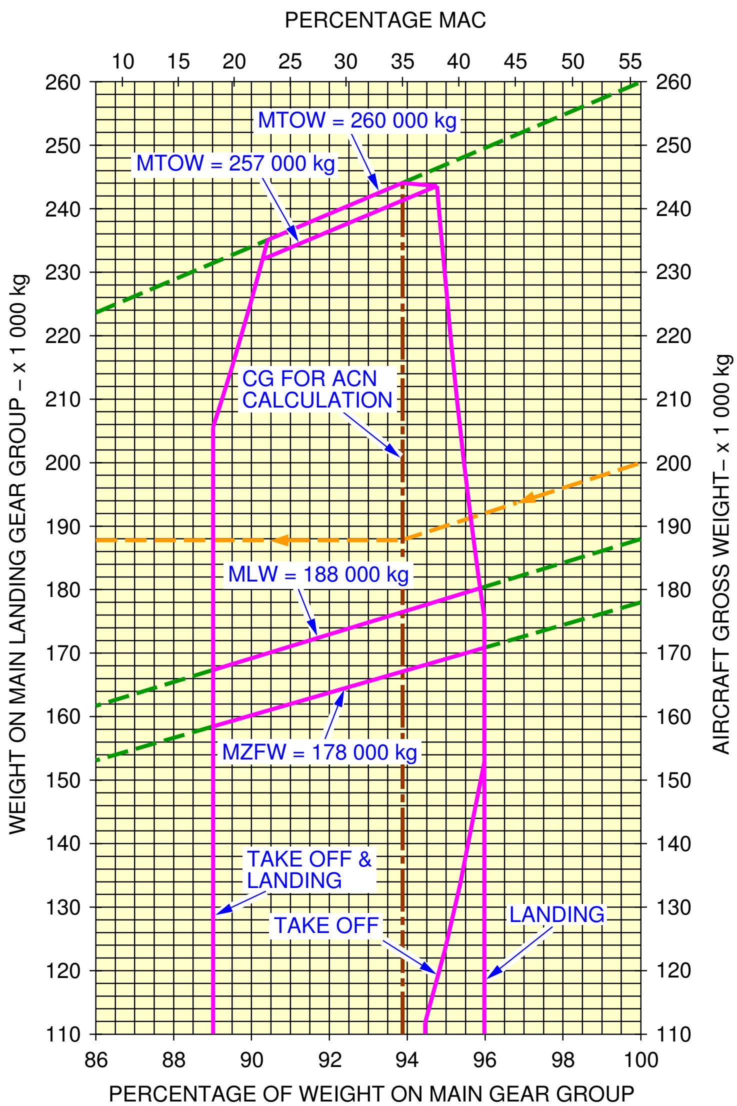
Landing Gear Loading on Pavement
MTOW 257 000 kg
FIGURE 2

**ON A/C A340-300



Landing Gear Loading on Pavement
MTOW 260 000 kg
FIGURE 3

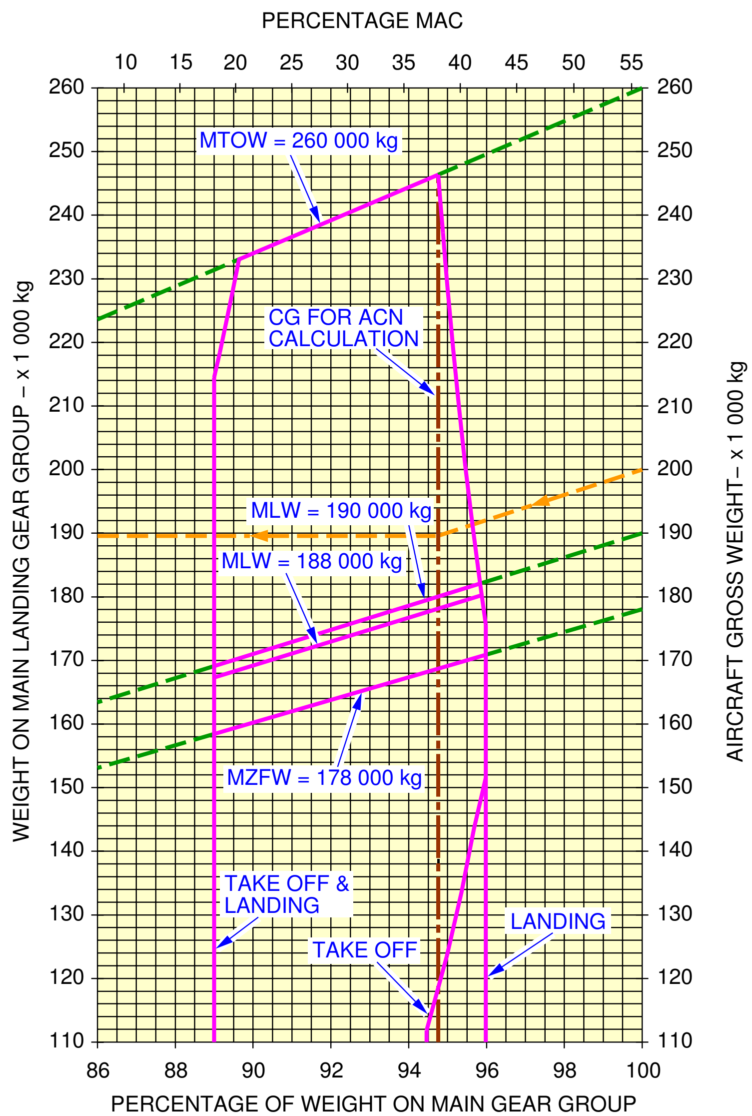
**ON A/C A340-300



F_AC_070401_1_0190101_01_01

Landing Gear Loading on Pavement
MTOW 260 000 kg
FIGURE 4

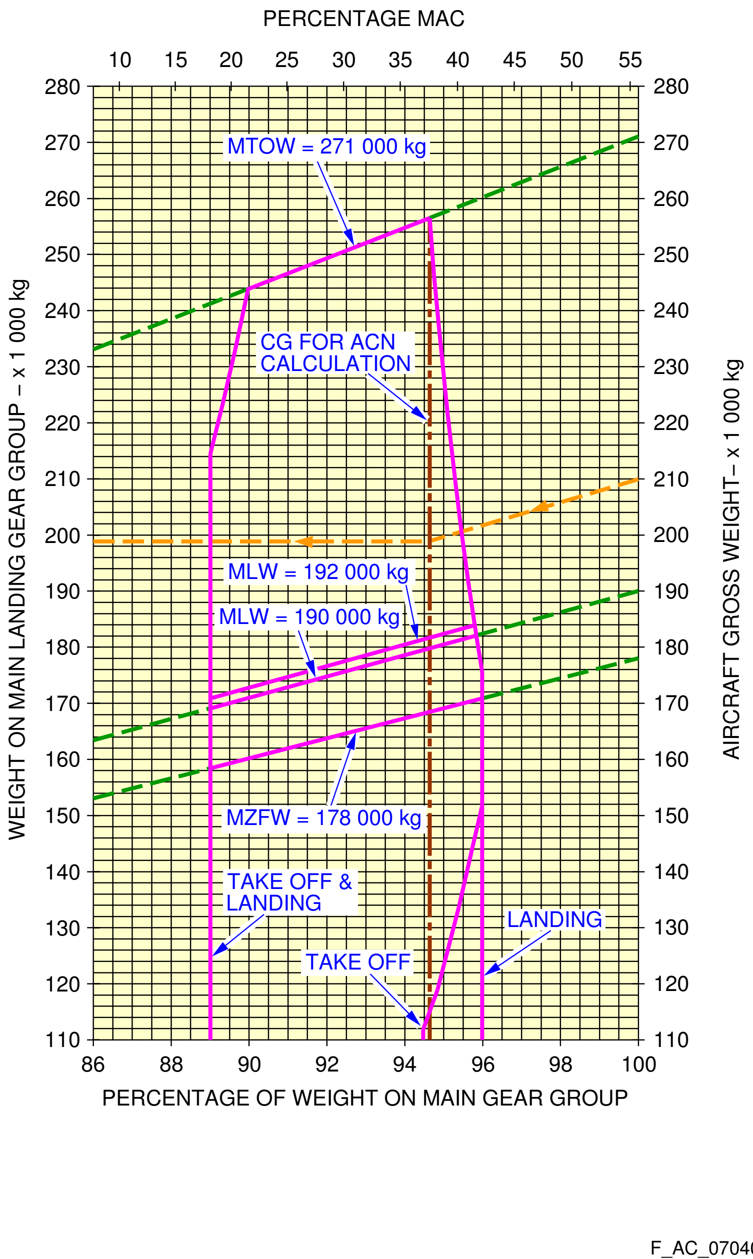
**ON A/C A340-300



F_AC_070401_1_0200101_01_01

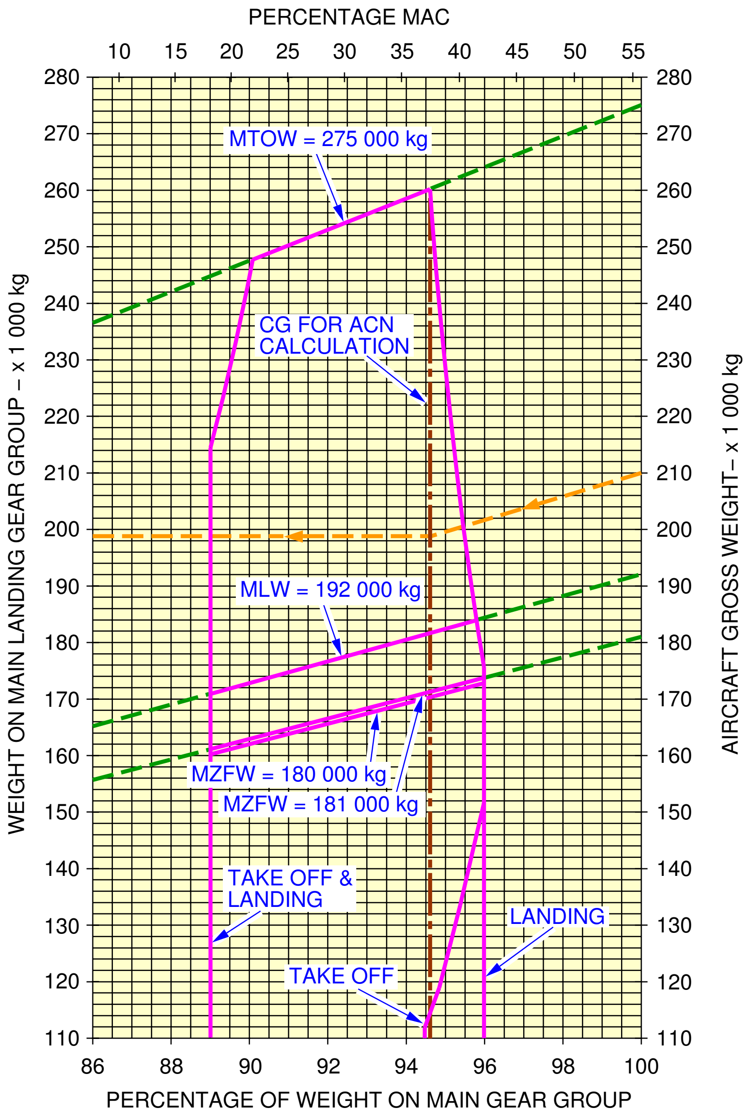
Landing Gear Loading on Pavement
MTOW 260 000 kg
FIGURE 5

**ON A/C A340-300



Landing Gear Loading on Pavement
MTOW 271 000 kg
FIGURE 6

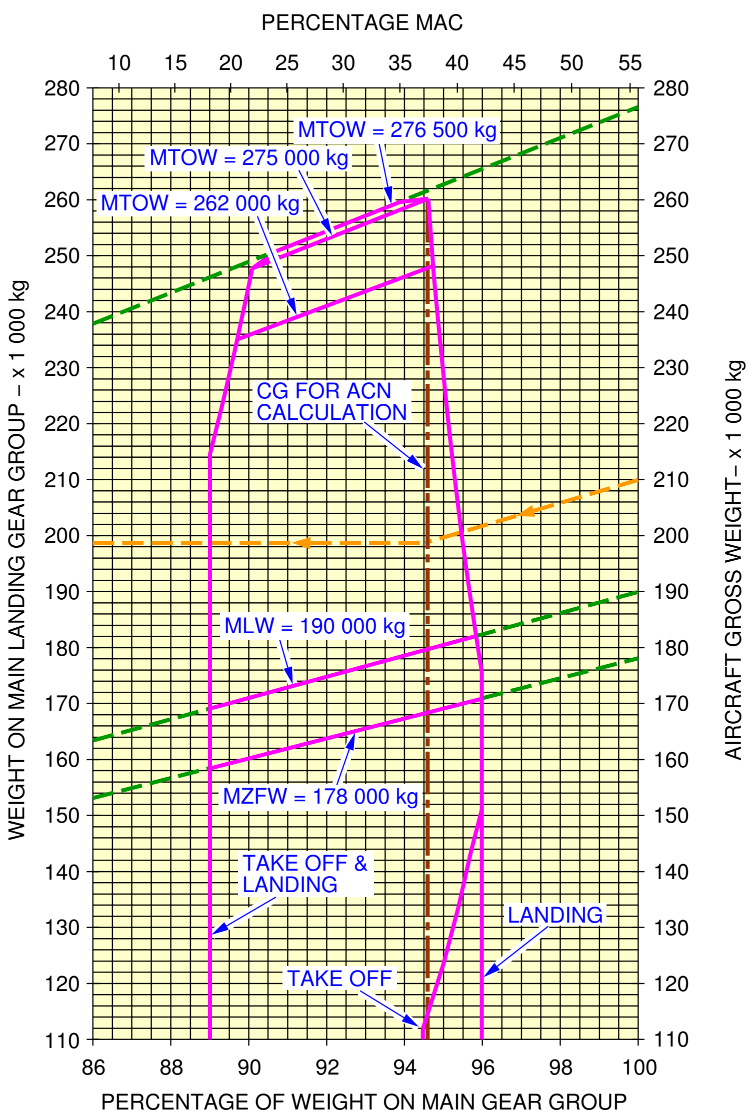
**ON A/C A340-300



F_AC_070401_1_0220101_01_01

Landing Gear Loading on Pavement
MTOW 275 000 kg
FIGURE 7

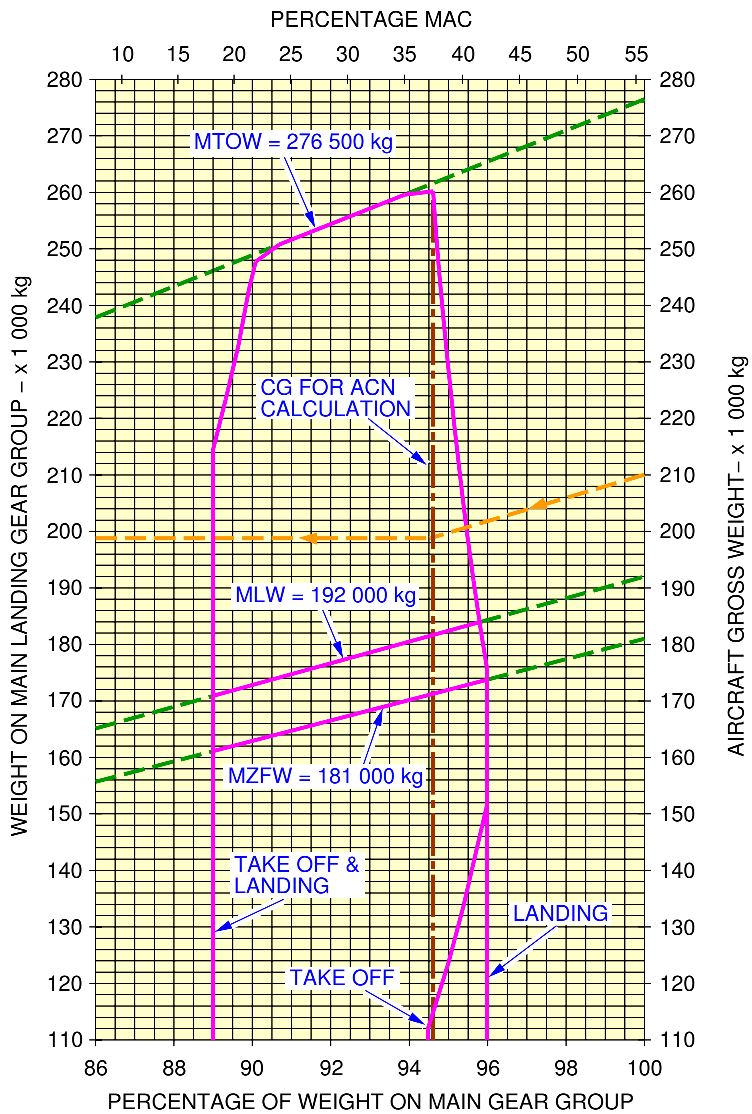
**ON A/C A340-300



F_AC_070401_1_0230101_01_01

Landing Gear Loading on Pavement
MTOW 276 500 kg
FIGURE 8

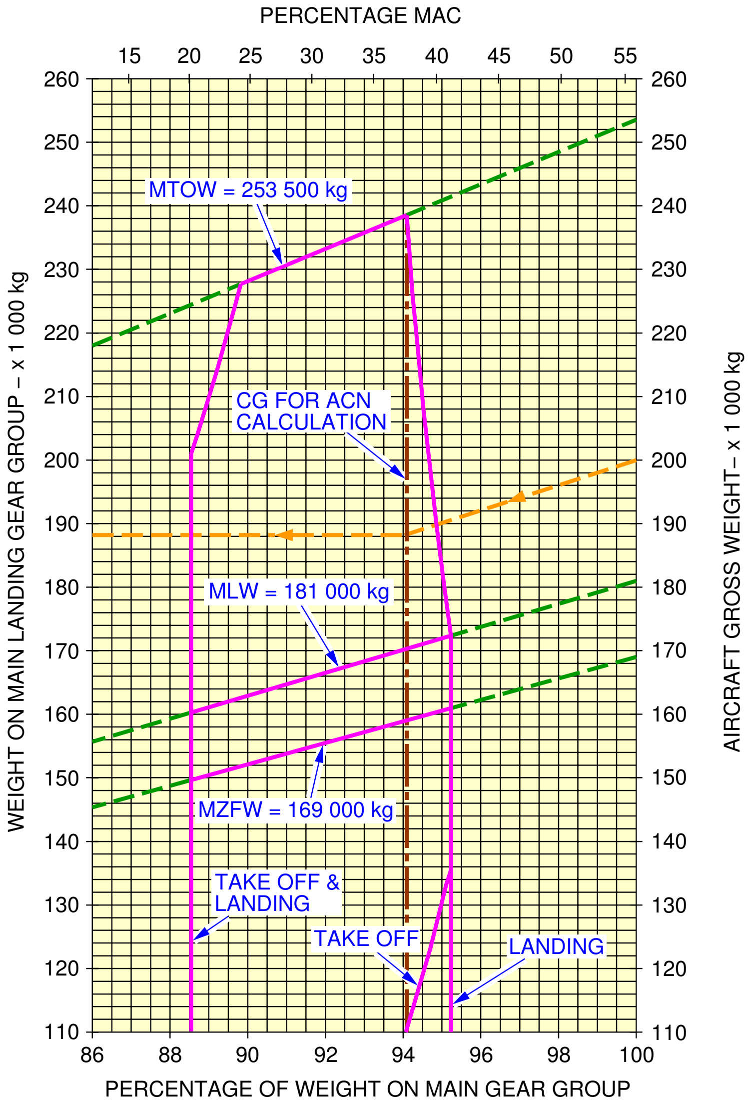
**ON A/C A340-300



F_AC_070401_1_0240101_01_01

Landing Gear Loading on Pavement
MTOW 276 500 kg
FIGURE 9

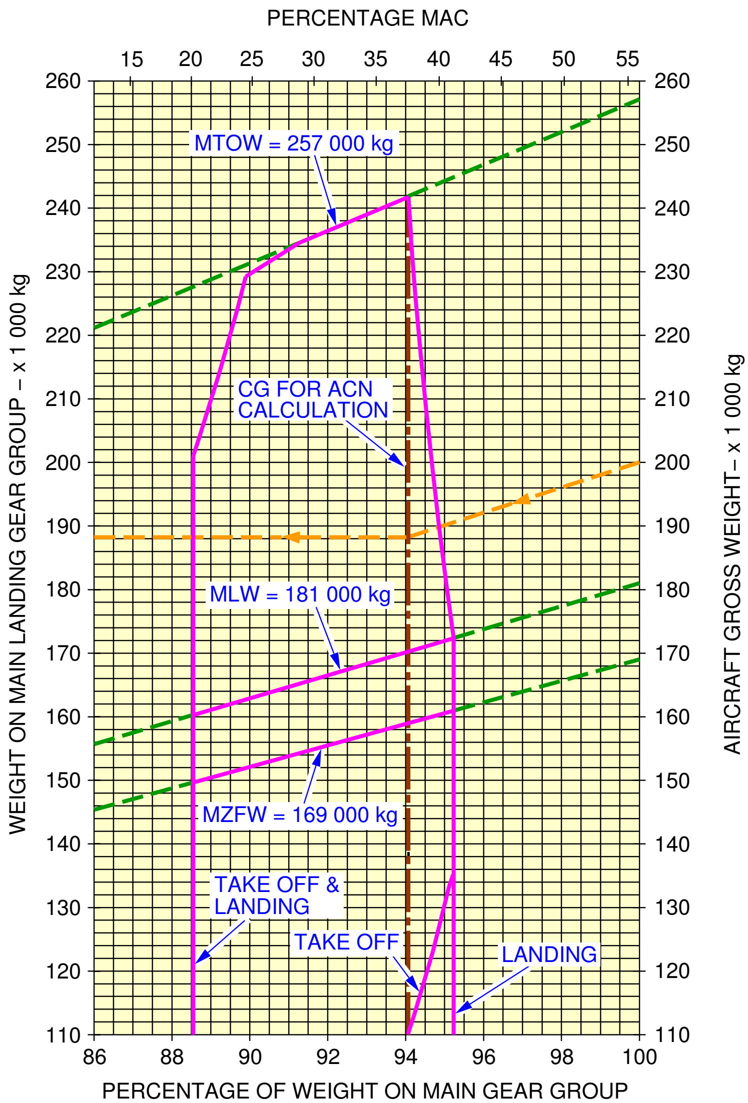
**ON A/C A340-200



F_AC_070401_1_0250101_01_01

Landing Gear Loading on Pavement
MTOW 253 500 kg
FIGURE 10

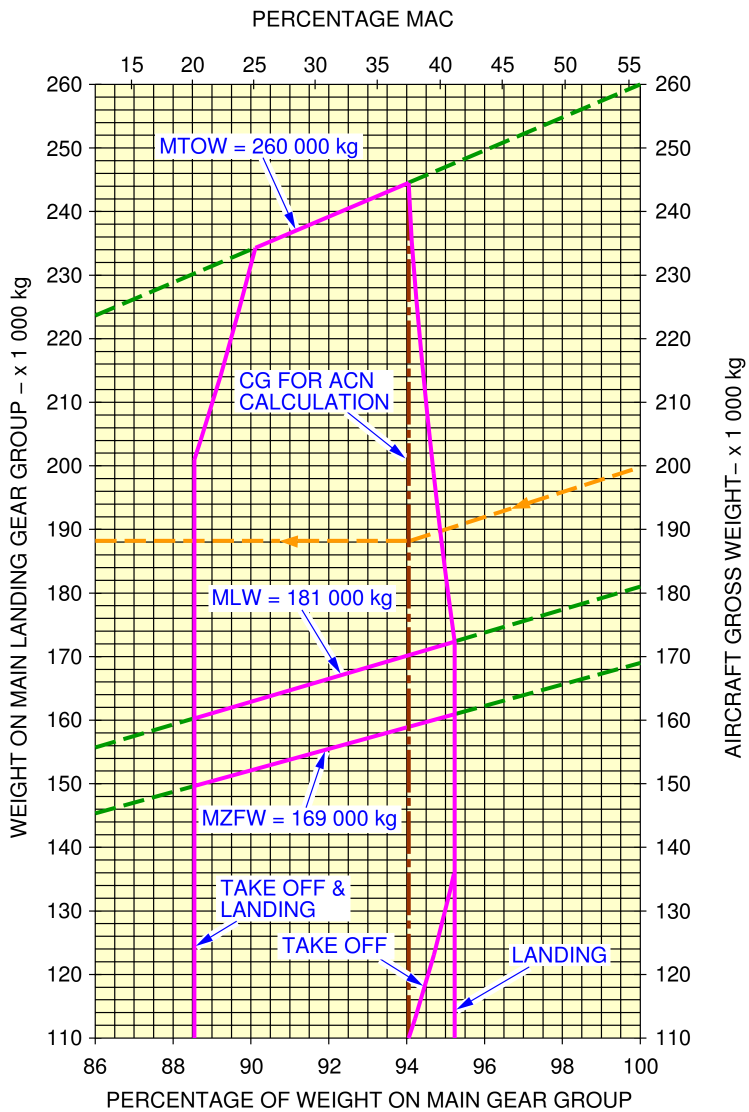
**ON A/C A340-200



F_AC_070401_1_0260101_01_01

Landing Gear Loading on Pavement
MTOW 257 000 kg
FIGURE 11

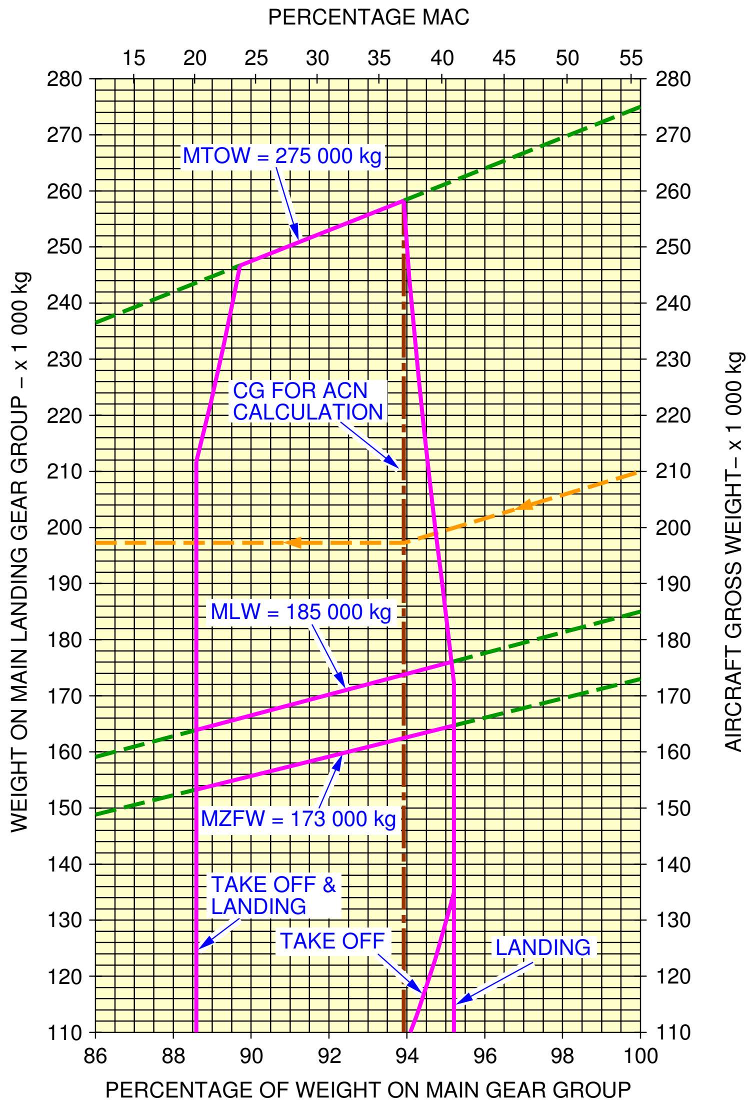
**ON A/C A340-200



F_AC_070401_1_0270101_01_01

Landing Gear Loading on Pavement
MTOW 260 000 kg
FIGURE 12

**ON A/C A340-200



F_AC_070401_1_0280101_01_01

Landing Gear Loading on Pavement
MTOW 275 000 kg
FIGURE 13

7-4-2 Wing Gear and Center Landing Gear Loading on Pavement

****ON A/C A340-200 A340-300**

Wing Gear and Center Landing Gear Loading on Pavement

1. The Main Landing Gear Group consists of two Wing Gears plus one Center Gear.

****ON A/C A340-300**

2. For an airplane with 253 500 kg (558 872 lb) MTOW.

   In the example shown in Section 7-4-3, Figure: Wing Gear and Center Landing Gear Loading on Pavement - MTOW 253 500 kg - A340-300
   The Gross Aircraft Weight is 220 000 kg (485 017 lb) at Aft CG for ACN Calculations.
   For these conditions the load on the two Wing Gears is 175 660 kg (387 264 lb) and the load on the Center Gear is 32 870 kg (72 466 lb).
   The total weight on the Main Landing Gear Group is 208 530 kg (459 730 lb).

****ON A/C A340-200**

3. For an airplane with 253 500 kg (558 872 lb) MTOW.

   In the example shown in Section 7-4-3, Figure: Wing Gear and Center Landing Gear Loading on Pavement - MTOW 253 500 kg - A340-200
   The Gross Aircraft Weight is 220 000 kg (485 017 lb) at Aft CG for ACN Calculations.
   For these conditions the load on the two Wing Gears is 174 920 kg (385 632 lb) and the load on the Center Gear is 32 180 kg (70 945 lb).
   The total weight on the Main Landing Gear Group is 207 100 kg (456 577 lb).

