

# AIRCRAFT CHARACTERISTICS AIRPORT AND MAINTENANCE PLANNING

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

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### Revision No. 19 - Jun 01/20

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FIGURE Ground Lock Safety Devices		Jan 01/14
FIGURE Emergency Evacuation Devices		Oct 01/15
FIGURE Pax/Crew Doors and Emergency Exits		Jan 01/14
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FIGURE Control Panels		Jan 01/14
FIGURE APU Compartment Access		Jan 01/14
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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### <u>SCOPE</u>

### 1-1-0 Purpose

### \*\*ON A/C A340-500 A340-600

### Introduction

1. General

The A340-500/-600 AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING (AC) manual is issued for the A340-500 and A340-600 basic versions to provide necessary data to airport operators, airlines and Maintenance/Repair Organizations (MRO) for airport and maintenance facilities planning.

This document is not customized and must not be used for training purposes.

The A340 is part of an integrated family sharing the same modern technology as the A330 and maintaining the commonality that is integrated into the Airbus Fly-by-Wire family. It has undergone a program of continuous improvement and still delivers the value that airline customers expect, as the A340 has over 50 customers and operators with more than 350 A340s flying to over 150 airports every week.

The different models of the A340 family can carry from 250 to 440 passengers and are operating on some of the world's longest routes.

A stand-out benefit of the four-engine A340 is that it does not require any ETOPS certification. This allows quick start-up of long-haul operations. It also has good 'hot and high' capability at airports that would be off-limits to other aircraft.

The A340 has one of the quietest and most comfortable cabins in the sky, with state-of-the-art LED (Light Emitting Diode) lighting, mood styles of lighting and AVOD IFE systems.

The A340 combines good capability, economics and passenger product in one package.

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#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### 1-2-1 Glossary

### \*\*ON A/C A340-500 A340-600

Glossary

1. List of Abbreviations	
A/C	Aircraft
ACN	Aircraft Classification Number
AMM	Aircraft Maintenance Manual
APU	Auxiliary Power Unit
B/C	Business Class
C/L	Center Line
CBR	California Bearing Ratio
CC	Cargo Compartment
CG	Center of Gravity
СКРТ	Cockpit
CLG	Centerline Landing Gear
E	Young's Modulus
ELEC	Electric, Electrical, Electricity
ESWL	Equivalent Single Wheel Load
F/C	First Class
FAA	Federal Aviation Administration
FDL	Fuselage Datum Line
FR	Frame
FSTE	Full Size Trolley Equivalent
FWD	Forward
GPU	Ground Power Unit
GSE	Ground Support Equipment
HYD	Hydraulic
ICAO	International Civil Aviation Organisation
IDG	Integrated Drive Generator
ISA	International Standard Atmosphere
L	Radius of relative stiffness
LCN	Load Classification Number
LD	Load Device
LD	Lower Deck
L/G	Landing Gear
LH	Left Hand
LPS	Last Pax Seating

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

MAC	Mean Aerodynamic Chord
MAX	Maximum
MD	Main Deck
MIN	Minimum
MLG	Main Landing Gear
NLG	Nose Landing Gear
OAT	Outside Air Temperature
PAX	Passenger
PB/D	Passenger Boarding/Deboarding
PBB	Passenger Boarding Bridge
PCA	Portland Cement Association
PCN	Pavement Classification Number
PRM	Passenger with Reduced Mobility
RH	Right Hand
ULD	Unit Load Device
US	United States
WV	Weight Variant
Y/C	Economy Class

- 2. Design Weight Terminology
  - Maximum Design Ramp Weight (MRW):
     Maximum weight for ground maneuver (including weight of taxi and run-up fuel) as limited by aircraft strength and airworthiness requirements. It is also called Maximum Design Taxi Weight (MTW).
  - Maximum Design Landing Weight (MLW):
     Maximum weight for landing as limited by aircraft strength and airworthiness requirements.
  - Maximum Design Take-Off Weight (MTOW):
     Maximum weight for take-off as limited by aircraft strength and airworthiness requirements. (This is the maximum weight at start of the take-off run).
  - Maximum Design Zero Fuel Weight (MZFW):
     Maximum permissible weight of the aircraft without usable fuel.
  - Maximum Seating Capacity: Maximum number of passengers specifically certified or anticipated for certification.
  - Usable Volume:
    - Usable volume available for cargo, pressurized fuselage, passenger compartment and cockpit.
  - Water Volume:
  - Maximum volume of cargo compartment.
  - Usable Fuel: Fuel available for aircraft propulsion.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### AIRCRAFT DESCRIPTION

### 2-1-1 General Aircraft Characteristics Data

### \*\*ON A/C A340-500 A340-600

General Aircraft Characteristics Data

### \*\*ON A/C A340-600

1. The following table provides characteristics of A340-600 Models, these data are specific to each Weight Variant:

Aircraft Characteristics				
	WV000	WV001		
Maximum Taxi Weight (MTW) Maximum Ramp Weight (MRW)	366 200 kg (807 333 lb)	369 200 kg (813 946 lb)		
Maximum Take-Off Weight (MTOW)	365 000 kg (804 687 lb)	368 000 kg (811 301 lb)		
Maximum Landing Weight (MLW)	256 000 kg (564 383 lb)	259 000 kg (570 997 lb)		
Maximum Zero Fuel Weight (MZFW)	242 000 kg (533 519 lb)	245 000 kg (540 132 lb)		
Usable Fuel Capacity (51 516 US gal)				
(density = 0.785 kg/l)		82 kg 188 lb)		

Aircraft Characteristics			
	WV101	WV102	WV103
Maximum Taxi Weight (MTW)	381 200 kg	369 200 kg	366 200 kg
Maximum Ramp Weight (MRW)	(840 402 lb)	(813 946 lb)	(807 333 lb)
Maximum Take-Off Weight	380 000 kg	368 000 kg	365 000 kg
(MTOW)	(837 756 lb)	(811 301 lb)	(804 687 lb)
Maximum Landing Weight (MLW)	265 000 kg	259 000 kg	265 000 kg
	(584 225 lb)	(570 997 lb)	(584 225 lb)
Maximum Zero Fuel Weight	251 000 kg	245 000 kg	251 000 kg
(MZFW)	(553 360 lb)	(540 132 lb)	(553 360 lb)

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

Aircraft Characteristics			
	WV101	WV102	WV103
Usable Fuel Capacity	198 139   (1) - 208 939   (2) (52 343 US gal (1) - 55 196 US gal (2))		
(density = 0.785 kg/l)	155 539 kg (1) - 164 017 kg (2) (342 905 lb (1) - 361 595 lb (2))		

- (1) Without forward ACT
- (2) With forward ACT
- 2. The following table provides characteristics of A340-600 Models, these data are common to each Weight Variant:

Aircraft Characteristics		
Standard Seating Capacity	384	
Pressurized Fuselage Volume (A/C non equipped)	1 305 m <sup>3</sup> (46 086 ft <sup>3</sup> )	
Passenger Compartment Volume	557 m³ (19 670 ft³)	
Cockpit Volume	12 m <sup>3</sup> (424 ft <sup>3</sup> )	
Usable Volume, FWD CC (Based on LD3)	104 m <sup>3</sup> (3 672 ft <sup>3</sup> )	
Usable Volume, AFT CC (Based on LD3)	78 m <sup>3</sup> (2 754 ft <sup>3</sup> )	
Usable Volume, Bulk CC	19.7 m <sup>3</sup> (695 ft <sup>3</sup> )	
Water Volume, FWD CC	143 m <sup>3</sup> (5 050 ft <sup>3</sup> )	
Water Volume, AFT CC	102.3 m <sup>3</sup> (3 612 ft <sup>3</sup> )	
Water Volume, Bulk CC	22.7 m <sup>3</sup> (802 ft <sup>3</sup> )	

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500

3. The following table provides characteristics of A340-500 Models, these data are specific to each Weight Variant:

Aircraft Characteristics						
	WV000	WV001	WV002	WV003	WV004	
Maximum Taxi Weight (MTW) Maximum Ramp Weight (MRW)	369 200 kg (813 946 lb)	373 200 kg (822 765 lb)	373 200 kg (822 765 lb)	375 200 kg (827 174 lb)	375 200 kg (827 174 lb)	
Maximum Take-Off Weight (MTOW)	368 000 kg (811 301 lb)	372 000 kg (820 119 lb)	372 000 kg (820 119 lb)	374 000 kg (824 529 lb)	374 000 kg (824 529 lb)	
Maximum Landing Weight (MLW)	240 000 kg (529 109 lb)	243 000 kg (535 723 lb)	243 000 kg (535 723 lb)	231 000 kg (509 268 lb)	243 000 kg (535 723 lb)	
Maximum Zero Fuel Weight (MZFW)	225 000 kg (496 040 lb)	230 000 kg (507 063 lb)	229 000 kg (504 858 lb)	218 000 kg (480 608 lb)	218 000 kg (480 608 lb)	
Usable Fuel Capacity (density = 0.785 kg/l)	214 808 I (56 746 US gal)	215 108   * - 223 078   ** (56 826 US gal * - 58 931 US gal **)		214 066   * - 222 036   ** (56 550 US gal * - 58 656 US gal **)		
	168 624 kg (371 752 lb)	168 859 kg * - 175 116 kg ** (372 270 lb * - 386 065 lb **)		g ** ** b) (372 270 lb * - 386 065 lb (370 467 lb * - 384 261		* * - 384 261 lb

Aircraft Characteristics					
	WV101	WV102	WV103		
Maximum Taxi Weight (MTW) Maximum Ramp Weight (MRW)	381 200 kg (840 402 lb)	373 200 kg (822 765 lb)	373 200 kg (822 765 lb)		
Maximum Take-Off Weight	380 000 kg	372 000 kg	372 000 kg		
(MTOW)	(837 756 lb)	(820 119 lb)	(820 119 lb)		
Maximum Landing Weight	246 000 kg	243 000 kg	246 000 kg		
(MLW)	(542 337 lb)	(535 723 lb)	(542 337 lb)		
Maximum Zero Fuel Weight	232 000 kg	230 000 kg	232 000 kg		
(MZFW)	(511 472 lb)	(507 063 lb)	(511 472 lb)		

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

Aircraft Characteristics					
	WV101	WV102	WV103		
Usable Fuel Capacity (density = 0.785 kg/l)	214 066   * - 222 036   ** (56 550 US gal * - 58 656 US gal **)	216 622   * - 223 210   ** (57 225 US gal * - 58 966 US gal **)			
	168 041 kg * - 174 298 kg ** (370 467 lb * - 384 261 lb **)	170 048 kg * - 175 219 kg ** (374 892 lb * - 386 292 lb **)			

\* (Production model) RCT = 5 frames \*\* (Optional model) RCT = 7 frames

The following table provides characteristics of A340-500 Models, these data are common to each 4. Weight Variant:

Aircraft Characteristics				
Standard Seating Capacity	313			
Pressurized Fuselage Volume (A/C non equipped)	1 120 m <sup>3</sup> (39 552 ft <sup>3</sup> )			
Passenger Compartment Volume	490 m³ (17 304 ft³)			
Cockpit Volume	12 m <sup>3</sup> (424 ft <sup>3</sup> )			
Usable Volume, FWD CC (Based on LD3)	78 m³ (2 754 ft³)			
Usable Volume, AFT CC (Based on LD3)	52 m <sup>3</sup> (1 836 ft <sup>3</sup> )			
Usable Volume, Bulk CC	19.7 m <sup>3</sup> (695 ft <sup>3</sup> )			
Water Volume, FWD CC	107.1 m <sup>3</sup> (3 782 ft <sup>3</sup> )			
Water Volume, AFT CC	73.9 m <sup>3</sup> (2 610 ft <sup>3</sup> )			
Water Volume, Bulk CC	22.7 m <sup>3</sup> (802 ft <sup>3</sup> )			

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### 2-2-0 General Aircraft Dimensions

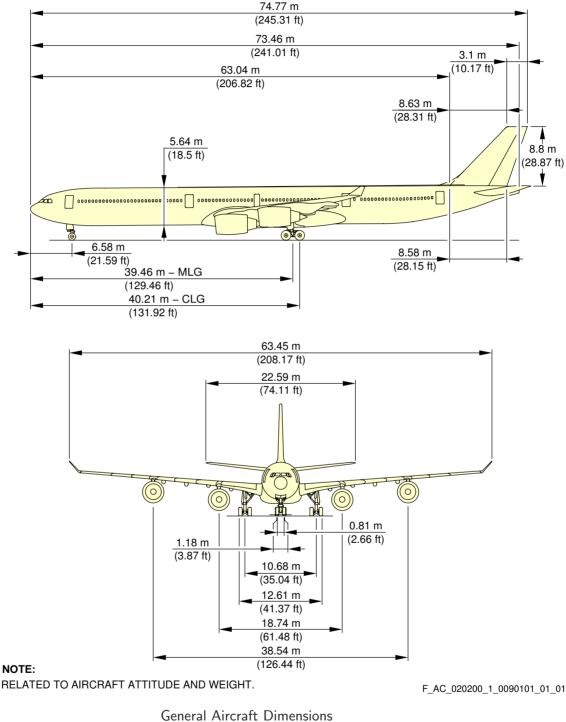
### \*\*ON A/C A340-500 A340-600

General Aircraft Dimensions

### 1. This section provides general aircraft dimensions.

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

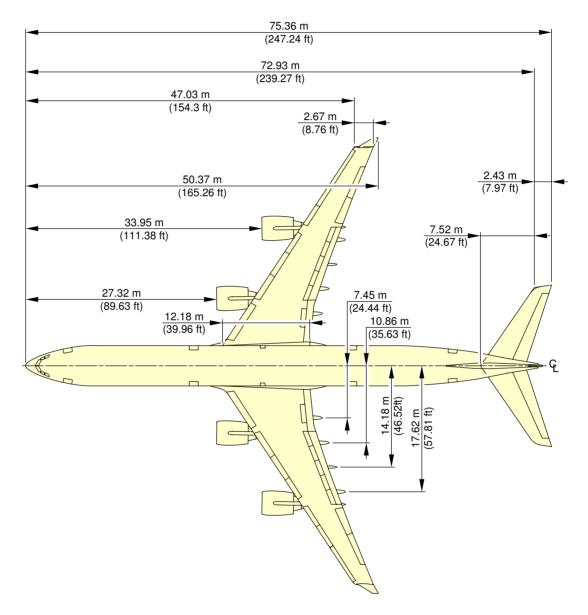
#### \*\*ON A/C A340-600



General Aircraft Dimensions (Sheet 1 of 2) FIGURE-2-2-0-991-009-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-600



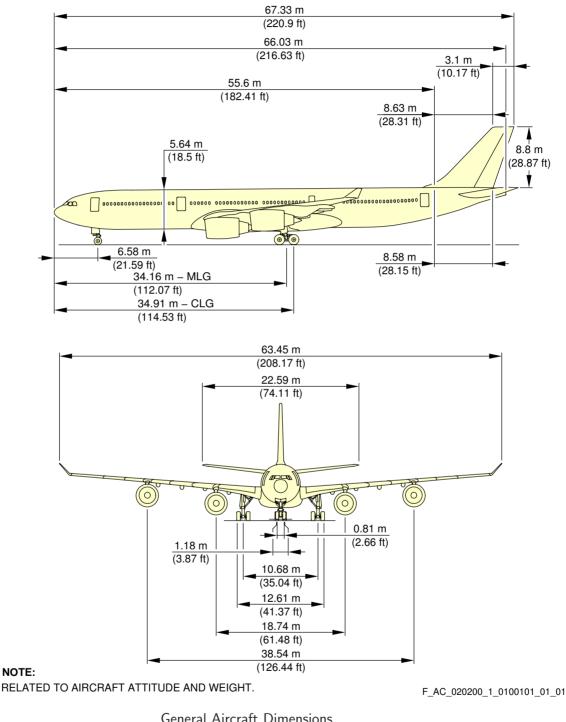
#### **NOTE:** RELATED TO AIRCRAFT ATTITUDE AND WEIGHT.

F\_AC\_020200\_1\_0090102\_01\_00

General Aircraft Dimensions (Sheet 2 of 2) FIGURE-2-2-0-991-009-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

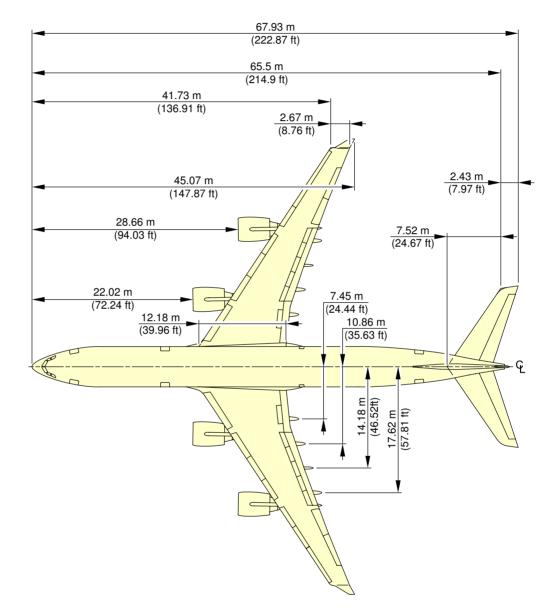
\*\*ON A/C A340-500



General Aircraft Dimensions (Sheet 1 of 2) FIGURE-2-2-0-991-010-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500



#### **NOTE:** RELATED TO AIRCRAFT ATTITUDE AND WEIGHT.

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General Aircraft Dimensions (Sheet 2 of 2) FIGURE-2-2-0-991-010-A01

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### 2-3-0 Ground Clearances

### \*\*ON A/C A340-500 A340-600

#### Ground Clearances

1. This section provides the height of various points of the aircraft, above the ground, for different aircraft configurations.

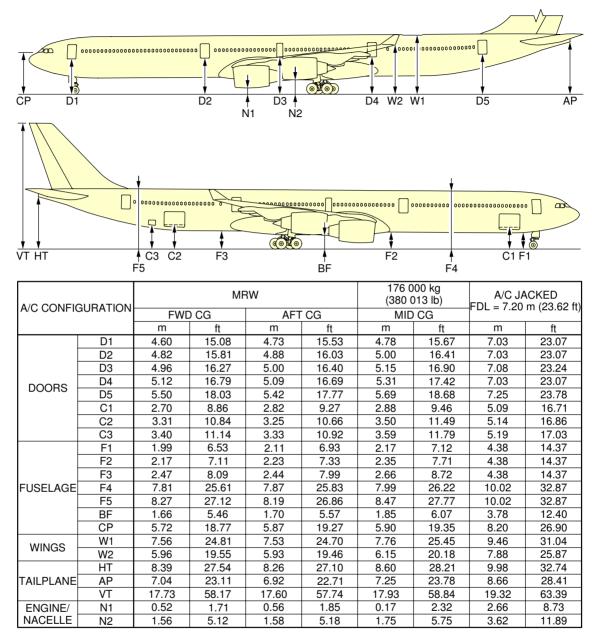
Dimensions in the tables are approximate and will vary with tire type, weight and balance and other special conditions.