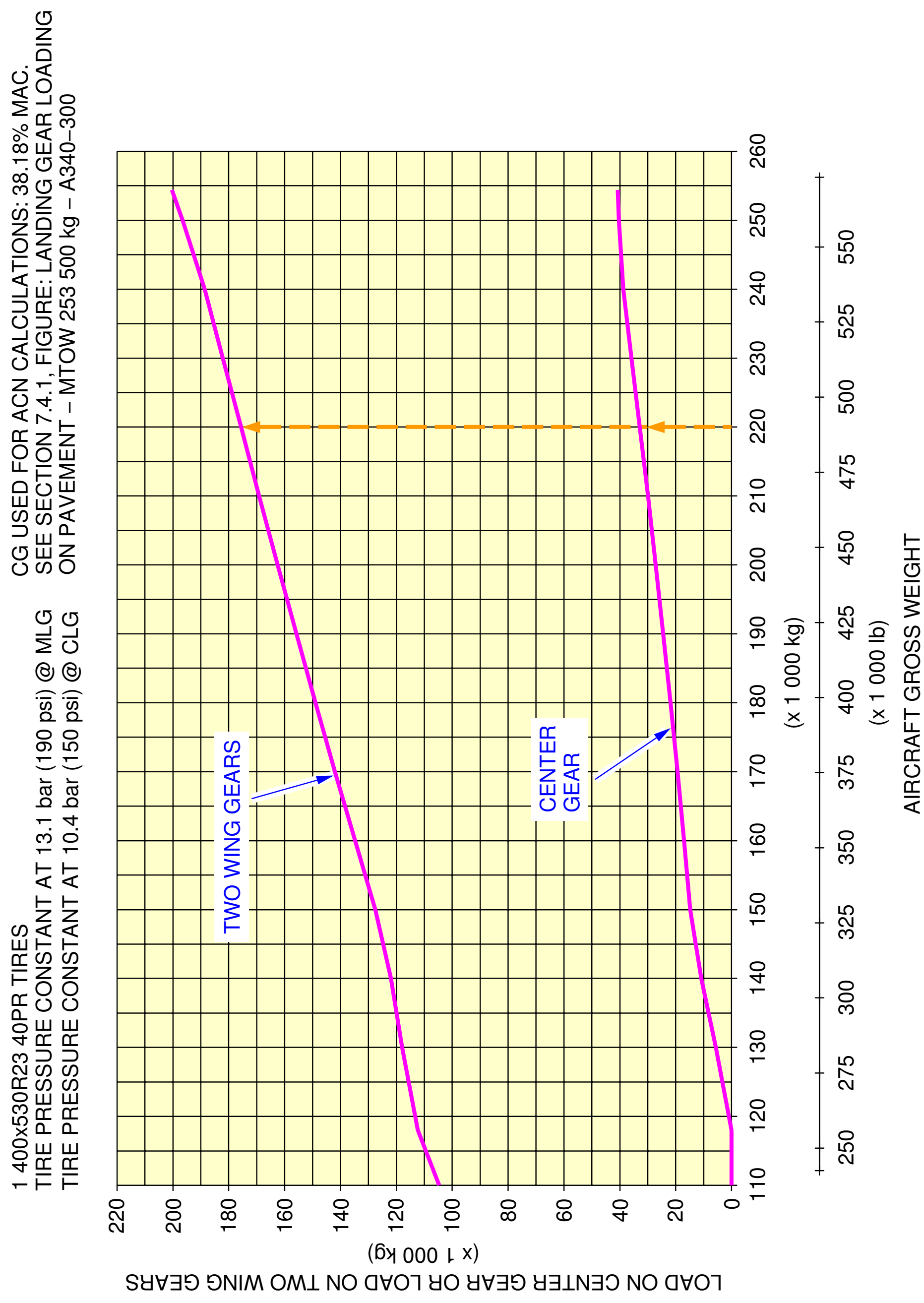
7-4-3 Wing Gear and Center Landing Gear Loading on Pavement

****ON A/C A340-200 A340-300**

Wing Gear and Center Landing Gear Loading on Pavement

1. This section gives Wing Gear and Center Landing Gear Loading on Pavement.

**ON A/C A340-300



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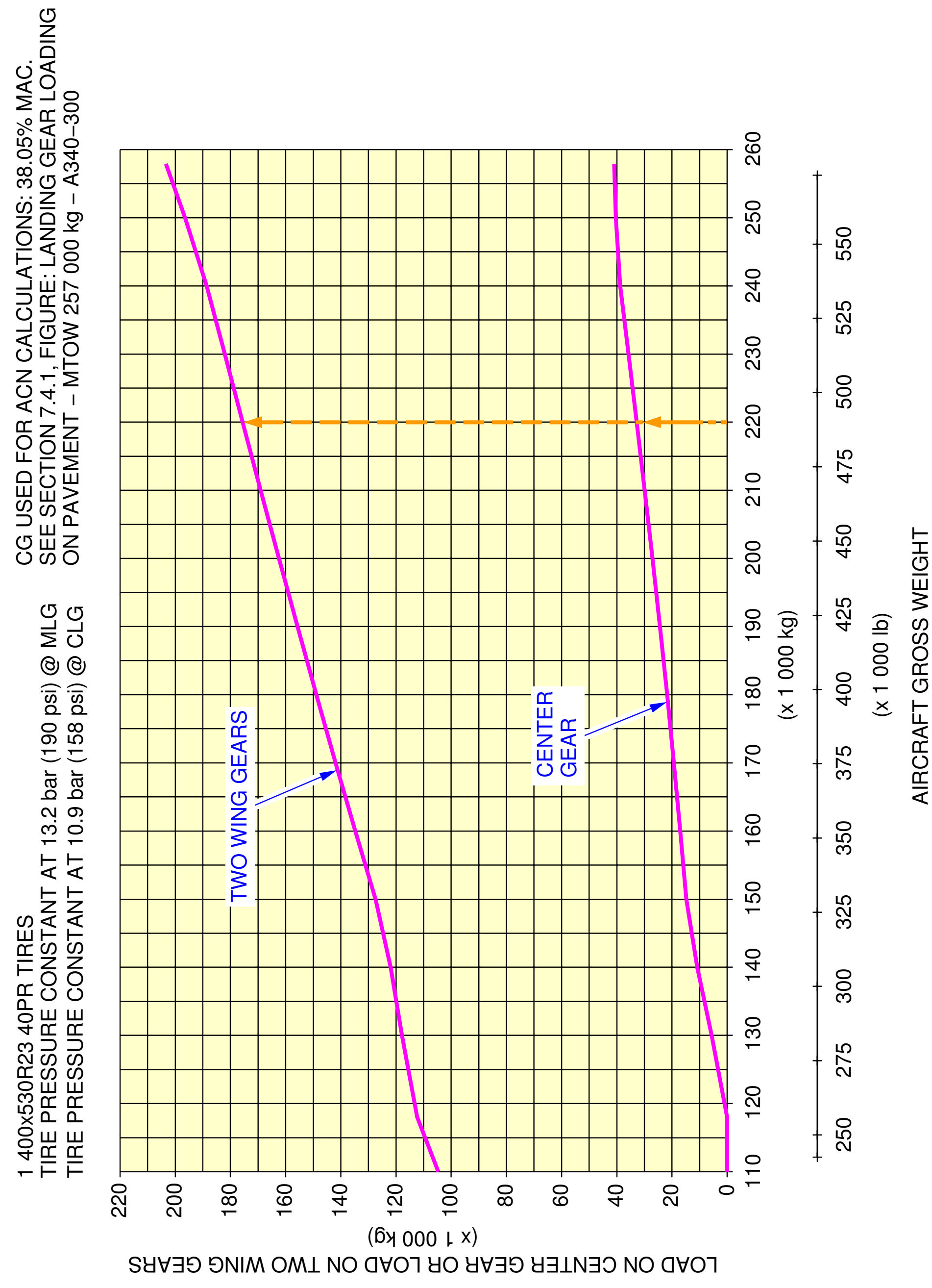
Wing Gear and Center Landing Gear Loading on Pavement
MTOW 253 500 kg
FIGURE 1

**ON A/C A340-300



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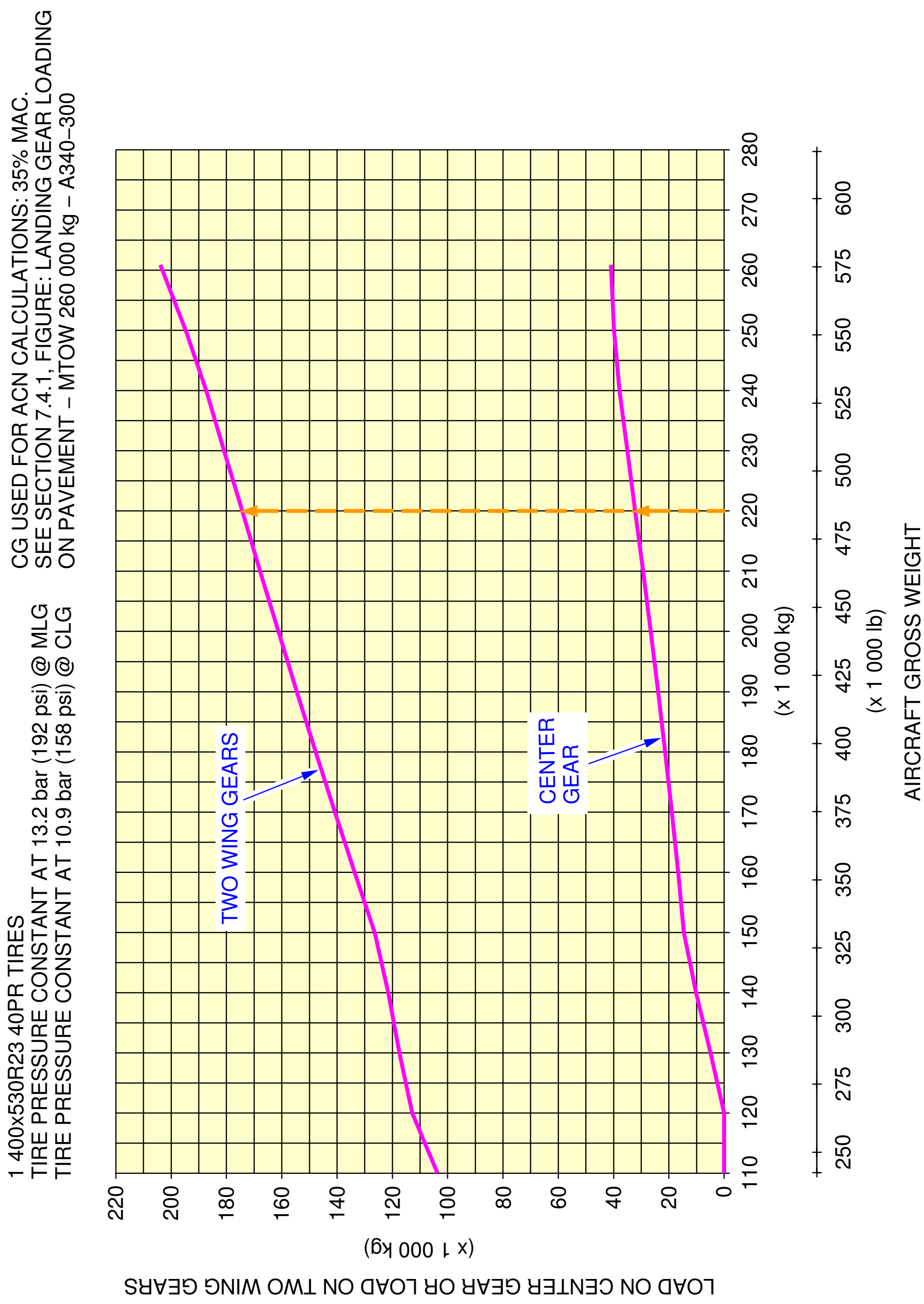
Wing Gear and Center Landing Gear Loading on Pavement
MTOW 257 000 kg
FIGURE 2

**ON A/C A340-300



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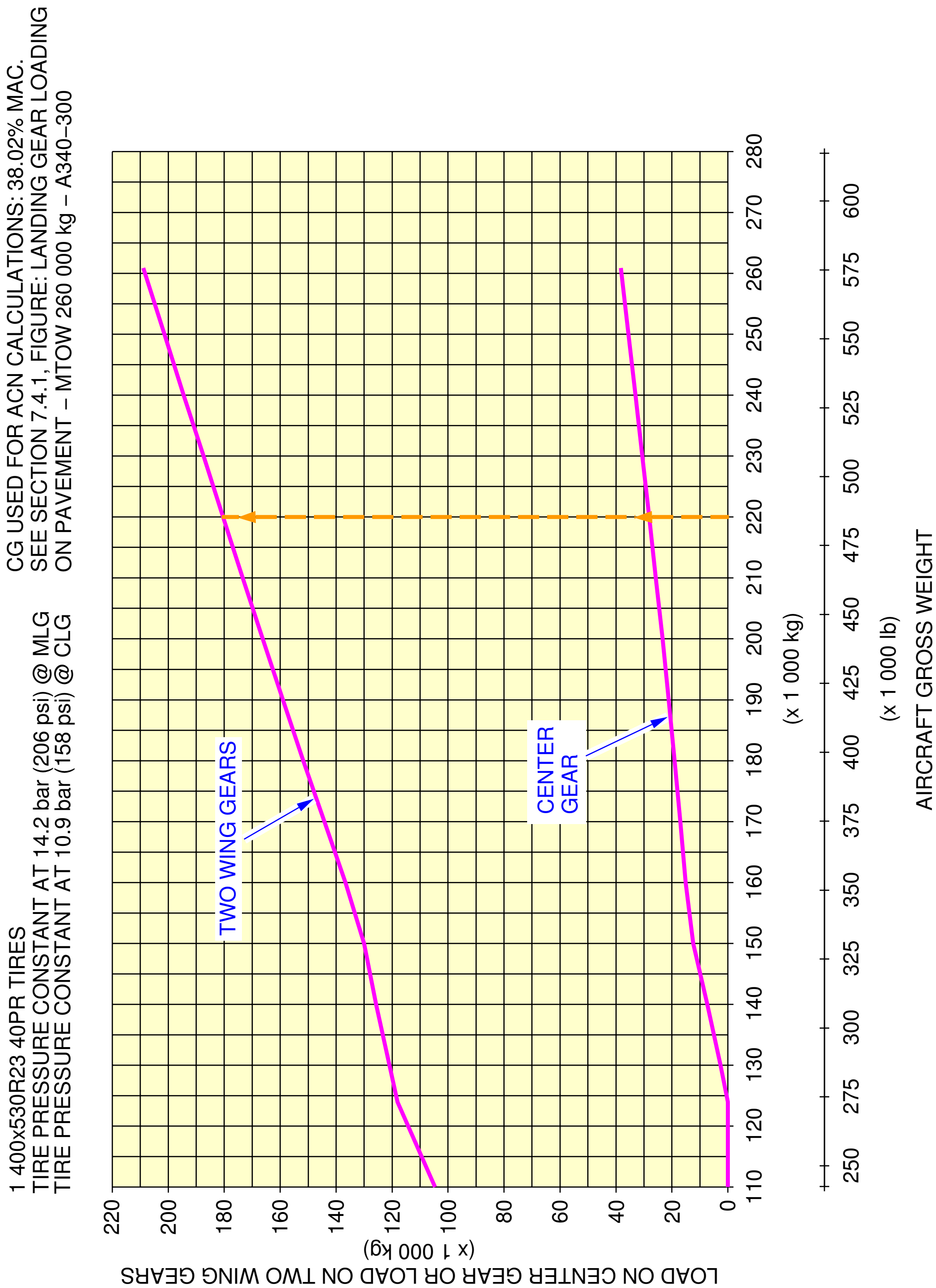
Wing Gear and Center Landing Gear Loading on Pavement
MTOW 260 000 kg
FIGURE 3

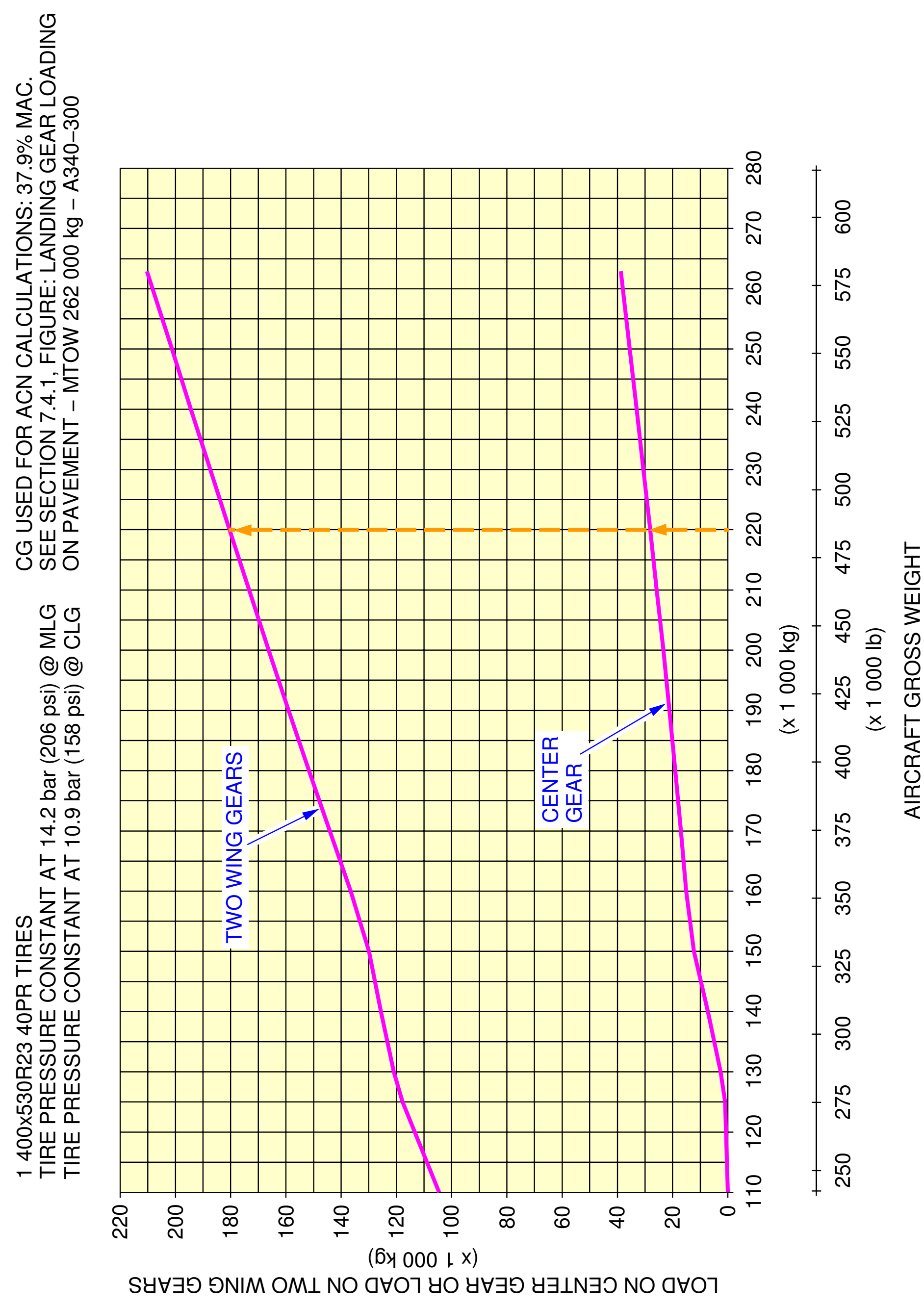
****ON A/C A340-300**



F_AC_070403_1_0040101_01_01

Wing Gear and Center Landing Gear Loading on Pavement
MTOW 260 000 kg
FIGURE 4

**ON A/C A340-300



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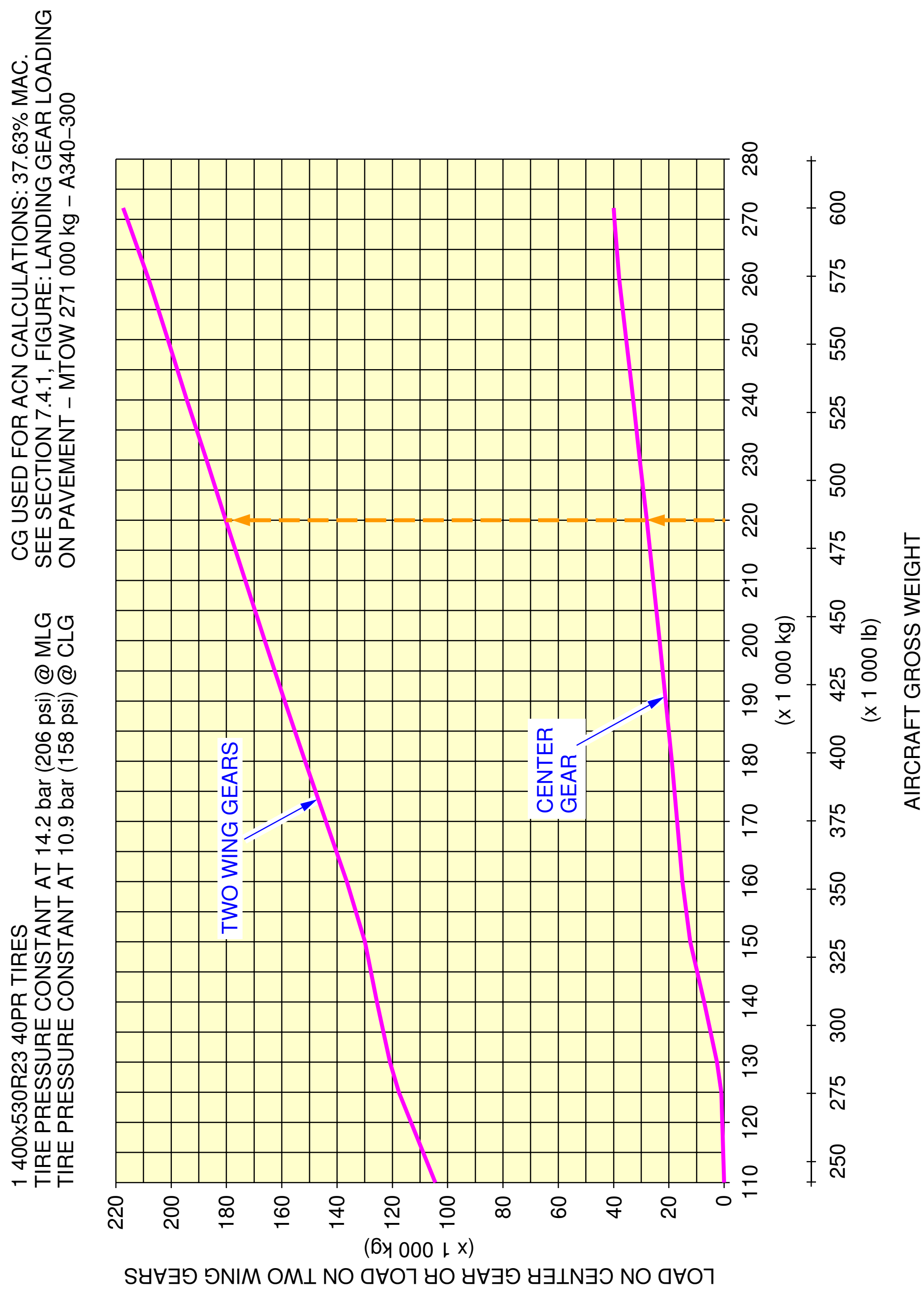
Wing Gear and Center Landing Gear Loading on Pavement
MTOW 262 000 kg
FIGURE 5

**ON A/C A340-300



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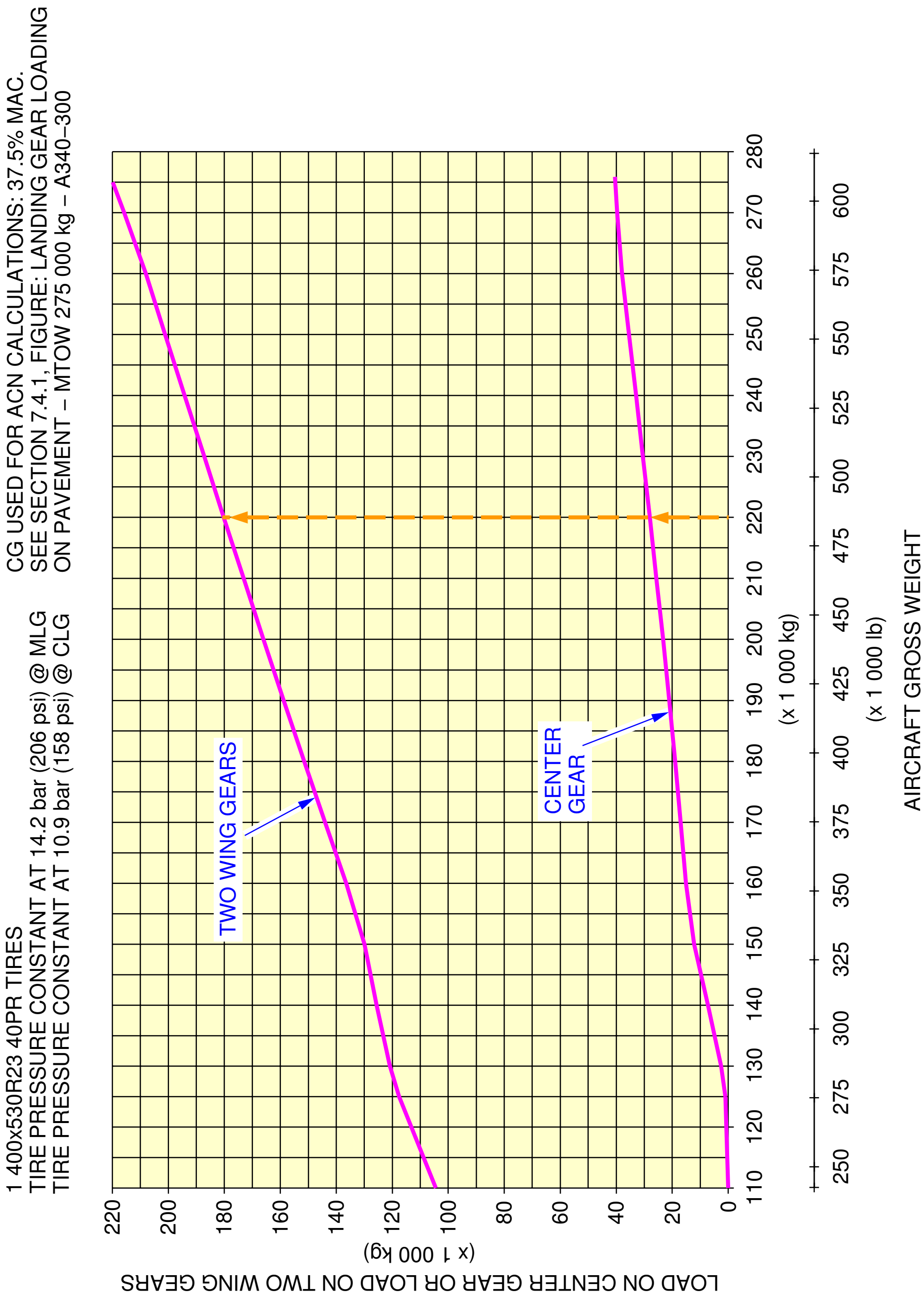
Wing Gear and Center Landing Gear Loading on Pavement
MTOW 271 000 kg
FIGURE 6

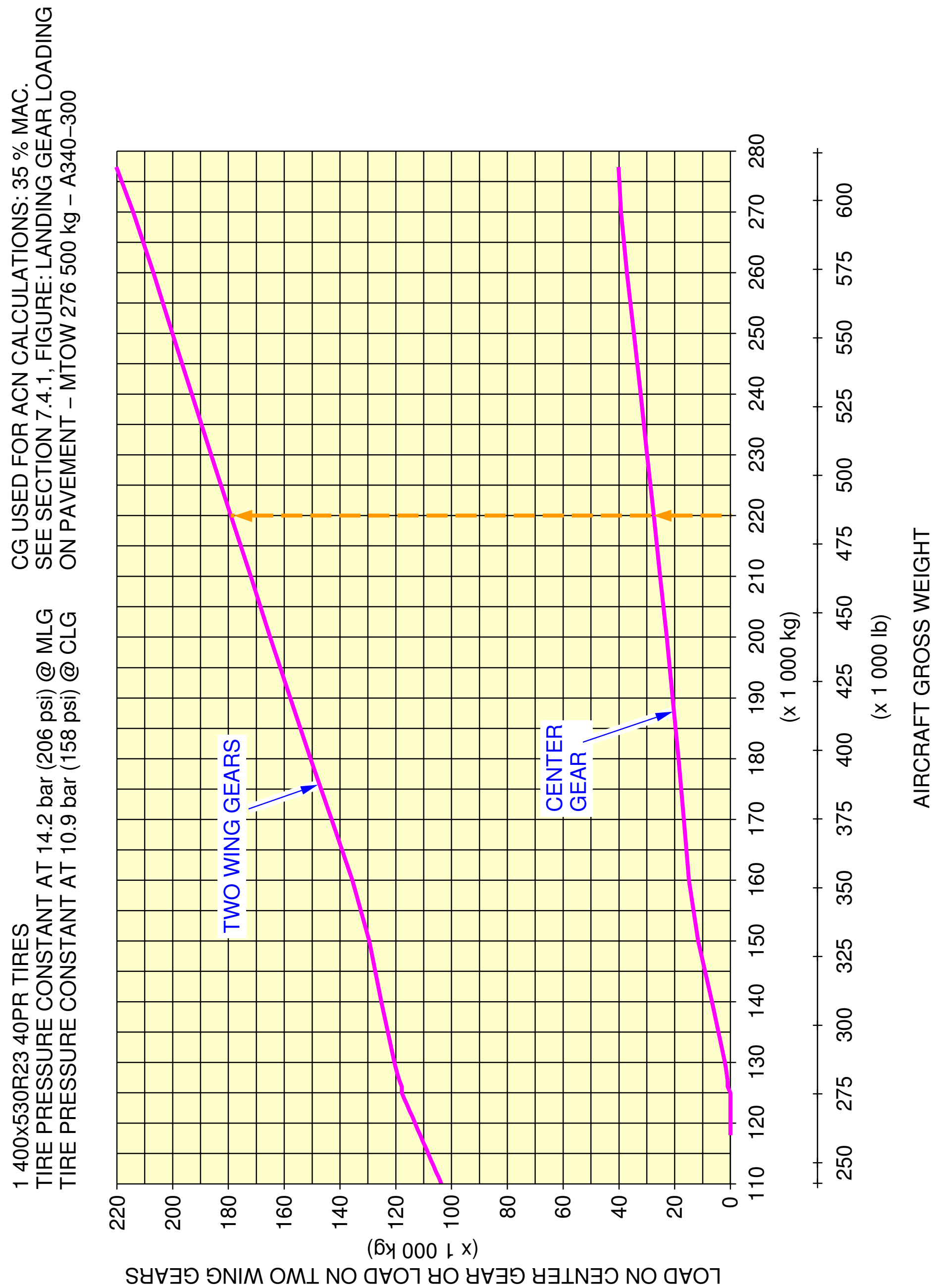
**ON A/C A340-300



F_AC_070403_1_0070101_01_01

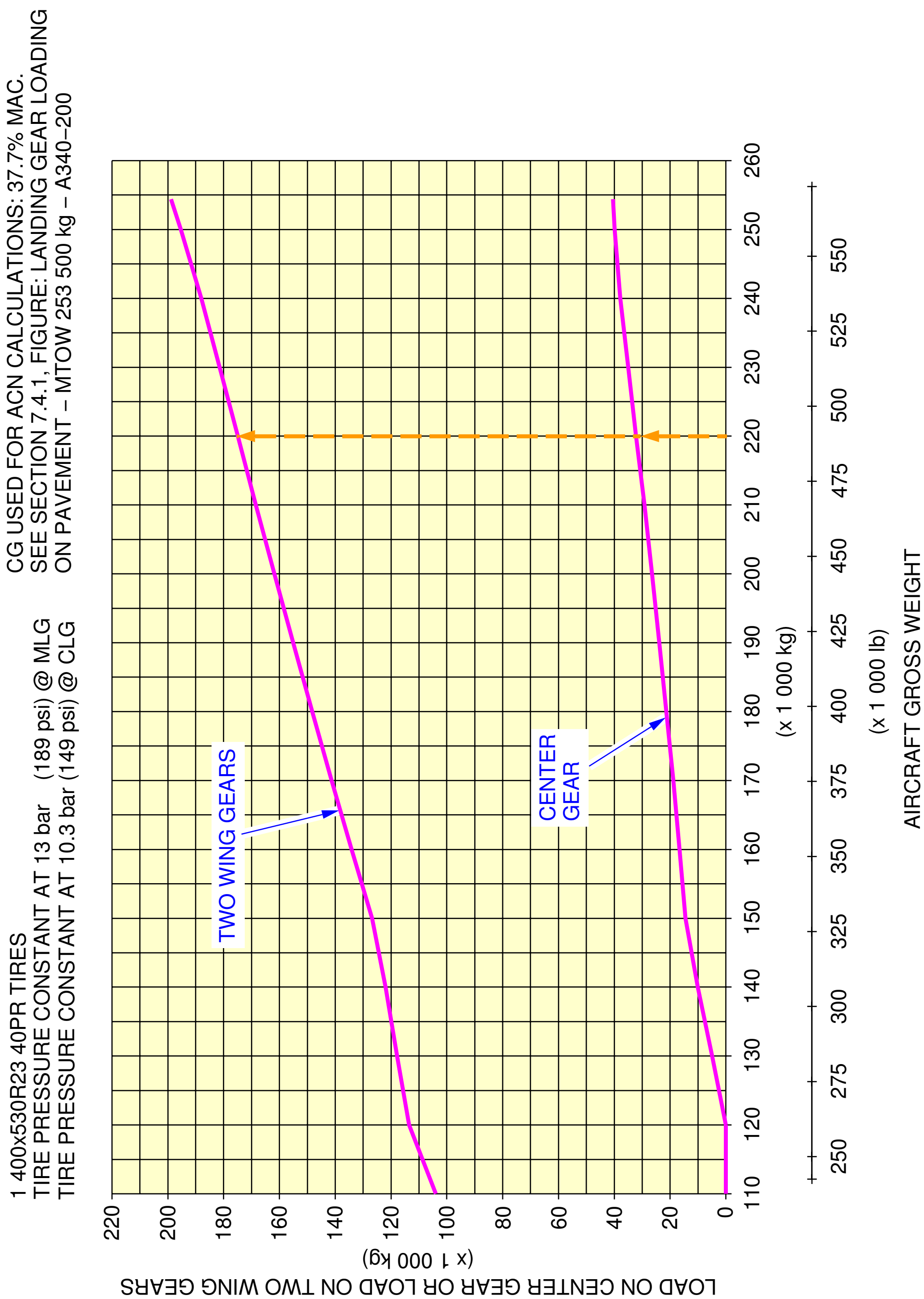
Wing Gear and Center Landing Gear Loading on Pavement
MTOW 275 000 kg
FIGURE 7

**ON A/C A340-300



Wing Gear and Center Landing Gear Loading on Pavement
MTOW 276 500 kg
FIGURE 8

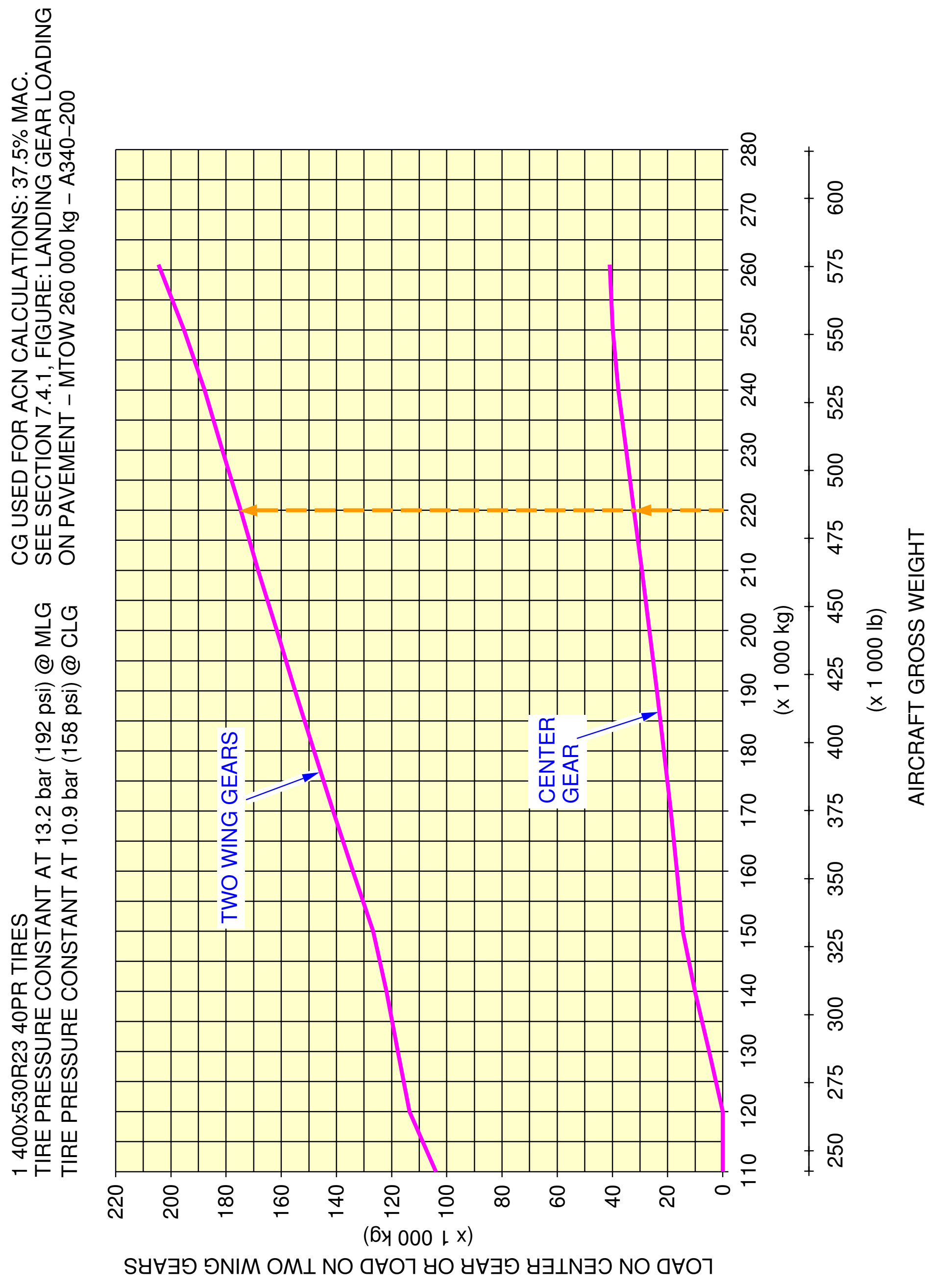
**ON A/C A340-200



F_AC_070403_1_0090101_01_01

Wing Gear and Center Landing Gear Loading on Pavement
MTOW 253 500 kg
FIGURE 9

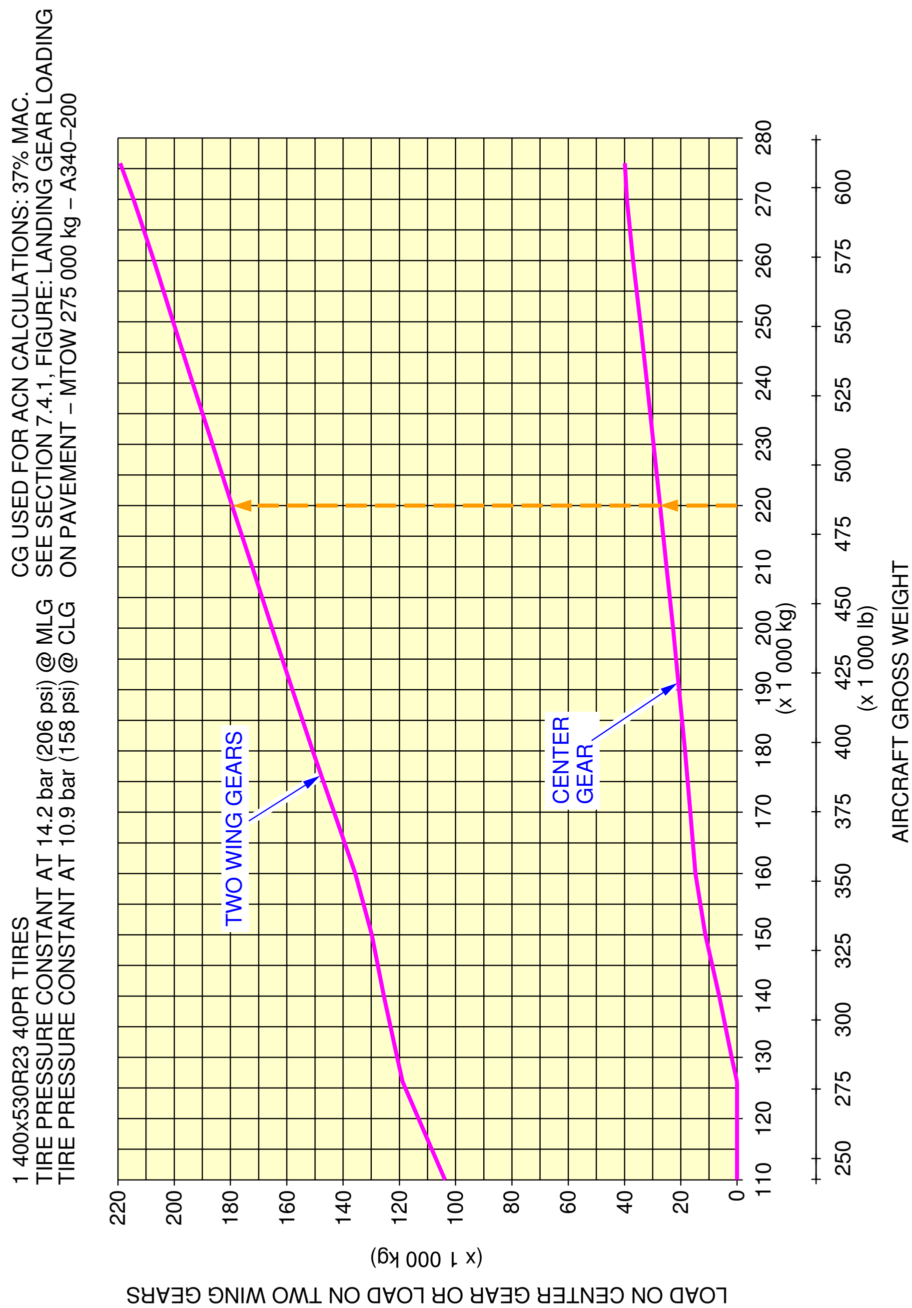
**ON A/C A340-200



F_AC_070403_1_0100101_01_01

Wing Gear and Center Landing Gear Loading on Pavement
MTOW 260 000 kg
FIGURE 10

**ON A/C A340-200



F_AC_070403_1_0110101_01_01

Wing Gear and Center Landing Gear Loading on Pavement
MTOW 275 000 kg
FIGURE 11

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

****ON A/C A340-200 A340-300**

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

****ON A/C A340-300**

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 253 500 kg - A340-300

- 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 Thickness is 50 cm (20 inches).