The dimensions are given for:

- A light weight, for an A/C in maintenance configuration with a mid CG,
- An aircraft at Maximum Ramp Weight with a FWD CG and an AFT CG,
- Aircraft on jacks, FDL at 7.20 m (23.62 ft).
- <u>NOTE</u> : Passenger and cargo door ground clearances are measured from the center of the door sill and from floor level.

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600



#### NOTE:

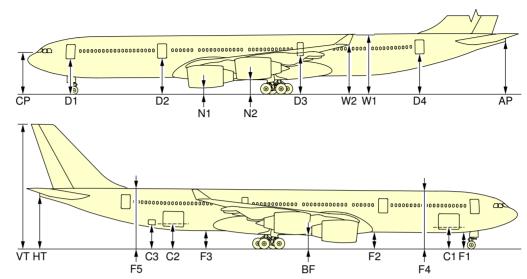
PASSENGER AND CARGO DOOR GROUND CLEARANCES ARE MEASURED FROM THE CENTER OF THE DOOR SILL AND FROM FLOOR LEVEL.

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Ground Clearances FIGURE-2-3-0-991-012-A01

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



A/C CONFIGURATION			MF	RW		171 000 kg (376 990 lb)		A/C JACKED FDL = 7.20 m (23.62 ft)		
		FWD CG		AFT	AFT CG		MID CG		-1 DL = 7.20 m (20.02 m)	
		m	ft	m	ft	m	ft	m	ft	
	D1	4.53	14.85	4.63	15.18	4.76	15.61	7.03	23.07	
	D2	4.75	15.58	4.80	15.74	4.96	16.28	7.03	23.07	
	D3	5.08	16.66	5.05	16.57	5.27	17.28	7.03	23.07	
DOORS	D4	5.58	18.31	5.49	18.00	5.75	18.86	7.25	23.78	
	C1	2.65	8.70	2.74	8.98	2.88	9.44	5.09	16.71	
	C2	3.36	11.01	3.29	10.79	3.53	11.59	5.14	16.86	
	C3	3.46	11.35	3.38	11.09	3.63	11.92	5.19	17.03	
	F1	1.94	6.36	2.03	6.64	2.16	7.10	4.38	14.37	
	F2	2.10	6.89	2.15	7.04	2.31	7.58	4.38	14.37	
	F3	2.10	6.89	2.07	6.79	2.29	7.51	4.05	13.30	
FUSELAGE	F4	7.74	25.38	7.79	25.54	7.95	26.08	10.02	32.87	
	F5	8.35	27.40	8.26	27.09	8.52	27.95	10.02	32.87	
	BF	1.63	5.36	1.65	5.42	1.84	6.03	3.78	12.40	
	CP	5.63	18.48	5.75	18.86	5.87	19.25	8.20	26.90	
MINCO	W1	7.62	25.01	7.57	24.83	7.81	25.61	9.46	31.04	
WINGS	W2	6.01	19.70	5.96	19.56	6.19	20.31	7.88	25.87	
	HT	8.53	27.97	8.38	27.48	8.68	28.47	9.96	32.68	
TAILPLANE	AP	7.18	23.57	7.05	23.12	7.34	24.08	8.66	28.41	
	VT	17.38	57.01	17.23	56.53	17.53	57.51	18.82	61.75	
ENGINE/	N1	0.48	1.58	0.51	1.66	0.69	2.25	2.66	8.73	
NACELLE	N2	1.56	5.10	1.55	5.10	1.75	5.75	3.62	11.89	

#### NOTE:

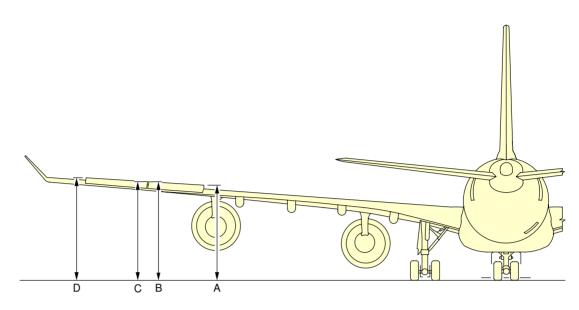
PASSENGER AND CARGO DOOR GROUND CLEARANCES ARE MEASURED FROM THE CENTER OF THE DOOR SILL AND FROM FLOOR LEVEL.

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Ground Clearances FIGURE-2-3-0-991-012-B01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### \*\*ON A/C A340-500 A340-600



	AILERONS UP												
DESCRIPTION		CONFIGL	NTENANCE JRATION CG	MF FWE	RW D CG	MRW AFT CG							
		m	ft	m	ft	m	ft						
AILERON 1 INBD	Α	6.20	20.33	6.00	19.68	5.99	19.64						
AILERON 1 OUTBD	В	6.29	20.63	6.09	19.99	6.07	19.92						
AILERON 2 INBD	С	6.21	20.38	6.02	19.75	6.00	19.68						
AILERON 2 OUTBD	D	6.40	21.01	6.21	20.37	6.18	20.28						

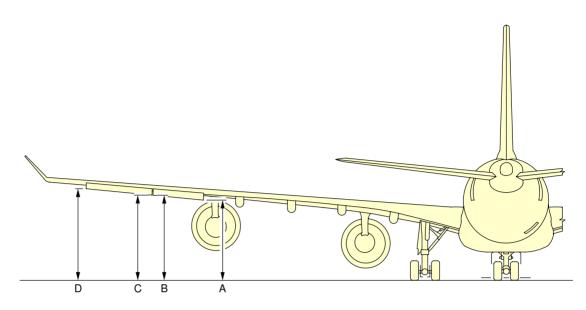
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Ground Clearances Ailerons – Up FIGURE-2-3-0-991-013-A01

2-3-0

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### \*\*ON A/C A340-500 A340-600



AILERONS DOWN												
DESCRIPTION		CONFIGL	NTENANCE JRATION CG	MRW FWD CG		MRW AFT CG						
		m	ft	m	ft	m	ft					
AILERON 1 INBD	Α	5.26	17.24	5.06	16.61	5.05	16.56					
AILERON 1 OUTBD	В	5.60	18.38	5.41	17.74	5.39	17.67					
AILERON 2 INBD	С	5.53	18.16	5.34	17.53	5.32	17.45					
AILERON 2 OUTBD	D	5.91	19.38	5.71	18.74	5.68	18.65					

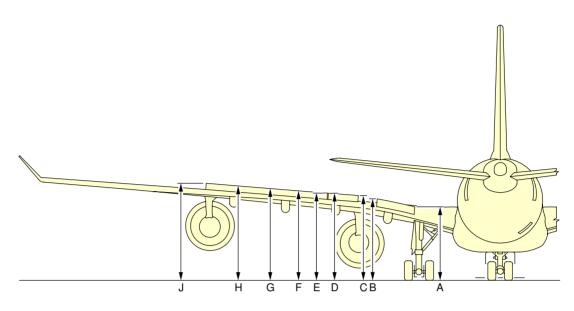
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Ground Clearances Ailerons – Down FIGURE-2-3-0-991-024-A01

2-3-0

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### \*\*ON A/C A340-500 A340-600



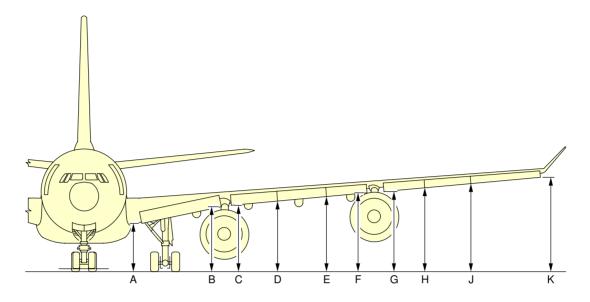
	SPOILERS EXTENDED											
DESCRIPTION		CONFIGL	NTENANCE JRATION CG	MF FWD	RW D CG	MRW AFT CG						
		m	ft	m	ft	m	ft					
SPOILER 1 INBD	Α	4.78	15.67	4.58	15.04	4.59	15.05					
SPOILER 1 OUTBD	В	5.29	17.36	5.10	16.74	5.10	16.75					
SPOILER 2 INBD	С	5.75	18.88	5.56	18.25	5.57	18.26					
SPOILER 2 OUTBD	D	5.89	19.33	5.70	18.70	5.70	18.70					
SPOILER 3 INBD	Е	5.87	19.26	5.68	18.63	5.68	18.63					
SPOILER 3/4	F	6.03	19.79	5.84	19.16	5.84	19.16					
SPOILER 4/5	G	6.16	20.20	5.97	19.57	5.96	19.55					
SPOILER 5/6	Н	6.27	20.56	6.07	19.93	6.06	19.90					
SPOILER 6 OUTBD	J	6.35	20.84	6.16	20.21	6.15	20.17					

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Ground Clearances Spoilers – Extended FIGURE-2-3-0-991-025-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### \*\*ON A/C A340-500 A340-600



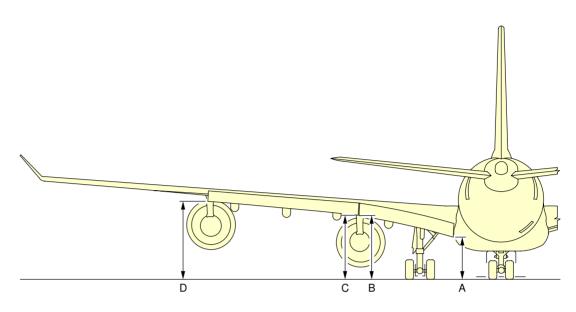
	LEADING EDGE SLATS EXTENDED											
DESCRIPTION		CONFIGL	NTENANCE JRATION CG		RW D CG	MRW AFT CG						
		m	ft	m	ft	m	ft					
SLAT 1 INBD	А	3.58	11.74	3.37	11.06	3.40	11.15					
SLAT 1 OUTBD	В	4.31	14.14	4.11	13.47	4.12	13.53					
SLAT 2 INBD	С	4.34	14.25	4.14	13.58	4.15	13.63					
SLAT 2/3	D	4.66	15.29	4.46	14.64	4.46	14.64					
SLAT 3/4	Е	4.91	16.12	4.72	15.47	4.71	15.46					
SLAT 4 OUTBD	F	5.14	16.85	4.94	16.21	4.93	16.17					
SLAT 5 INBD	G	5.22	17.12	5.02	16.48	5.01	16.44					
SLAT 5/6	Н	5.41	17.75	5.22	17.12	5.20	17.05					
SLAT 6/7	J	5.61	18.39	5.42	17.78	5.39	17.68					
SLAT 7 OUTBD	К	5.91	19.39	5.73	18.79	5.68	18.65					

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Ground Clearances Leading Edge Slats – Extended FIGURE-2-3-0-991-026-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### \*\*ON A/C A340-500 A340-600



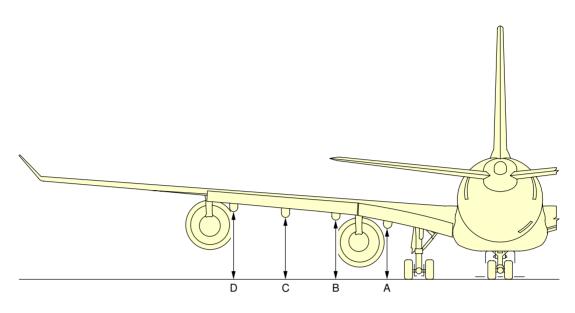
FLAP EXTENDED												
DESCRIPTION		CONFIGL	NTENANCE JRATION CG	MRW FWD CG		MRW AFT CG						
		m	ft	m	ft	m	ft					
FLAP 1 INBD	А	2.76	9.06	2.57	8.43	2.57	8.43					
FLAP 1 OUTBD	В	3.96	12.99	3.77	12.36	3.76	12.35					
FLAP 2 INBD C		3.95	12.95	3.76	12.32	3.75	12.31					
FLAP 2 OUTBD	D	4.82	15.80	4.62	15.17	4.61	15.11					

F\_AC\_020300\_1\_0270101\_01\_01

Ground Clearances Trailing Edge Flaps – Extended FIGURE-2-3-0-991-027-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### \*\*ON A/C A340-500 A340-600



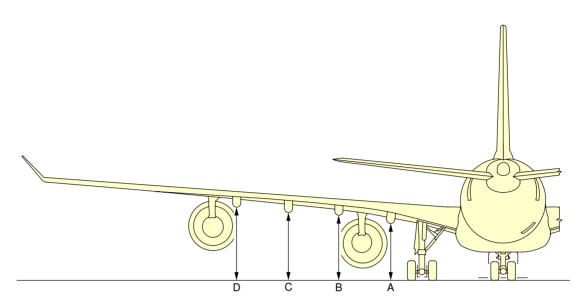
FLAP TRACKS EXTENDED												
DESCRIPTION		CONFIGL	NTENANCE JRATION CG	MRW FWD CG		MRW AFT CG						
		m	ft	m	ft	m	ft					
FLAP TRACK 2	А	2.78	9.12	2.59	8.50	2.58	8.47					
FLAP TRACK 3	В	3.25	10.66	3.06	10.03	3.05	10.00					
FLAP TRACK 4	С	3.46	11.34	3.27	10.71	3.25	10.67					
FLAP TRACK 5	D	3.72	12.21	3.53	11.58	3.51	11.52					

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Ground Clearances Flap Tracks – Extended FIGURE-2-3-0-991-028-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### \*\*ON A/C A340-500 A340-600



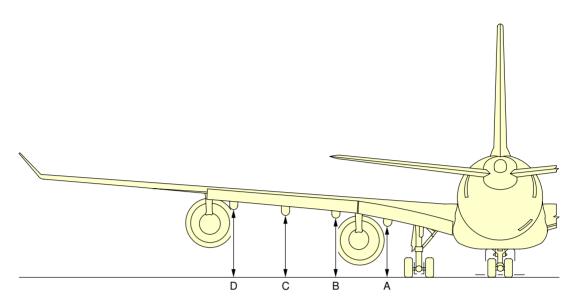
	FLAP TRACKS RETRACTED											
AIRCRAFT TYPE	DESCRIPTION		A/C IN MAINTENANCE CONFIGURATION MID CG		MRW FWD CG		MRW AFT CG					
			m	ft	m	ft	m	ft				
	FLAP TRACK 2	А	3.84	12.60	3.65	11.97	3.65	11.97				
A340–600	FLAP TRACK 3	В	4.31	14.16	4.12	13.53	4.13	13.54				
A340-600	FLAP TRACK 4	С	4.36	14.30	4.17	13.67	4.17	13.69				
	FLAP TRACK 5	D	4.77	15.65	4.58	15.01	4.56	14.97				
	FLAP TRACK 2	А	3.86	12.66	3.67	12.03	3.65	11.96				
A340–500	FLAP TRACK 3	В	4.33	14.20	4.13	13.57	4.12	13.52				
A340-500	FLAP TRACK 4	С	4.37	14.35	4.18	13.71	4.16	13.66				
	FLAP TRACK 5	D	4.80	15.74	4.61	15.13	4.58	15.01				

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Ground Clearances Flap Tracks – Retracted FIGURE-2-3-0-991-031-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### \*\*ON A/C A340-500 A340-600



	FLAP TRACKS 1+F												
AIRCRAFT TYPE	DESCRIPTION		A/C IN MAINTENANCE CONFIGURATION MID CG		MRW FWD CG		MRW AFT CG						
			m	ft	m	ft	m	ft					
	FLAP TRACK 2 A		3.47	11.38	3.28	10.76	3.28	10.76					
A340–600	FLAP TRACK 3	В	3.94	12.93	3.75	12.30	3.76	12.34					
A340-600	FLAP TRACK 4	С	3.99	13.09	3.80	12.47	3.80	12.47					
	FLAP TRACK 5	D	4.20	13.78	4.21	13.81	4.19	13.75					
	FLAP TRACK 2	Α	3.49	11.45	3.30	10.83	3.28	10.76					
A340–500	FLAP TRACK 3	В	3.96	12.99	3.76	12.34	3.75	12.30					
A340-500	FLAP TRACK 4	С	4.00	13.12	3.81	12.50	3.79	12.43					
	FLAP TRACK 5	D	4.43	14.53	4.24	13.91	4.21	13.81					

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Ground Clearances Flap Tracks – 1 + F FIGURE-2-3-0-991-034-A01

2-3-0

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### 2-4-1 Interior Arrangements - Plan View

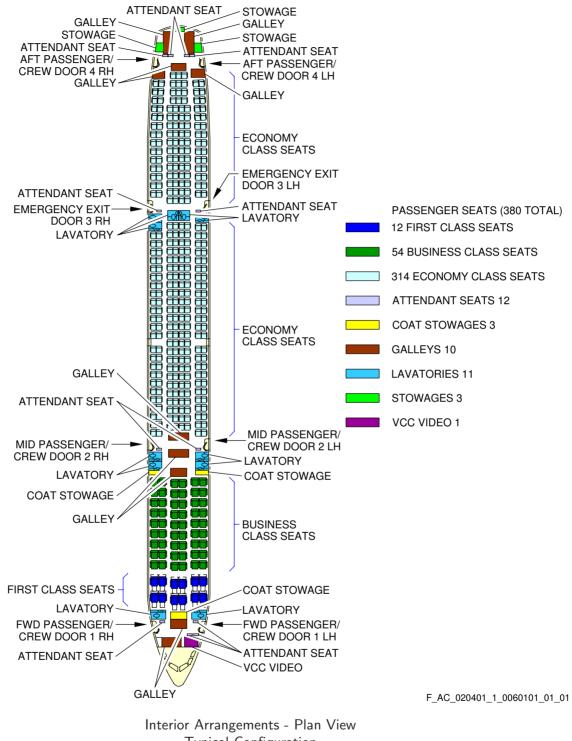
### \*\*ON A/C A340-500 A340-600

Interior Arrangements - Plan View

### 1. This section provides the typical interior configuration.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

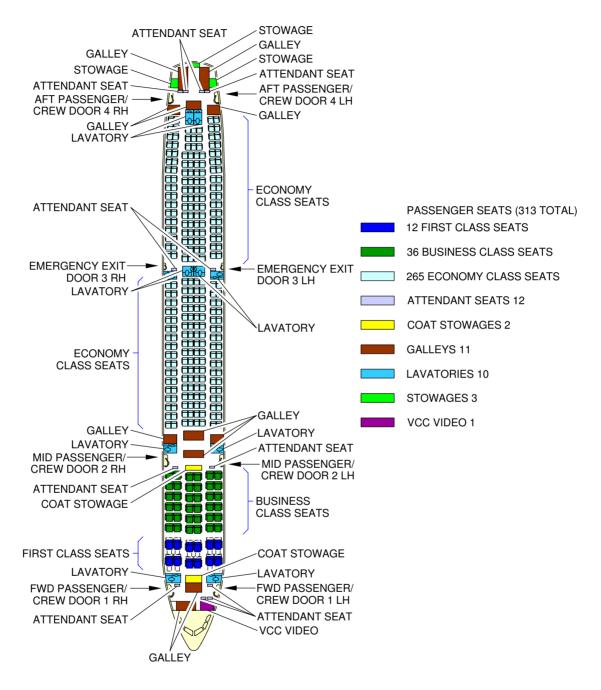
\*\*ON A/C A340-600



Typical Configuration FIGURE-2-4-1-991-006-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