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

****ON A/C A340-200**

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 253 500 kg - A340-200

- 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 Thickness is 50 cm (20 inches).

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

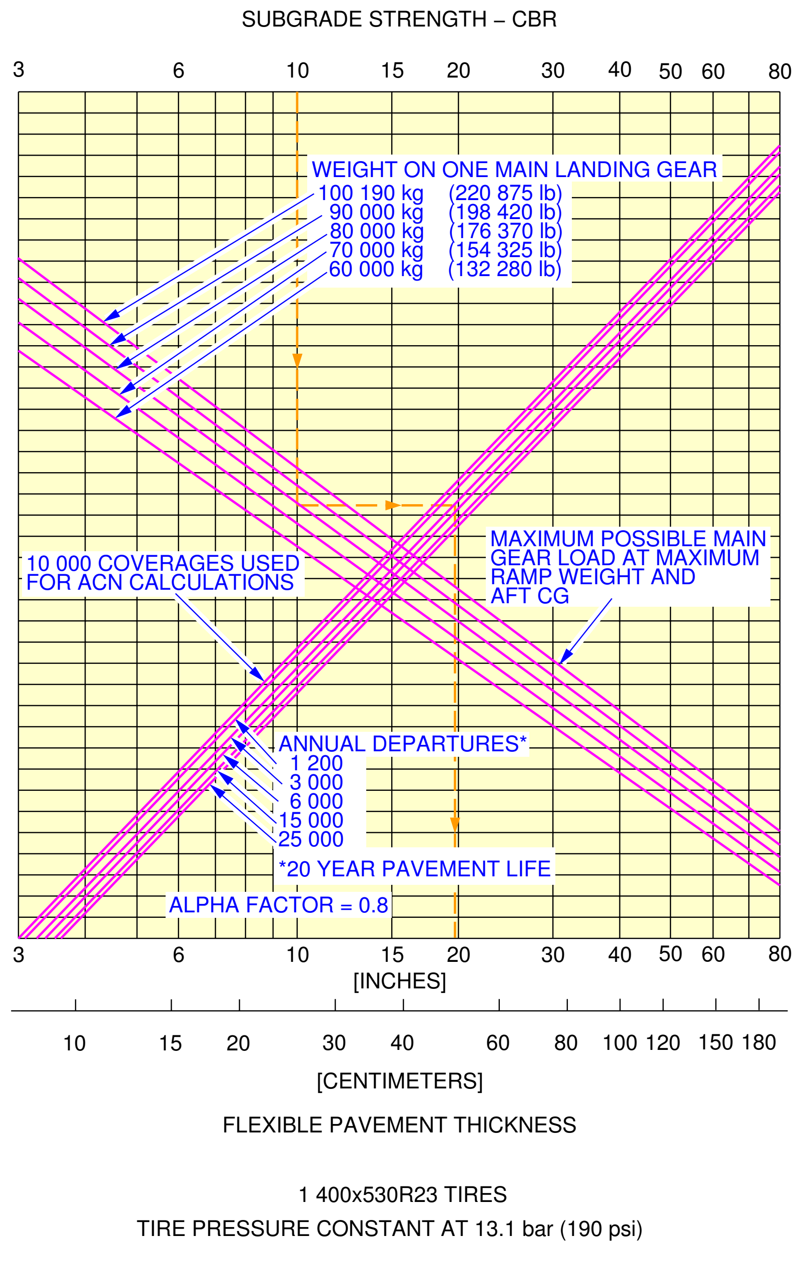
7-5-1 Flexible Pavement Requirements - U.S. Army Corps of Engineers Design Method S-77-1

****ON A/C A340-200 A340-300**

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

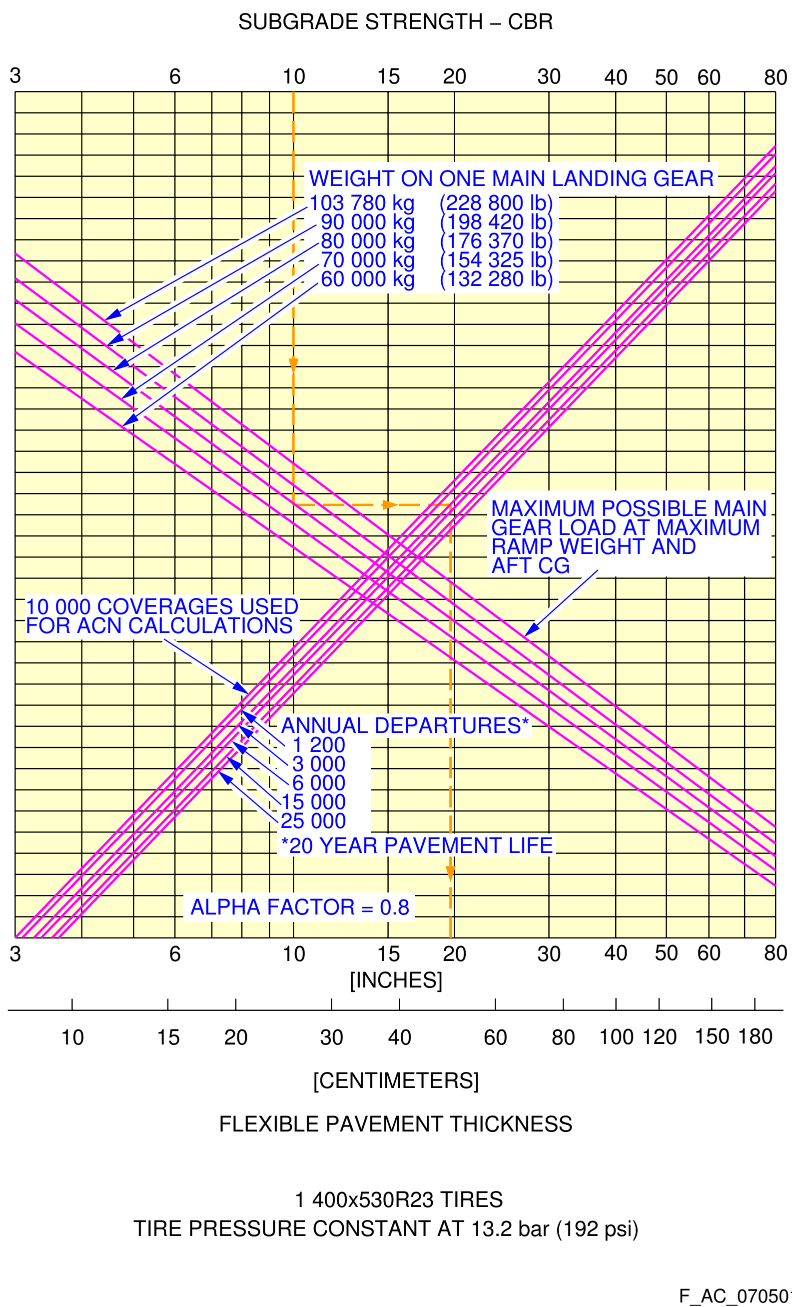
1. This section gives Flexible Pavement Requirements.

**ON A/C A340-300



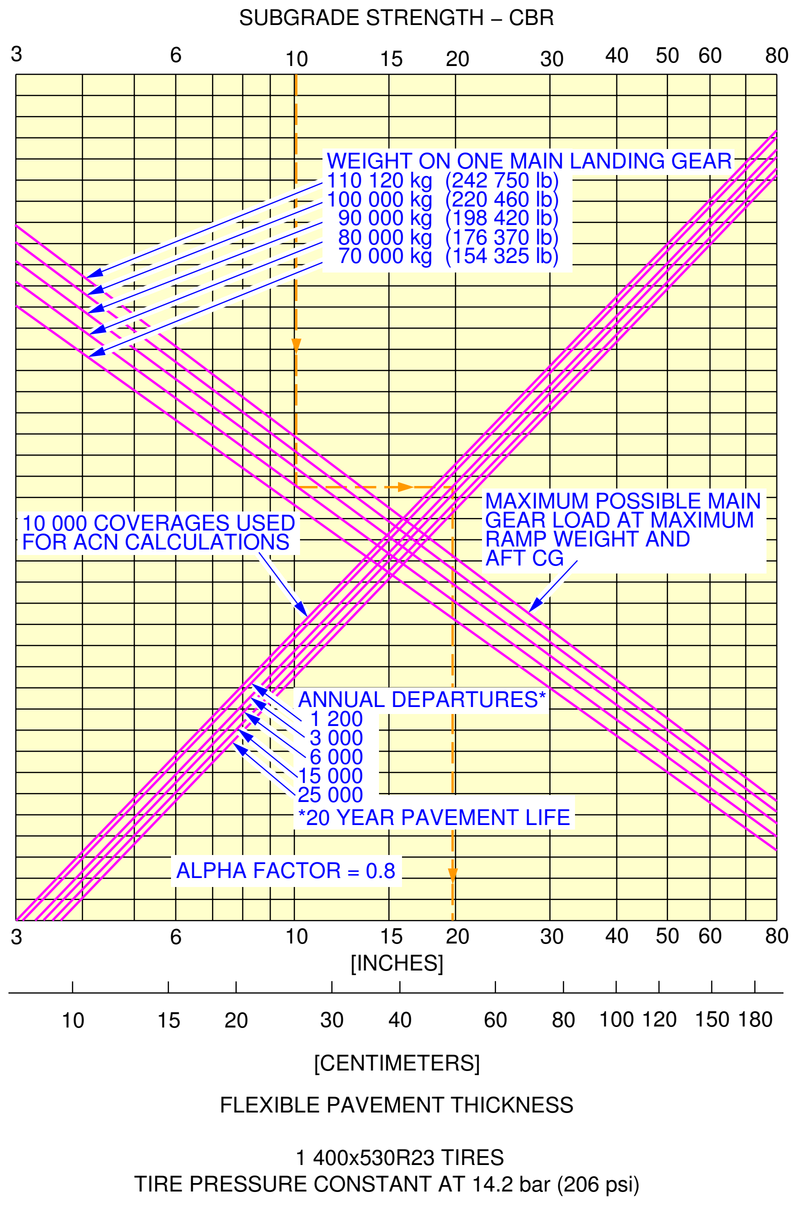
Flexible Pavement Requirements
MTOW 253 500 kg
FIGURE 1

**ON A/C A340-300



Flexible Pavement Requirements
MTOW 260 000 kg
FIGURE 2

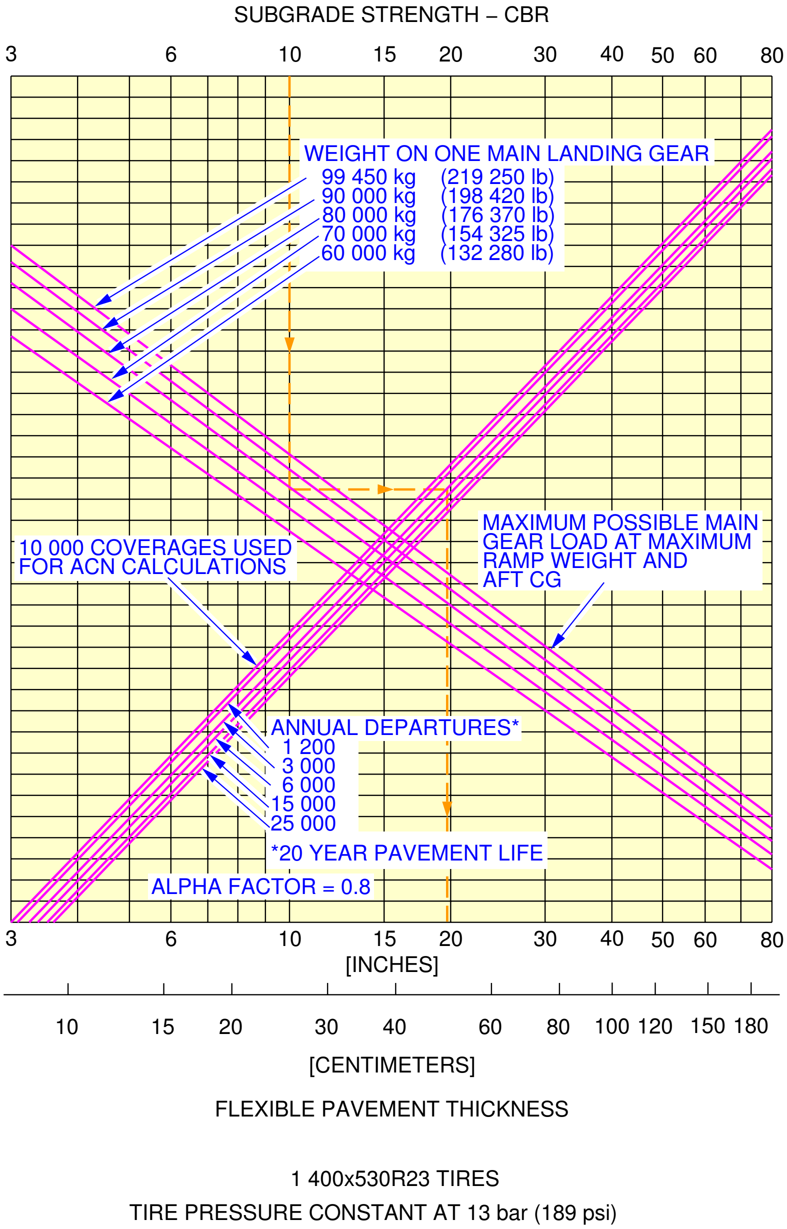
**ON A/C A340-300



F_AC_070501_1_0090101_01_01

Flexible Pavement Requirements
MTOW 276 500 kg
FIGURE 3

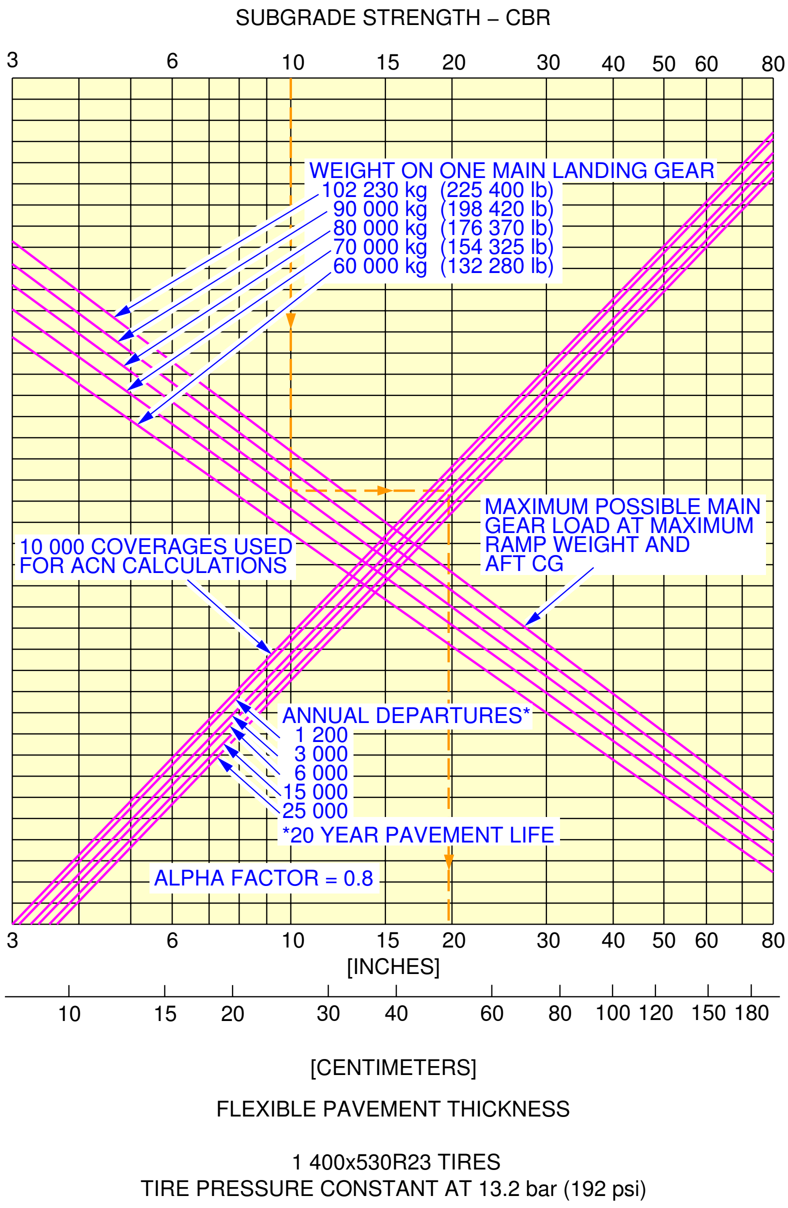
**ON A/C A340-200



F_AC_070501_1_0100101_01_01

Flexible Pavement Requirements
MTOW 253 500 kg
FIGURE 4

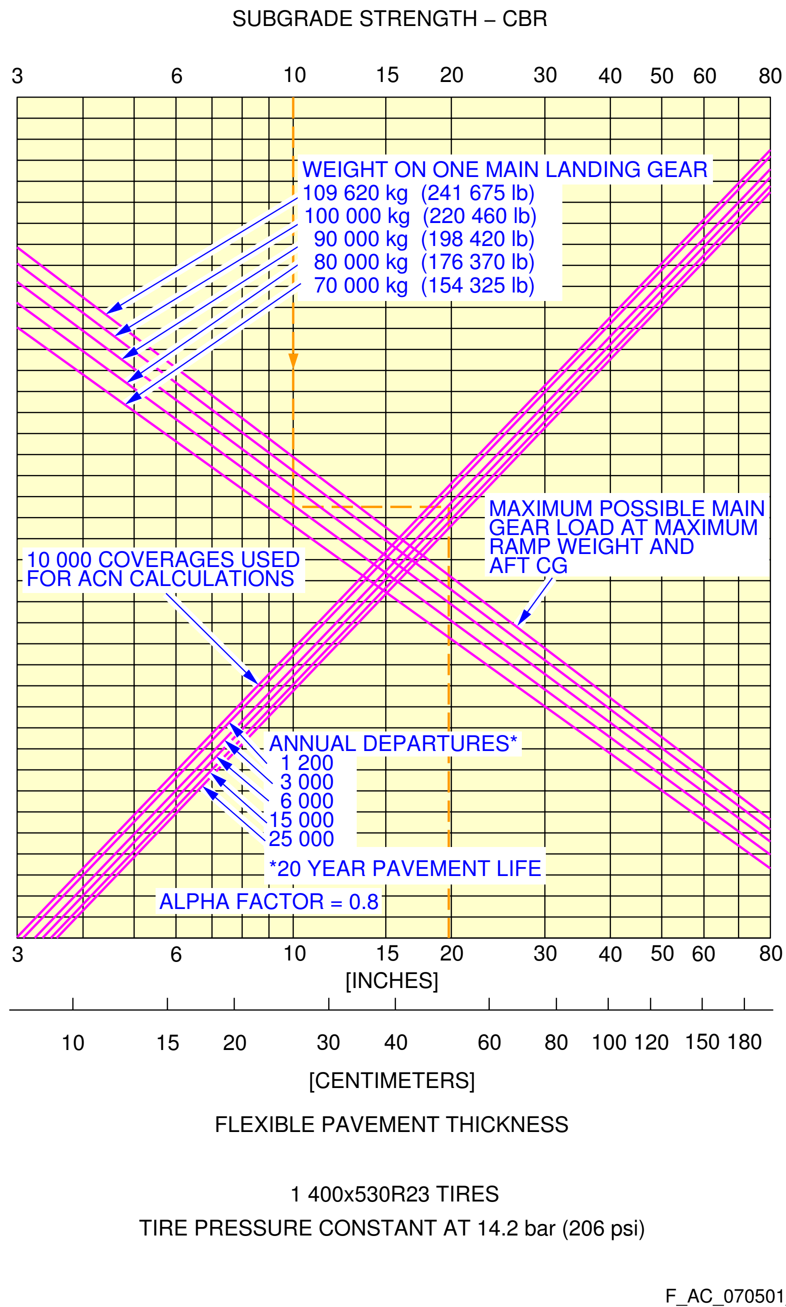
**ON A/C A340-200



F_AC_070501_1_0110101_01_01

Flexible Pavement Requirements
MTOW 260 000 kg
FIGURE 5

**ON A/C A340-200



Flexible Pavement Requirements
MTOW 275 000 kg
FIGURE 6

7-6-0 Flexible Pavement Requirements - LCN Conversion

**ON A/C A340-200 A340-300

Flexible Pavement Requirements - LCN Conversion

**ON A/C A340-300

1. General

In order to determine the airplane weight that can be accommodated on a particular Flexible Pavement, both 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 253 500 kg - A340-300

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).

**ON A/C A340-200

2. General

In order to determine the airplane weight that can be accommodated on a particular Flexible Pavement, both 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 253 500 kg - A340-200

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).

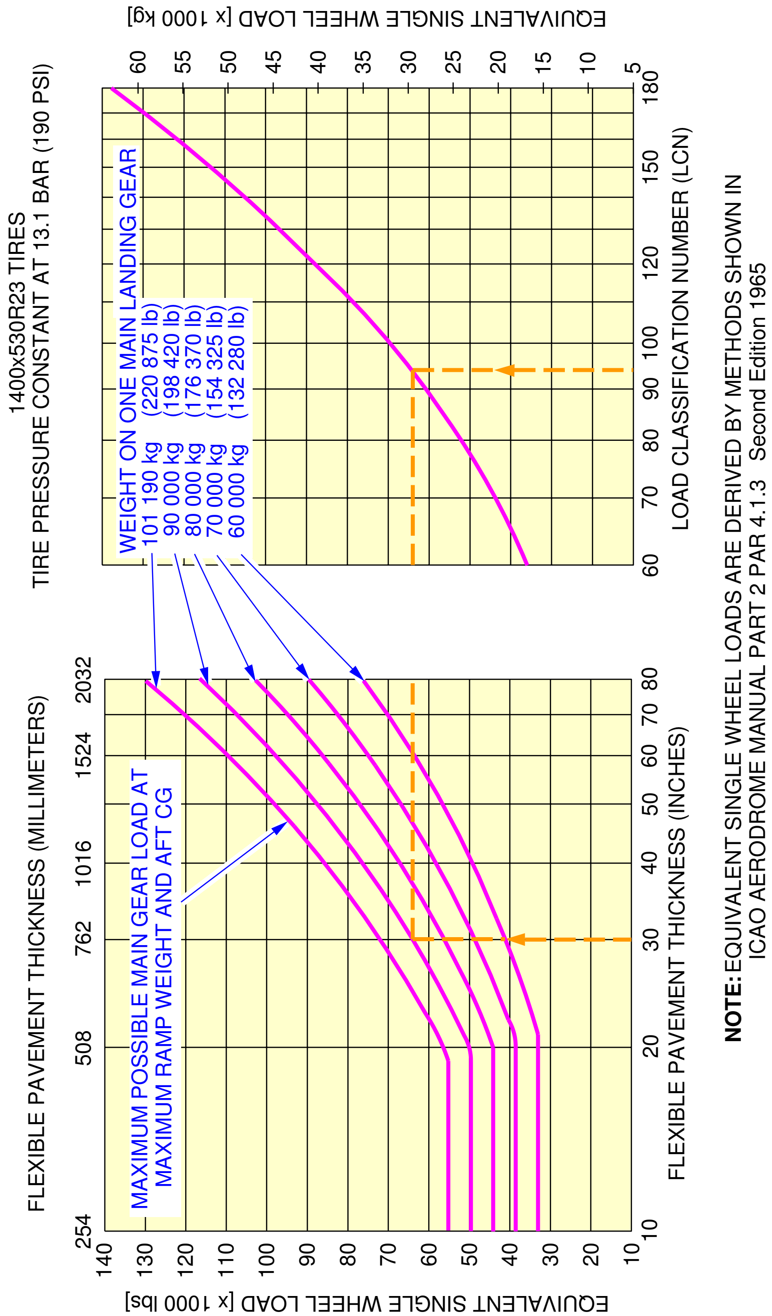
7-6-1 Flexible Pavement Requirements - LCN Conversion