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Interior Arrangements - Plan View Typical Configuration FIGURE-2-4-1-991-007-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### 2-5-0 Interior Arrangements - Cross Section

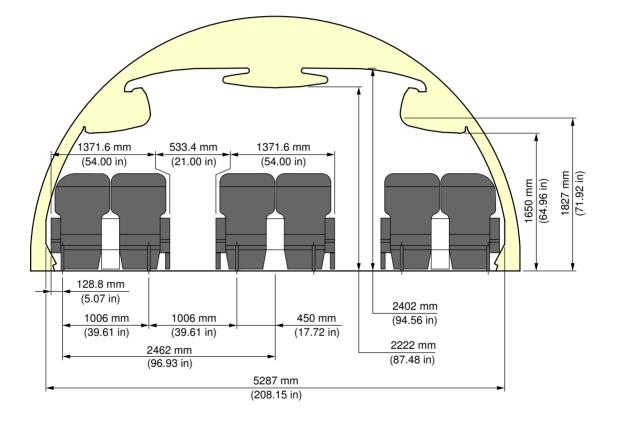
### \*\*ON A/C A340-500 A340-600

Interior Arrangements - Cross Section

1. This section gives the typical configuration of A340-500/-600 models.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500 A340-600

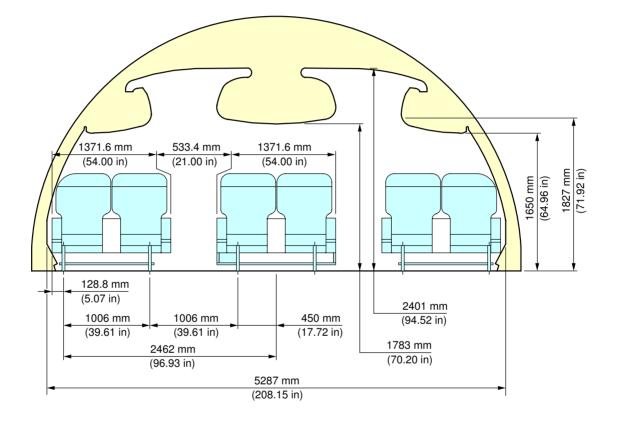


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Interior Arrangements - Cross Section Typical Configuration FIGURE-2-5-0-991-003-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500 A340-600

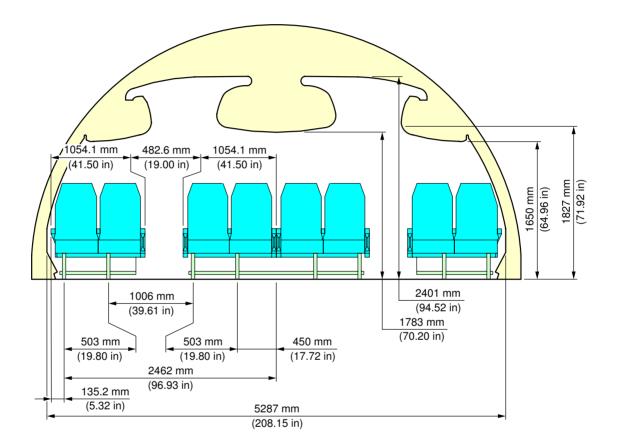


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Interior Arrangements - Cross Section Typical Configuration FIGURE-2-5-0-991-004-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500 A340-600



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Interior Arrangements - Cross Section Typical Configuration FIGURE-2-5-0-991-005-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### 2-6-1 Lower Deck Cargo Compartments

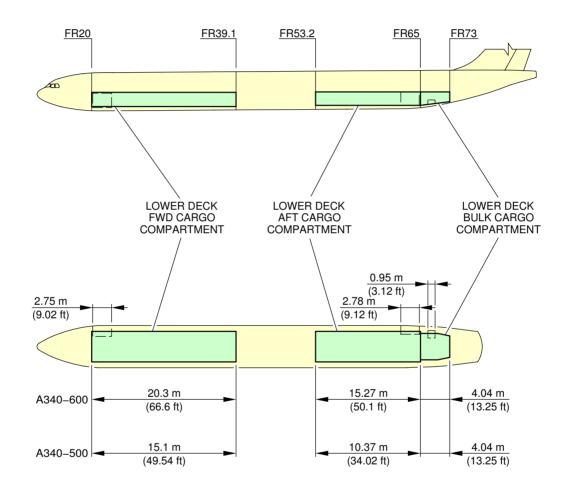
### \*\*ON A/C A340-500 A340-600

### Lower Deck Cargo Compartments

- 1. This section provides the following data about lower deck cargo compartments:
  - Location and dimensions
  - Loading combinations.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600



**NOTE:** APPROXIMATE DIMENSIONS DEPENDING ON AIRCRAFT CONFIGURATION.

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Lower Deck Cargo Compartments Location and Dimensions FIGURE-2-6-1-991-007-A01



AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500





6 PALLETS 88 in X 125 in

4 PALLETS 88 in X 125 in



6 PALLETS 96 in X 125 in

4 PALLETS 96 in X 125 in

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Lower Deck Cargo Compartments Loading Combinations FIGURE-2-6-1-991-008-A01



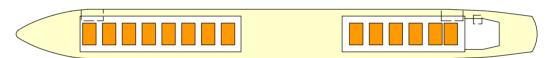
AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600





18 LD3 60.4 in X 61.5 in



8 PALLETS 88 in X 125 in

6 PALLETS 88 in X 125 in



8 PALLETS 96 in X 125 in

6 PALLETS 96 in X 125 in

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Lower Deck Cargo Compartments Loading Combinations FIGURE-2-6-1-991-008-B01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### 2-7-0 Door Clearances

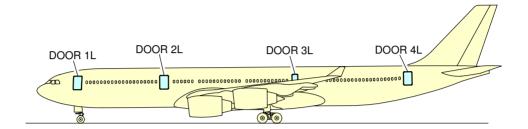
### \*\*ON A/C A340-500 A340-600

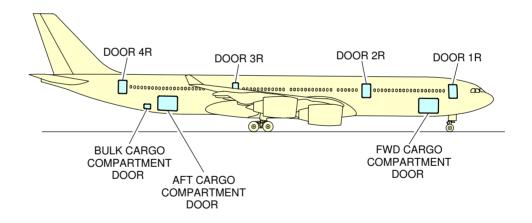
Door Clearances

### 1. This section provides door location, identification and clearances.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500





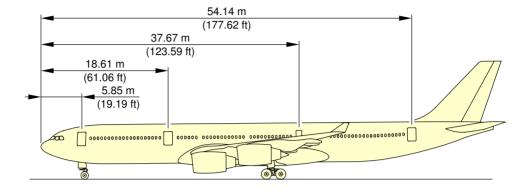
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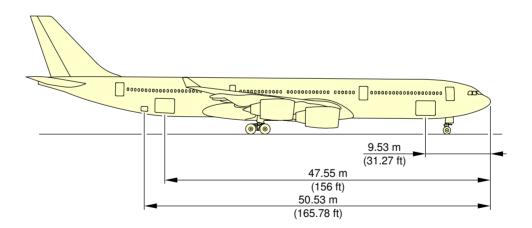
Door Clearances Door Identification (Sheet 1 of 2) FIGURE-2-7-0-991-010-A01

2-7-0

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500





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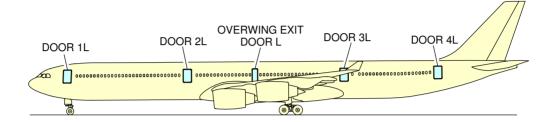
Door Clearances Door Location (Sheet 2 of 2) FIGURE-2-7-0-991-010-A01

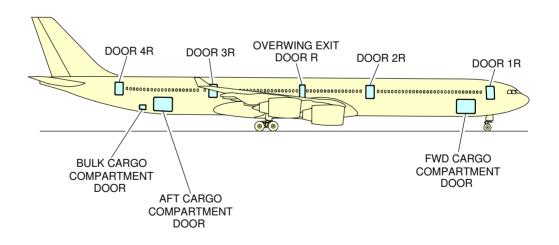
2-7-0

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600



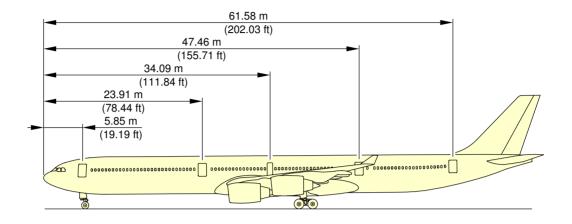


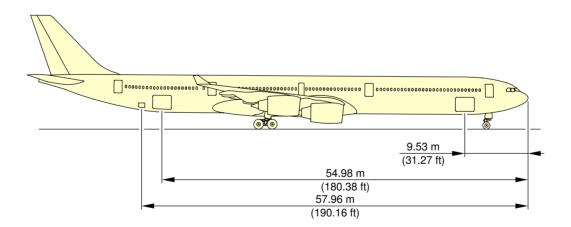
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Door Clearances Door Identification (Sheet 1 of 2) FIGURE-2-7-0-991-010-B01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600



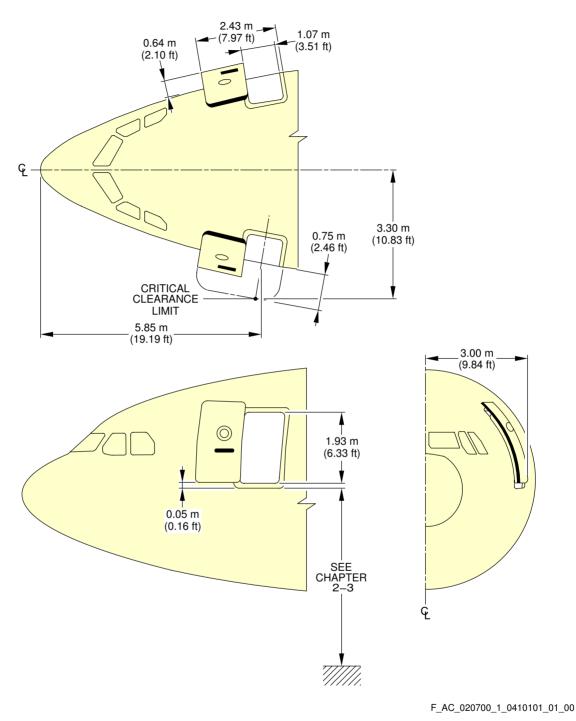


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Door Clearances Door Location (Sheet 2 of 2) FIGURE-2-7-0-991-010-B01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

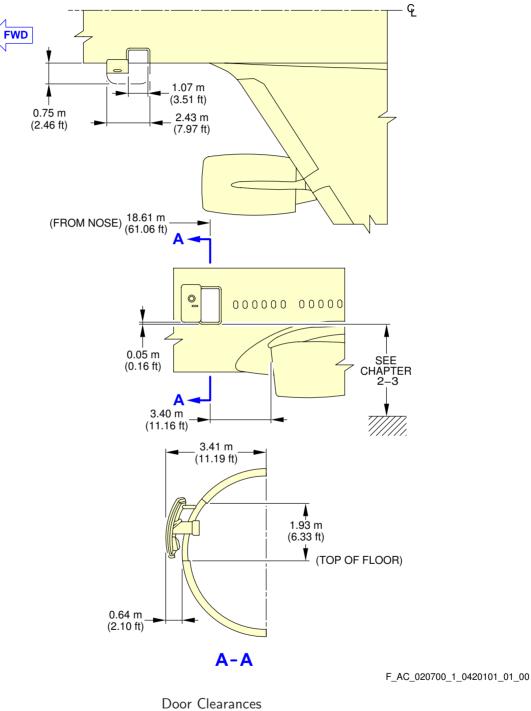
#### \*\*ON A/C A340-500 A340-600



Door Clearances Forward Passenger/Crew Doors FIGURE-2-7-0-991-041-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

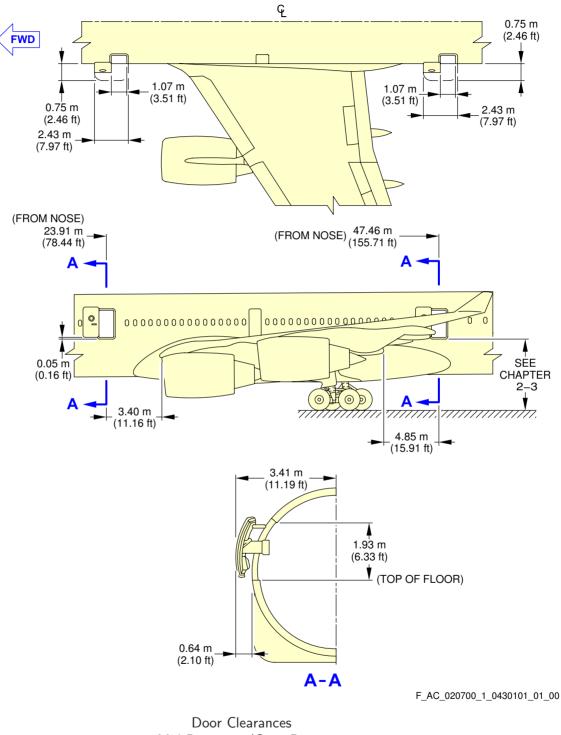
\*\*ON A/C A340-500



Door Clearances Mid Passenger/Crew Doors FIGURE-2-7-0-991-042-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

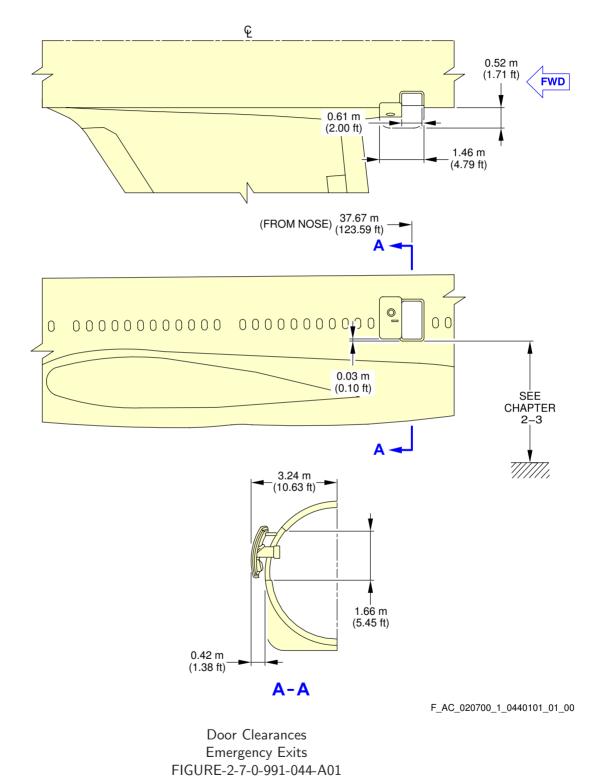
\*\*ON A/C A340-600



Mid Passenger/Crew Doors FIGURE-2-7-0-991-043-A01

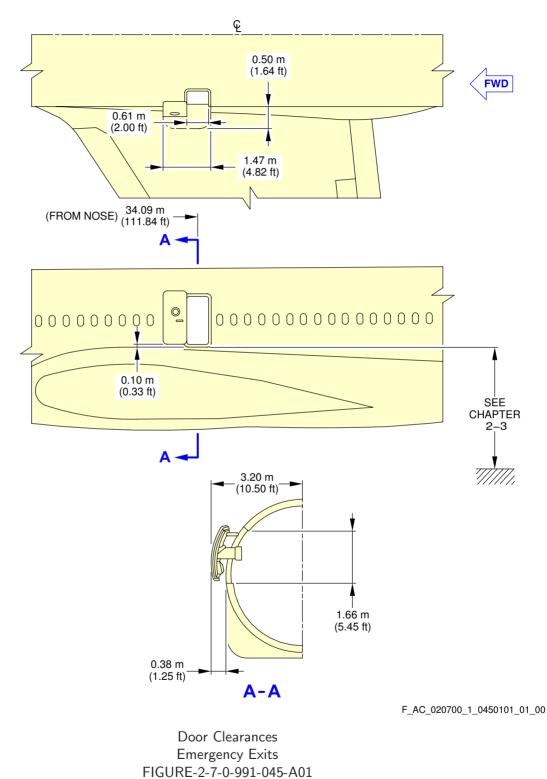
AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

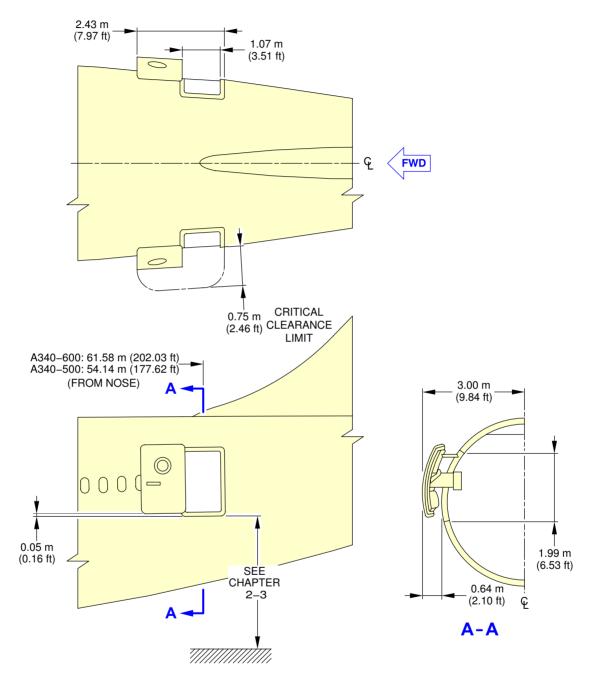
\*\*ON A/C A340-600



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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600

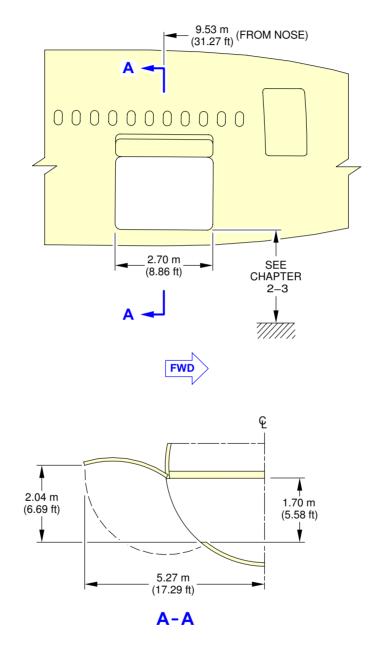


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Door Clearances Aft Passenger/Crew Doors FIGURE-2-7-0-991-046-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600