****ON A/C A340-200 A340-300**

Flexible Pavement Requirements - LCN Conversion

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

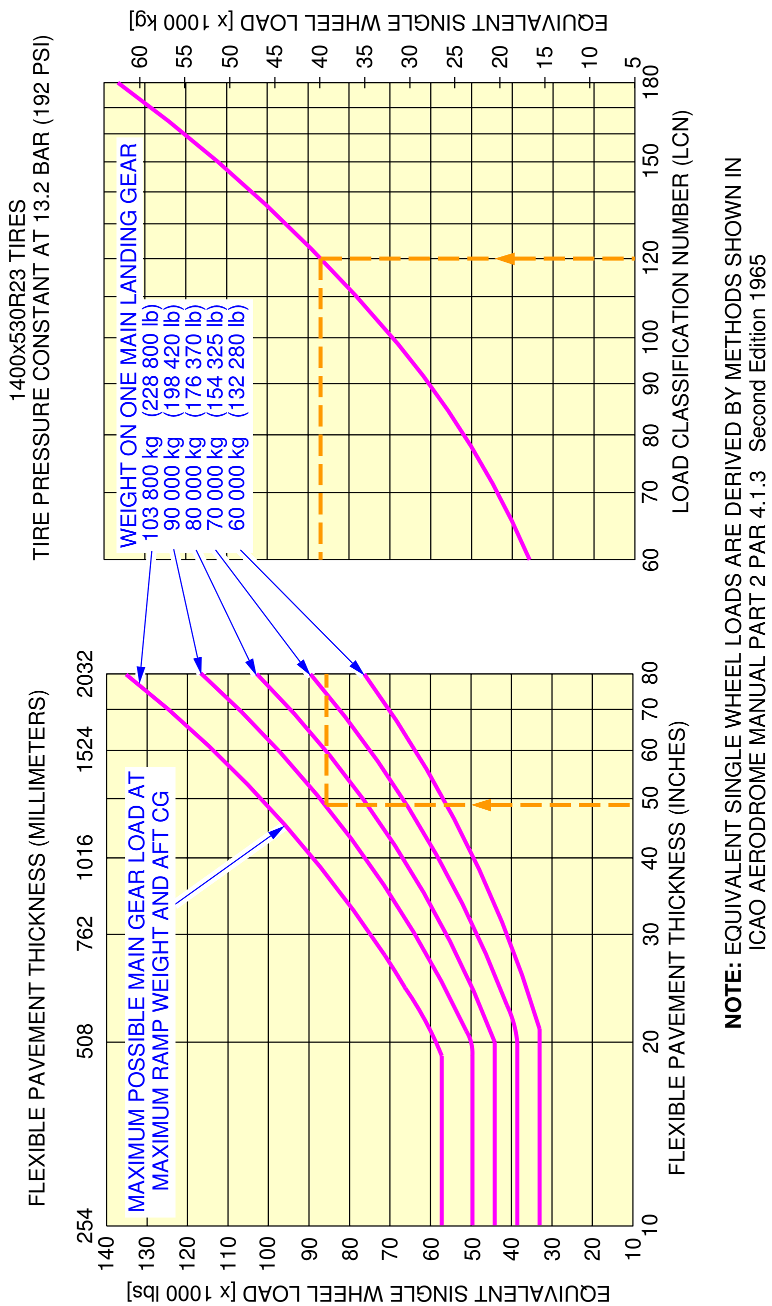
**ON A/C A340-300



F_AC_070601_1_0070101_01_01

Flexible Pavement Requirements
MTOW 253 500 kg
FIGURE 1

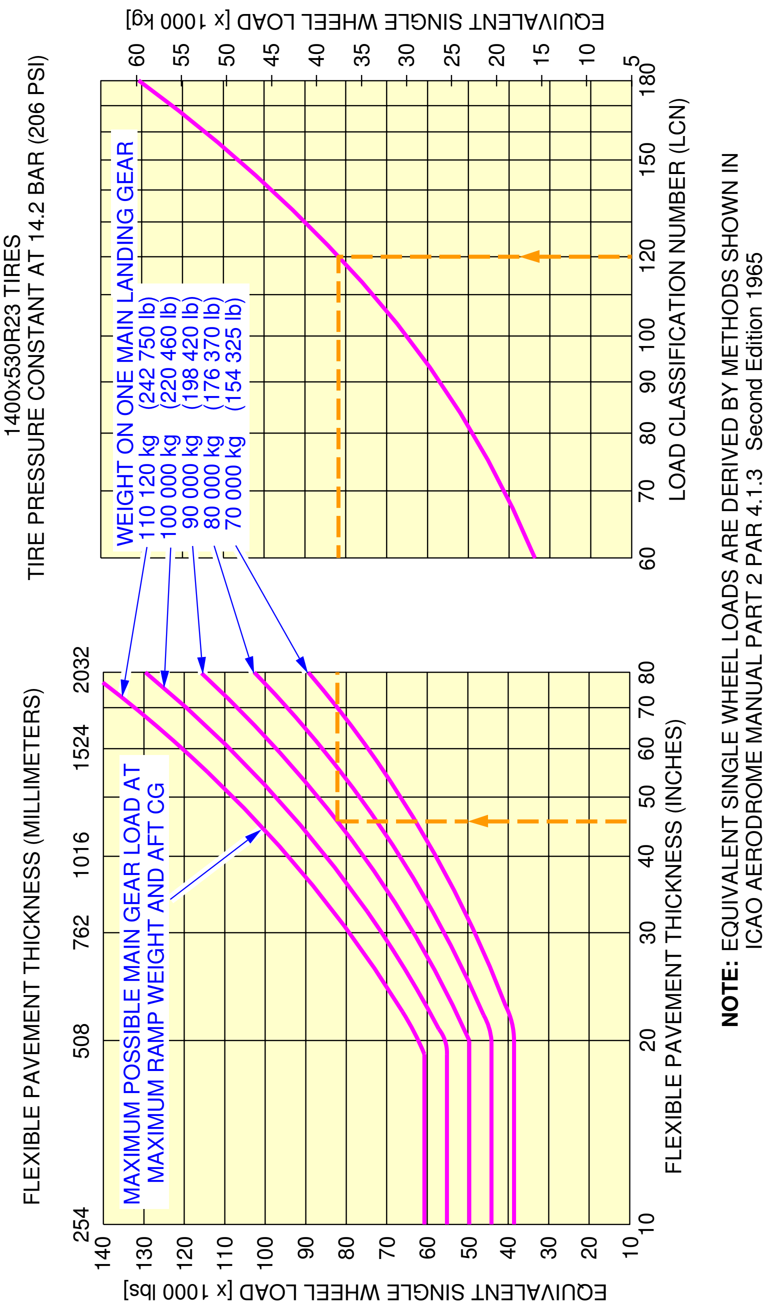
****ON A/C A340-300**



F_AC_070601_1_0080101_01_01

Flexible Pavement Requirements
MTOW 260 000 kg
FIGURE 2

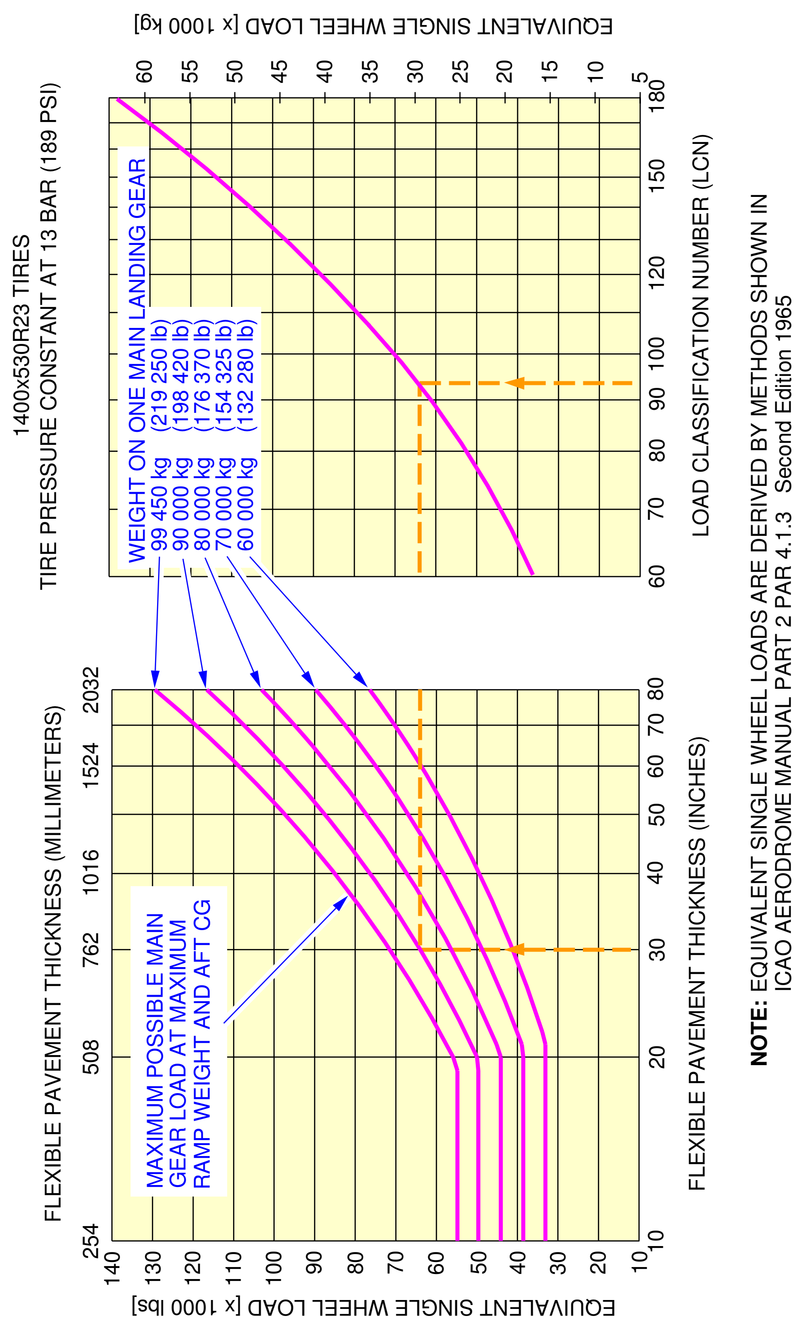
**ON A/C A340-300



F_AC_070601_1_0090101_01_01

Flexible Pavement Requirements
MTOW 276 500 kg
FIGURE 3

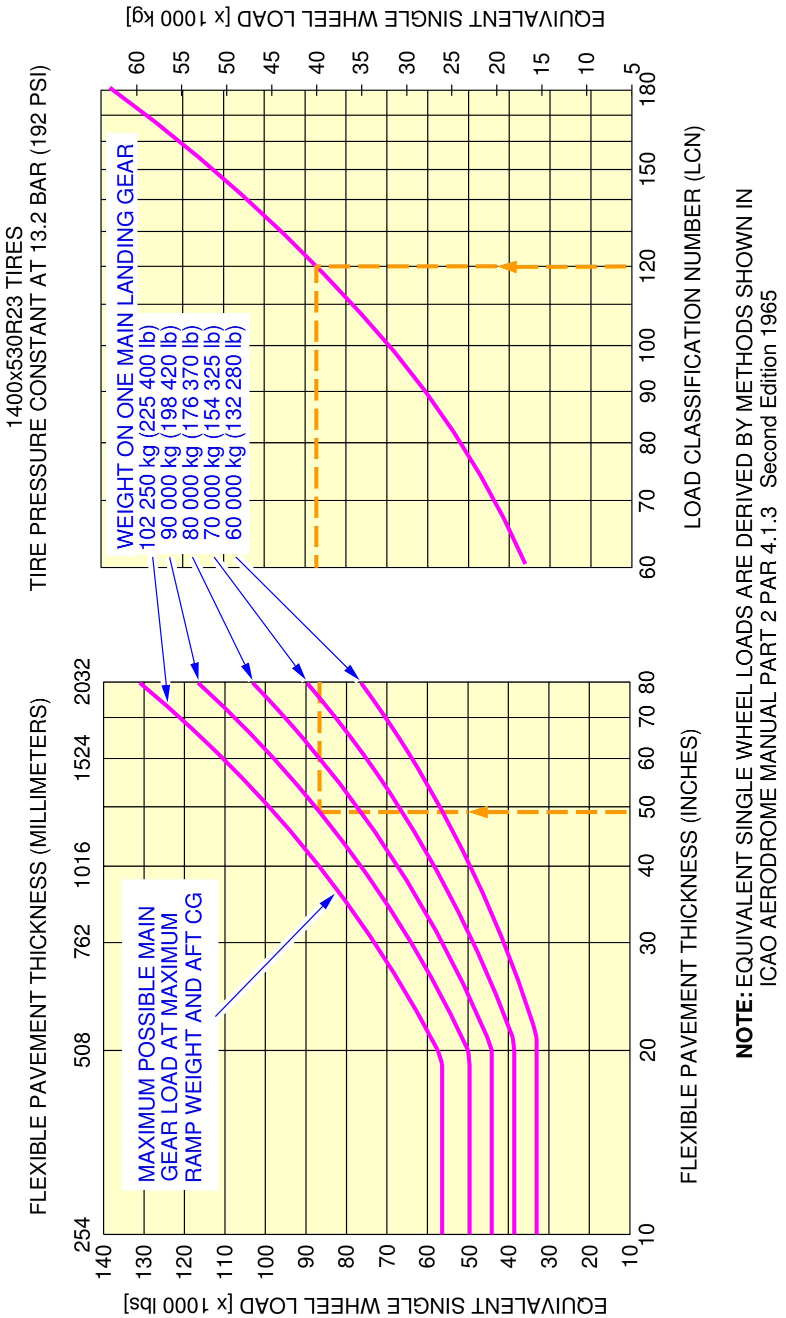
**ON A/C A340-200



F_AC_070601_1_0100101_01_01

Flexible Pavement Requirements
MTOW 253 500 kg
FIGURE 4

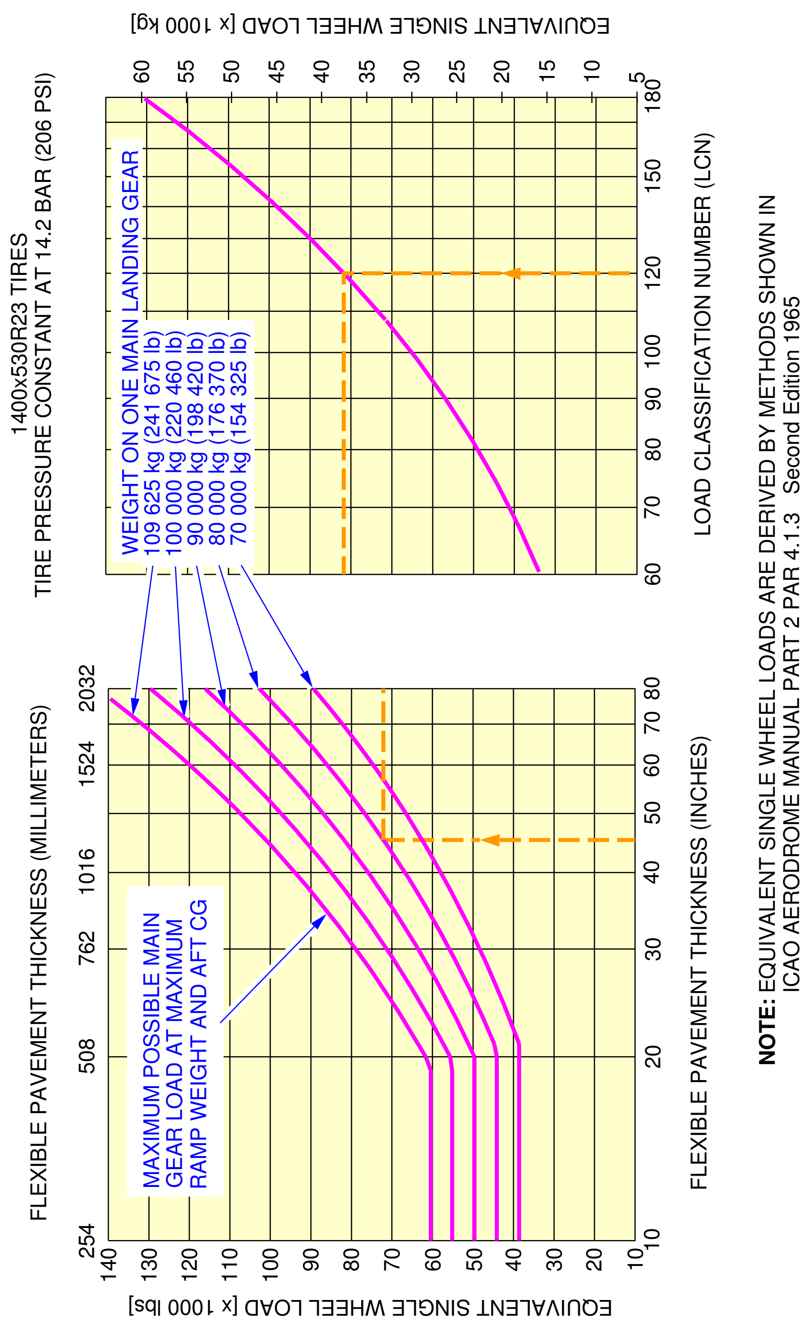
**ON A/C A340-200



F_AC_070601_1_0110101_01_01

Flexible Pavement Requirements
MTOW 260 000 kg
FIGURE 5

**ON A/C A340-200



F_AC_070601_1_0120101_01_02

Flexible Pavement Requirements
MTOW 275 000 kg
FIGURE 6

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

****ON A/C A340-200 A340-300**

Rigid Pavement Requirements - Portland Cement Association Design Method

****ON A/C A340-300**

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 253 500 kg - A340-300

- 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).

****ON A/C A340-200**

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 253 500 kg - A340-200

- 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).

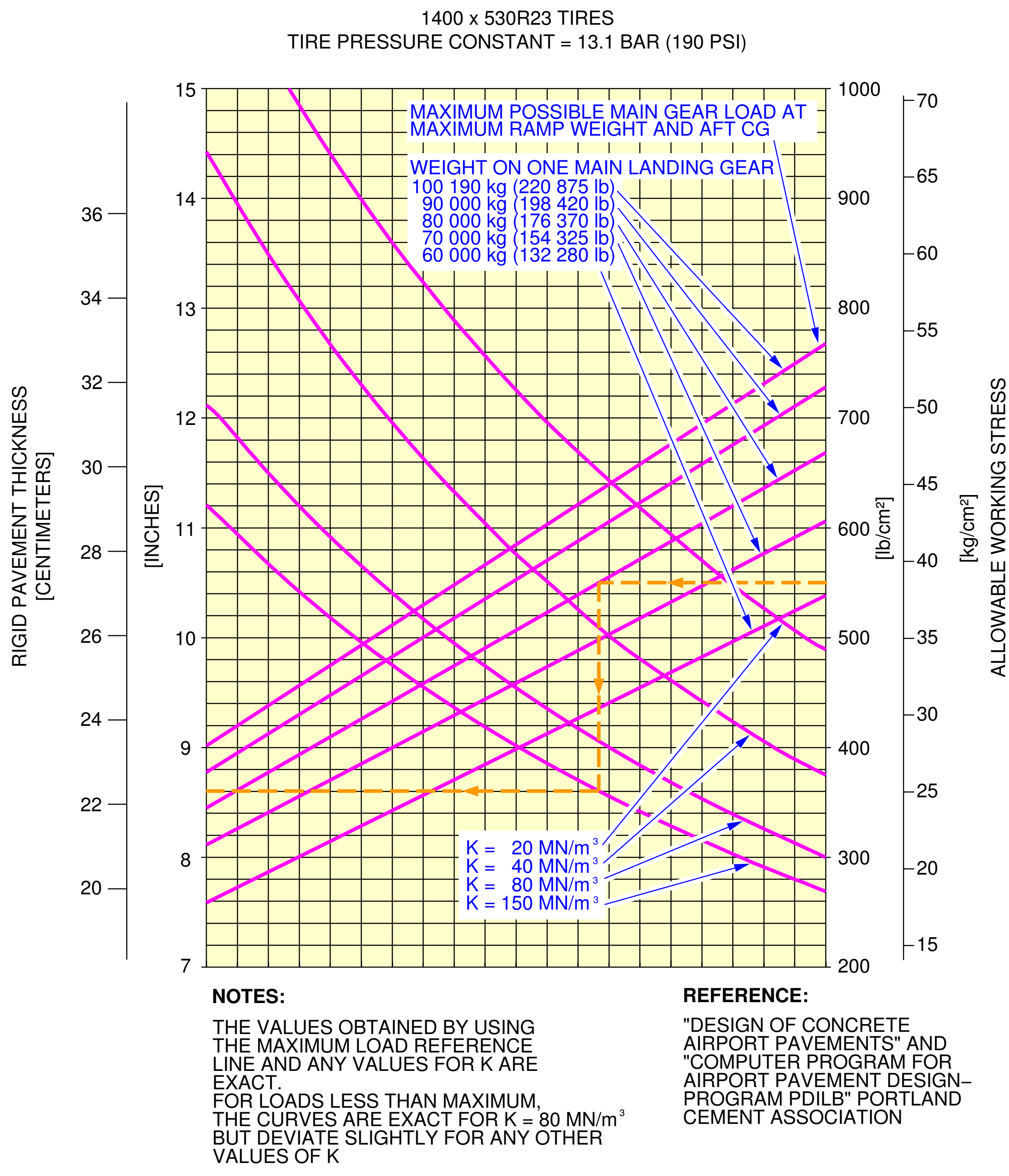
7-7-1 Rigid Pavement Requirements - Portland Cement Association Design Method

**ON A/C A340-200 A340-300

Rigid Pavement Requirements - Portland Cement Association Design Method

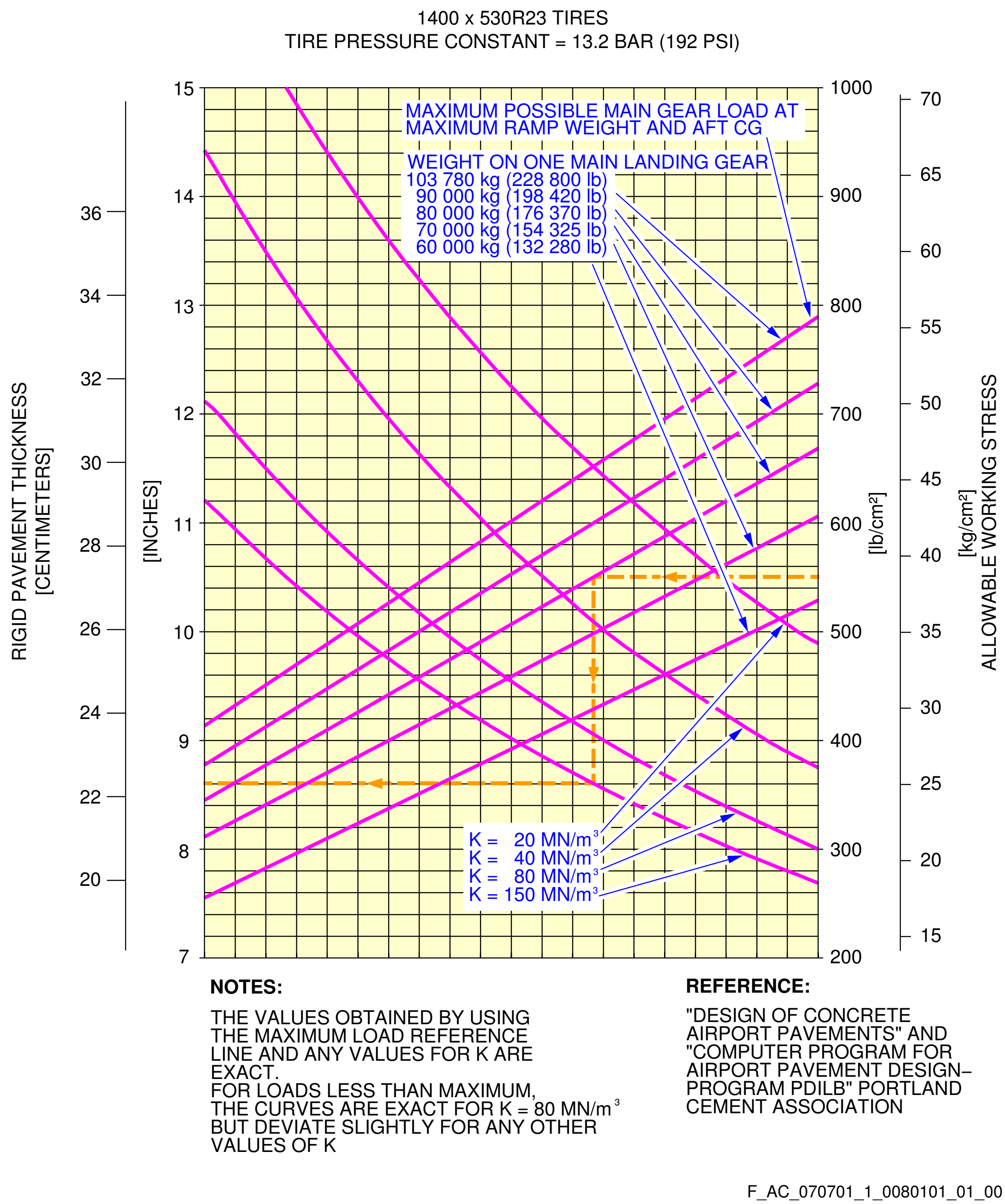
1. This section gives Rigid Pavement Requirements.

**ON A/C A340-300



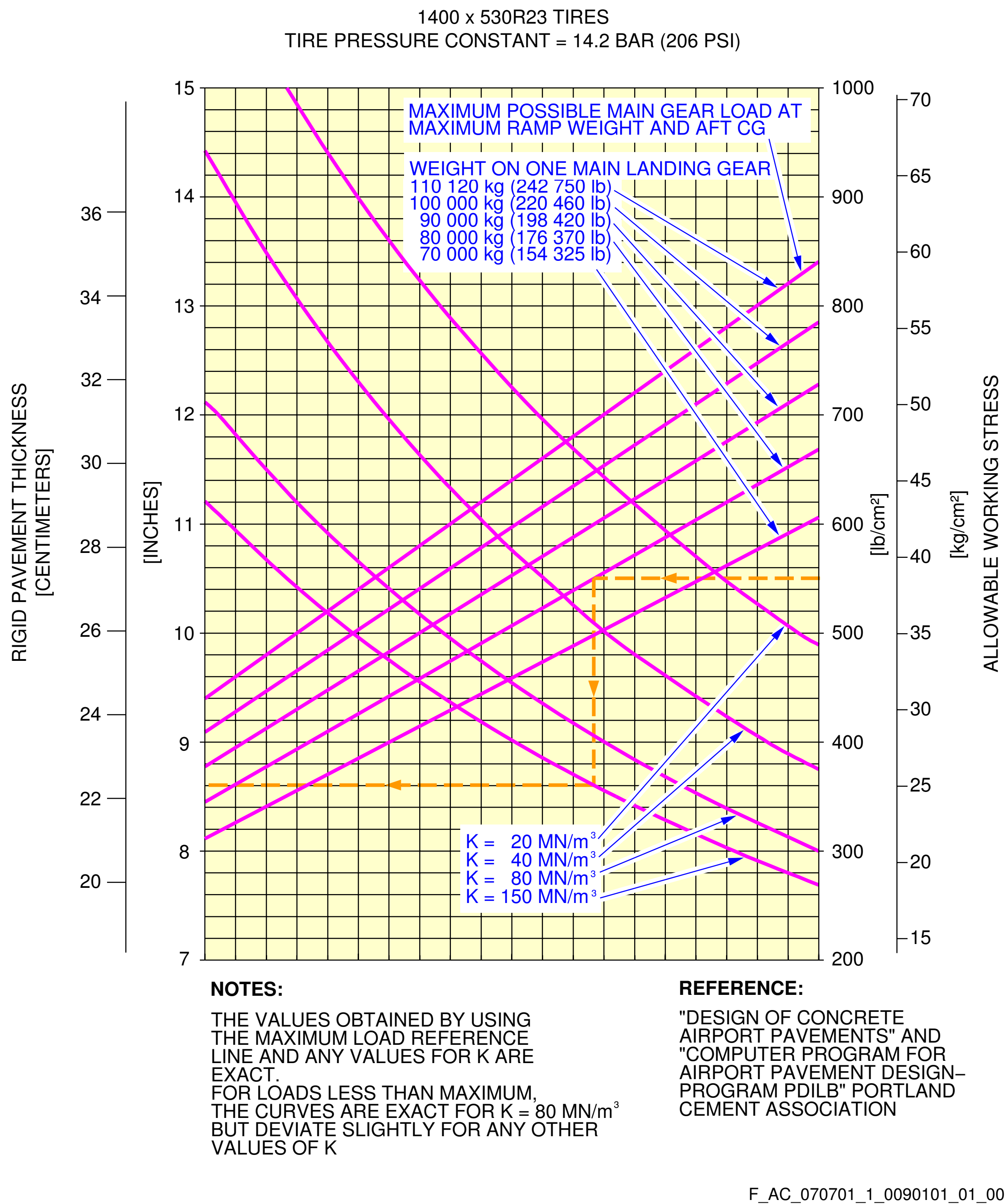
Rigid Pavement Requirements
MTOW 253 500 kg
FIGURE 1

**ON A/C A340-300



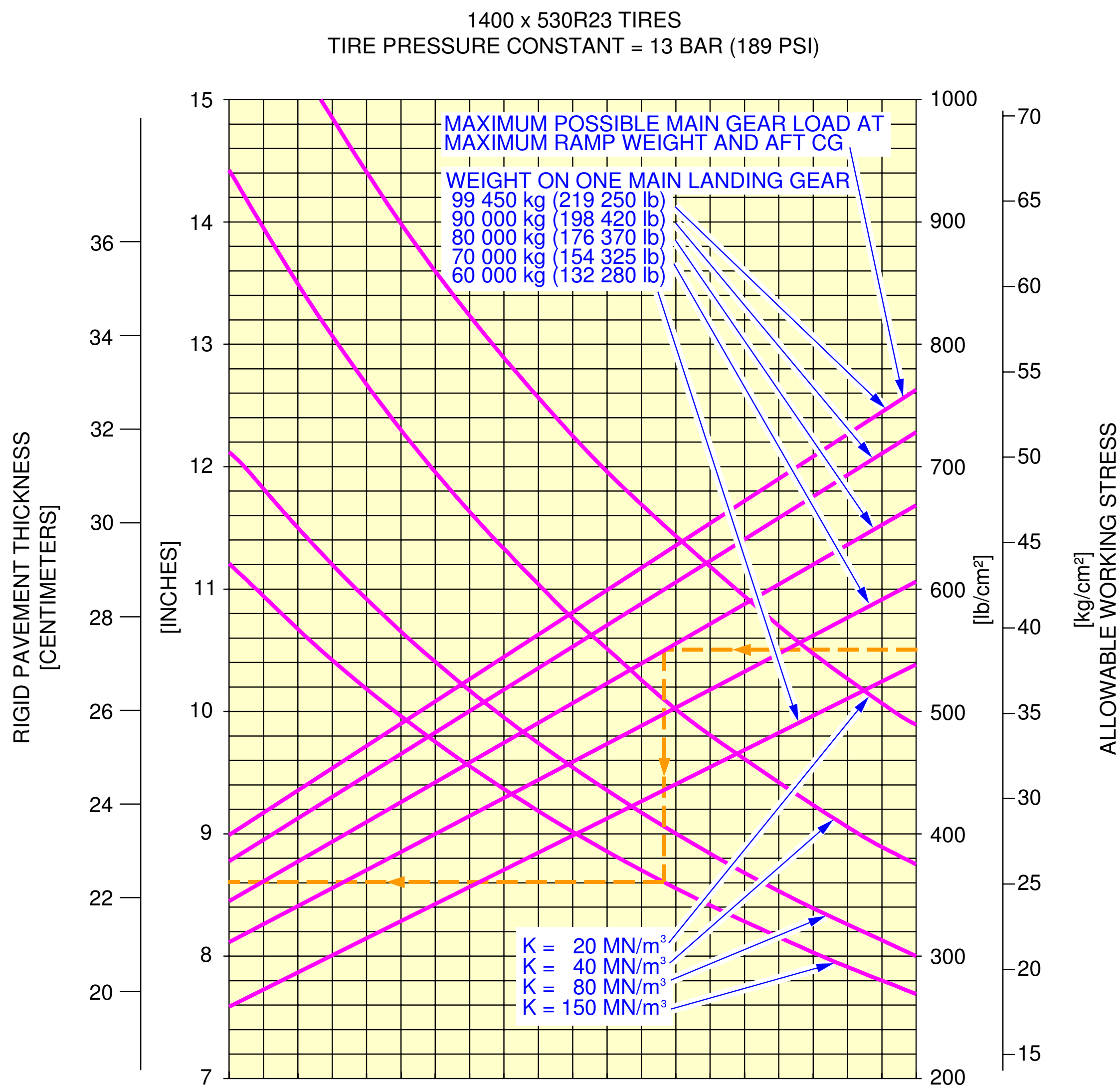
Rigid Pavement Requirements
MTOW 260 000 kg
FIGURE 2

**ON A/C A340-300



Rigid Pavement Requirements
MTOW 276 500 kg
FIGURE 3

**ON A/C A340-200



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

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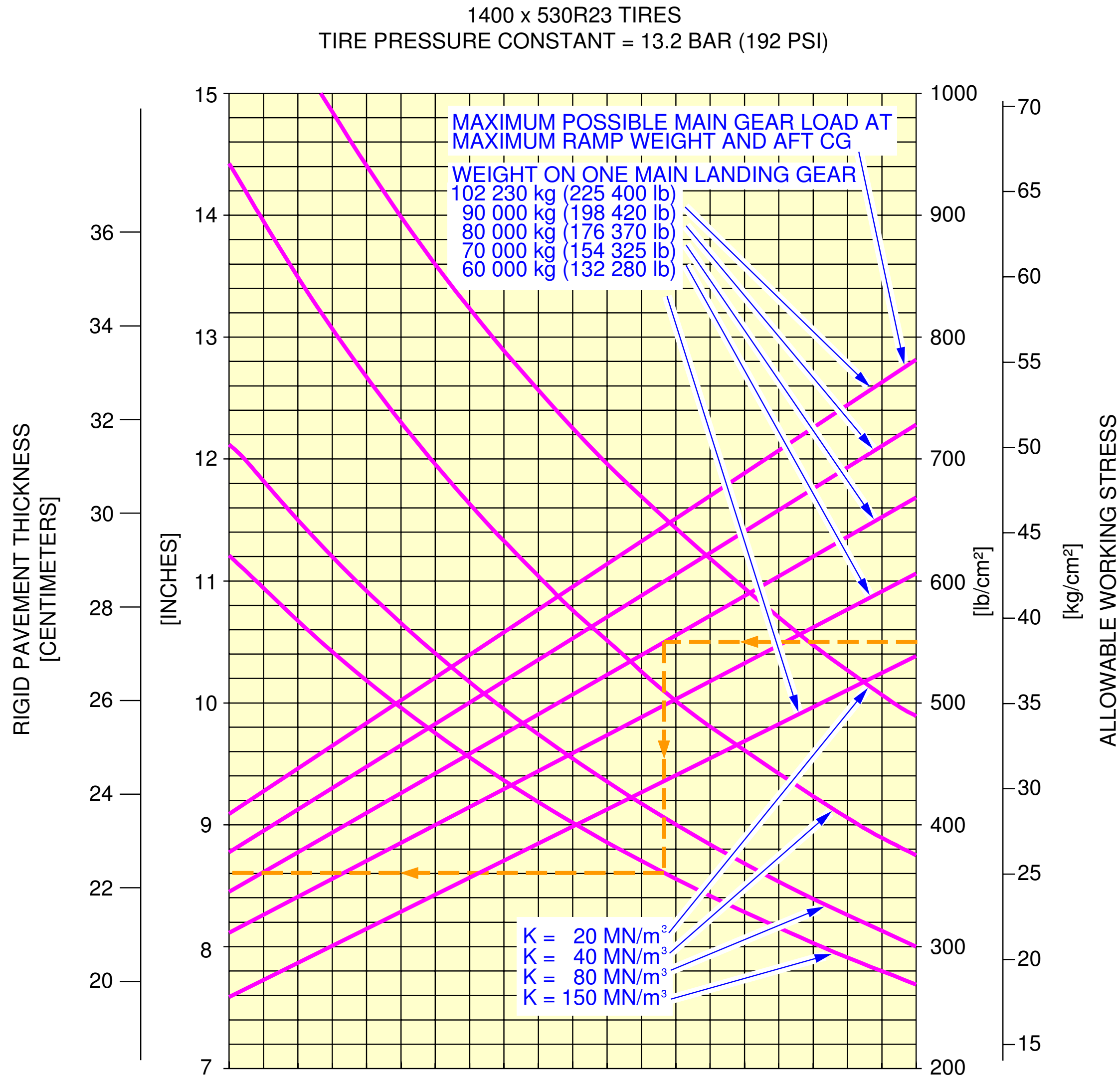
Rigid Pavement Requirements
MTOW 253 500 kg
FIGURE 4

**ON A/C A340-200



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

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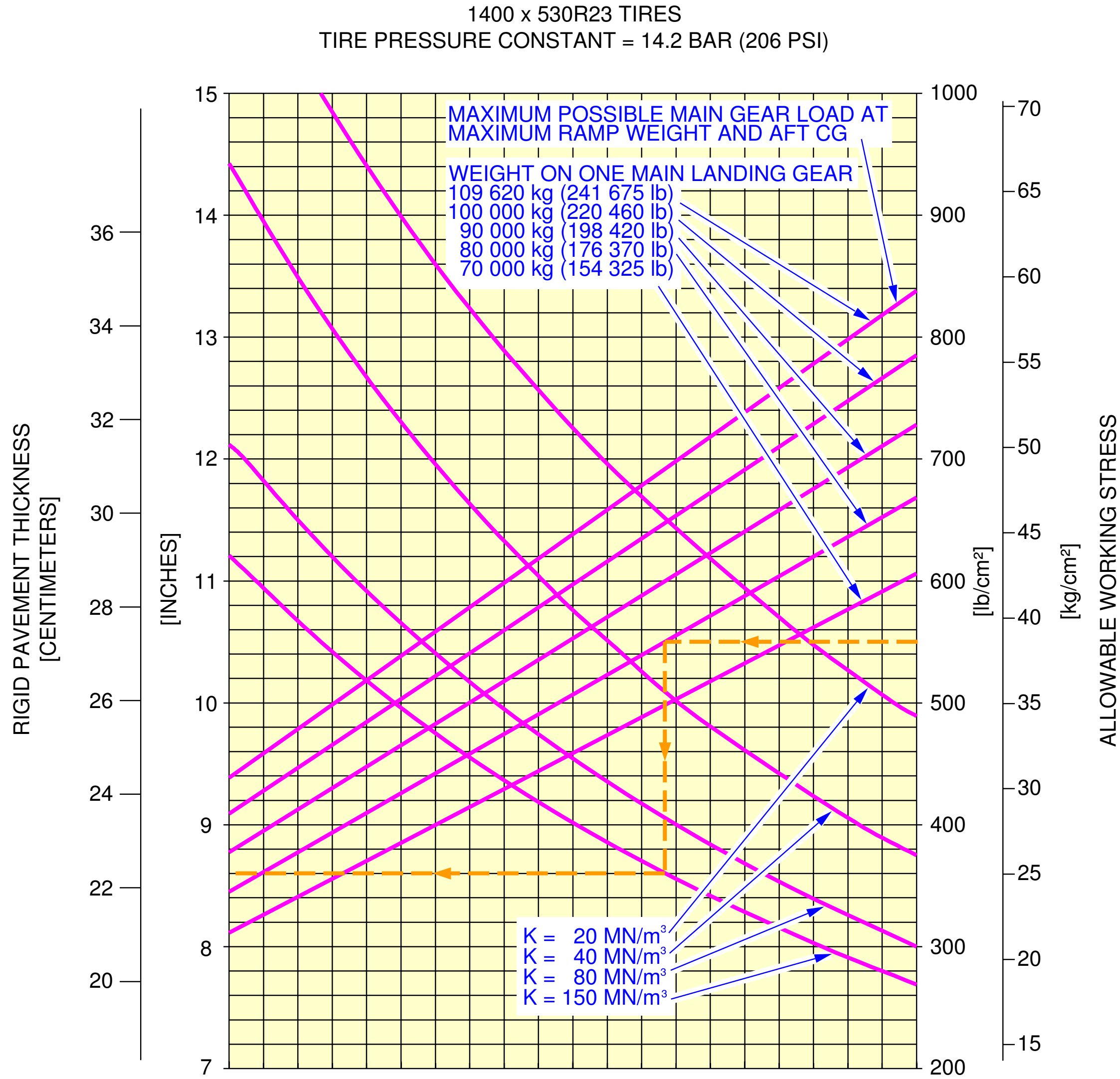
Rigid Pavement Requirements
MTOW 260 000 kg
FIGURE 5

**ON A/C A340-200



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

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Rigid Pavement Requirements
MTOW 275 000 kg
FIGURE 6

7-8-0 Rigid Pavement Requirements - LCN Conversion

****ON A/C A340-200 A340-300**

Rigid Pavement Requirements - LCN Conversion

****ON A/C A340-300**

1. General

   In order to determine the airplane weight that can be accommodated on a particular Rigid Pavement, both 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 253 500 kg - A340-300

   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 (198 416 lb).

****ON A/C A340-200**

2. General

   In order to determine the airplane weight that can be accommodated on a particular Rigid Pavement, both 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 253 500 kg - A340-200

   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 (198 416 lb).

7-8-1 Radius of Relative Stiffness

****ON A/C A340-200 A340-300**

Radius of Relative Stiffness

1. This section gives Radius of Relative Stiffness.

**ON A/C A340-200 A340-300

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 x 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

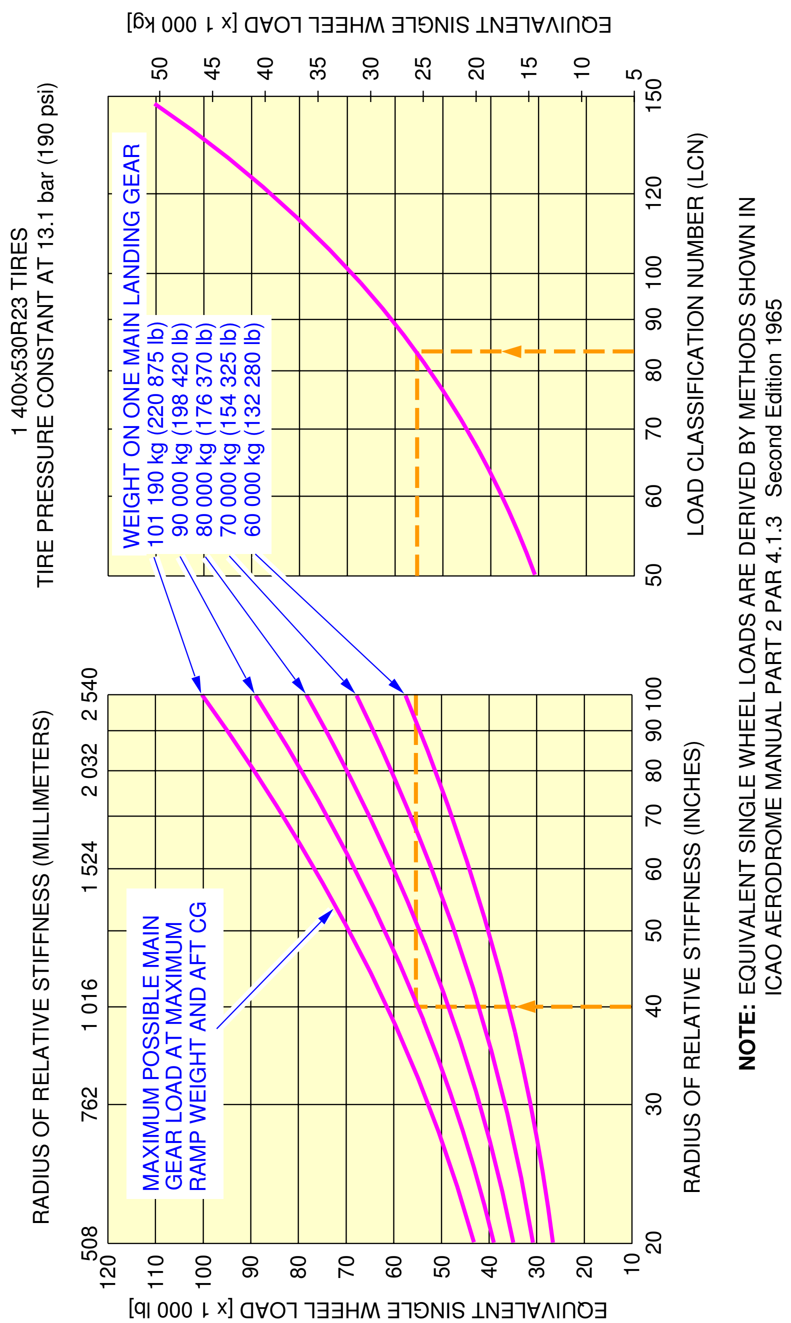
7-8-2 Rigid Pavement Requirements - LCN Conversion

****ON A/C A340-200 A340-300**

Rigid Pavement Requirements - LCN Conversion

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

**ON A/C A340-300



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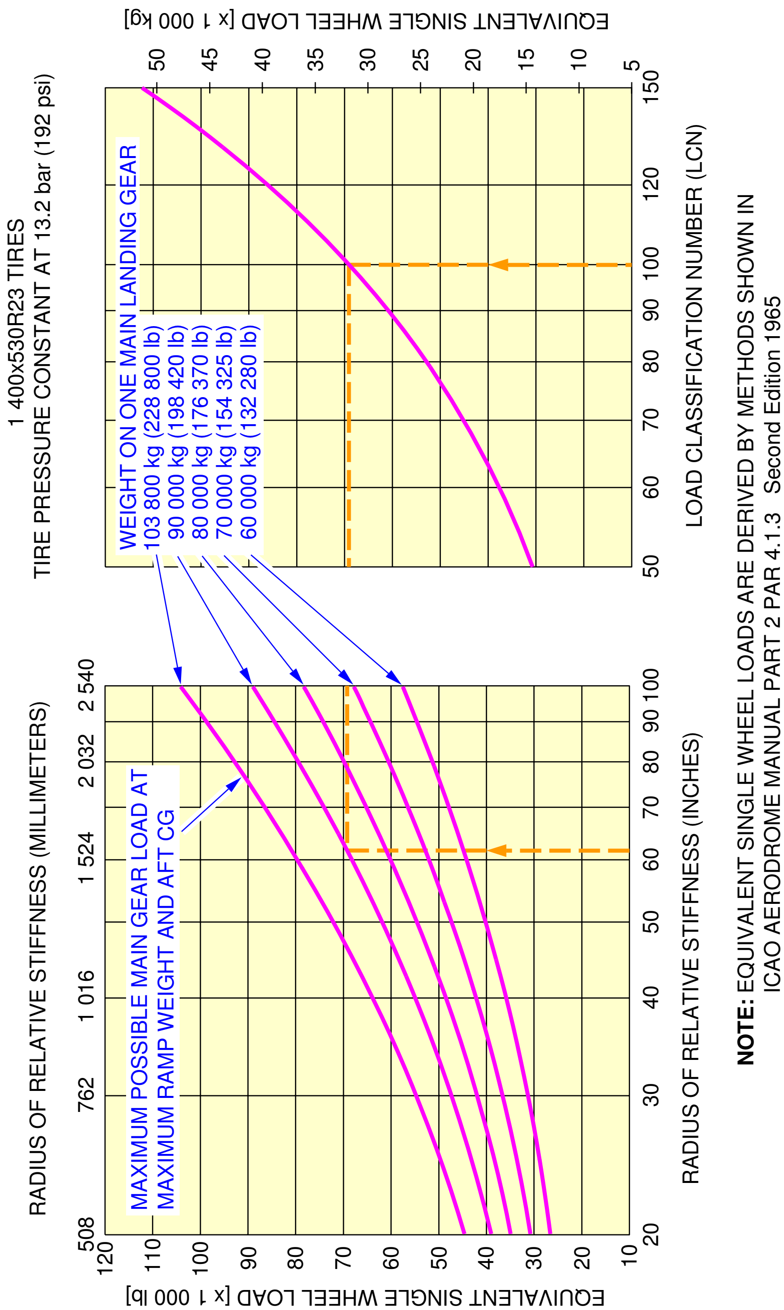
Rigid Pavement Requirements LCN
MTOW 253 500 kg
FIGURE 1

**ON A/C A340-300



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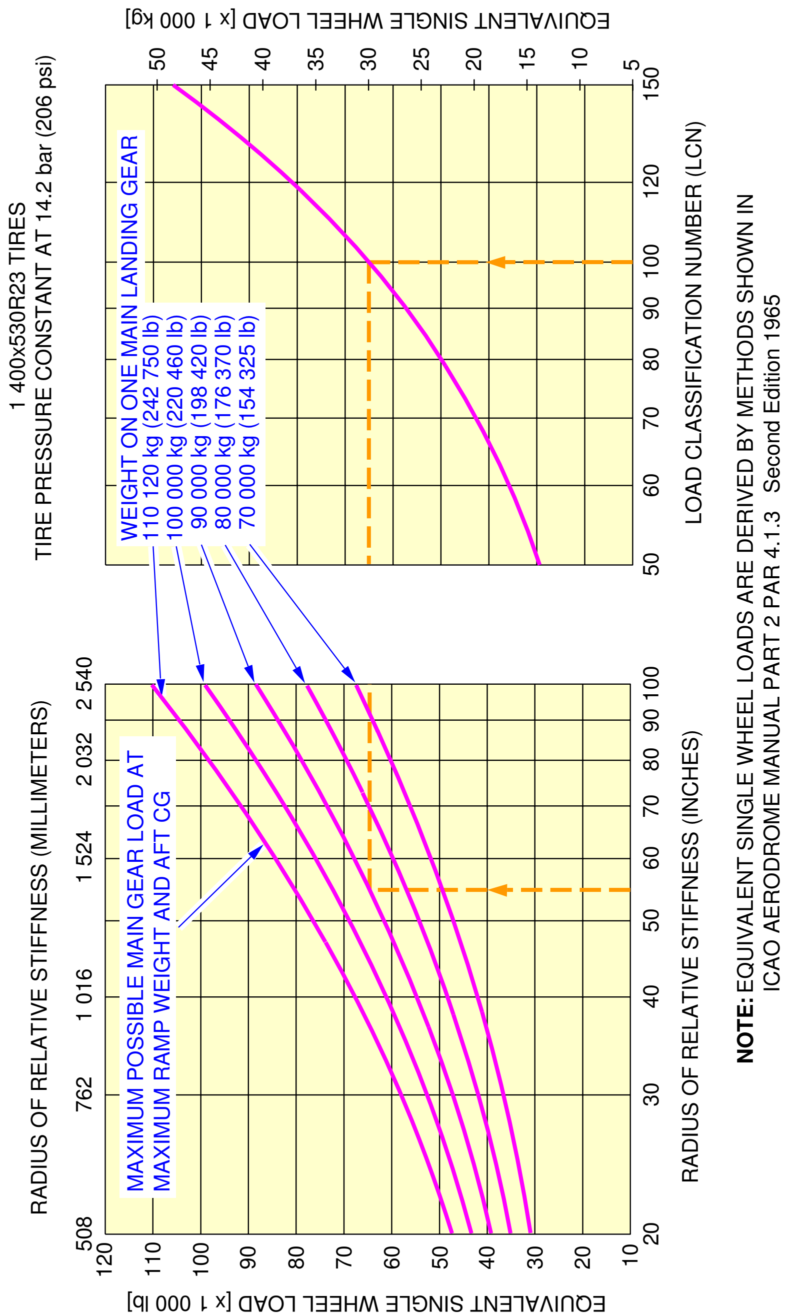
Rigid Pavement Requirements LCN
MTOW 260 000 kg
FIGURE 2

**ON A/C A340-300



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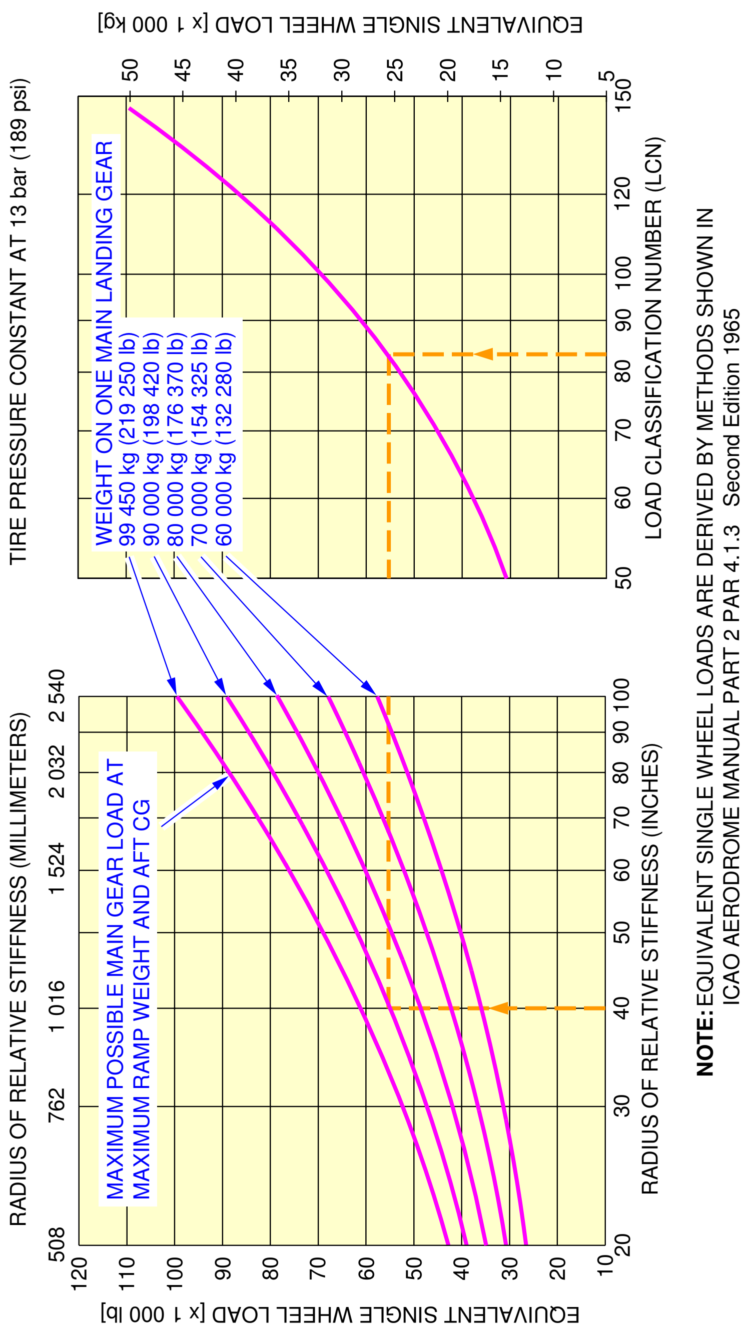
Rigid Pavement Requirements LCN
MTOW 276 500 kg
FIGURE 3

**ON A/C A340-200



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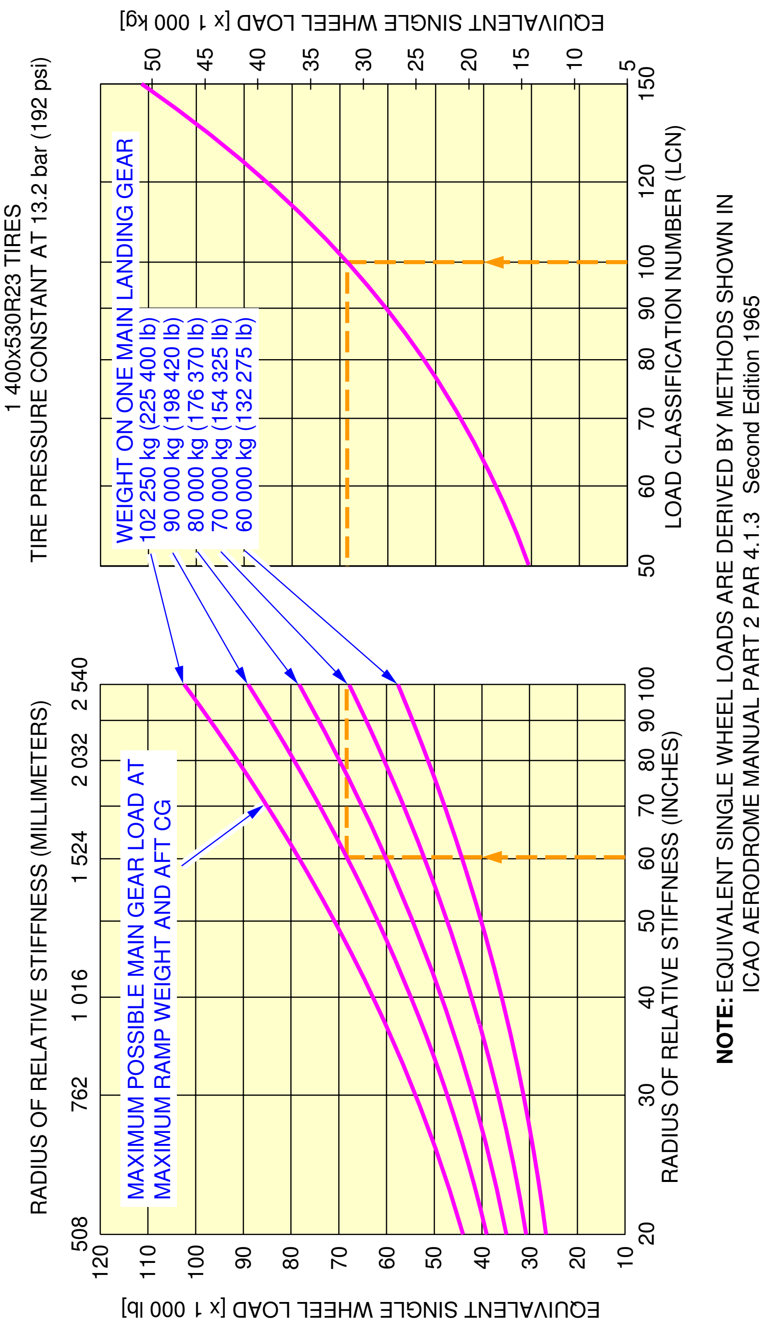
Rigid Pavement Requirements LCN
MTOW 253 500 kg
FIGURE 4

**ON A/C A340-200



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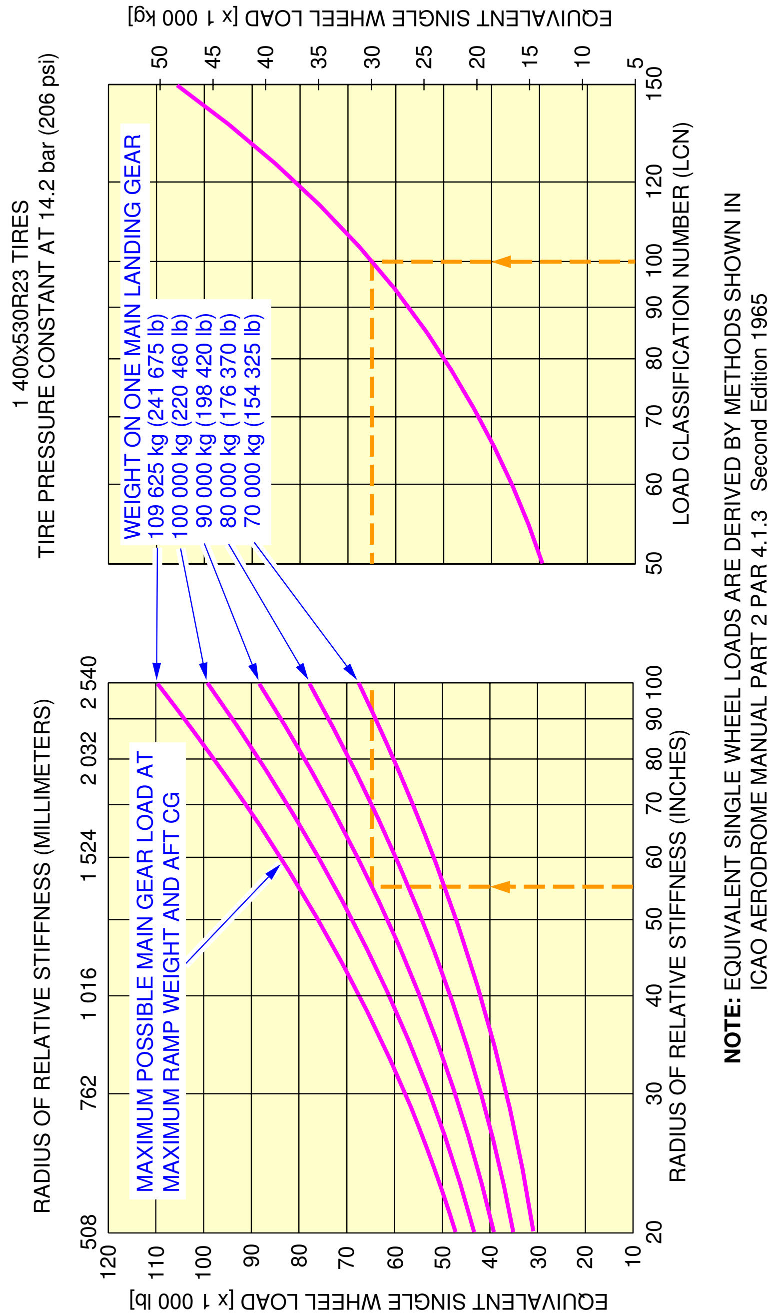
Rigid Pavement Requirements LCN
MTOW 260 000 kg
FIGURE 5

**ON A/C A340-200



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Rigid Pavement Requirements LCN
MTOW 275 000 kg
FIGURE 6

7-8-3 Radius of Relative Stiffness (Other values of E and L)

****ON A/C A340-200 A340-300**

Radius of Relative Stiffness (Other values of "E" and "L")

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.

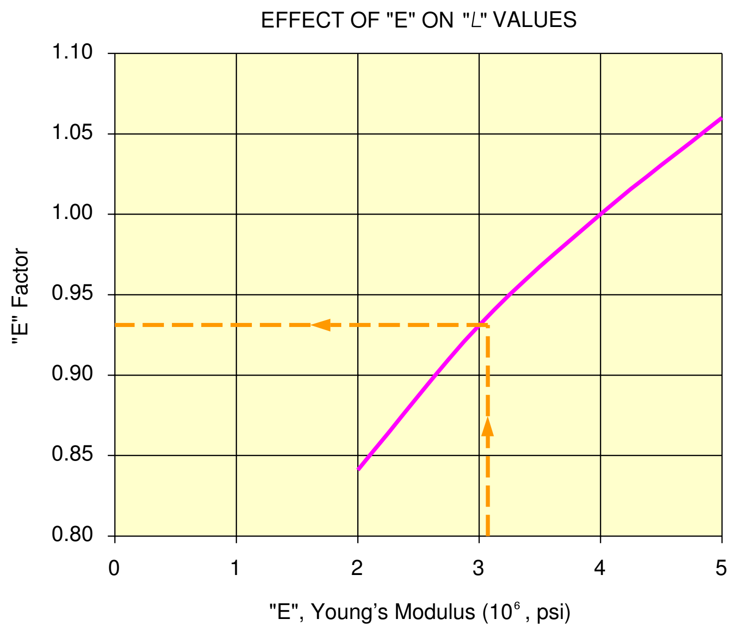
7-8-4 Radius of Relative Stiffness

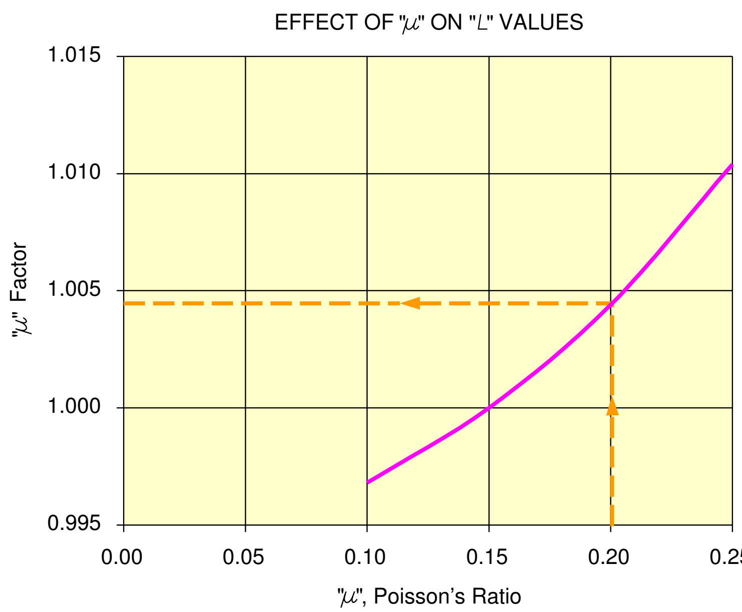
****ON A/C A340-200 A340-300**

Radius of Relative Stiffness

1. This section gives Radius of Relative Stiffness.

**ON A/C A340-200 A340-300





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 of "E" and "μ" on "L" values)
FIGURE 1

7-9-0 ACN/PCN Reporting System - Flexible and Rigid Pavements

****ON A/C A340-200 A340-300**

ACN/PCN Reporting System - Flexible and Rigid Pavements

****ON A/C A340-300**

1. General

To find the ACN of an aircraft on flexible or rigid pavement, the aircraft gross weight and the pavement strength must be known.

In the example shown in Section 7-9-1, Figure: Aircraft Classification Number - Flexible Pavement - MTOW 253 500 kg - A340-300

- For an Aircraft Gross Weight of 200 000 kg (440 925 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 253 500 kg - A340-300

- For an Aircraft Gross Weight of 200 000 kg (440 925 lb) and low subgrade strength (code C), the ACN for the rigid pavement is 47.

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 A340-200**

2. General

To find the ACN of an aircraft on flexible or rigid pavement, the aircraft gross weight and the pavement strength must be known.

In the example shown in Section 7-9-1, Figure: Aircraft Classification Number - Flexible Pavement - MTOW 253 500 kg - A340-200

- For an Aircraft Gross Weight of 200 000 kg (440 925 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 253 500 kg - A340-200

- For an Aircraft Gross Weight of 200 000 kg (440 925 lb) and low subgrade strength (code C), the ACN for the rigid pavement is 47.

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).

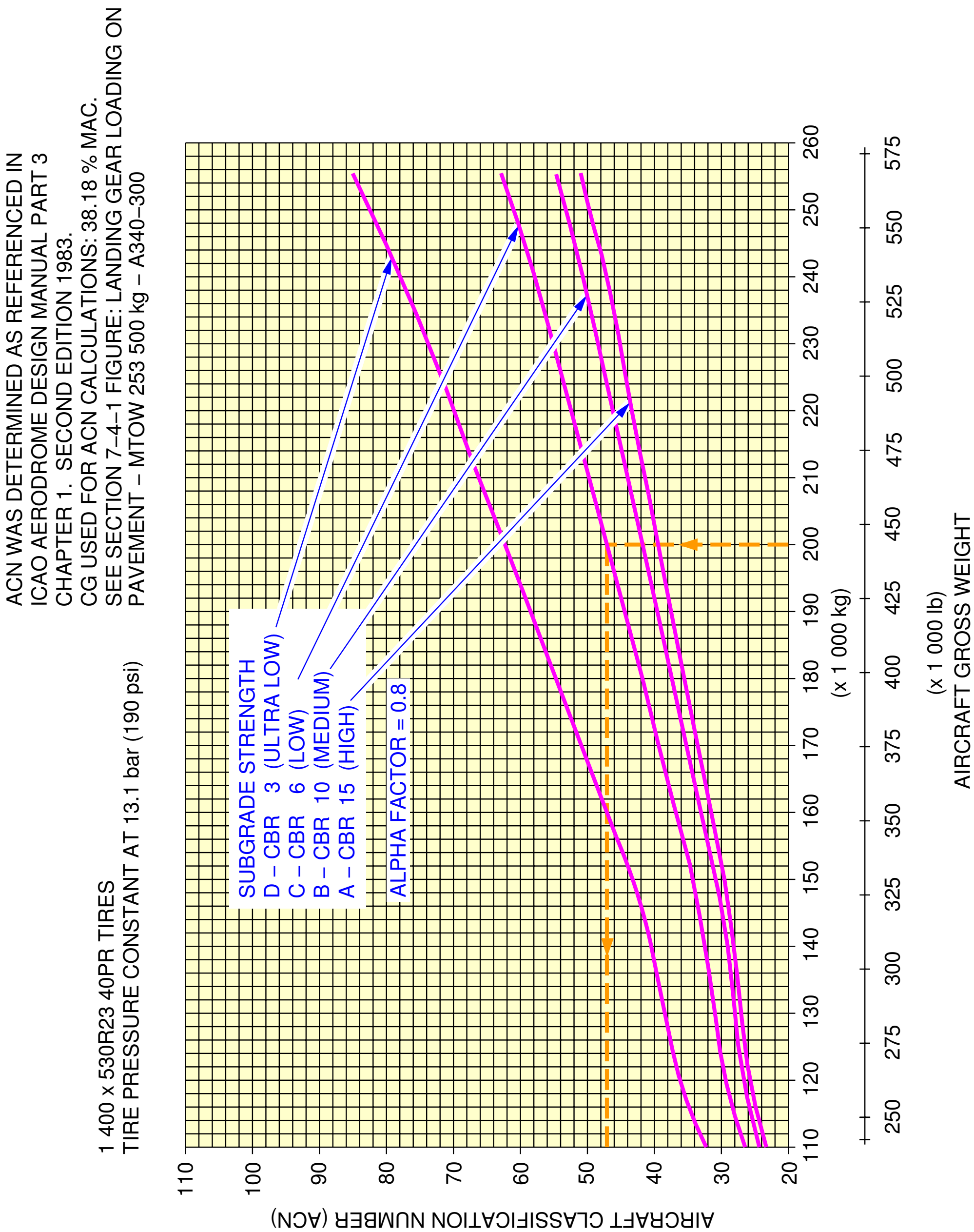
7-9-1 Aircraft Classification Number - Flexible Pavement

****ON A/C A340-200 A340-300**

Aircraft Classification Number - Flexible Pavement

1. This section gives the Aircraft Classification Number - Flexible Pavement.

**ON A/C A340-300



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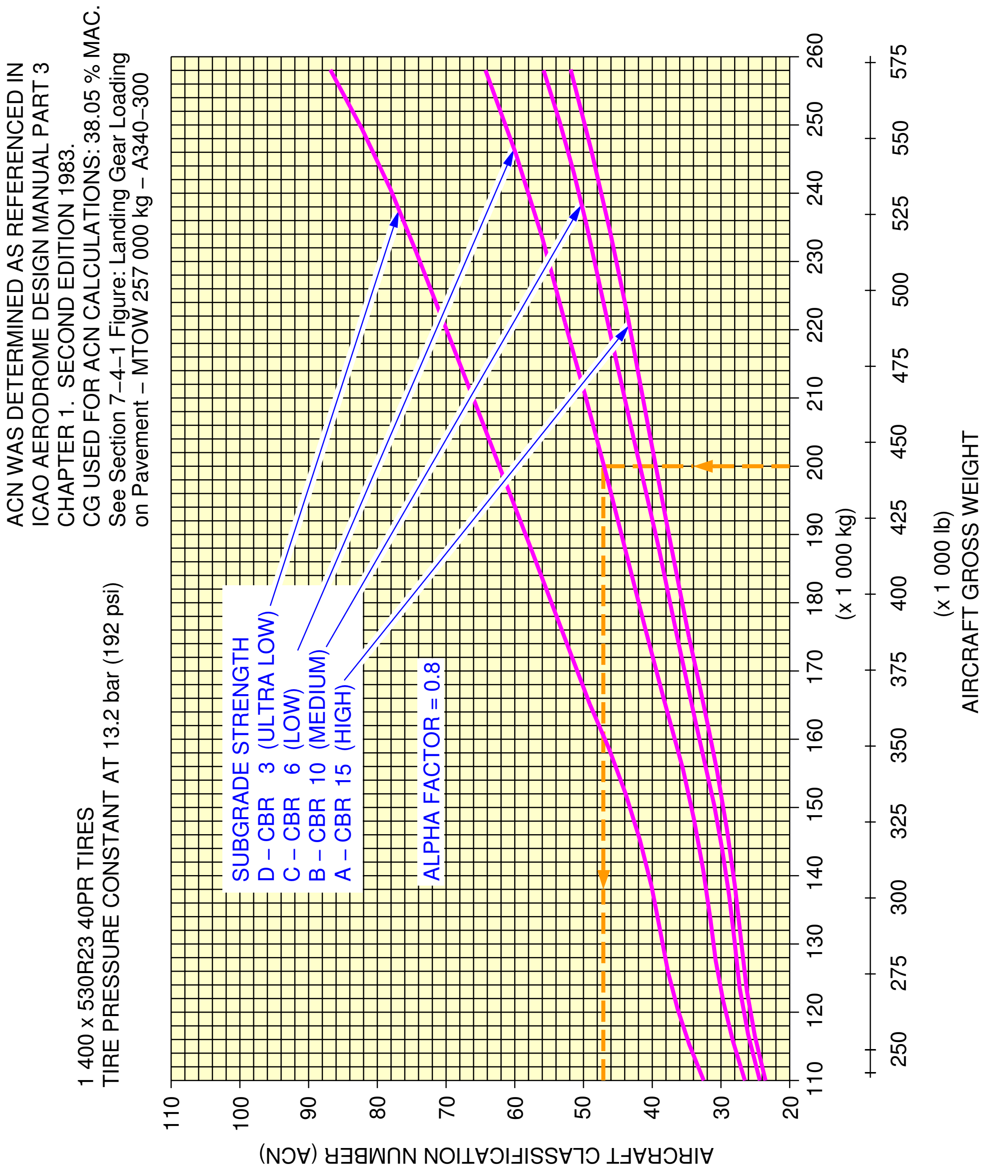
Aircraft Classification Number – Flexible Pavement
MTOW 253 500 kg
FIGURE 1