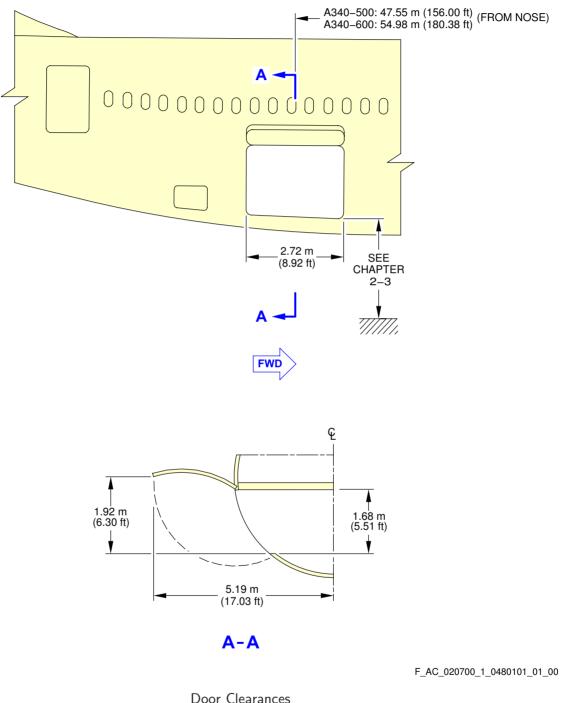


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Door Clearances Forward Cargo Compartment Door FIGURE-2-7-0-991-047-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

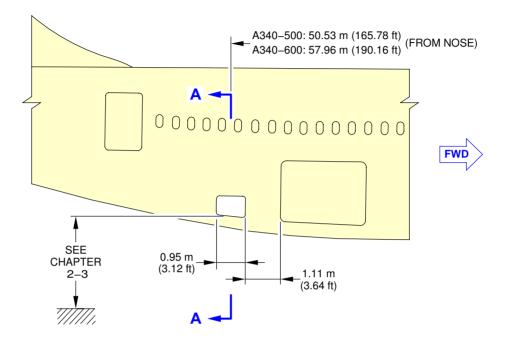
#### \*\*ON A/C A340-500 A340-600

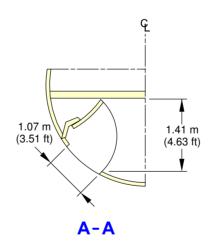


Door Clearances Aft Cargo Compartment Door FIGURE-2-7-0-991-048-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600





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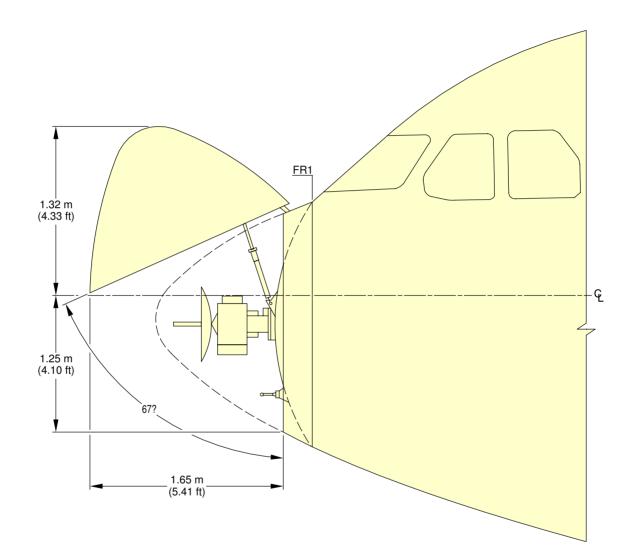
Door Clearances Bulk Cargo Compartment Door FIGURE-2-7-0-991-049-A01

2-7-0

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500 A340-600



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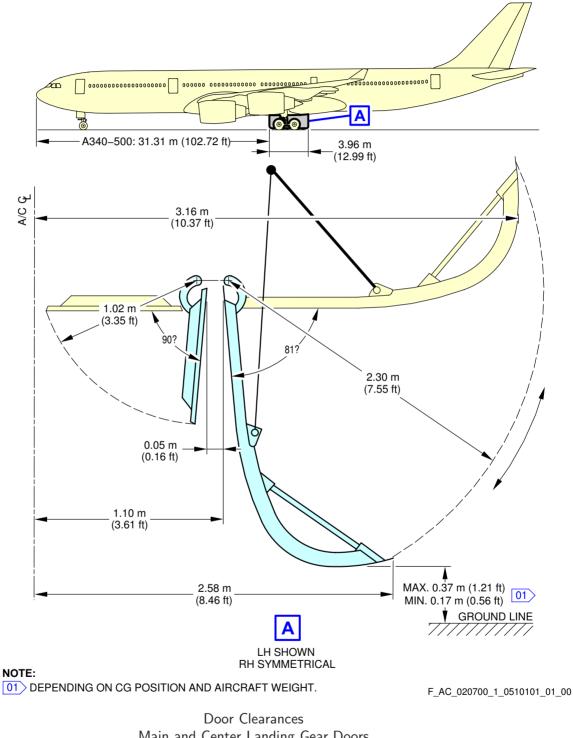
Door Clearances Radome FIGURE-2-7-0-991-050-A01

2-7-0

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

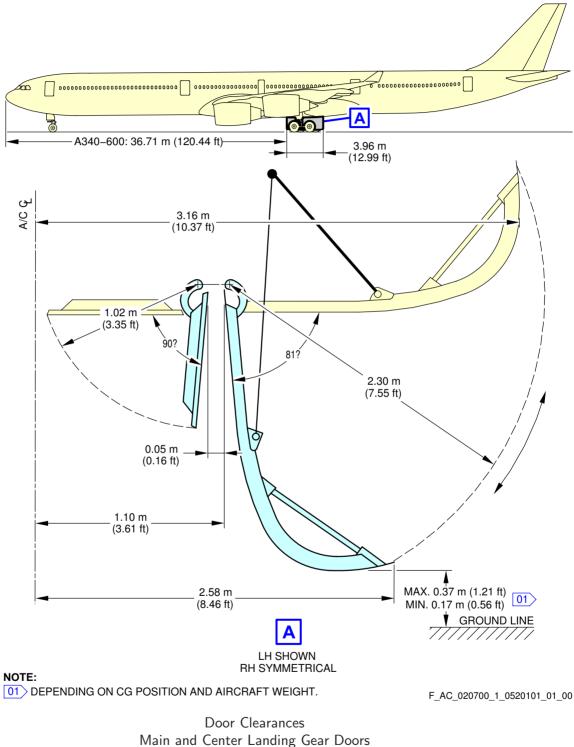
\*\*ON A/C A340-500



Main and Center Landing Gear Doors FIGURE-2-7-0-991-051-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

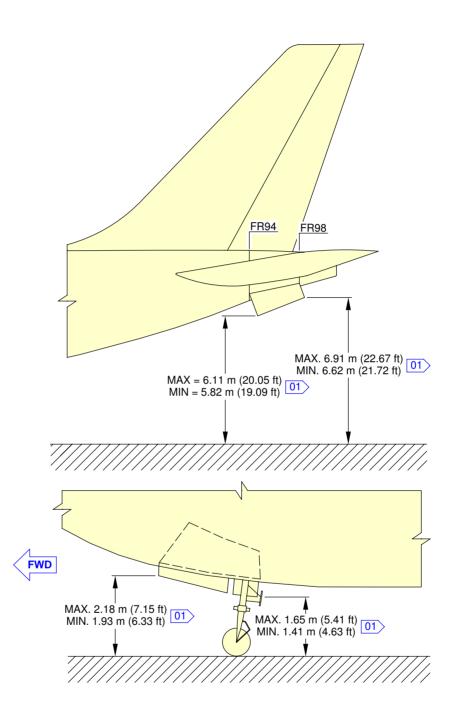
\*\*ON A/C A340-600



n and Center Landing Gear Doo FIGURE-2-7-0-991-052-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



NOTE:

01 DEPENDING ON CG POSITION AND AIRCRAFT WEIGHT.

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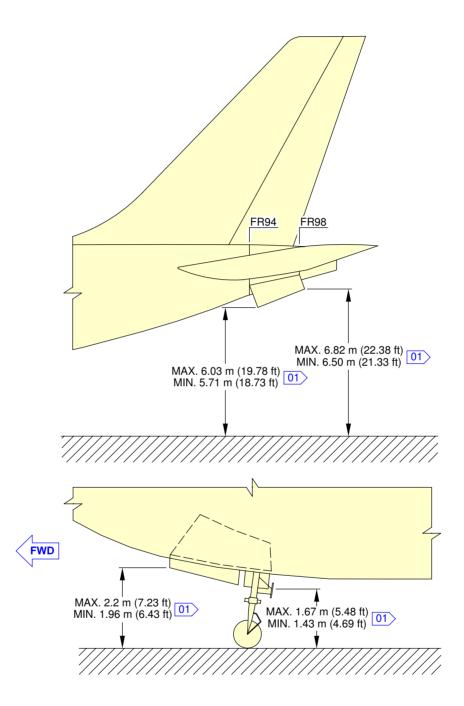
Door Clearances APU and Nose Landing Gear Doors FIGURE-2-7-0-991-053-A01

2-7-0

 $\begin{array}{c} {\sf Page \ 18} \\ {\sf Jun \ 01/20} \end{array}$ 

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600





01 DEPENDING ON CG POSITION AND AIRCRAFT WEIGHT.

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Door Clearances APU and Nose Landing Gear Doors FIGURE-2-7-0-991-054-A01

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#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### 2-8-0 Escape Slides

### \*\*ON A/C A340-500 A340-600

### Escape Slides

1. General

This section provides the location of the cabin escape facilities and their related clearances.

## \*\*ON A/C A340-500

## 2. Location

Escape facilities are provided at the following locations:

- A. Door Escape Facility
  - One dual lane escape slide-raft at each passenger/crew door (total six)
  - One single lane escape slide at each emergency exit door (total two).

The slides are installed in a container in the lower part of the door.

## \*\*ON A/C A340-600

3. Location

Escape facilities are provided at the following locations:

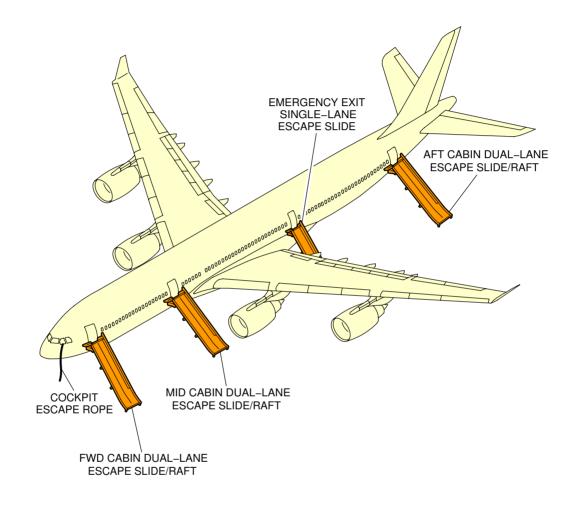
- A. Door Escape Facility
  - One dual lane escape slide-raft at each passenger/crew door (total six)
  - One dual lane escape slide-raft at each emergency exit door (total two). The slides are installed in a container in the lower part of the door.
- B. Off-Wing Escape Facility

- One single lane escape slide at each overwing emergency-exit door (total two). The escape slide is installed in the left and right belly fairing above, and AFT of the wing trailing edge, between FR53.2 and FR53.4.

2-8-0

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



NOTE: LH SHOWN, RH SYMMETRICAL.

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Escape Slides Location (Sheet 1 of 2) FIGURE-2-8-0-991-005-A01

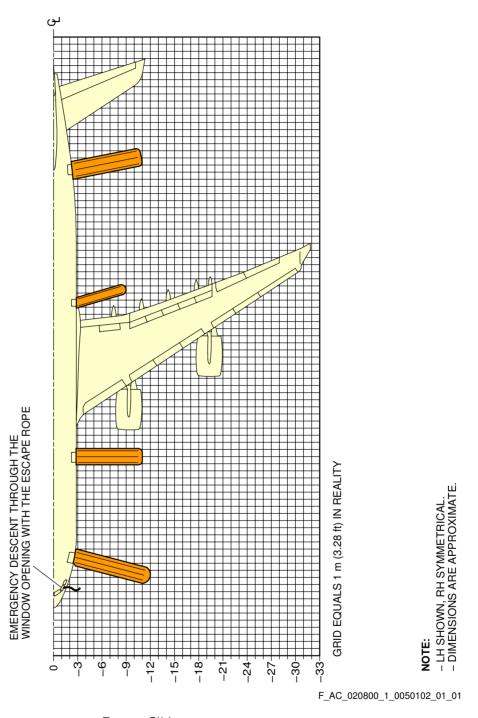
2-8-0

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500

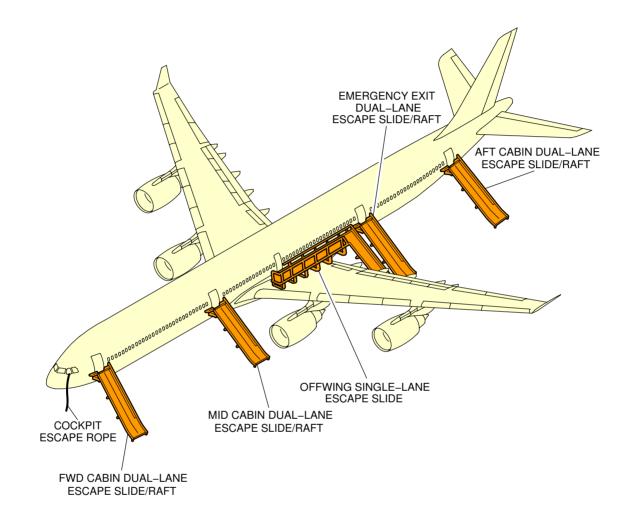
EMERGENCY EVACUATION



Escape Slides Dimensions (Sheet 2 of 2) FIGURE-2-8-0-991-005-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600



NOTE: LH SHOWN, RH SYMMETRICAL.

F\_AC\_020800\_1\_0050201\_01\_01

Escape Slides Location (Sheet 1 of 2) FIGURE-2-8-0-991-005-B01

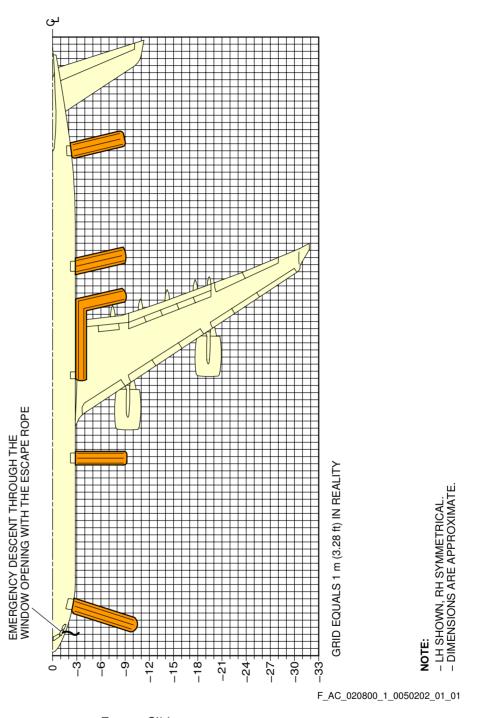
2-8-0

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600

EMERGENCY EVACUATION



Escape Slides Dimensions (Sheet 2 of 2) FIGURE-2-8-0-991-005-B01

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

2-9-0 Landing Gear

## \*\*ON A/C A340-500 A340-600

## Landing Gear Maintenance Pits

1. General

The minimum maintenance pit envelopes for the main landing gear shock absorber removal are shown in Figures 1 and 2.

All dimensions shown are minimum dimensions with zero clearances.

The dimensions for the pits have been determined for these design factors:

- The length and width of the pits allow the gear to rotate as the weight is taken off the landing gear
- The depth of the pits allow the shock absorber to be removed when all the weight is taken off the landing gear.

Dimensions for elevators and associated mechanisms must be added to those in Figures 1 and 2.

A. Elevators

These can be either mechanical or hydraulic. Elevators are used to:

- permit easy movement of persons and equipment around the main landing gears
- to lift and remove landing gear assemblies out of the pits.
- B. Jacking

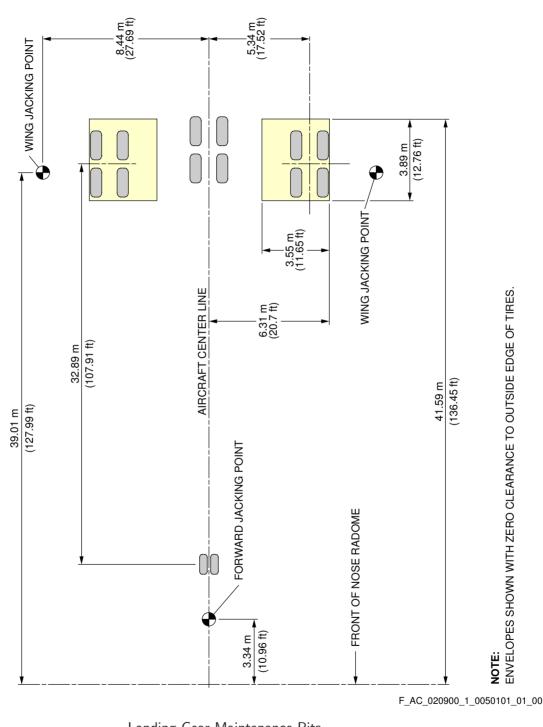
The aircraft must be in position over the pits to put the gear on the elevators. Jacks must be installed and engaged with all the jacking points (Ref. Section 2-14 for Jacking). Jacks must support the total aircraft weight, i.e. when the landing gears do not touch the

elevators on retraction/extension tests.