****ON A/C A340-300**



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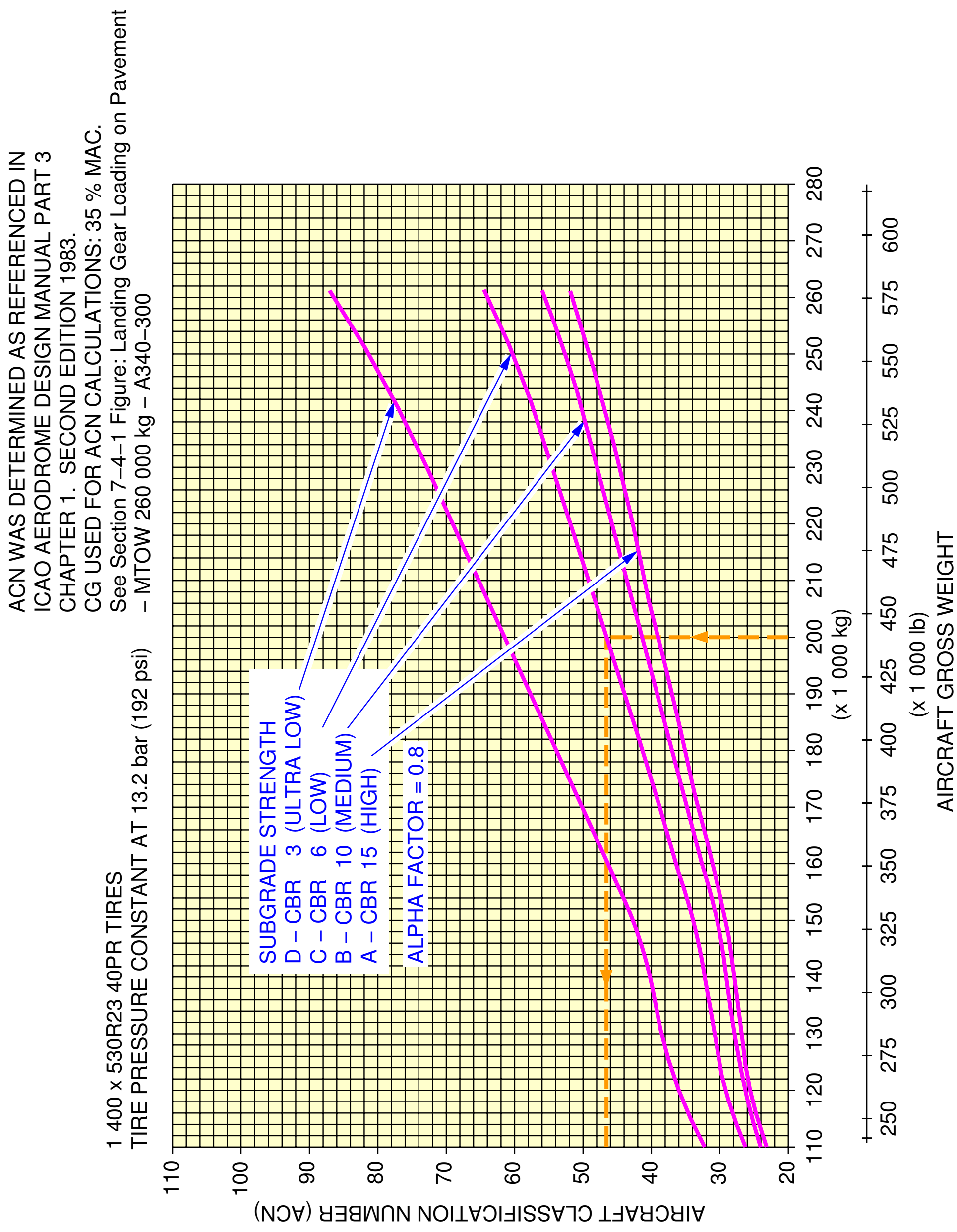
Aircraft Classification Number – Flexible Pavement
MTOW 257 000 kg
FIGURE 2

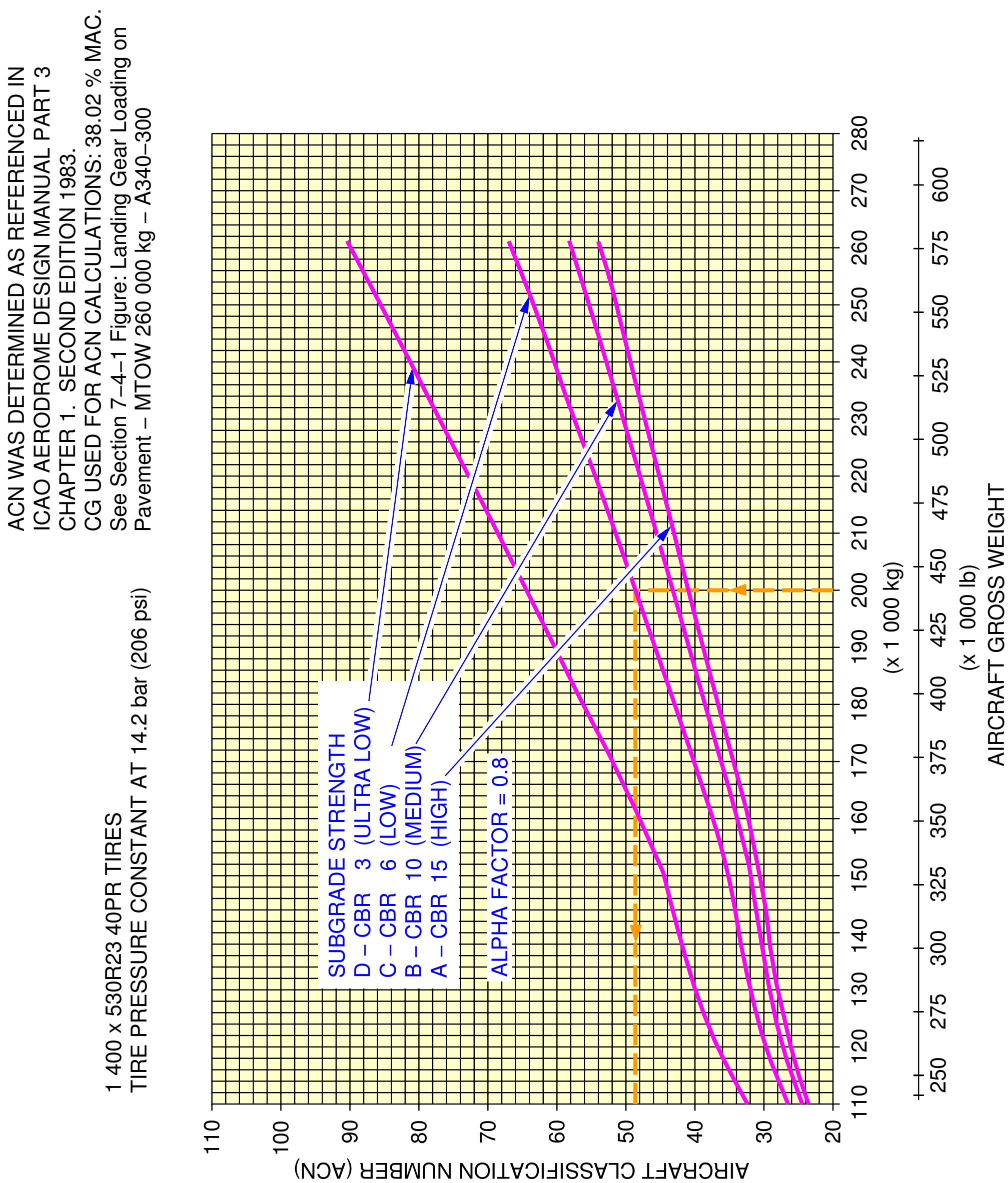
**ON A/C A340-300



F_AC_070901_1_0190101_01_02

Aircraft Classification Number – Flexible Pavement
MTOW 260 000 kg
FIGURE 3

**ON A/C A340-300



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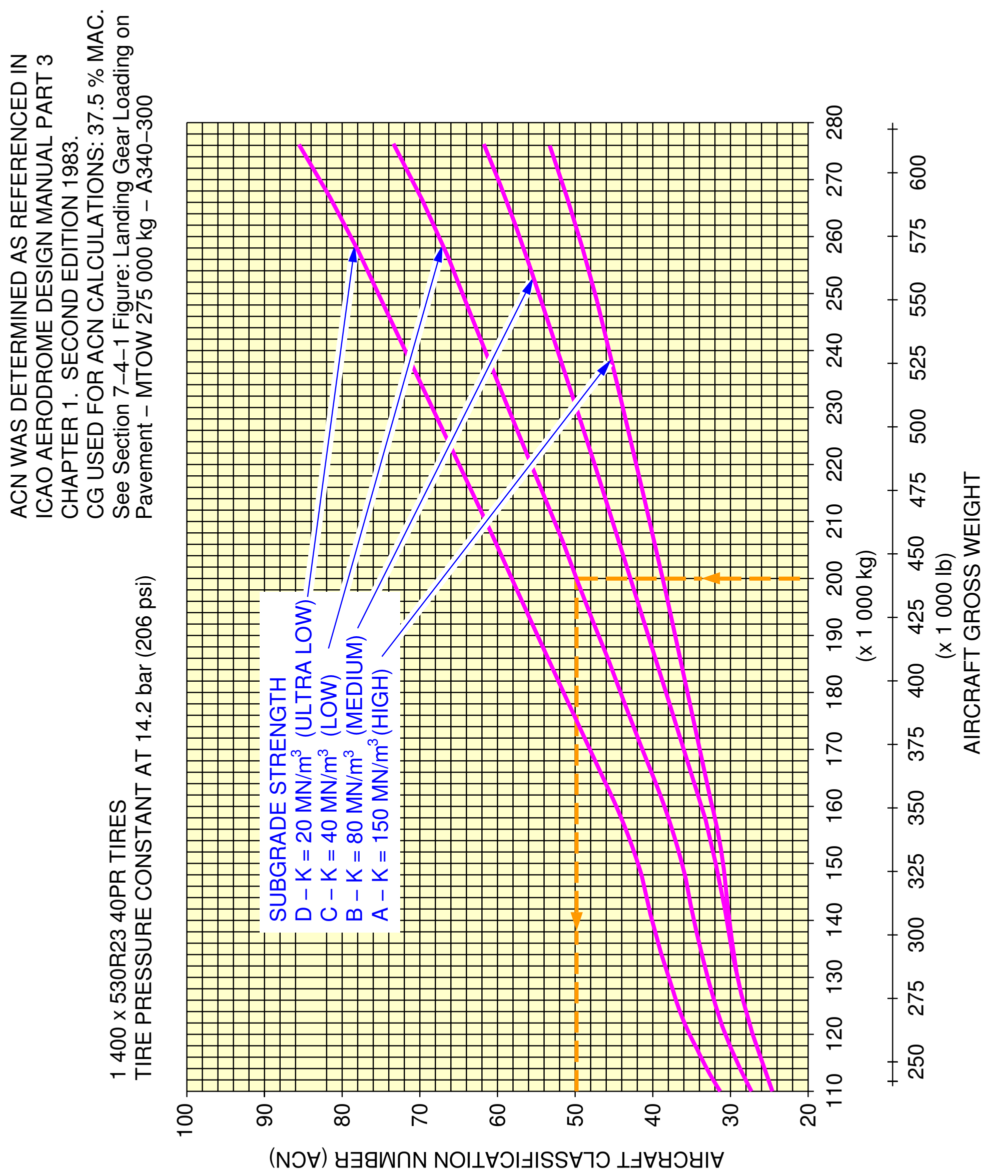
Aircraft Classification Number – Flexible Pavement
MTOW 260 000 kg
FIGURE 4

****ON A/C A340-300**



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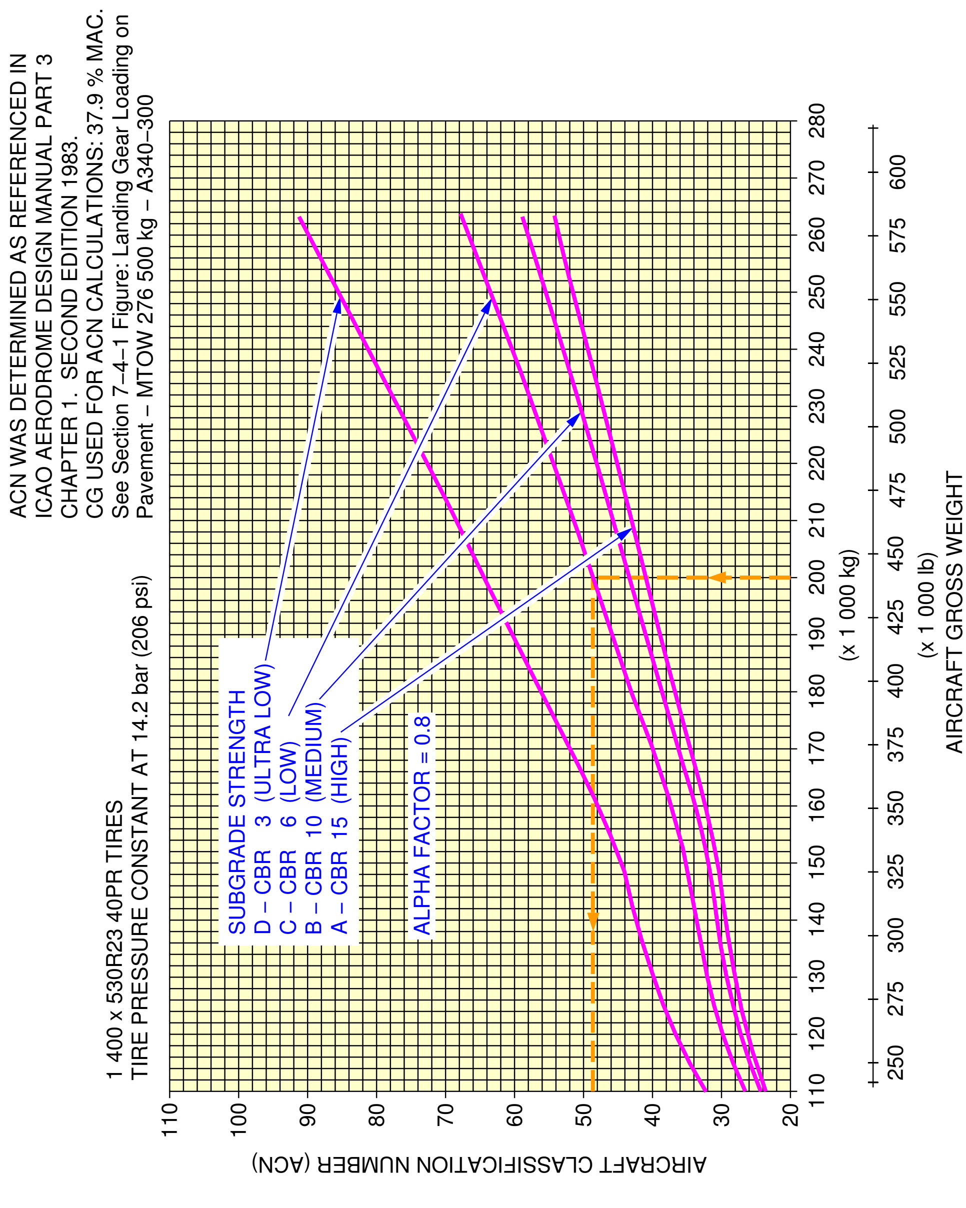
Aircraft Classification Number – Flexible Pavement
MTOW 262 000 kg
FIGURE 5

**ON A/C A340-300



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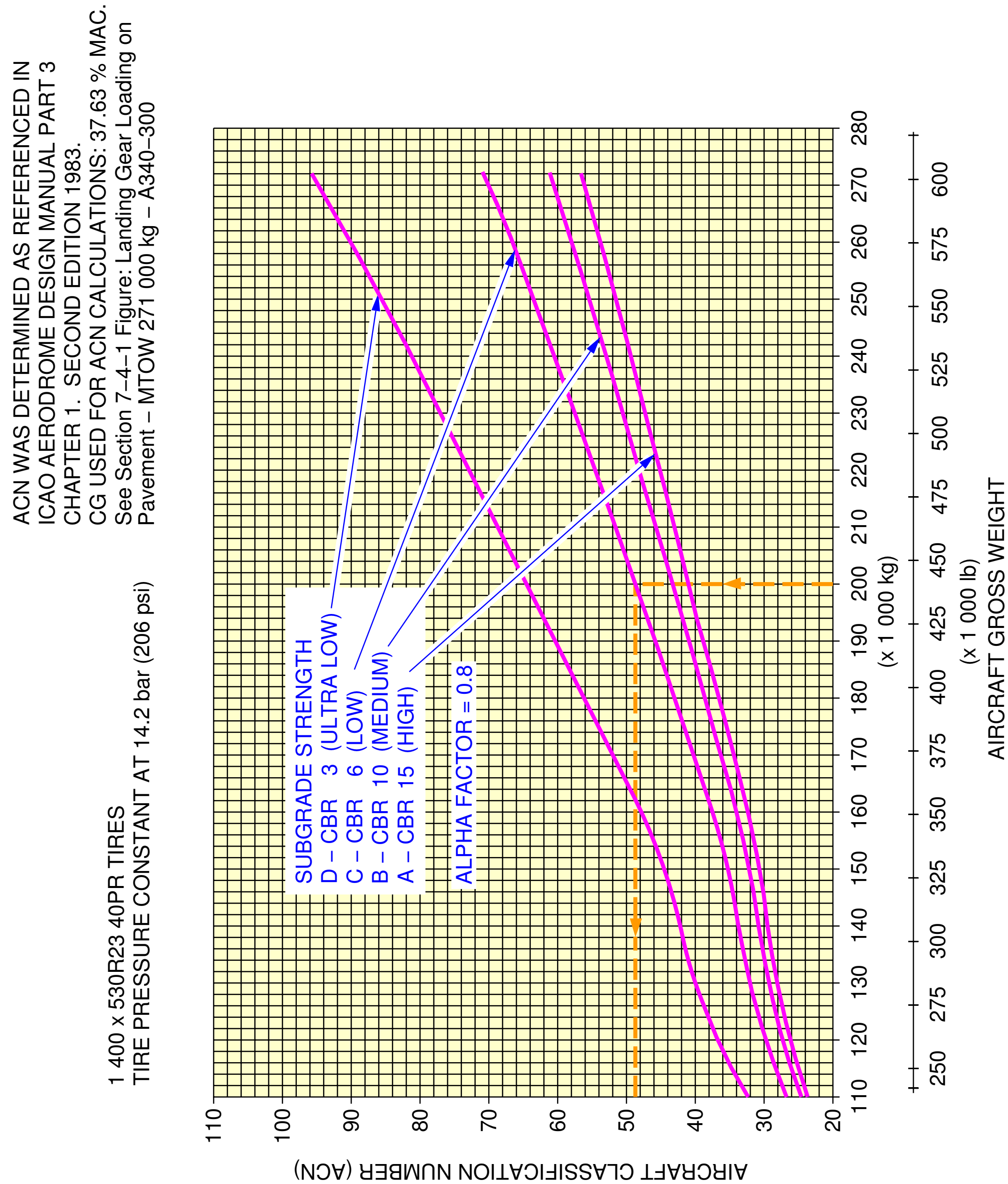
Aircraft Classification Number – Flexible Pavement
MTOW 271 000 kg
FIGURE 6

****ON A/C A340-300**



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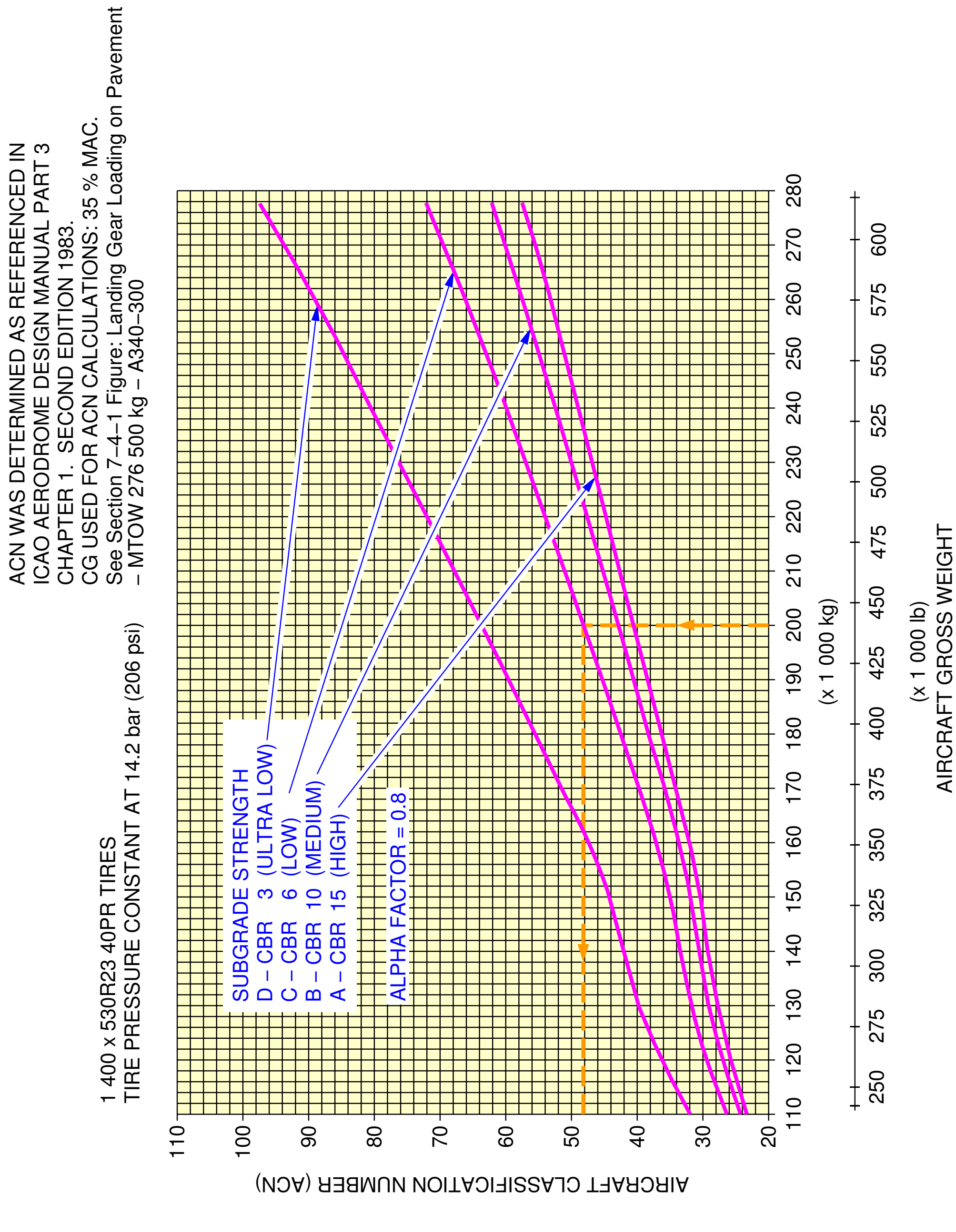
Aircraft Classification Number – Flexible Pavement
MTOW 275 000 kg
FIGURE 7

**ON A/C A340-300



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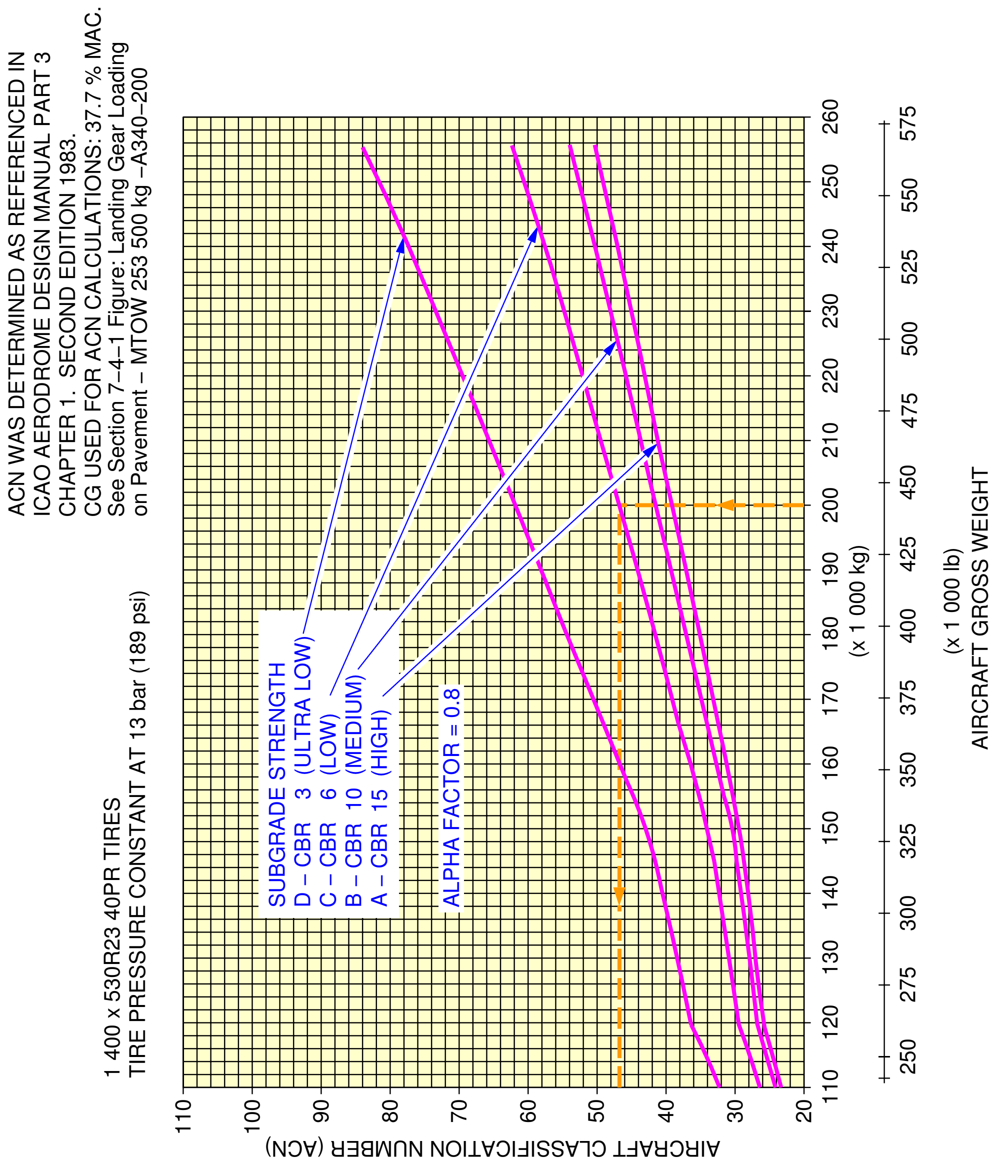
Aircraft Classification Number – Flexible Pavement
MTOW 276 500 kg
FIGURE 8

**ON A/C A340-200



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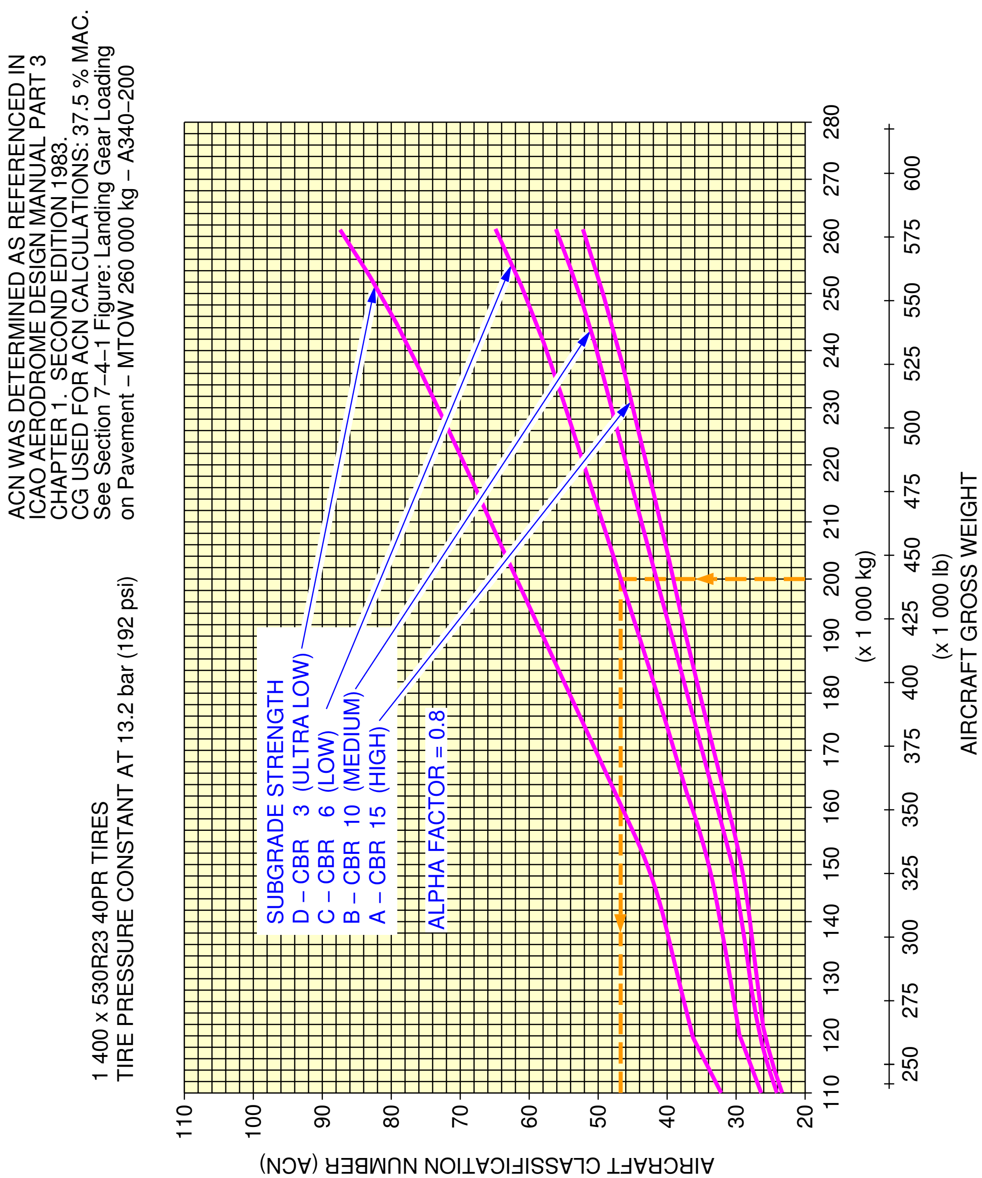
Aircraft Classification Number – Flexible Pavement
MTOW 253 500 kg
FIGURE 9

**ON A/C A340-200



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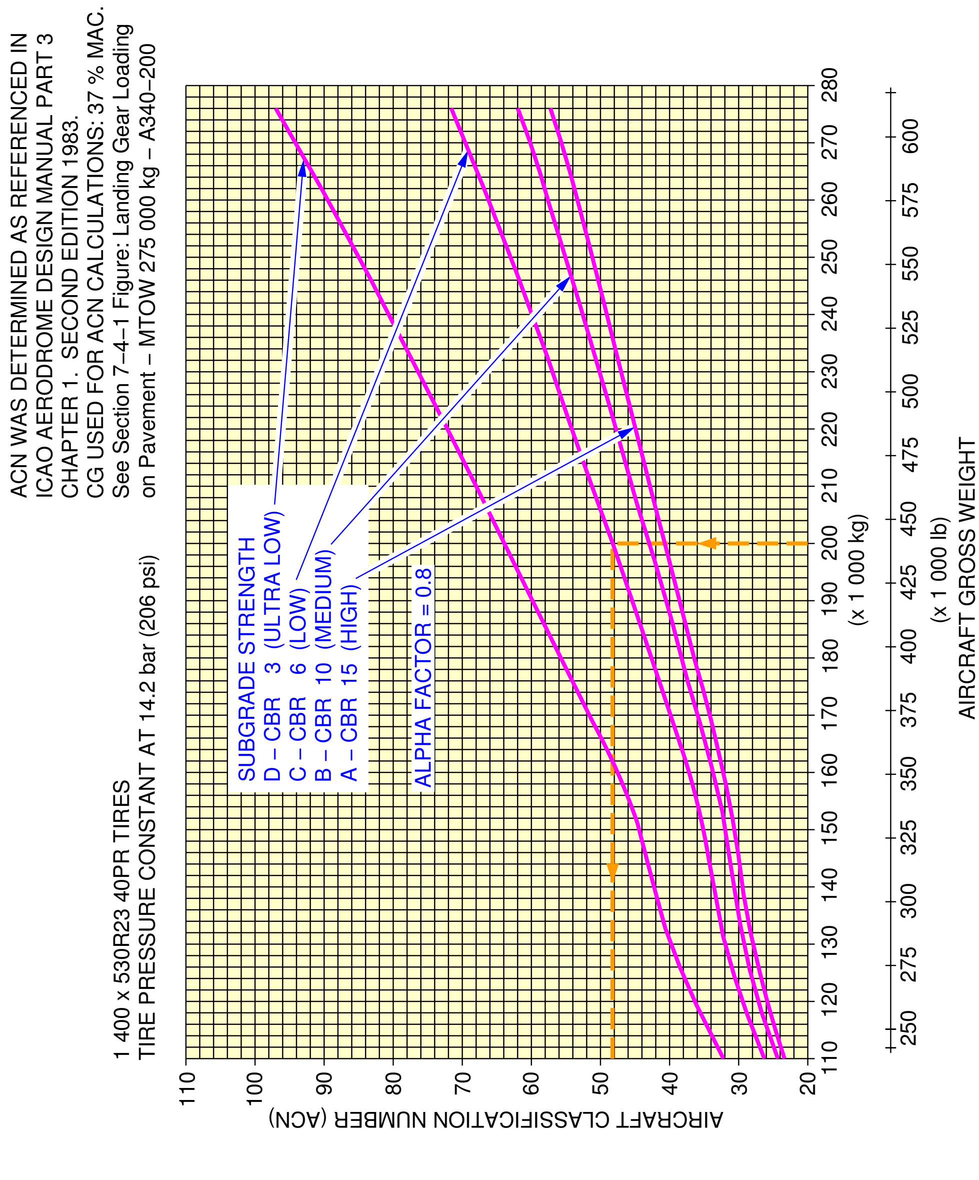
Aircraft Classification Number − Flexible Pavement
MTOW 260 000 kg
FIGURE 10

**ON A/C A340-200



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Aircraft Classification Number − Flexible Pavement
MTOW 275 000 kg
FIGURE 11