When tripod support jacks are used, the tripod-base circle radius must be limited because the locations required for positioning the jacks are close to the sides of the pits.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

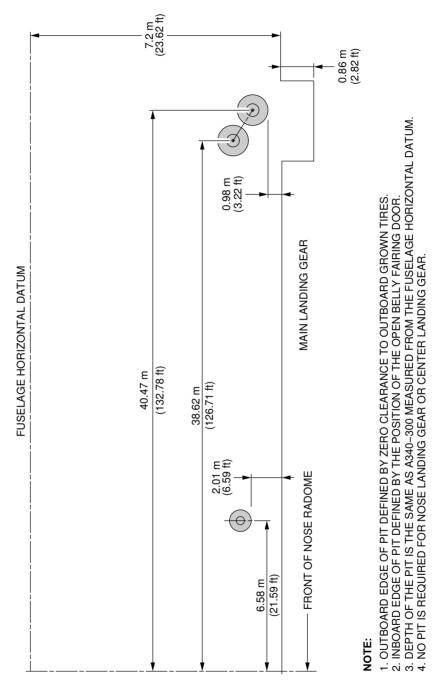
\*\*ON A/C A340-600



Landing Gear Maintenance Pits Maintenance Pit Envelopes (Sheet 1 of 2) FIGURE-2-9-0-991-005-A01

### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

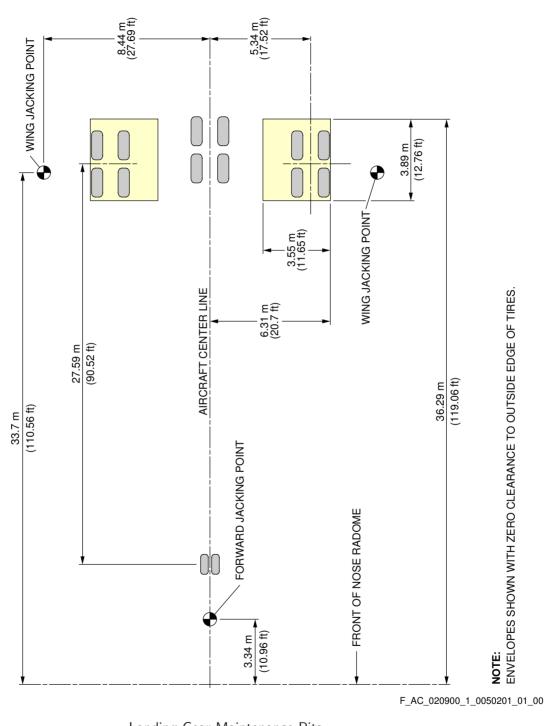
\*\*ON A/C A340-600



Landing Gear Maintenance Pits Maintenance Pit Envelopes (Sheet 2 of 2) FIGURE-2-9-0-991-005-A01 F\_AC\_020900\_1\_0050102\_01\_00

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

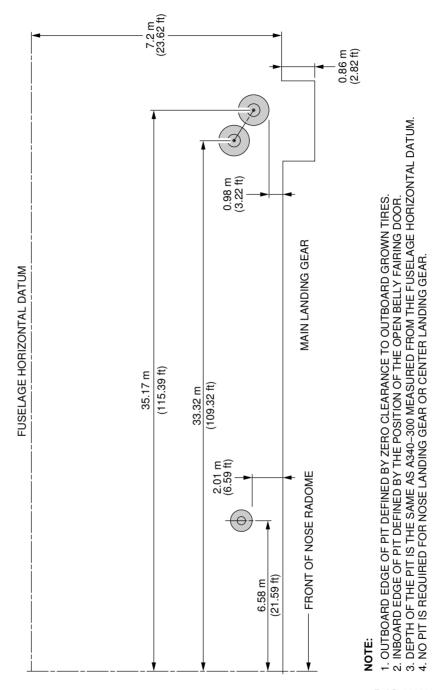
\*\*ON A/C A340-500



Landing Gear Maintenance Pits Maintenance Pit Envelopes (Sheet 1 of 2) FIGURE-2-9-0-991-005-B01

### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



Landing Gear Maintenance Pits Maintenance Pit Envelopes (Sheet 2 of 2) FIGURE-2-9-0-991-005-B01 F\_AC\_020900\_1\_0050202\_01\_00

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

## \*\*ON A/C A340-500 A340-600

Landing Gear

1. General

The aircraft has:

- Two Main Landing Gears (MLG) with four wheel bogie assembly and related doors,
- A Centerline Landing Gear (CLG) with four wheel bogie assembly and related doors,
- A Nose Landing Gear (NLG) with twin wheel assembly and related doors.

The main landing gears are located under each wing and retract sideways towards the fuselage centerline.

The centerline landing gear is located on the belly and retract forward into a bay in the fuselage. The nose landing gear retracts forward into a fuselage compartment below the cockpit. The retraction and extension of the landing gears and landing gear doors are operated hydraulically and mechanically. The control, sequence and indication are electrical. In abnormal operation, the landing gears can be extended by gravity.

For the dimensions of the landing gear footprint and tire size, refer to 07-02-00.

2. Main Landing Gear and Doors

Each MLG has a leg assembly and a four-wheel bogie beam. The MLG leg includes a shortening mechanism, a bogie pitch trimmer and an oleo-pneumatic shock absorber. In-flight, with the MLG extended, the bogie is held in a trailing condition (rear wheels low) by an articulation linkage and a pitch trimmer. The folding sidestay is locked mechanically by a lockstay (which is operated by the downlock actuator) when the MLG is fully extended.

Each MLG bay has the following doors:

- A hydraulically-operated main door,
- A mechanically-operated hinged door,
- A fairing door on the MLG leg.

All the doors close when the MLG retracts. When the MLG is extended the main door closes and the hinged door stays open. A manually operated mechanism (for maintenance personnel) lets the main doors be opened for access to the MLG bay when the aircraft is on the ground.

3. Centerline Landing Gear and Doors

The CLG has a four-wheel bogie beam assembly and a leg assembly that includes an oleo-pneumatic shock absorber. The CLG is supported longitudinally by a two-piece folding dragstay. The dragstay is locked mechanically by the lock links when the CLG is fully extended.

Each CLG bay has the following doors:

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

- Two hydraulically-operated center doors (each door includes a manually-operated maintenance door attached with hinges to the rear of the center door),
- A fairing door attached to the CLG leg, and an articulated door attached with a hinge to the fairing door.
- 4. Nose Landing Gear and Doors

The NLG includes a twin-wheel axle assembly and an oleo-pneumatic shock-absorber. The NLG is supported longitudinally by a two-piece dragstay. The dragstay is locked mechanically by the lock links when the NLG is fully extended.

Each NLG bay has the following doors:

- Two hydraulically-operated FWD doors,
- Two mechanically-operated AFT doors,
- A fixed fairing door on the NLG leg.

All the doors close when the NLG retracts. When the NLG is extended the FWD doors close and the AFT doors stay open. A door opening mechanism lets the FWD doors be opened on the ground for access to the NLG bay.

5. Nose Wheel Steering (NWS)

Nose wheel steering system is a computer controlled electro-hydraulic system. The system uses the green main hydraulic power system to operate the hydraulic components.

The steering is controlled by two hand wheel transmitters in the cockpit, which supply the primary steering inputs to the BSCU (Brake and Steering Control Unit).

A steering disconnection box is installed on the NLG to disconnect the steering for towing.

For the operation and control of nose wheel steering, refer to AMM 32-51-00. For the steering angle limits, refer to AMM 09-10-00.

6. Tow Truck Power

Electric power to the navigation lights can be provided through the tow truck power connector on the 5GC service panel, see FIGURE 2-9-0-991-017-A and for connector definition, see 05-04-04.

- 7. Landing Gear Servicing Points
  - A. General

Fluid filling and gas charging of the MLG, CLG and NLG shock absorbers are accomplished through MS28889 standard valves.

- B. Charging Pressures For charging of the landing gear shock absorbers, refer to AMM 12-14-32.
- 8. Landing Gear Control

### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

The landing gear and door operation is controlled electrically by one of the two Landing Gear Control and Interface Units (LGCIU). Control changes from one LGCIU to the other after each extension cycle.

In normal operation, the landing gears and doors are operated by the green hydraulic system. In abnormal operation, the landing gears can be extended by the operation of electro-hydraulic free-fall-system. A switch in the cockpit disengage the doors and the landing gear uplocks. The landing gears then extend by free-fall, and lock down.

### 9. Braking

A. General

Carbon multi-disc brakes are installed on each wheel of the MLG and the CLG. Each brake assembly has two wear indicators installed.

The braking system has four braking modes with autobrake and anti-skid systems:

- Normal braking with anti-skid,
- Alternate braking with anti-skid,
- Alternate braking without anti-skid,
- Parking brake with full brake pressure.
- B. In-Flight Wheel Braking

Braking occurs automatically during the retraction of the landing gears. This stops the rotation of the MLG and CLG wheels before the landing gears go into their related bays. The wheels of the NLG are braked by spring loaded pads.

10. Tire Pressure Indicating System (TPIS)

The TPIS automatically monitors the tire pressures and shows these values on Test Equipment (BITE) and also supplies other data and warnings on the WHEEL page of the System Display (SD).

11. Built In Test Equipment (BITE)

The BITE has hardware and software for these functions:

- to automatically do a self test at power-up,
- to continuously monitor the related systems for failures,
- to continuously monitor the interface with other specified systems in the aircraft,
- to keep a record of each failure and defect and send this data to other systems in the aircraft,
- to automatically do a functional test of some related systems before a landing,
- to do specified system tests during ground maintenance.

The BITE for the following systems is described in these chapters:

- The Brakes and Steering AMM 32-46-00,
- The TPIS AMM 32-49-00,
- The Landing GearAMM 32-69-00.

### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600

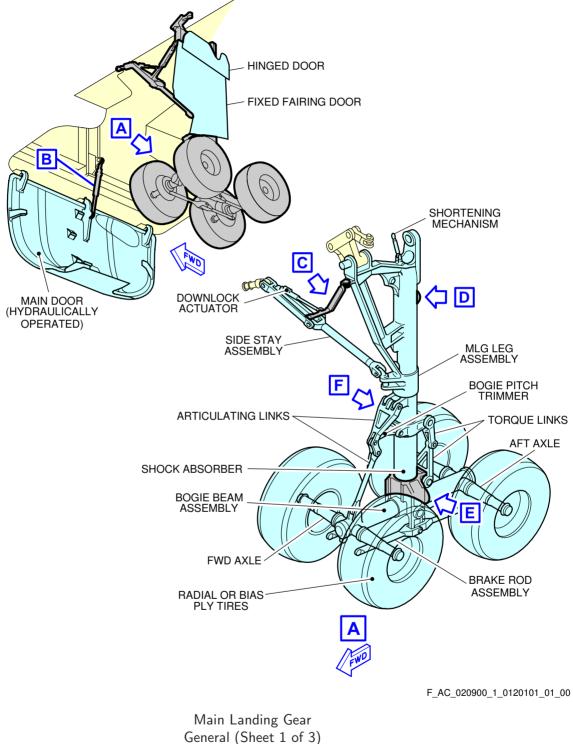
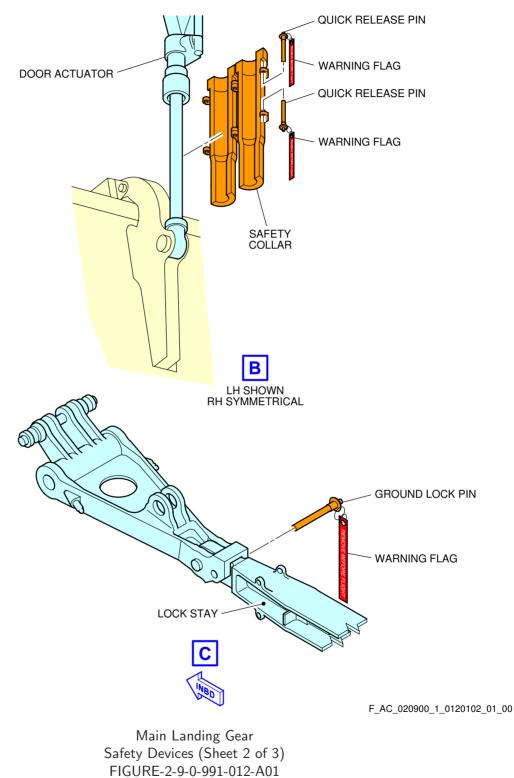


FIGURE-2-9-0-991-012-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

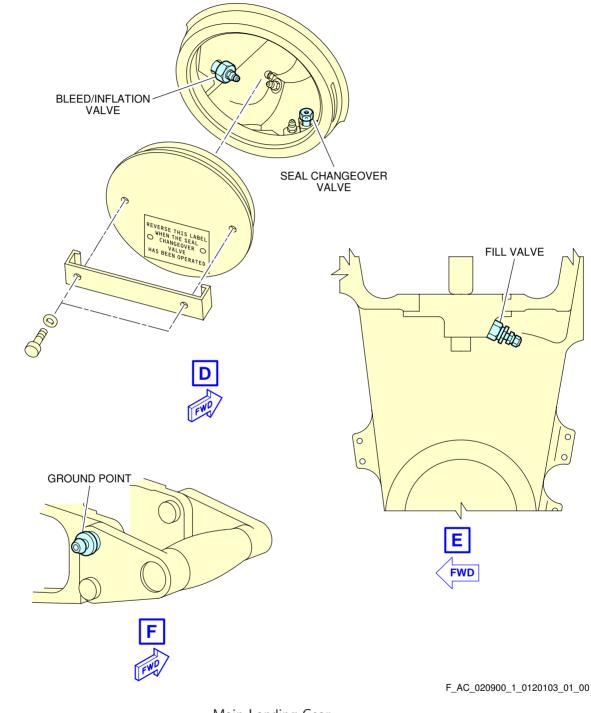
\*\*ON A/C A340-500 A340-600



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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

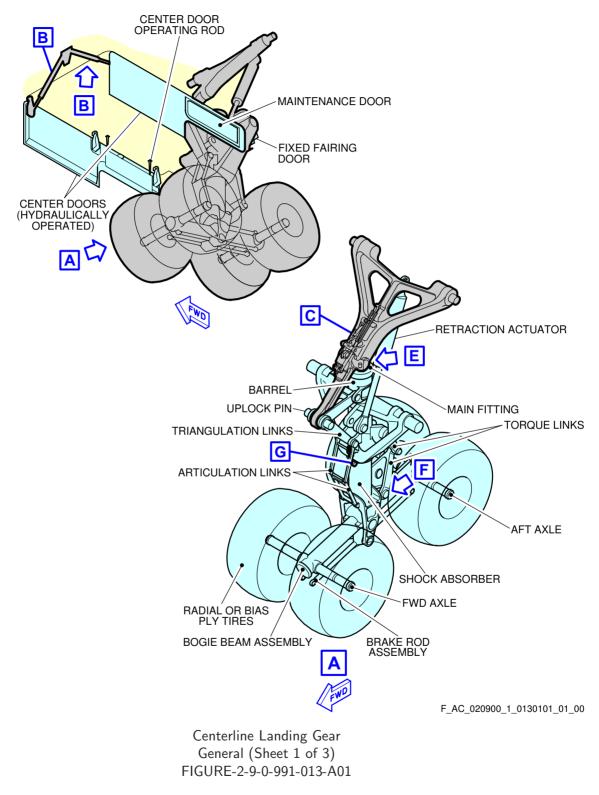
### \*\*ON A/C A340-500 A340-600



Main Landing Gear Servicing (Sheet 3 of 3) FIGURE-2-9-0-991-012-A01

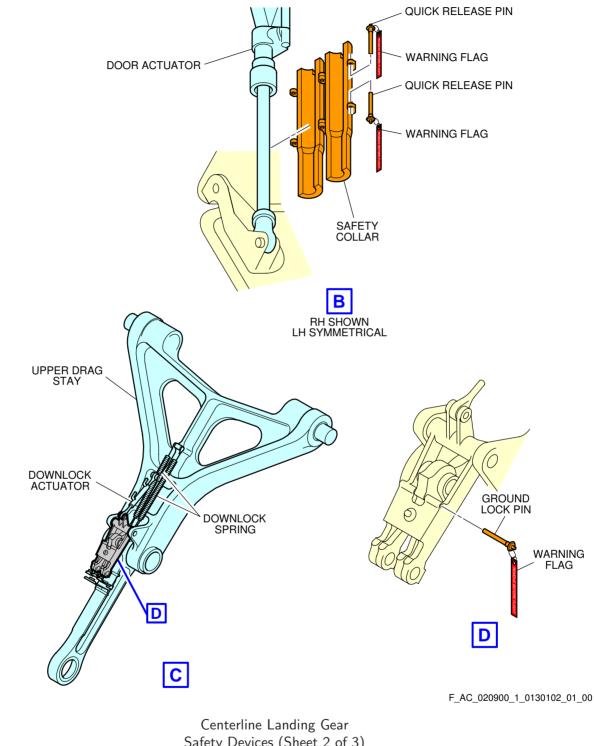
AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600



AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

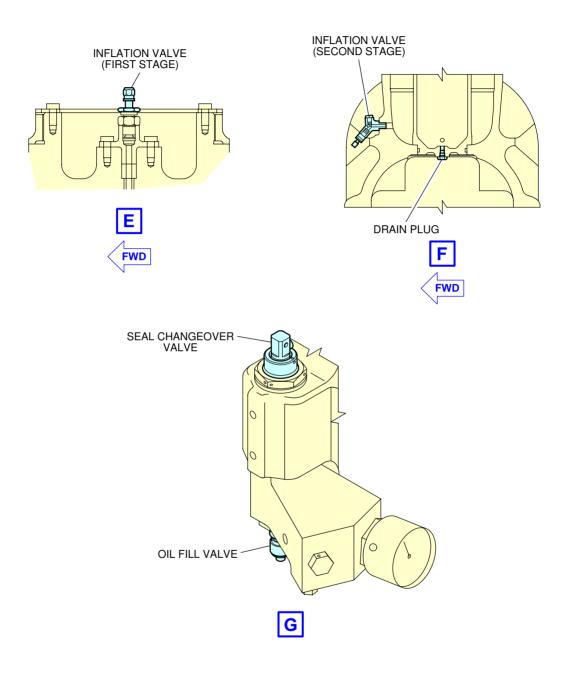
\*\*ON A/C A340-500 A340-600



Safety Devices (Sheet 2 of 3) FIGURE-2-9-0-991-013-A01

## AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### \*\*ON A/C A340-500 A340-600



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Centerline Landing Gear Servicing (Sheet 3 of 3) FIGURE-2-9-0-991-013-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600

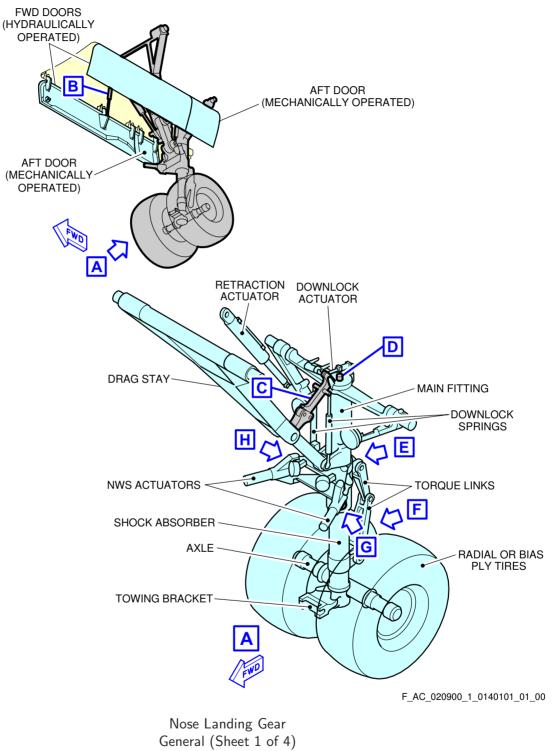
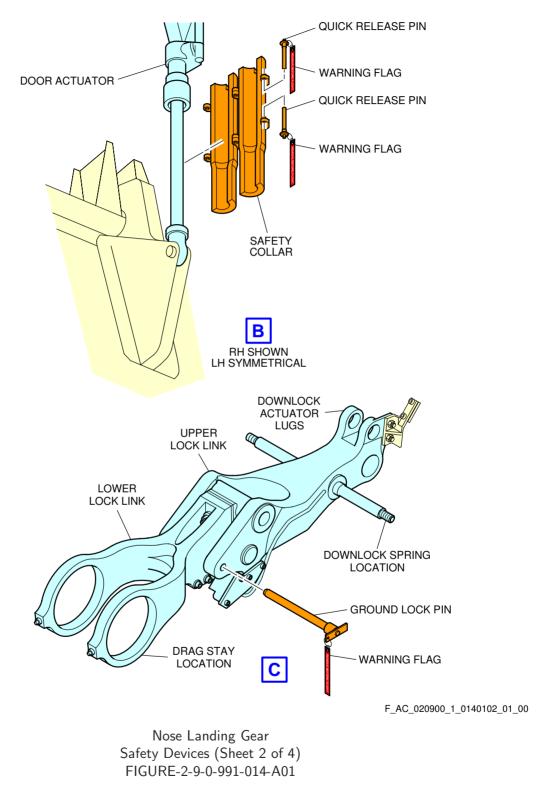


FIGURE-2-9-0-991-014-A01

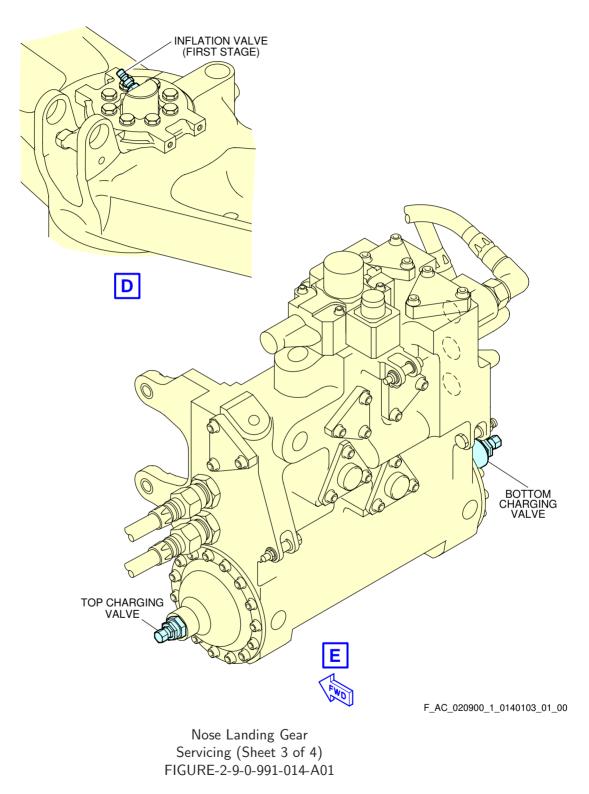
AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500 A340-600



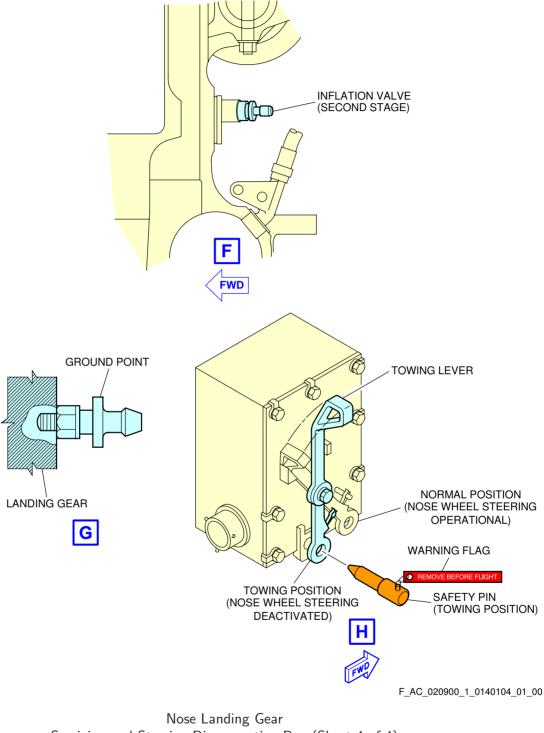
AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### \*\*ON A/C A340-500 A340-600



AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

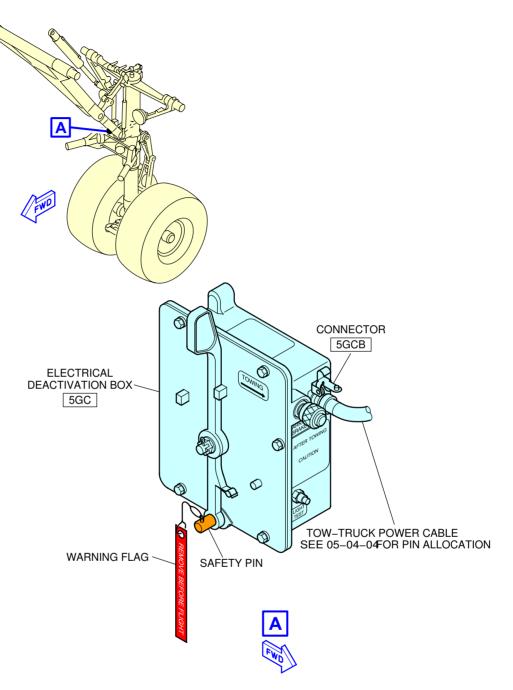
#### \*\*ON A/C A340-500 A340-600



Servicing and Steering Disconnection Box (Sheet 4 of 4) FIGURE-2-9-0-991-014-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500 A340-600



Tow Truck Power FIGURE-2-9-0-991-017-A01 F\_AC\_020900\_1\_0170101\_01\_01

## AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

# 2-10-0 Exterior Lighting

# \*\*ON A/C A340-500 A340-600

# Exterior Lighting

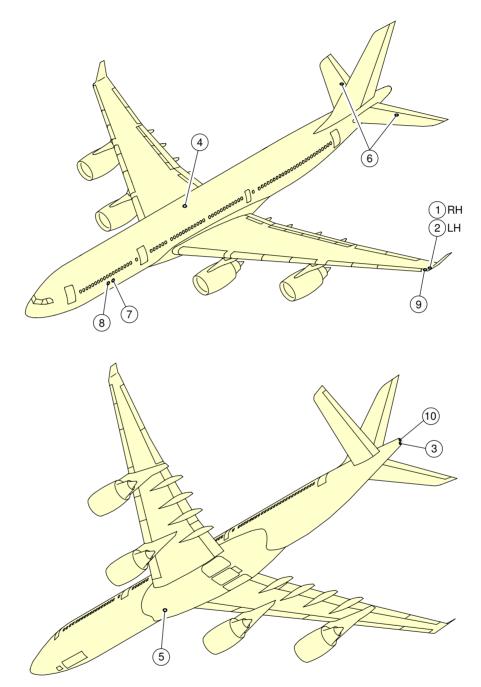
1. General

This section provides the location of the aircraft exterior lighting.

EXTERIOR LIGHTING	
ITEM	DESCRIPTION
1	RIGHT NAVIGATION LIGHT (GREEN)
2	LEFT NAVIGATION LIGHT (RED)
3	TAIL NAVIGATION LIGHT (WHITE)
4	UPPER ANTI-COLLISION LIGHT/BEACON (RED)
5	LOWER ANTI-COLLISION LIGHT/BEACON (RED)
6	LOGO LIGHTS
7	ENGINE SCAN LIGHTS
8	WING SCAN LIGHTS
9	WING STROBE LIGHT (HIGH INTENSITY, WHITE)
10	TAIL STROBE LIGHT (HIGH INTENSITY, WHITE)
11	LANDING LIGHTS
12	RUNWAY TURN-OFF LIGHTS
13	TAXI LIGHTS
14	TAKE-OFF LIGHTS
15	CARGO COMPARTMENT FLOOD LIGHTS
16	LANDING GEAR BAY/WELL LIGHTS (DOME)
17 (A340-600 only)	FWD TAXI CAMERA LIGHTS
18 (A340-600 only)	AFT TAXI CAMERA LIGHTS

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



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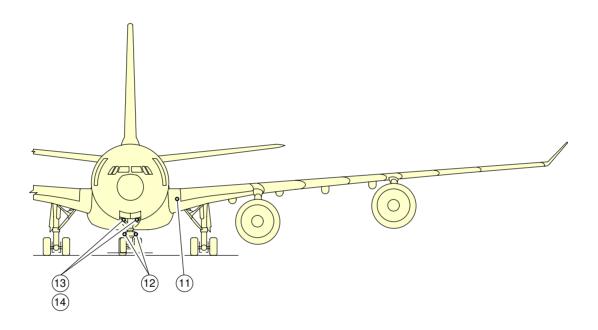
Exterior Lighting (Sheet 1 of 5) FIGURE-2-10-0-991-006-A01

2-10-0

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



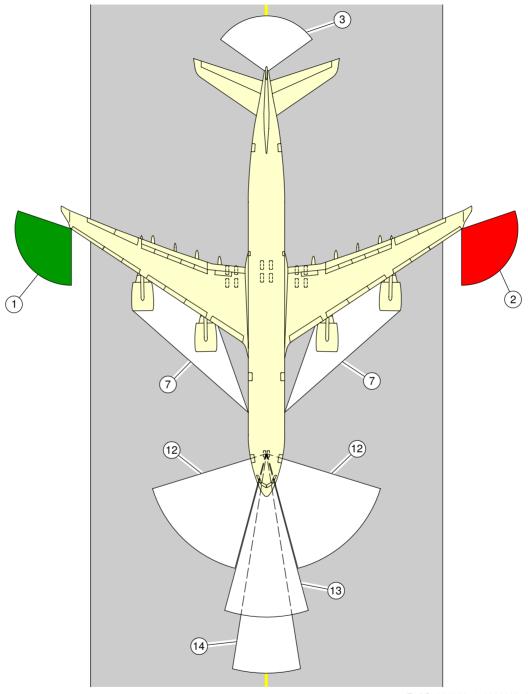
**NOTE:** LIGHTS 13 AND 14 ARE THE SAME, BUT THEY OPERATE WITH DIFFERENT POWER SETTINGS.

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Exterior Lighting (Sheet 2 of 5) FIGURE-2-10-0-991-006-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500

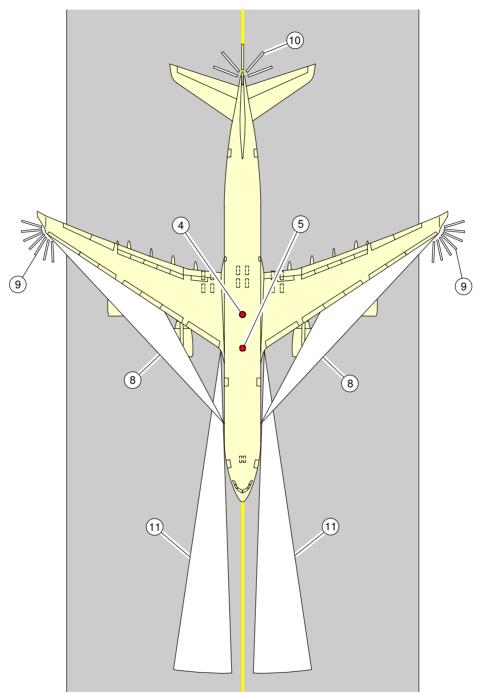


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Exterior Lighting (Sheet 3 of 5) FIGURE-2-10-0-991-006-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500

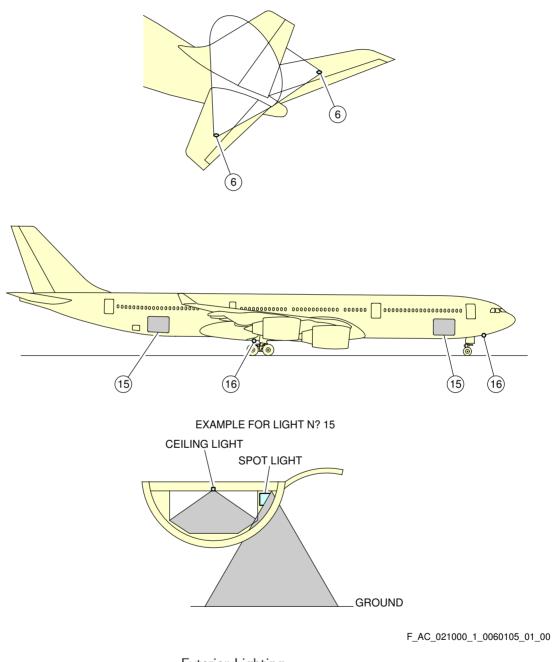


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Exterior Lighting (Sheet 4 of 5) FIGURE-2-10-0-991-006-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500

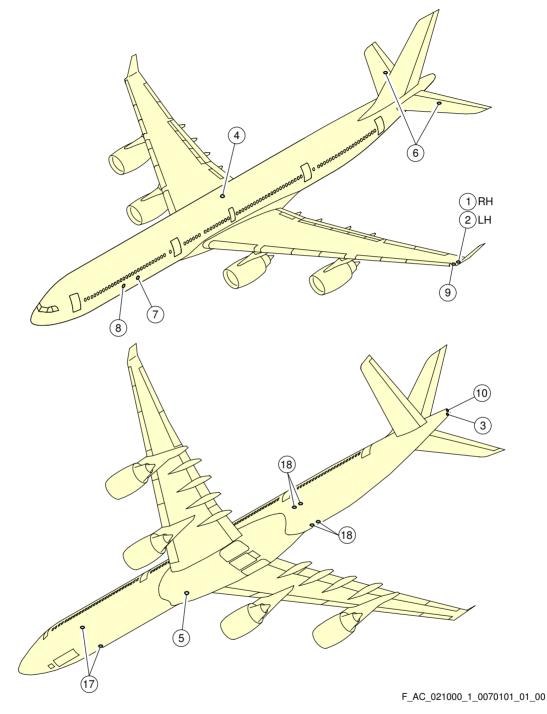


Exterior Lighting (Sheet 5 of 5) FIGURE-2-10-0-991-006-A01

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

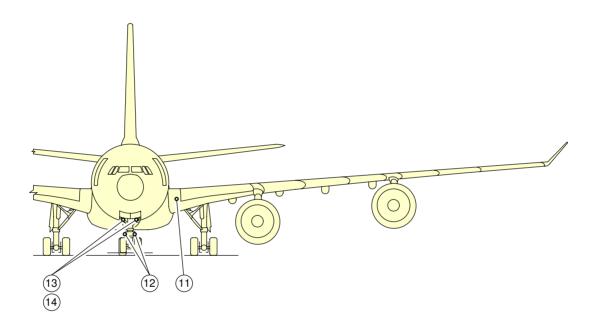
\*\*ON A/C A340-600



Exterior Lighting (Sheet 1 of 6) FIGURE-2-10-0-991-007-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600



**NOTE:** LIGHTS 13 AND 14 ARE THE SAME, BUT THEY OPERATE WITH DIFFERENT POWER SETTINGS.

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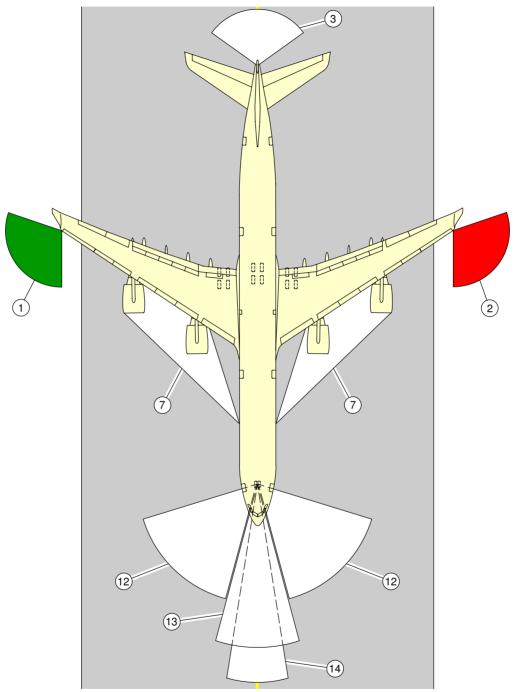
Exterior Lighting (Sheet 2 of 6) FIGURE-2-10-0-991-007-A01

2-10-0

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600

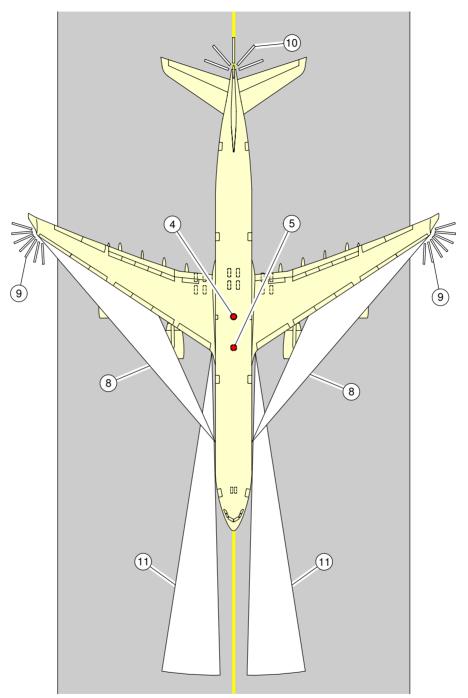


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Exterior Lighting (Sheet 3 of 6) FIGURE-2-10-0-991-007-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600