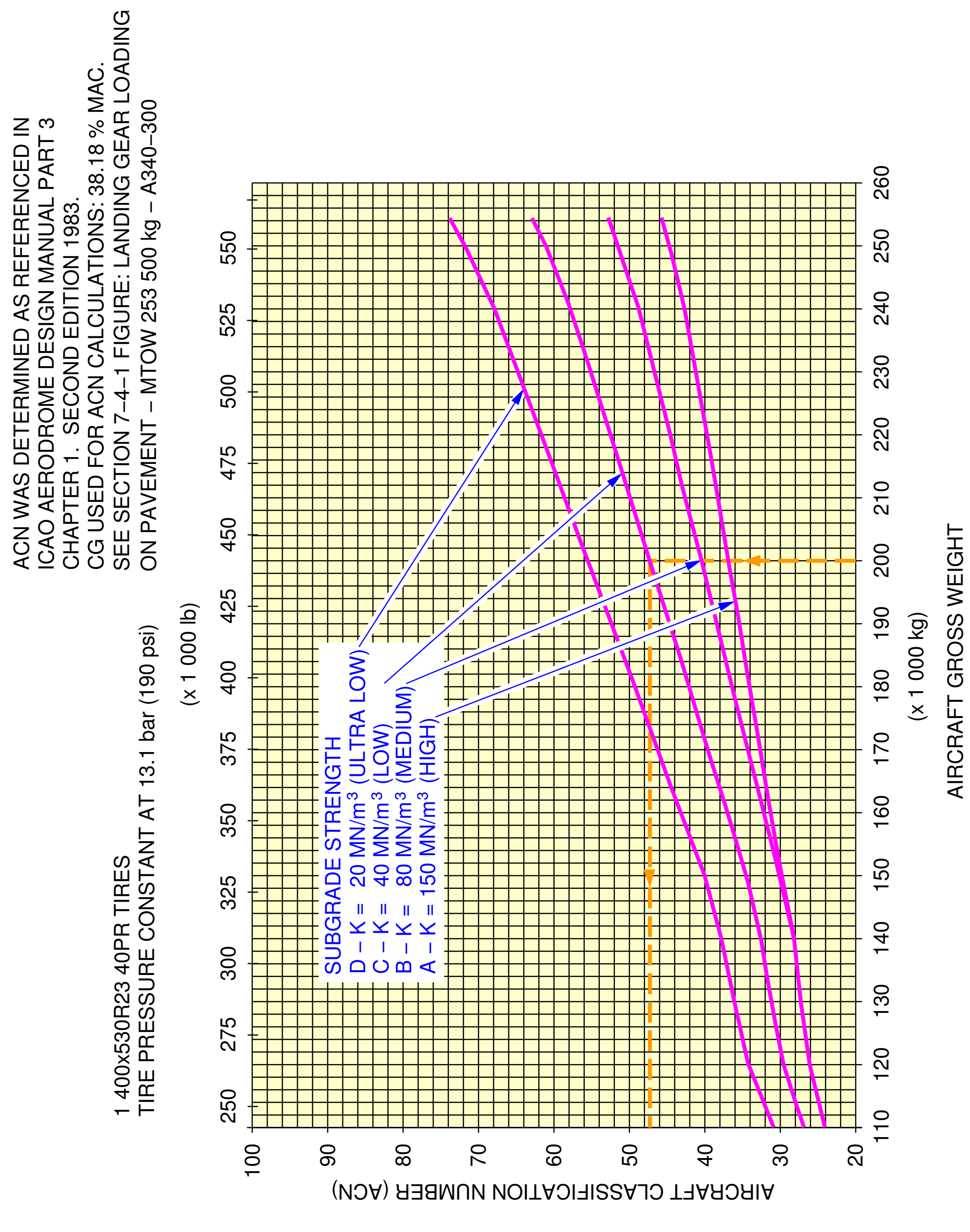
7-9-2 Aircraft Classification Number - Rigid Pavement

****ON A/C A340-200 A340-300**

Aircraft Classification Number - Rigid Pavement

1. This section gives the Aircraft Classification Number - Rigid Pavement.

**ON A/C A340-300



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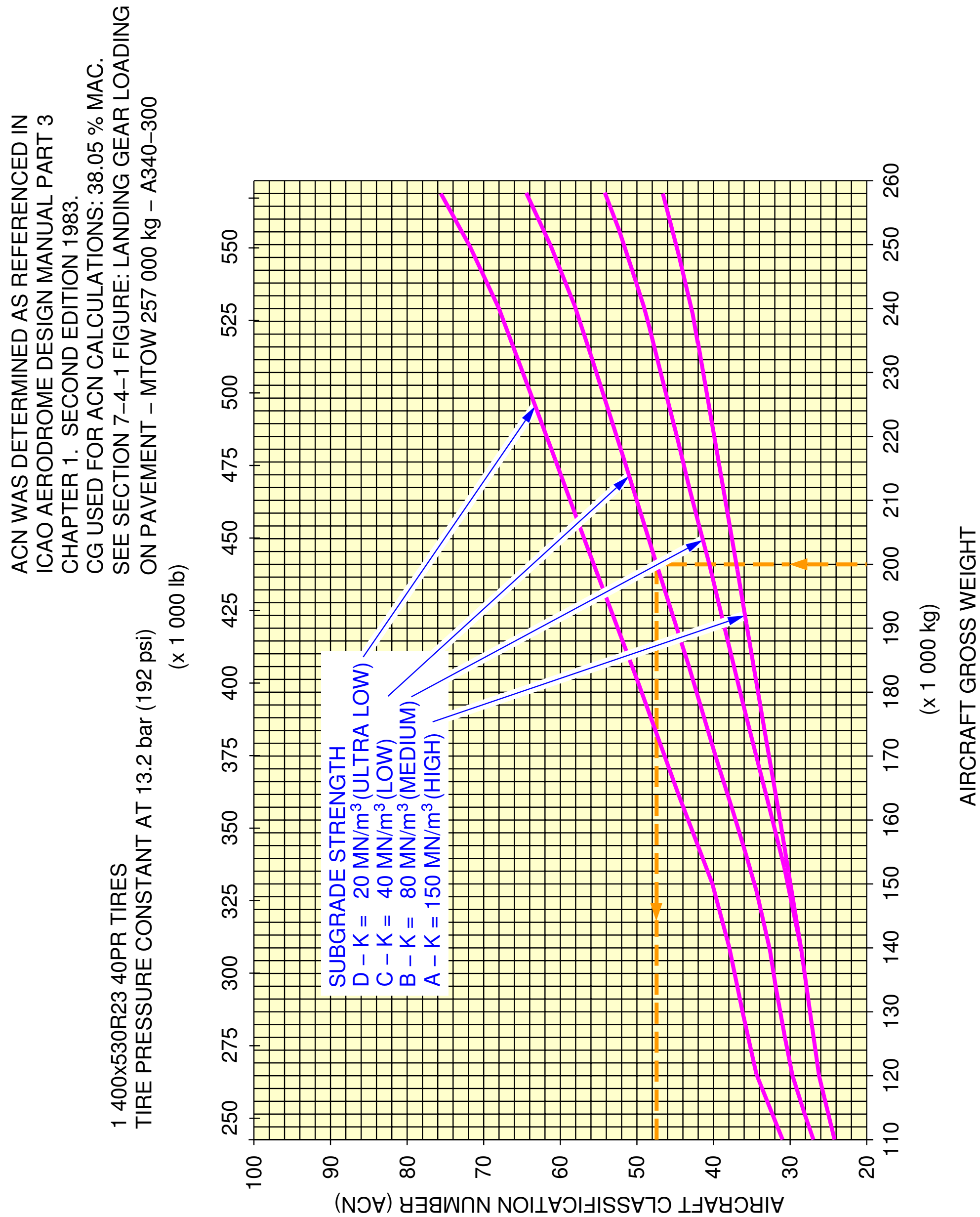
Aircraft Classification Number – Rigid Pavement
MTOW 253 500 kg
FIGURE 1

**ON A/C A340-300



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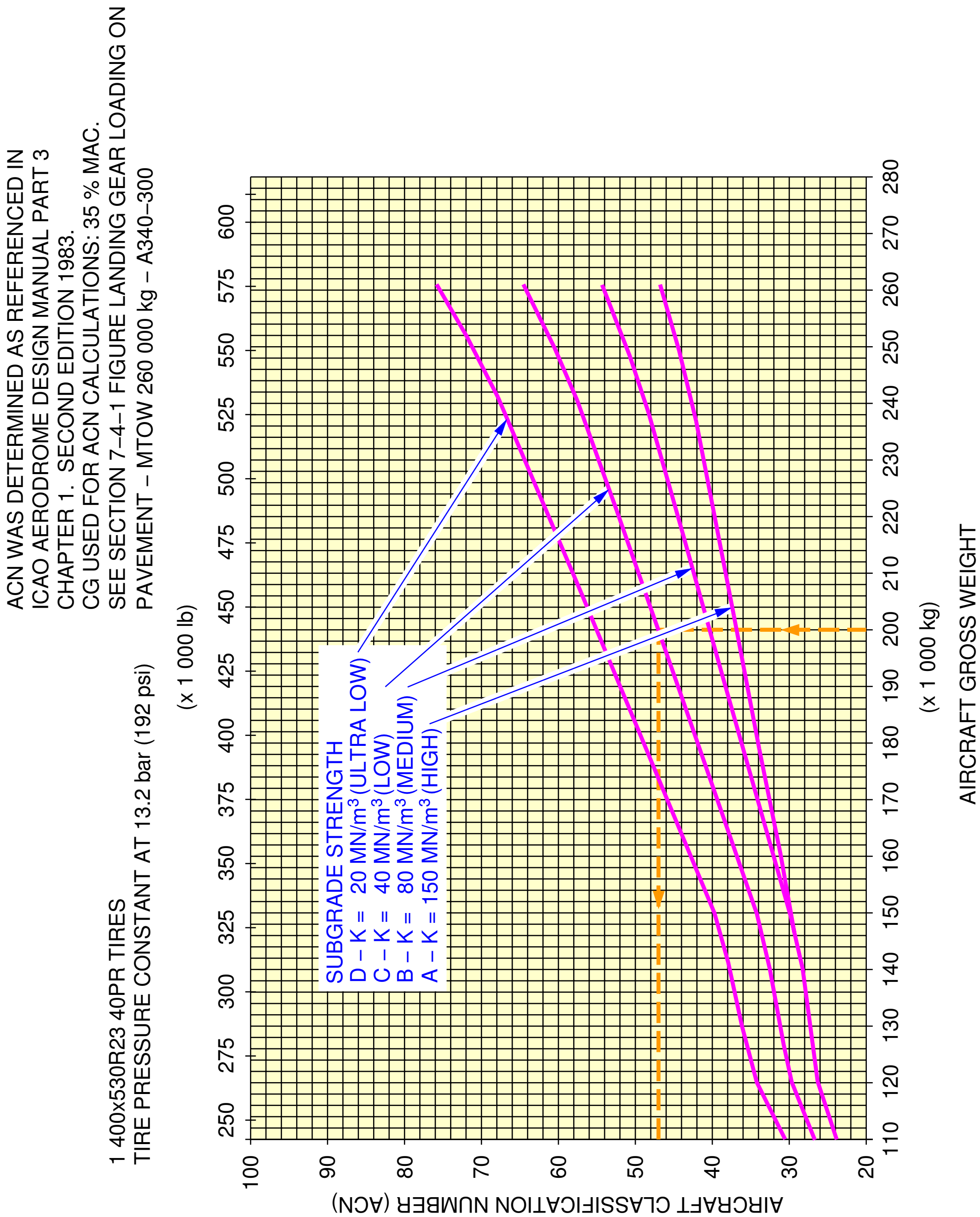
Aircraft Classification Number – Rigid Pavement
MTOW 257 000 kg
FIGURE 2

**ON A/C A340-300



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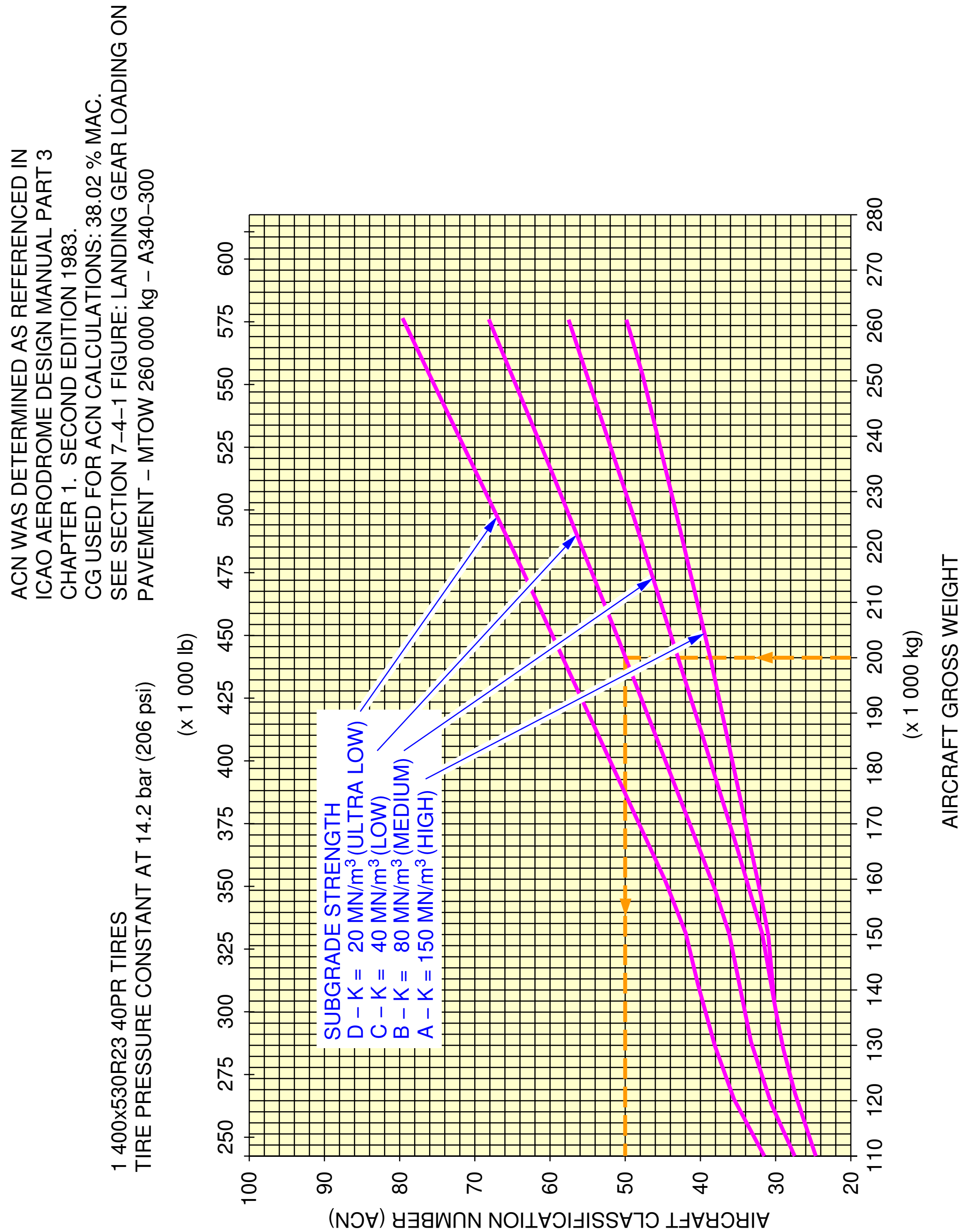
Aircraft Classification Number – Rigid Pavement
MTOW 260 000 kg
FIGURE 3

**ON A/C A340-300



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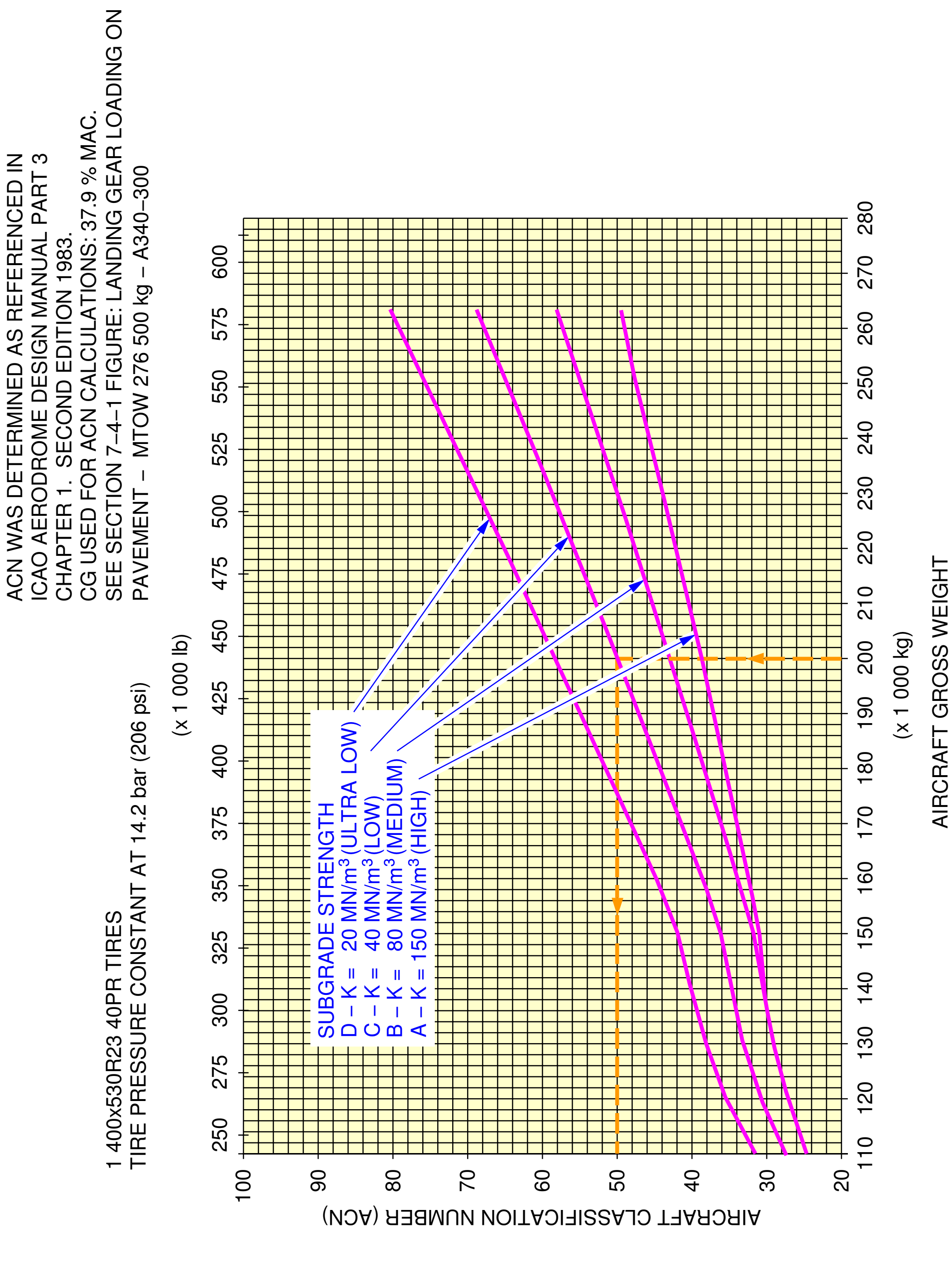
Aircraft Classification Number – Rigid Pavement
MTOW 260 000 kg
FIGURE 4

**ON A/C A340-300



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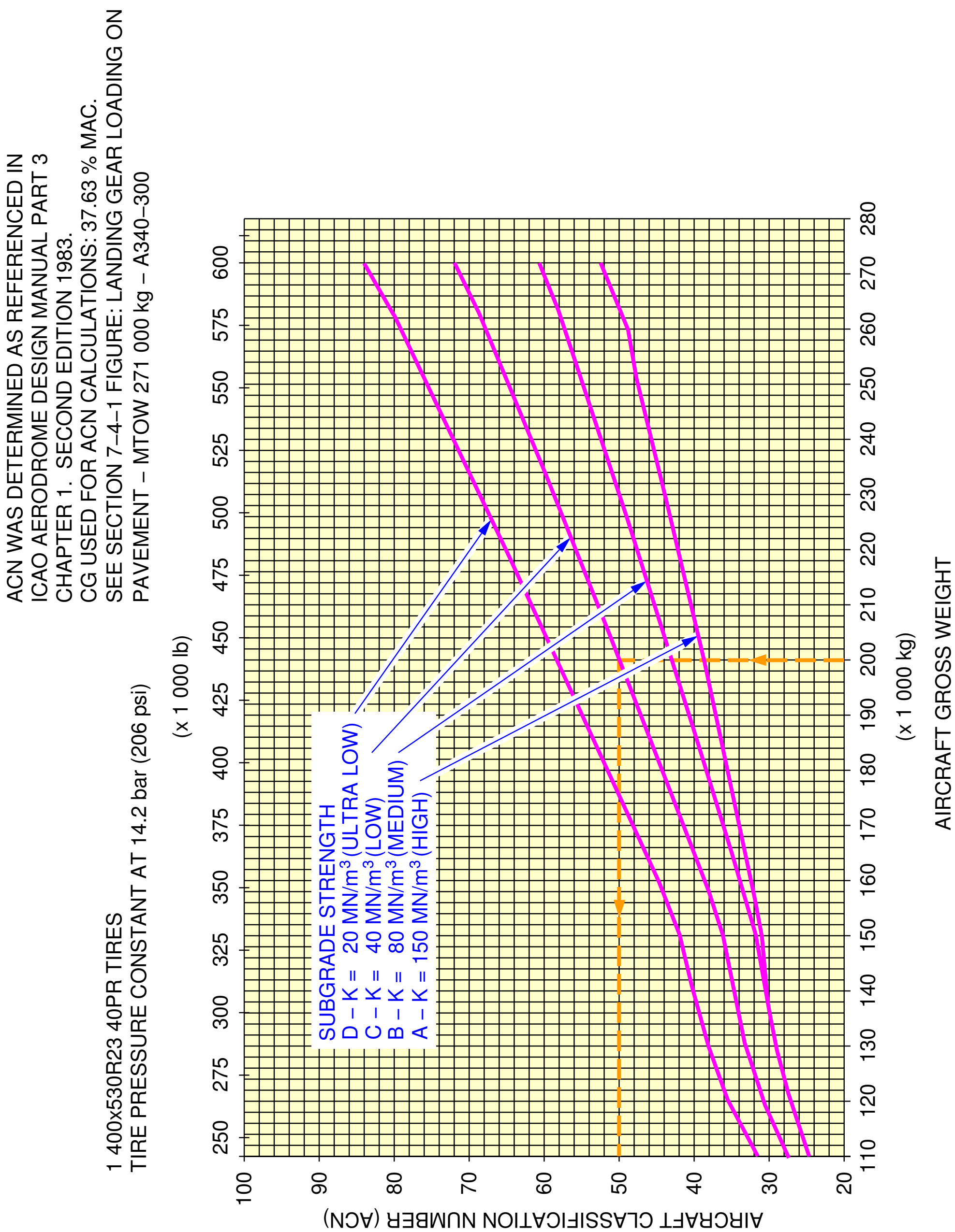
Aircraft Classification Number − Rigid Pavement
MTOW 262 000 kg
FIGURE 5

**ON A/C A340-300



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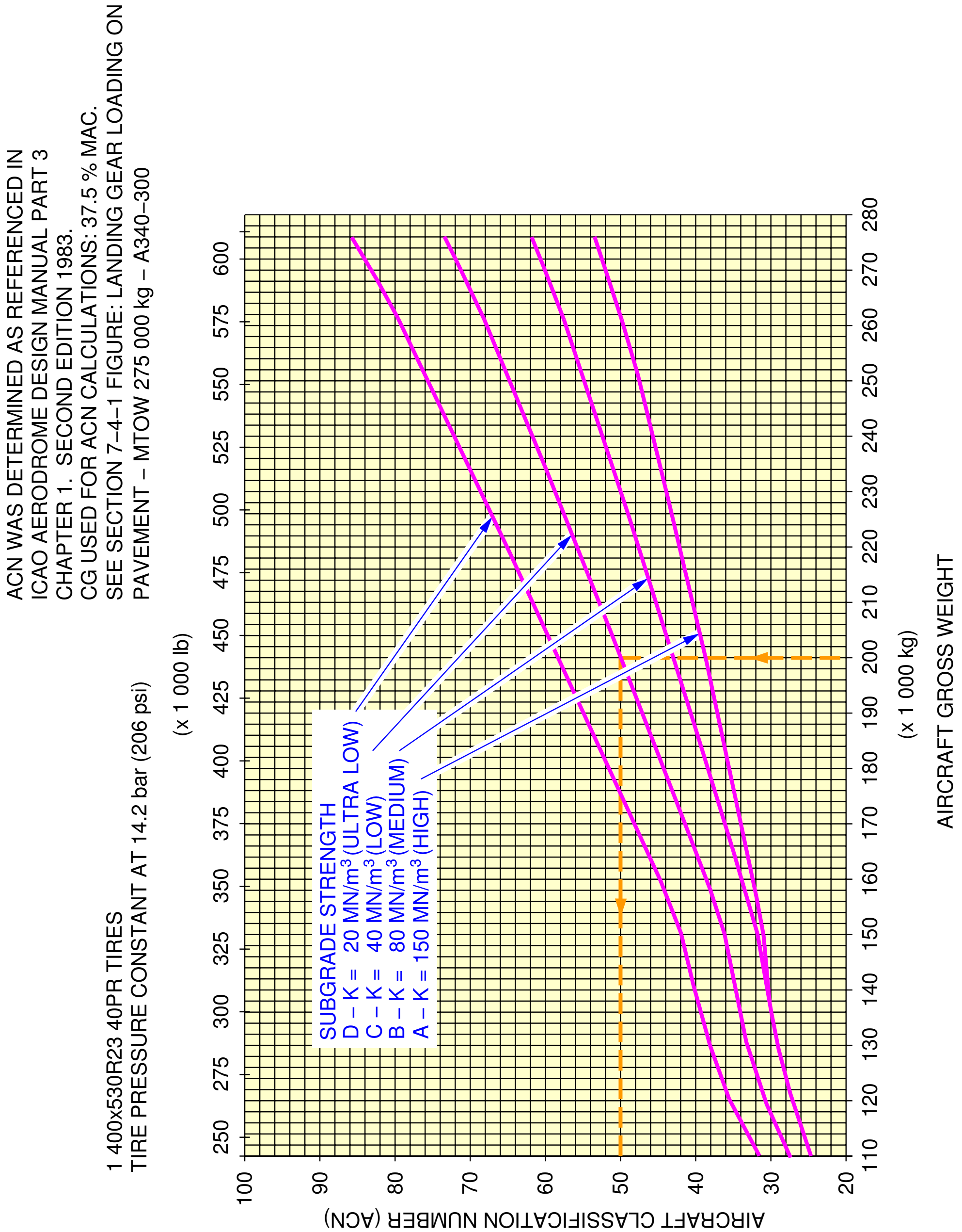
Aircraft Classification Number − Rigid Pavement
MTOW 271 000 kg
FIGURE 6