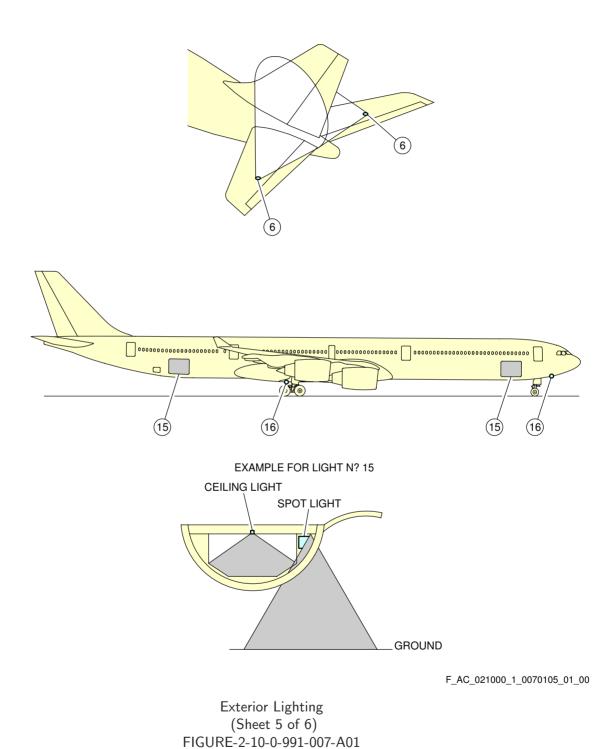


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Exterior Lighting (Sheet 4 of 6) FIGURE-2-10-0-991-007-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600

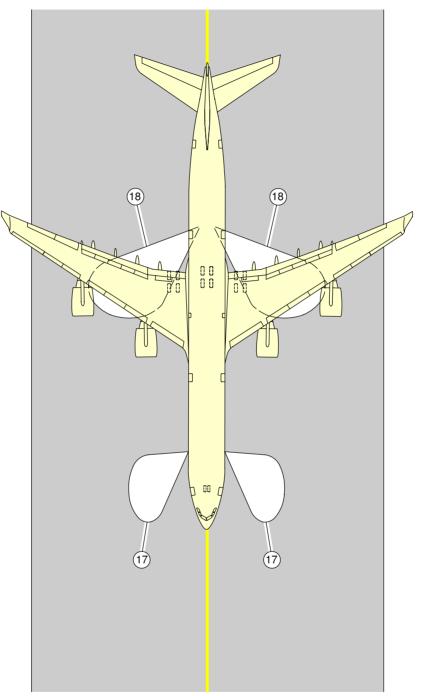


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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600



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Exterior Lighting (Sheet 6 of 6) FIGURE-2-10-0-991-007-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

## 2-11-0 Antennas and Probes Location

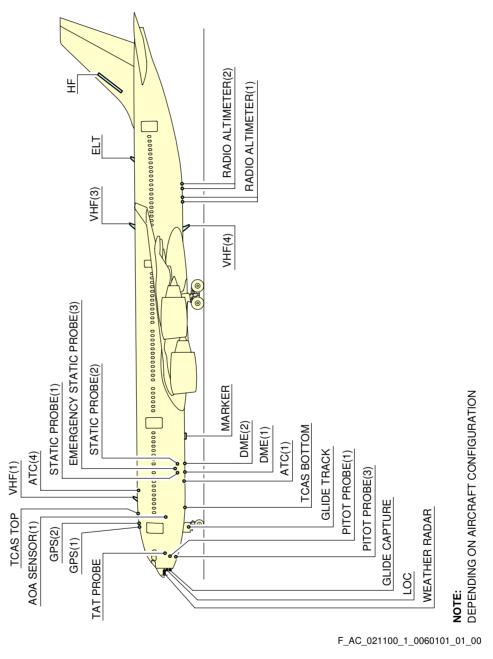
## \*\*ON A/C A340-500 A340-600

Antennas and Probes Location

## 1. This section gives the location of antennas and probes.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500

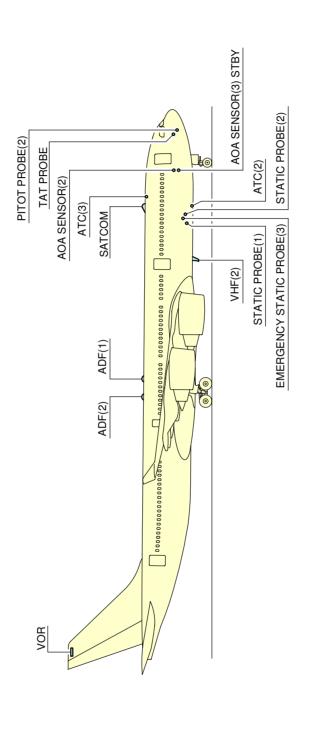


Antennas and Probes Location (Sheet 1 of 2) FIGURE-2-11-0-991-006-A01

2-11-0

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



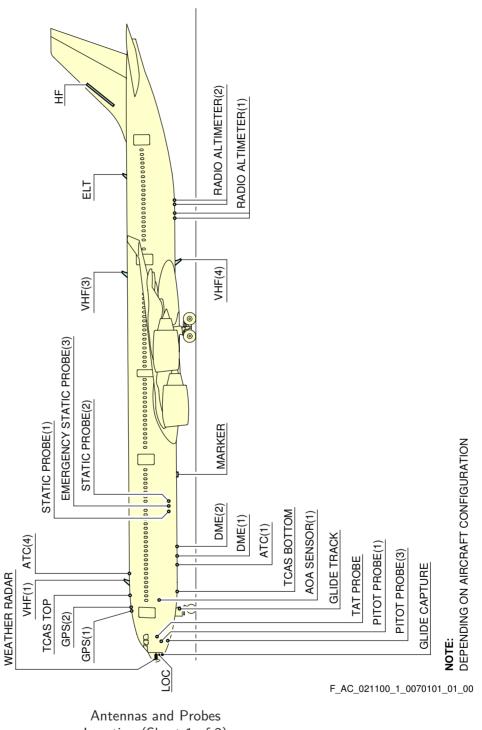
NOTE: DEPENDING ON AIRCRAFT CONFIGURATION

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Antennas and Probes Location (Sheet 2 of 2) FIGURE-2-11-0-991-006-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

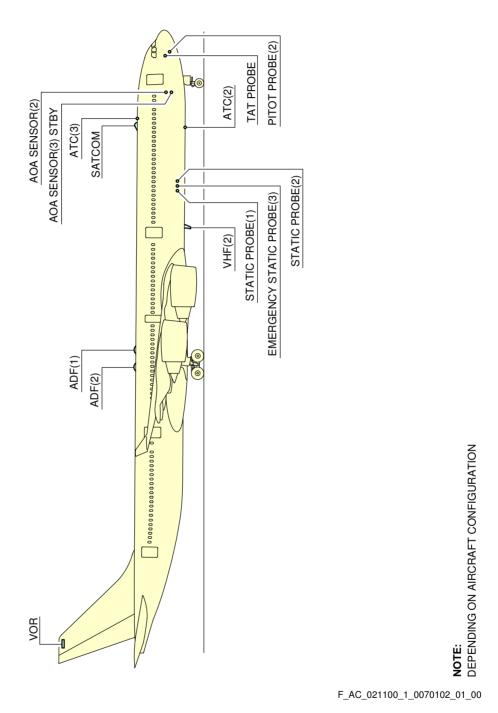
\*\*ON A/C A340-600



Location (Sheet 1 of 2) FIGURE-2-11-0-991-007-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600



Antennas and Probes Location (Sheet 2 of 2) FIGURE-2-11-0-991-007-A01

### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

## 2-12-0 Engine and Nacelle

## \*\*ON A/C A340-500 A340-600

## Engine and Nacelle

- 1. Engine and Nacelle TRENT 500 Engine
  - A. Engine

The RB211-TRENT 500 engine is a high bypass ratio, triple spool turbofan. The principal modules of the engine are:

- The Low Pressure Compressor (LPC) rotor
- The Intermediate Pressure (IP) compressor
- The intermediate case
- The HP system (this includes the High Pressure Compressor (HPC), the combustion system and the High Pressure Turbine (HPT))
- The IP turbine
- The external gearbox.

The compressor system has three axial flow compressors in a triple spool configuration. The compressors are turned independently by their related turbines, each at its most satisfactory speed. The LP system has a single-stage compressor installed at the front of the engine. A shaft connects the compressor to a five-stage turbine at the rear of the gas generator. The gas generator also includes an eight-stage IP compressor, a six-stage HPC and a combustion system. Each of the compressors in the gas generator is connected to, and turned by, a different single-stage turbine. Between the HPC and the HPT is the annular combustion system which burns a mixture of fuel and air to supply energy as heat. Behind the LP turbine there is a collector nozzle assembly through which the hot gas exhaust flows. The external gearbox module is installed below the fan case. It has a gear train that decreases and increases the speed to meet the specified drive requirements of each accessory.

B. Nacelle

A nacelle gives the engine an aerodynamic shape and supports the thrust reverser system. Each engine is housed in a nacelle suspended from a pylon attached below the wing. The nacelle consists of the following major components:

(1) Air Intake Cowl Assembly

The air intake cowl is an interchangeable aerodynamic cowl installed at the front of the engine. It ducts airflow to the fan and the engine core. The cowl has panels for easy access to the components. Acoustic materials are used in the manufacture of the cowl to help decrease the engine noise.

(2) Fan Cowl Assembly

The fan cowl assembly has two semicircular panels, the left fan cowl and the right fan cowl, that enclose the engine fan case between the air intake cowl and the thrust reverser. There are four assemblies for each aircraft. Each fan cowl panel is interchangeable from one engine to a different engine, when the strakes are removed or installed.



 $\begin{array}{c} {\sf Page \ 1} \\ {\sf Jun \ 01/20} \end{array}$ 

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### (3) Thrust Reverser

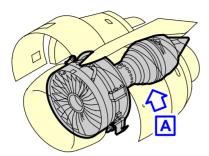
The thrust reverser is a component of the aircraft engine nacelle. The thrust reverser is a conventional fixed-cascade, translating-cowl type. The thrust reverser provides an aerodynamic flow path and uses the outer mobile structure, which is hydraulically powered, to provide a fan exhaust duct and a nozzle exit. In stow mode, the thrust reverser is an aerodynamic structure. In reverse mode, it is used to deflect and redirect part of the engine fan exhaust air by the blocker doors and in a forward direction through the cascades. The thrust reverser increases the aircraft wheel braking and the speed braking systems to reduce the landing distance.

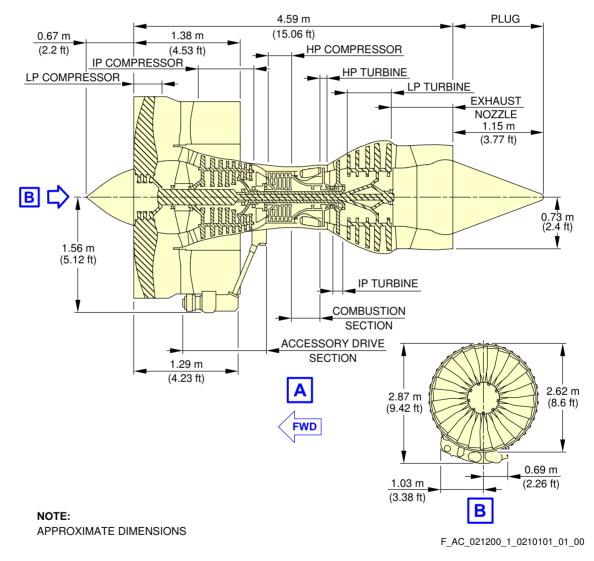
## (4) Exhaust System

The turbine exhaust system consists of one exhaust nozzle and one exhaust plug. The exhaust nozzle is bolted to the engine low pressure turbine frame flange outer flange. It is acoustically treated. The exhaust plug is bolted to the engine low pressure turbine frame flange inner flange. It is a two-piece conical structure. The turbine exhaust flow path is formed by the inner wall of the exhaust nozzle and the outer wall of the exhaust plug.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600

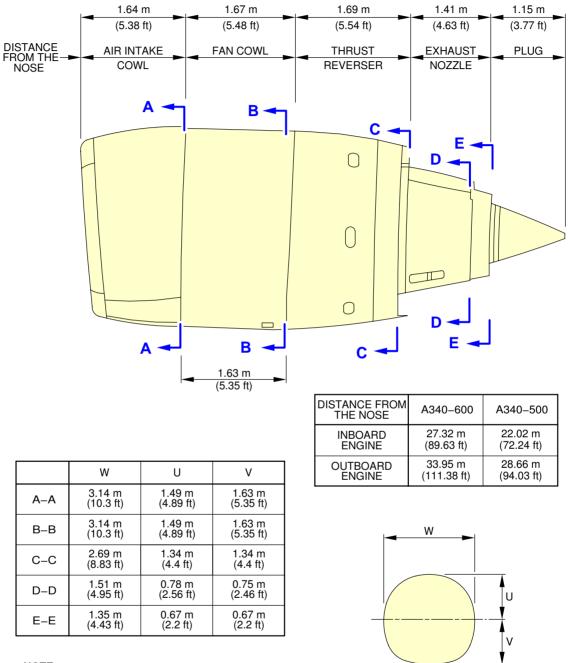




Engine and Nacelle Engine Dimensions - TRENT 500 FIGURE-2-12-0-991-021-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600



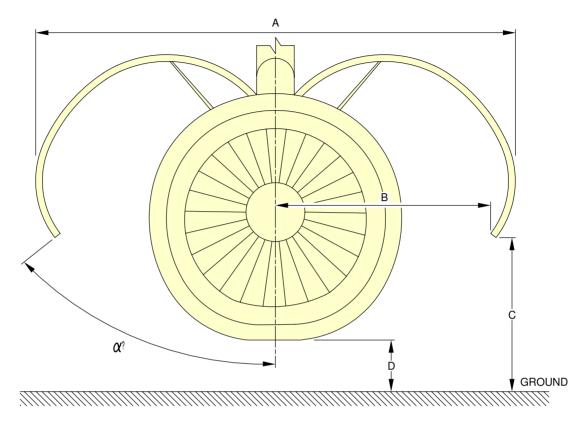
**NOTE:** APPROXIMATE DIMENSIONS

> Engine and Nacelle Nacelle Dimensions - TRENT 500 FIGURE-2-12-0-991-022-A01

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## AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

## \*\*ON A/C A340-500 A340-600



A/C	<b>Q</b> ?	DIN	Л."С"	DIM."D"		
CONFIGURATION	u,	INBOARD ENG.	OUTBOARD ENG.	INBOARD ENG.	OUTBOARD ENG.	
OEW	38?	1.36 m (4.46 ft)	2.4 m (7.87 ft)	0.71 m	1.75 m (5.74 ft)	
OEW	55?	2.03 m (6.66 ft)	3.07 m (10.07 ft)	(2.33 ft)		
MTW	38?	1.17 m (3.84 ft)	2.21 m (7.25 ft)	0.52 m	1.56 m	
IVITV	55?	1.84 m (6.04 ft)	2.88 m (9.45 ft)	(1.71 ft)	(5.12 ft)	

α?	DIM."A"	DIM."B"
38?	5.41 m (17.75 ft)	2.15 m (7.05 ft)
55?	6.12 m (20.08 ft)	2.78 m (9.12 ft)

#### NOTE:

APPROXIMATE DIMENSIONS

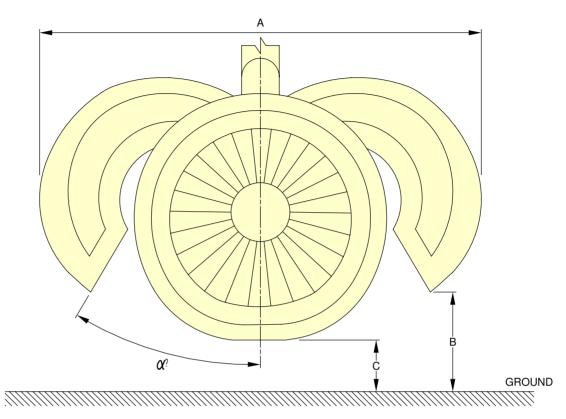
FOR OTHER VALUES OF DIM. "D" REFER TO CHAPTER 2-3.

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Engine and Nacelle Fan Cowls - TRENT 500 FIGURE-2-12-0-991-023-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

## \*\*ON A/C A340-500 A340-600



A/C	α?	DIN	И."В"	DIM."C"		
CONFIGURATION	u,	INBOARD ENG.	OUTBOARD ENG.	INBOARD ENG.	OUTBOARD ENG.	
OEW	33?	1.04 m (3.41 ft)	2.08 m (6.82 ft)	0.71 m	1.75 m	
OEW	45?	1.4 m (4.59 ft)	2.44 m (8.01 ft)	(2.33 ft)	(5.74 ft)	
MTW	33?	0.85 m (2.79 ft)	1.89 m (6.2 ft)	0.52 m	1.56 m	
IVITVV	45?	1.21 m (3.97 ft)	2.25 m (7.38 ft)	(1.71 ft)	(5.12 ft)	

<b>X</b> ?	DIM."A"
33?	4.92 m (16.14 ft)
45?	5.5 m (18.04 ft)

NOTE:

APPROXIMATE DIMENSIONS

FOR OTHER VALUES OF DIM. "C" REFER TO CHAPTER 2-3.

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Engine and Nacelle Thrust Reverser Cowls - TRENT 500 FIGURE-2-12-0-991-024-A01

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

## 2-12-1 Auxiliary Power Unit

## \*\*ON A/C A340-500 A340-600

## Auxiliary Power Unit

1. General

The Auxiliary Power Unit (APU) and its related mechanical components are installed at the rear part of the fuselage in the tailcone section. The APU compartment is a fireproof area (identified as the Fire Zone).

The APU is a pneumatic and shaft-power gas-turbine engine and is used for the ground and in-flight power supply of the aircraft.

The APU supplies:

- mechanical shaft-power to operate a generator
- bleed-air to the Main Engine Start (MES) and the Environmental Control System (ECS).

A part of the automatic system, with the pneumatic and the electromechanical controls, operates the start and the acceleration functions of the APU.

An air intake system with a flap-type door is installed in front of the APU compartment. The exhaust gases pass overboard at the end of the fuselage cone.

2. Powerplant

The APU is the Garrett Gas-Turbine Compressor Power-unit (GTCP) 331-600A with a single shaft engine.

The engine is the primary component of the APU, which is of the modular design. The modules of the engine are:

- The power section
- The load compressor
- The accessory drive gearbox with LRU(s).

The power section has a two-stage centrifugal compressor, a reverse-flow annular combustion chamber and a three-stage axial turbine. The power section directly operates the one-stage centrifugal load-compressor which supplies the bleed-air to the pneumatic system. The inlet guide vanes as part of the load compressor, control the airflow.

The power section also operates the gearbox which is attached to the load compressor. The following LRU's are mounted on the gearbox :

- the APU generator,
- the starter motor,
- the oil pump,
- the Fuel Control Unit (FCU),

The APU has a gearbox-driven oil-cooled AC generator.