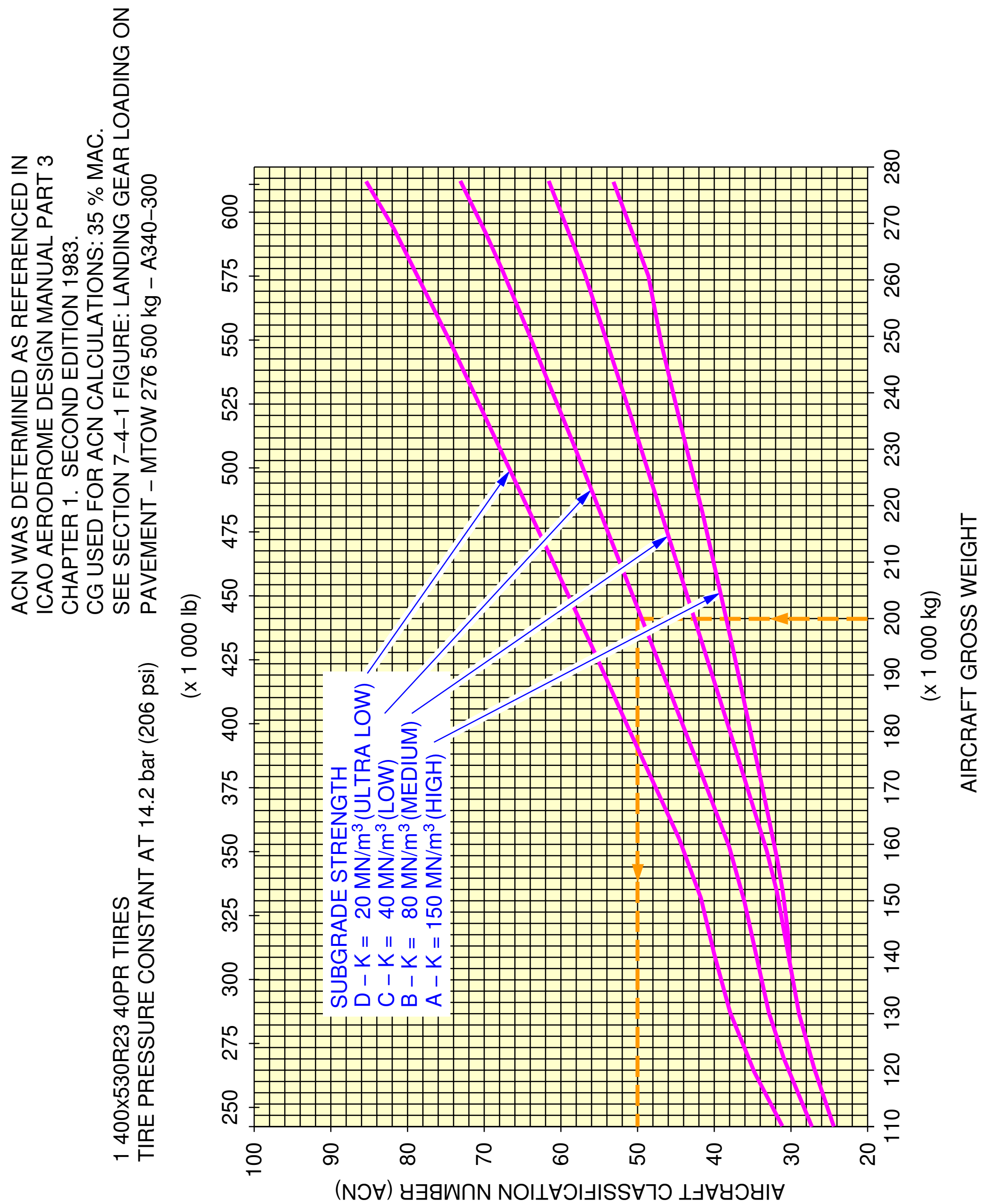
**ON A/C A340-300



F_AC_070902_1_0230101_01_01

Aircraft Classification Number − Rigid Pavement
MTOW 275 000 kg
FIGURE 7

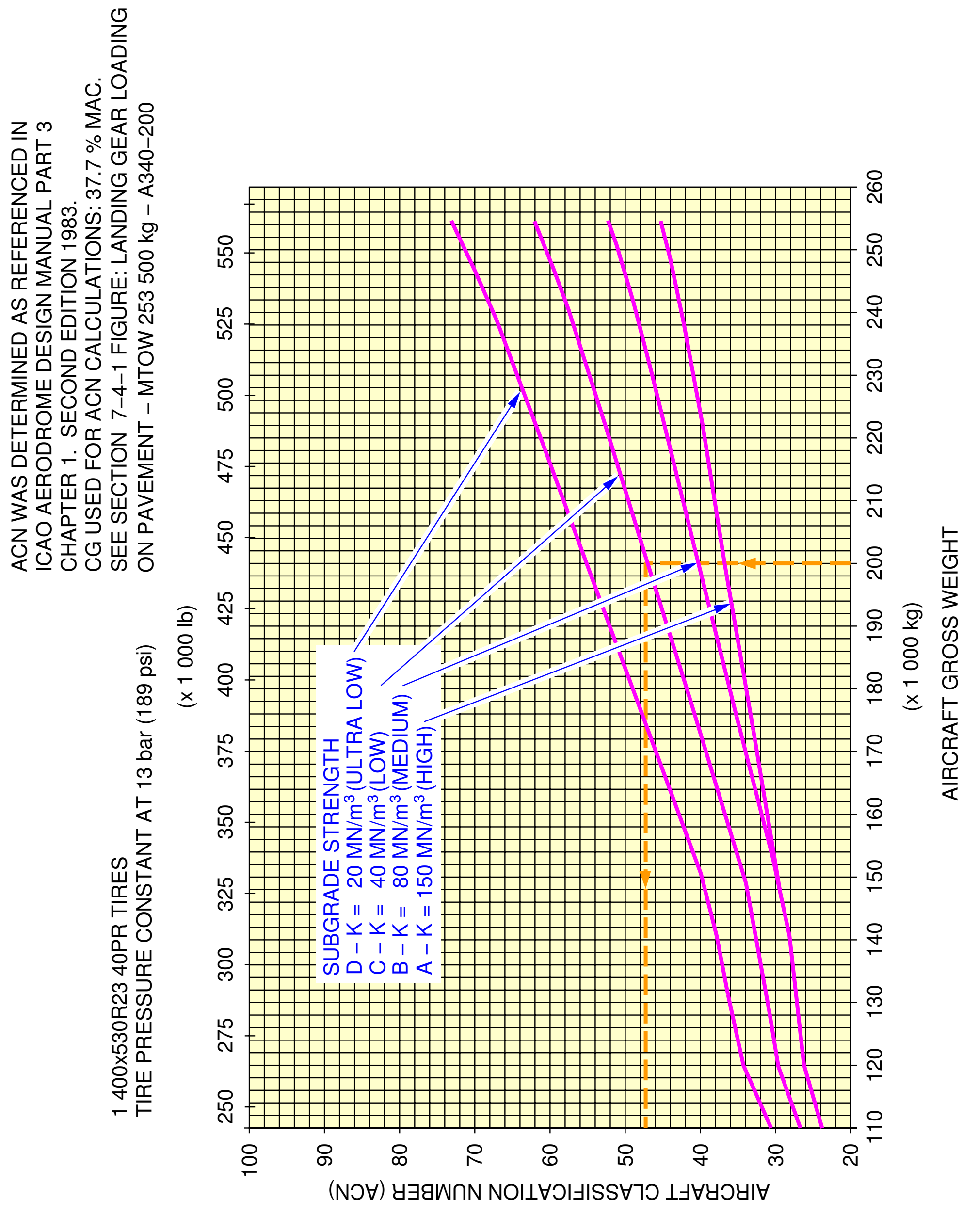
**ON A/C A340-300



F_AC_070902_1_0240101_01_01

Aircraft Classification Number − Rigid Pavement
MTOW 276 500 kg
FIGURE 8

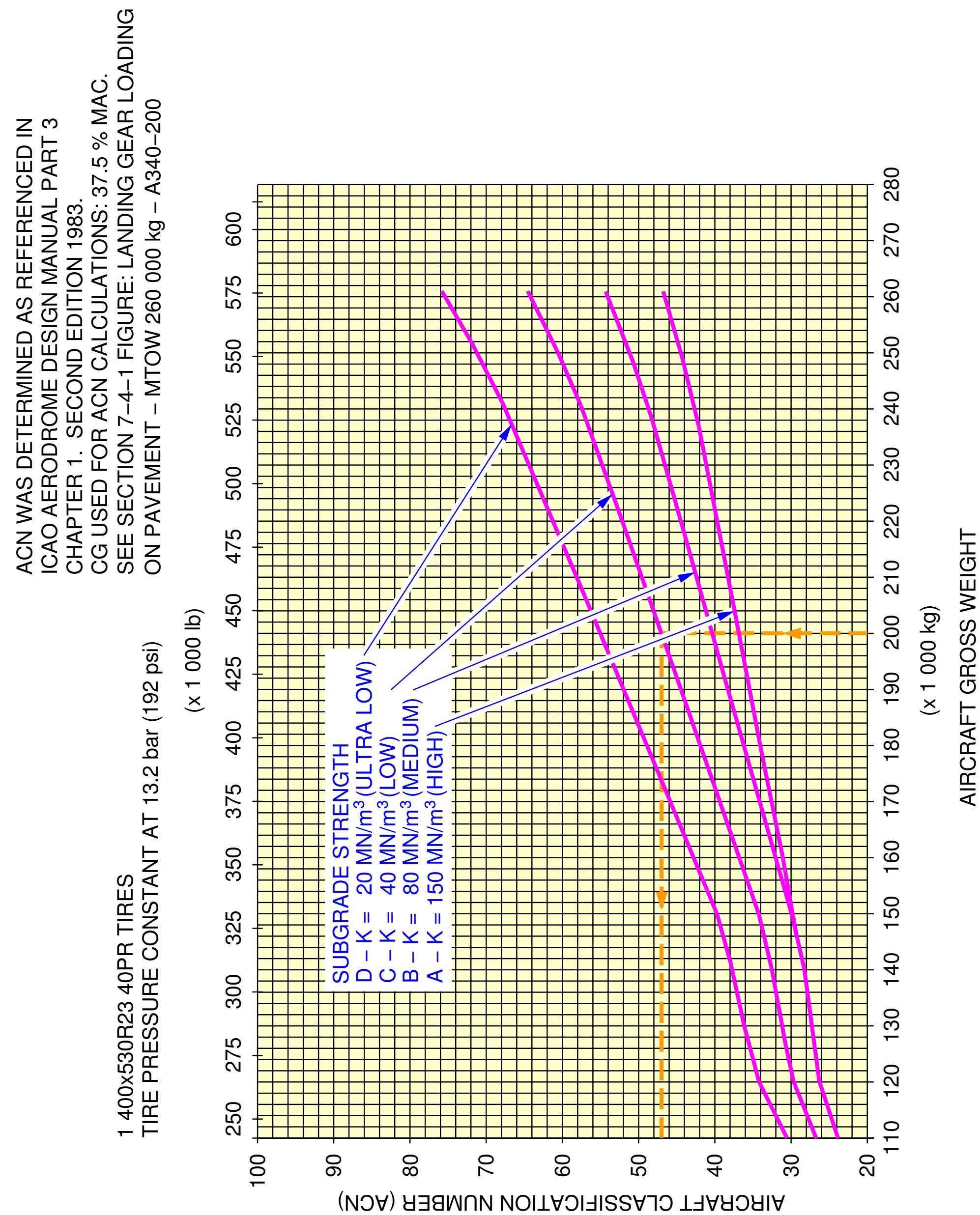
**ON A/C A340-200



F_AC_070902_1_0250101_01_01

Aircraft Classification Number – Rigid Pavement
MTOW 253 500 kg
FIGURE 9

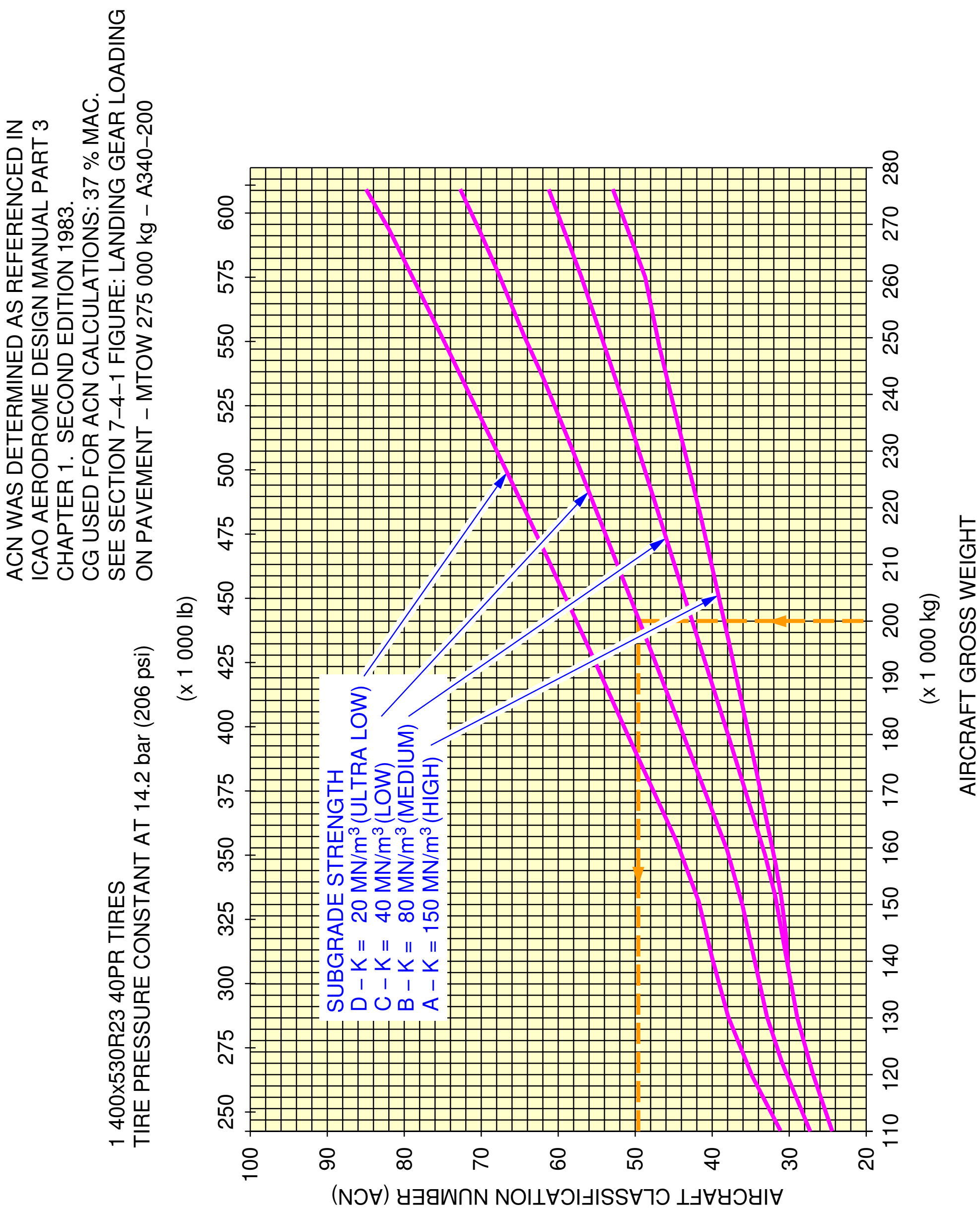
**ON A/C A340-200



F_AC_070902_1_0260101_01_01

Aircraft Classification Number – Rigid Pavement
MTOW 260 000 kg
FIGURE 10

**ON A/C A340-200



F_AC_070902_1_0270101_01_01

Aircraft Classification Number – Rigid Pavement
MTOW 275 00 kg
FIGURE 11

DERIVATIVE AIRPLANES

8-1-0 Possible Future Derivative Airplane

****ON A/C A340-200 A340-300**

Possible Future Derivative Airplane

1. General

Other versions of the A340 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

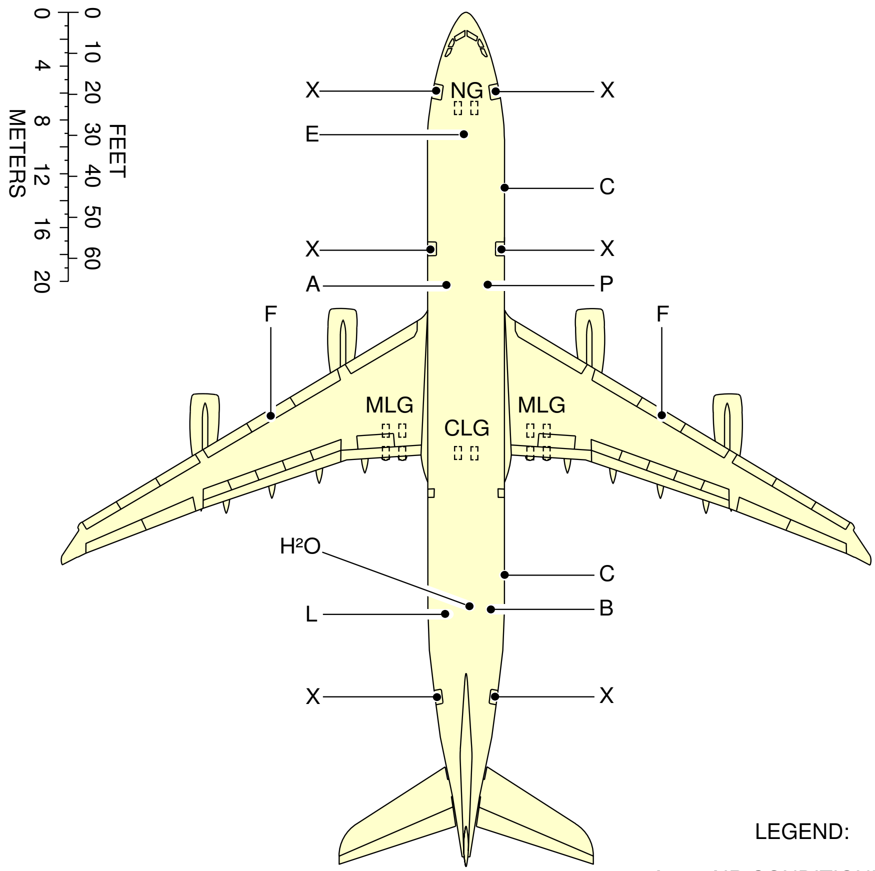
9-1-0 Scaled Drawing 1 in. = 500 ft.

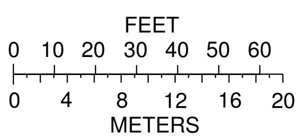
****ON A/C A340-200 A340-300**

Scaled Drawing 1 in. = 50 ft.

1. This section provides the Scaled Drawing - 1 in. = 50 ft.

**ON A/C A340-300





LEGEND:

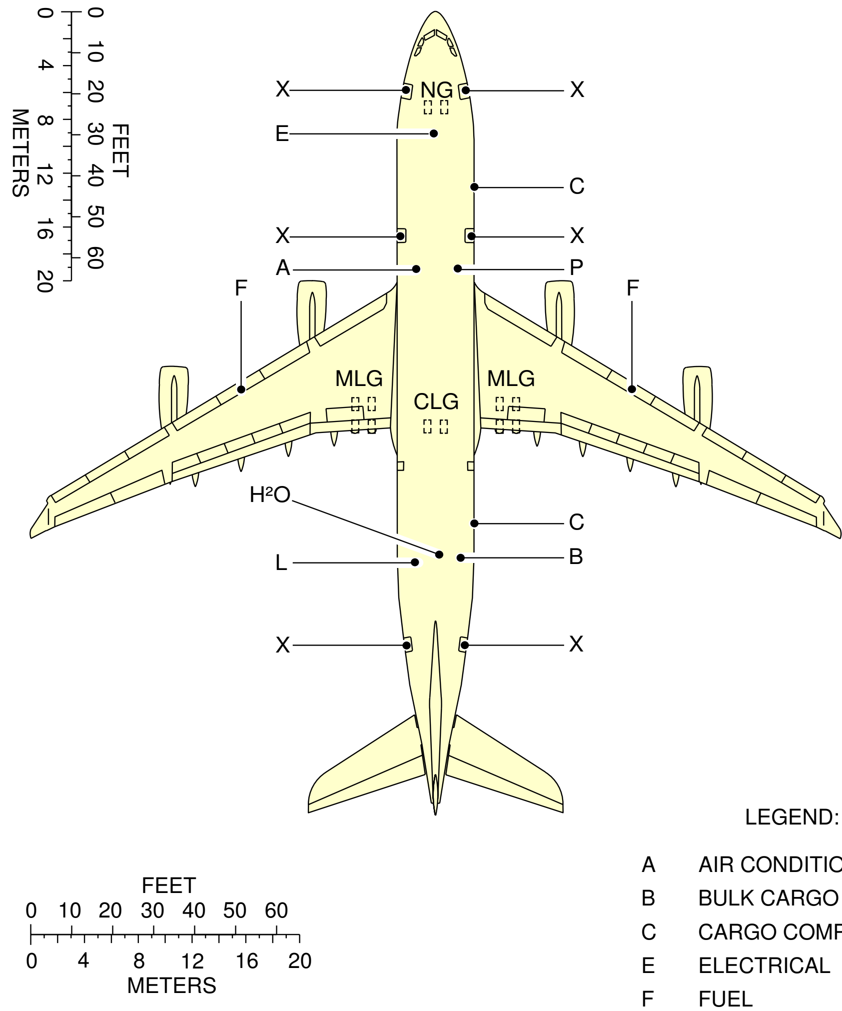
A	AIR CONDITIONING
B	BULK CARGO COMPT DOOR
C	CARGO COMPT DOOR
E	ELECTRICAL
F	FUEL
H^2O	POTABLE WATER
L	LAVATORY
MLG	MAIN LANDING GEAR
NG	NOSE GEAR
CLG	CENTER LINE GEAR
X	PASSENGER/CREW DOOR
P	PNEUMATIC

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

F_AC_090100_1_0070101_01_01

Scaled Drawing
1 in. = 50 ft.
FIGURE 1

**ON A/C A340-200



LEGEND:

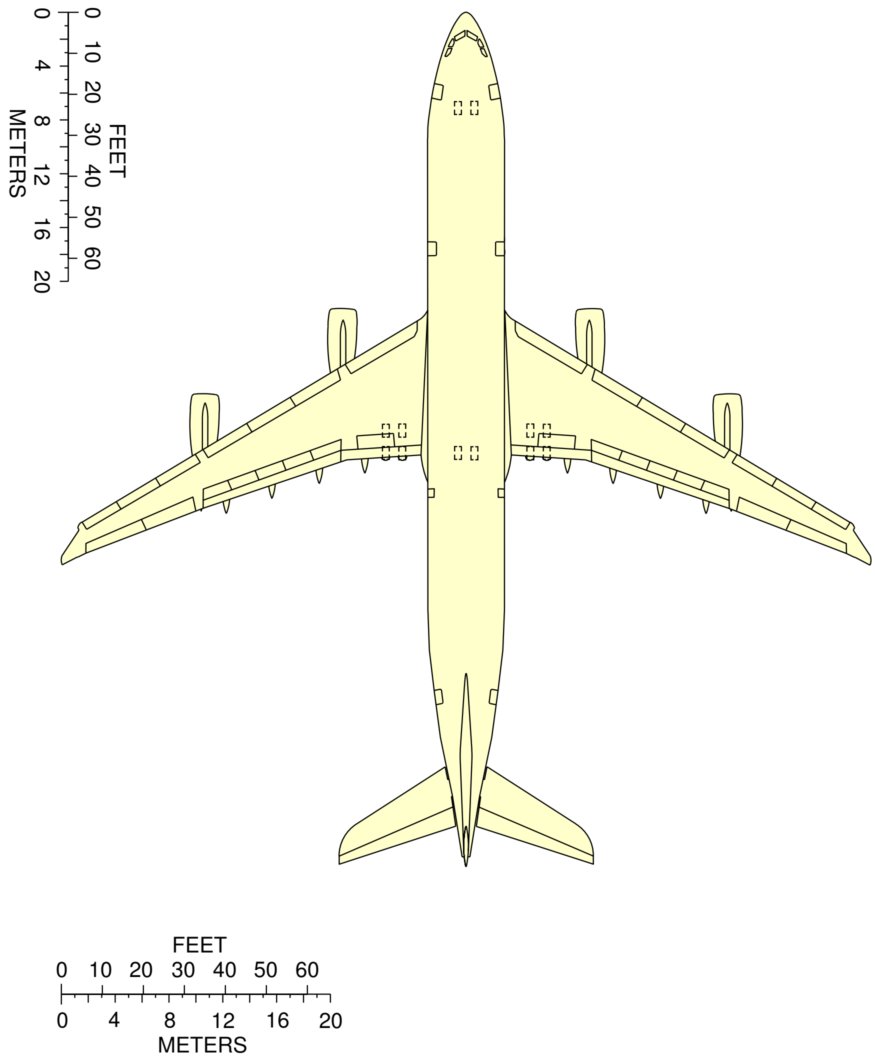
A	AIR CONDITIONING
B	BULK CARGO COMPT DOOR
C	CARGO COMPT DOOR
E	ELECTRICAL
F	FUEL
H²O	POTABLE WATER
L	LAVATORY
MLG	MAIN LANDING GEAR
NG	NOSE GEAR
CLG	CENTER LINE GEAR
X	PASSENGER/CREW DOOR
P	PNEUMATIC

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

F_AC_090100_1_0190101_01_00

Scaled Drawing
1 in. = 50 ft.
FIGURE 2

**ON A/C A340-300

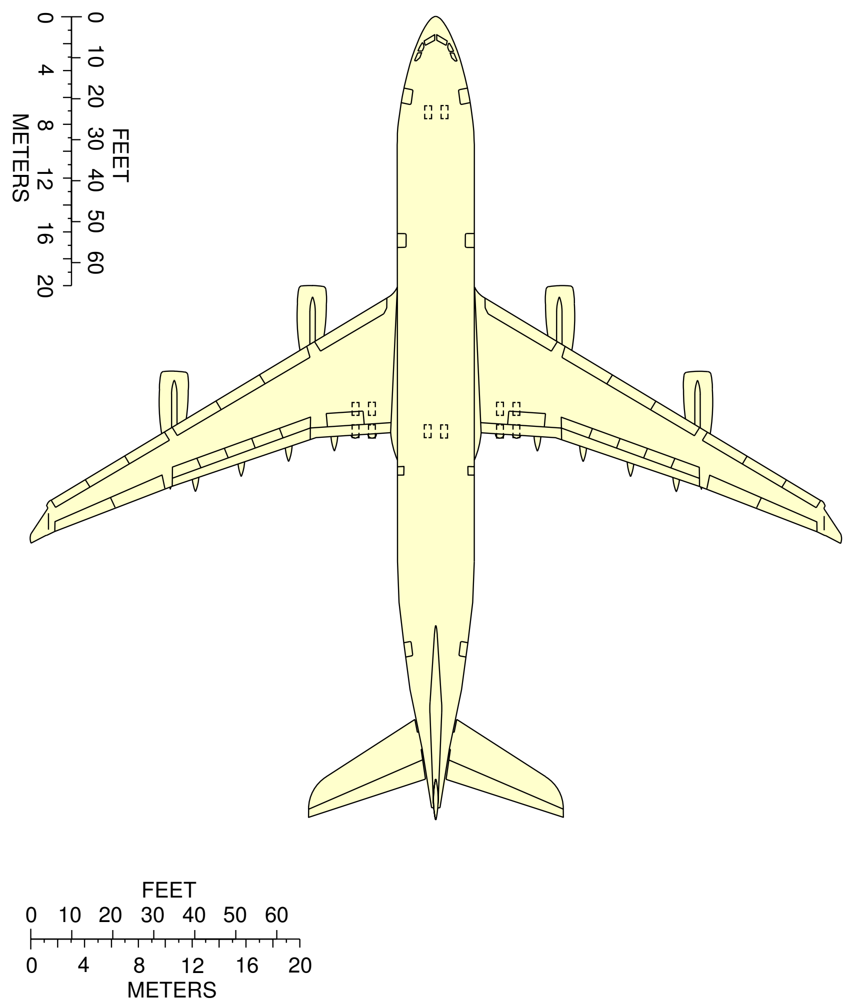


NOTE: WHEN PRINTING THIS DRAWING, MAKE SURE TO ADJUST FOR PROPER SCALING

F_AC_090100_1_0080101_01_01

Scaled Drawing
1 in. = 50 ft.
FIGURE 3

**ON A/C A340-200



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

F_AC_090100_1_0200101_01_00

Scaled Drawing
1 in. = 50 ft.
FIGURE 4

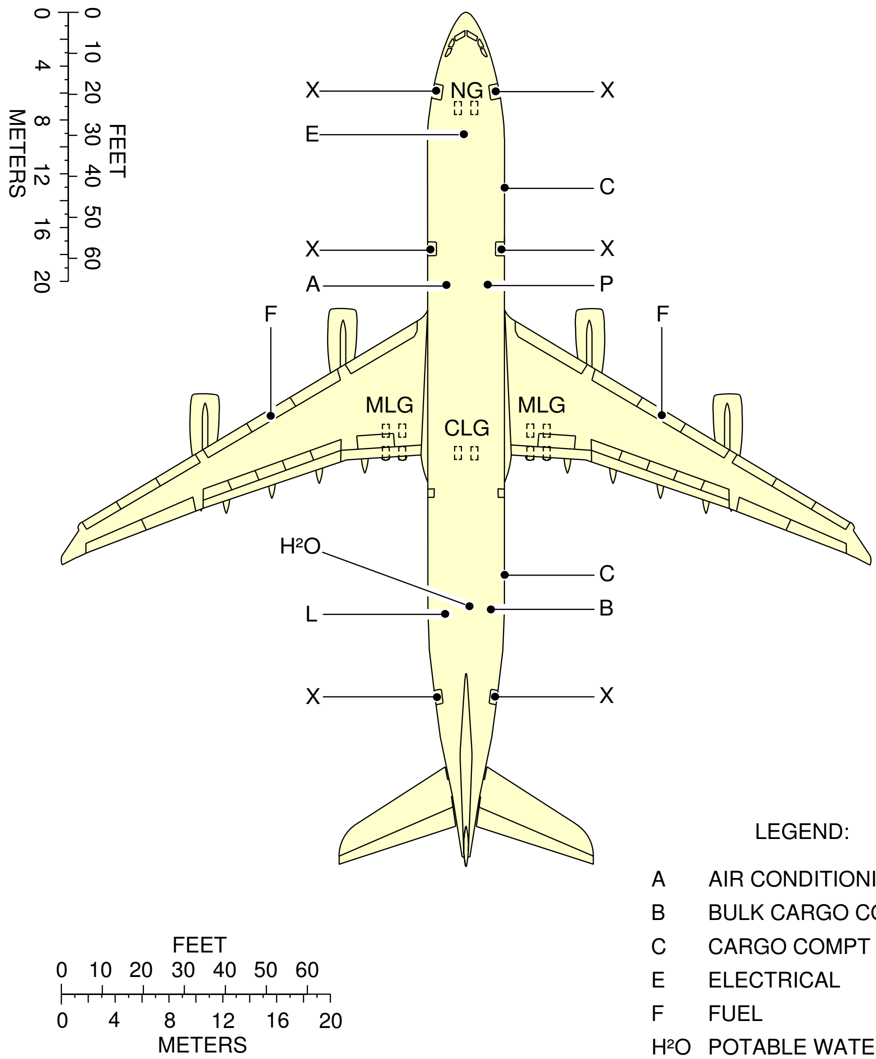
9-2-0 Scaled Drawing 1 cm. = 500 cm.

****ON A/C A340-200 A340-300**

Scaled Drawing 1 cm. = 500 cm.

1. This section provides the Scaled Drawing - 1 cm. = 500 cm.

****ON A/C A340-300**



LEGEND:

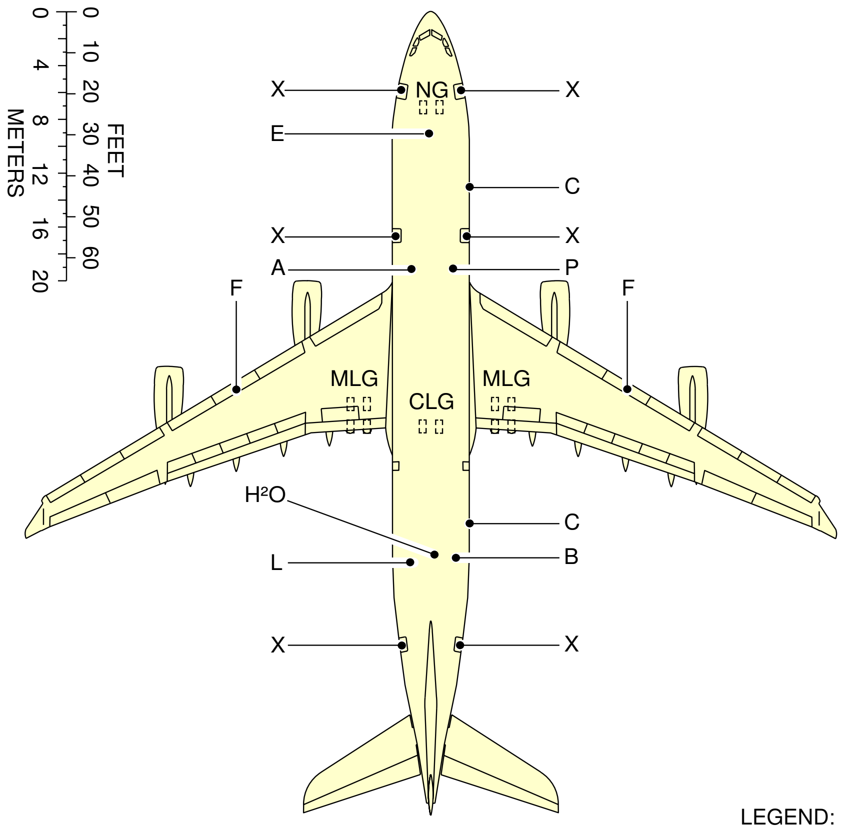
A	AIR CONDITIONING
B	BULK CARGO COMPT DOOR
C	CARGO COMPT DOOR
E	ELECTRICAL
F	FUEL
H^2O	POTABLE WATER
L	LAVATORY
MLG	MAIN LANDING GEAR
NG	NOSE GEAR
CLG	CENTER LINE GEAR
X	PASSENGER/CREW DOOR
P	PNEUMATIC

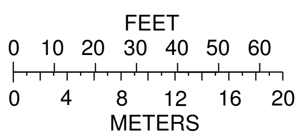
NOTE: WHEN PRINTING THIS DRAWING, MAKE SURE TO ADJUST FOR PROPER SCALING

F_AC_090200_1_0070101_01_01

Scaled Drawing
1 cm. = 500 cm.
FIGURE 1

****ON A/C A340-200**





LEGEND:

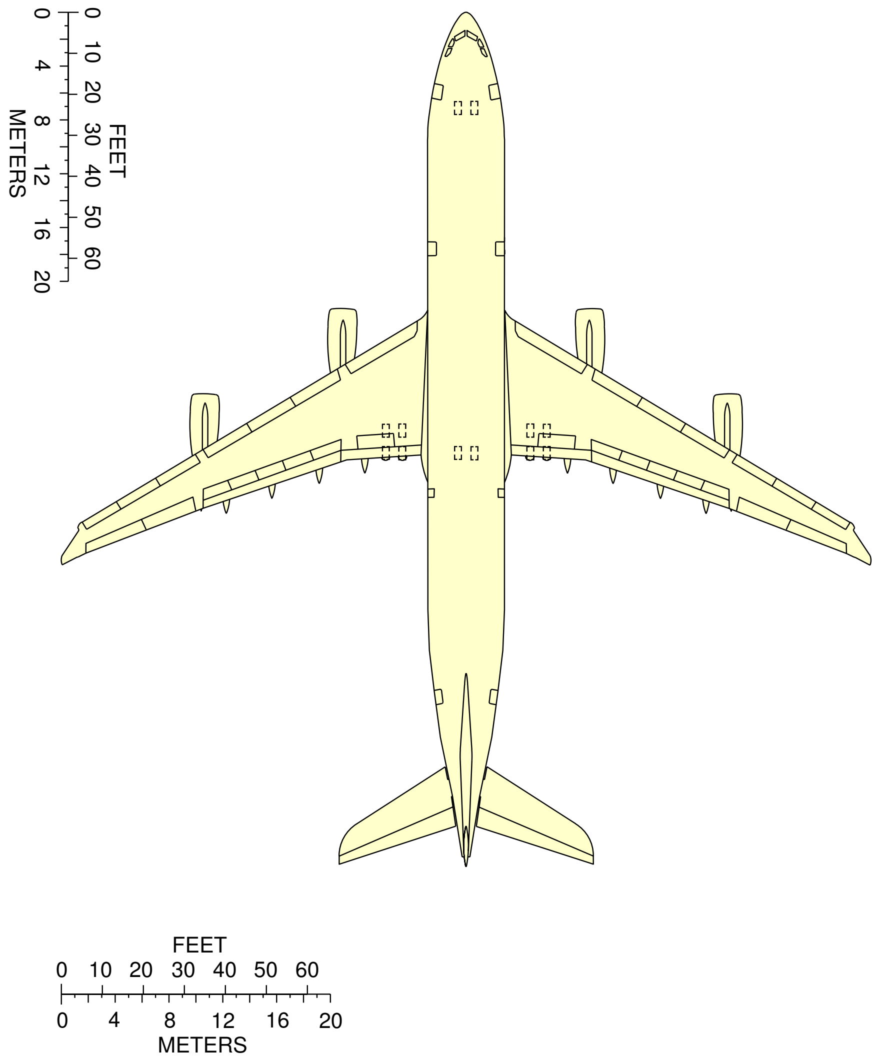
A	AIR CONDITIONING
B	BULK CARGO COMPT DOOR
C	CARGO COMPT DOOR
E	ELECTRICAL
F	FUEL
H²O	POTABLE WATER
L	LAVATORY
MLG	MAIN LANDING GEAR
NG	NOSE GEAR
CLG	CENTER LINE GEAR
X	PASSENGER/CREW DOOR
P	PNEUMATIC

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

F_AC_090200_1_0140101_01_00

Scaled Drawing
1 cm. = 500 cm.
FIGURE 2

**ON A/C A340-300

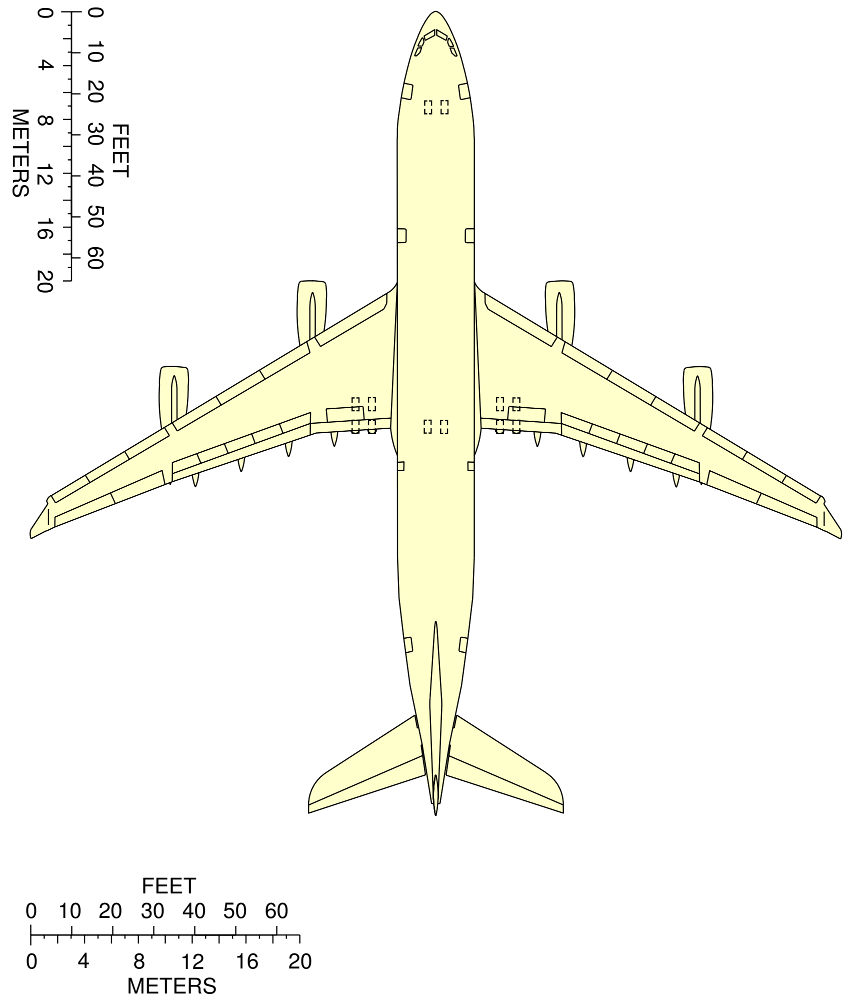


NOTE: WHEN PRINTING THIS DRAWING, MAKE SURE TO ADJUST FOR PROPER SCALING

F_AC_090200_1_0080101_01_01

Scaled Drawing
1 cm. = 500 cm.
FIGURE 3

**ON A/C A340-200



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

F_AC_090200_1_0150101_01_00

Scaled Drawing
1 cm. = 500 cm.
FIGURE 4