The cooling air and ventilation system of the APU supplies the air for cooling of the APU and the equipment on the APU. It also supplies the air for ventilation of the APU compartment.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

## 3. Control circuit

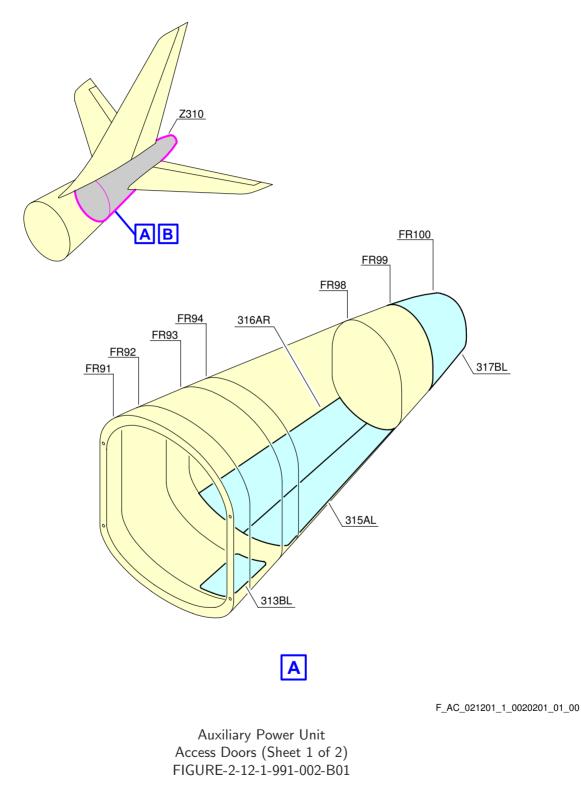
The Electronic Control Box (ECB), which controls the Fuel Control Unit (FCU) and the Inlet Guide Vanes (IGV), keeps the APU at a constant speed. The control circuit is used to start the APU, to shut it down, to control it and to prevent internal failure.

## 4. Controls and Indication

The primary APU controls and indications are installed in the overhead panel, on the center pedestal panel and on the forward center panel. External APU panels are also installed on the nose landing gear and on the refuel/defuel panel, to initiate an APU emergency shut-down.

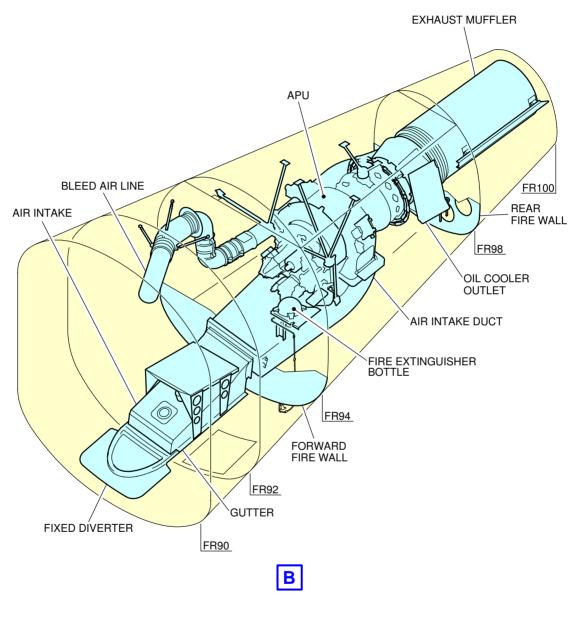
AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

## \*\*ON A/C A340-500 A340-600



AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500 A340-600



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Auxiliary Power Unit General Layout (Sheet 2 of 2) FIGURE-2-12-1-991-002-B01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

## 2-13-0 Levelling, symmetry and Alignment

## \*\*ON A/C A340-500 A340-600

## Leveling, Symmetry and Alignment

## 1. Quick Leveling

There are three alternative procedures to level the aircraft:

- Quick leveling procedure with Air Data/Inertial Reference System (ADIRS)
- Quick leveling procedure with a spirit level in the passenger compartment
- Quick leveling procedure with a spirit level in the FWD cargo compartment.
- 2. Precision Leveling

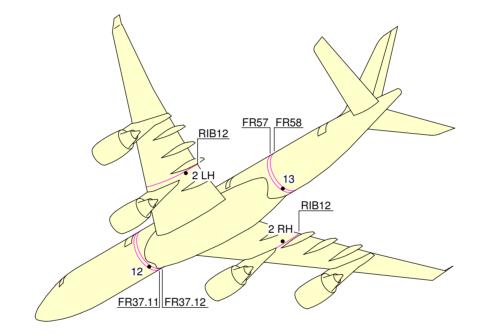
For precise leveling, it is necessary to install sighting rods in the receptacles located under the fuselage (points 12 and 13 for longitudinal leveling) and under the wings (points 2LH and 2RH for lateral leveling) and use a sighting tube. With the aircraft on jacks, adjust the jacks until the reference marks on the sighting rods are aligned in the sighting plane (aircraft level).

## 3. Symmetry and Alignment Check

Possible deformation of the aircraft is measured by photogrammetry.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



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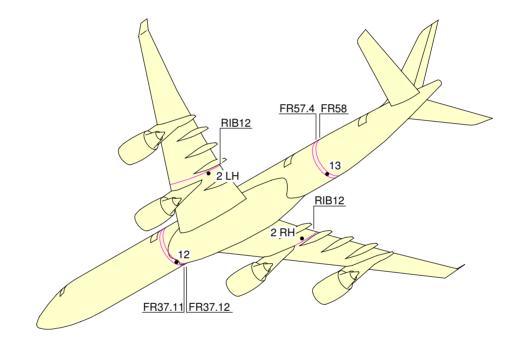
Location of Leveling Points FIGURE-2-13-0-991-006-A01

2-13-0

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600



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Location of Leveling Points FIGURE-2-13-0-991-007-A01

2-13-0

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#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

## 2-14-0 Jacking for Maintenance

## \*\*ON A/C A340-500 A340-600

## Jacking for Maintenance

- 1. Aircraft Jacking Points for Maintenance
  - A. General
    - (1) The A340-500/-600 can be jacked:
      - At not more than 200 000 kg (440 924 lb),
      - Within the limits of the permissible wind speed when the aircraft is jacked outside a closed environment.
  - B. Primary Jacking Points
    - (1) The aircraft is provided with three primary jacking points:
      - One located under the forward fuselage (after FR10),
      - Two located under the wings (one under each wing), at the intersection of RIB10 and the rear of the spar-datum.
    - (2) Three jack adapters (ground equipment) are used as intermediary parts between the aircraft jacking points and the jacks:
      - One male spherical jack adapter at the forward fuselage,
      - Two female spherical jack pad adapters at the wings (one at each wing).
  - C. Auxiliary Jacking Point (Safety Stay)
    - (1) When the aircraft is on jacks, a safety stay is placed under the fuselage at FR87 to prevent tail tipping caused by accidental displacement of the aircraft center of gravity.
    - (2) The safety point must not be used for lifting the aircraft.
    - (3) One male spherical stay adapter (ground equipment) is used as an intermediary part between the aircraft safety point and the stay.
- 2. Jacks and Safety Stay
  - A. Jack Design
    - (1) The maximum eligible loads given in the table (Ref. FIGURE 2-14-0-991-015-AFIGURE 2-14-0-991-015-B) are the maximum loads applicable on jack fittings.
    - (2) In fully retracted position (jack stroke at minimum), the height of the jack is such that the jack may be placed beneath the aircraft under the most adverse conditions, namely, tires deflated and shock absorbers depressurized, with sufficient clearance between the aircraft jacking point and the jack upper end.
    - (3) The lifting jack stroke enables the aircraft to be jacked up so that the Fuselage Datum Line (FDL) may be positioned up to 7.2 m (23.62 ft) from the ground to allow all required maintenance procedures and in particular, the removal/installation of the landing-gear shock absorbers.

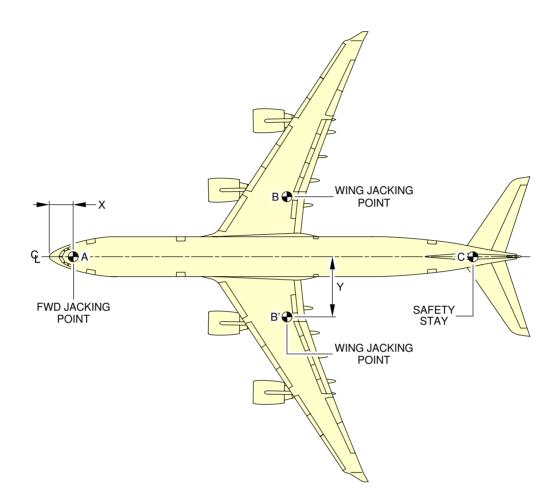
AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

## B. Safety Stay

The stay stroke enables the aircraft tail to be supported up to the Fuselage Datum Line (FDL) positioned 7.2 m (23.62 ft) from the ground.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



		X Y		MAXIMUM LOAD ELIGIBLE		
		m	ft	m	ft	daN
FORWARD FUSEL	AGE A	3.34	10.96	0	0	17 273
WING JACKING	В	33.71	110.56	8.44	27.69	95 505
POINT	B'	33.71	110.56	-8.44	-27.69	95 505
SAFETY STAY	С	60.05	197.01	0	0	4 775

#### NOTE:

SAFETY STAY IS NOT USED FOR JACKING.

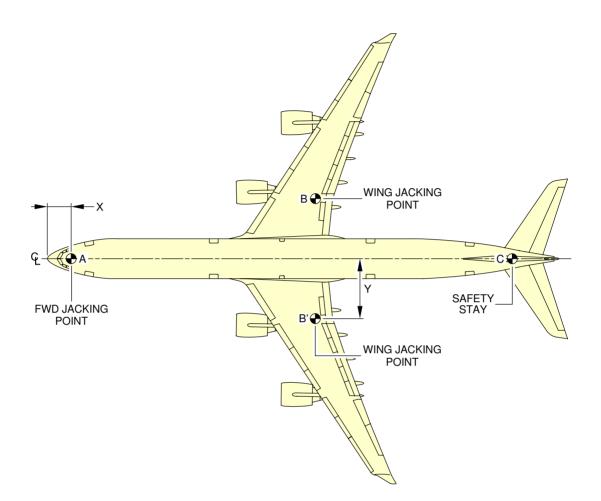
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Jacking for Maintenance Jacking Points Location FIGURE-2-14-0-991-015-A01

2-14-0

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600



		х		Y		MAXIMUM LOAD ELIGIBLE
		m	ft	m	ft	daN
FORWARD FUSEL	AGE A	3.34	10.96	0	0	17 971
WING JACKING	В	39.01	127.99	8.44	27.69	96 105
POINT	B'	39.01	127.99	-8.44	-27.69	96 105
SAFETY STAY	С	67.48	221.39	0	0	4 805

#### NOTE:

SAFETY STAY IS NOT USED FOR JACKING.

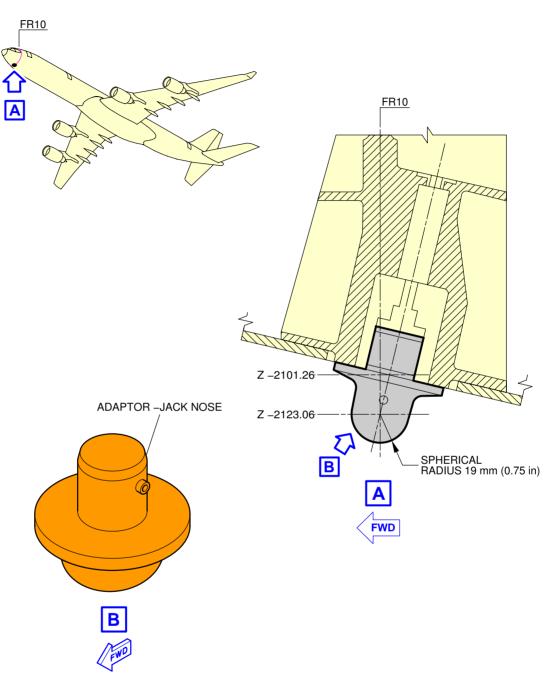
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Jacking for Maintenance Jacking Points Location FIGURE-2-14-0-991-015-B01

2-14-0

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

## \*\*ON A/C A340-500 A340-600



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Jacking for Maintenance Forward Jacking Point FIGURE-2-14-0-991-016-A01

2-14-0

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

## \*\*ON A/C A340-500 A340-600

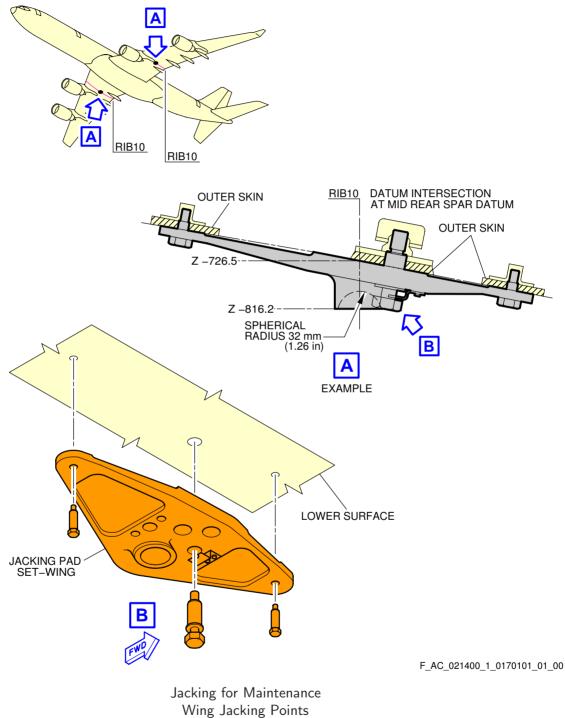
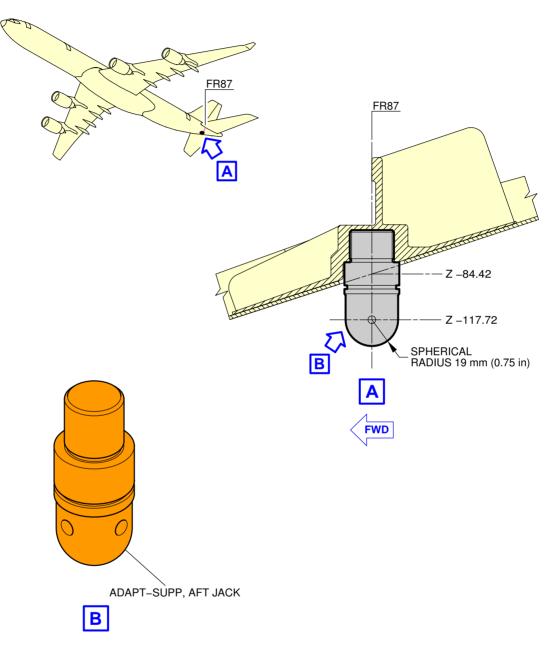


FIGURE-2-14-0-991-017-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

## \*\*ON A/C A340-500 A340-600



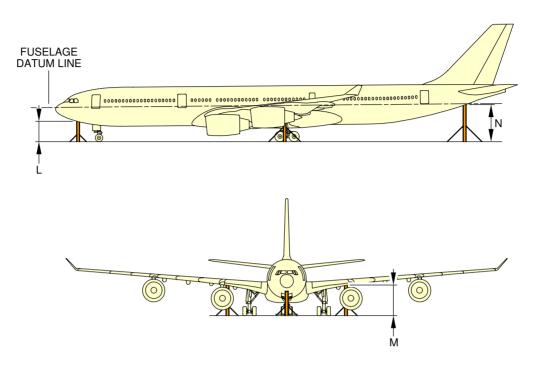
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Jacking for Maintenance Auxiliary Jacking Point - Safety Stay FIGURE-2-14-0-991-018-A01

2-14-0

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



	L	М	Ν
AIRCRAFT ON WHEELS WITH STANDARD TIRES, MAX. JACK	2.74 m	4.56 m	5.6 m
WEIGHT 200 000 kg (440 924 lb)	(8.99 ft)	(14.96 ft)	(18.37 ft)
AIRCRAFT ON WHEELS WITH STANDARD TIRES,	2.74 m	4.56 m	5.6 m
OEW 175 377 kg (386 640 lb)	(8.99 ft)	(14.96 ft)	(18.37 ft)
AIRCRAFT ON WHEELS, SHOCK ABSORBERS DEFLATED AND FLAT TIRES	2.22 m	4.01 m	5.04 m
	(7.28 ft)	(13.16 ft)	(16.54 ft)
AIRCRAFT ON JACKS, FUSELAGE DATUM LINE PARALLEL TO GROUND AT 6.5 m (21.33 ft) FOR LANDING GEARS EXTENSION/RETRACTION	4.42 m (14.5 ft)	5.77 m (18.93 ft)	6.42 m (21.06 ft)
AIRCRAFT ON JACKS, FUSELAGE DATUM LINE PARALLEL TO GROUND AT 7.2 m (23.62 ft) FOR LANDING GEARS REMOVAL/INSTALLATION	5.12 m (16.8 ft)	6.47 m (16.8 ft)	7.12 m (16.8 ft)

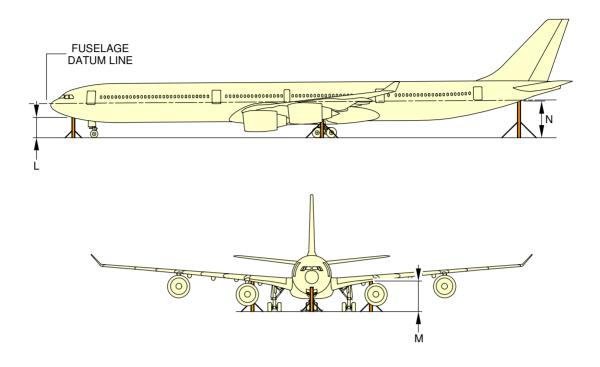
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Jacking for Maintenance Jacking Dimensions FIGURE-2-14-0-991-019-A01

2-14-0

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600



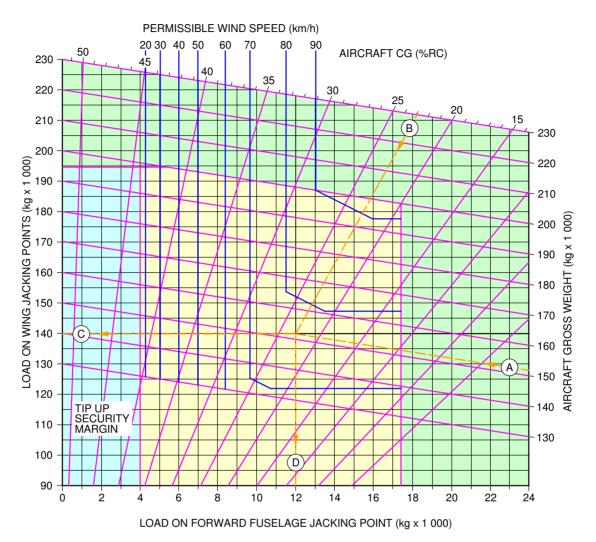
	L	М	Ν
AIRCRAFT ON WHEELS WITH STANDARD TIRES, MAX. JACK	2.75 m	4.56 m	5.57 m
WEIGHT 200 000 kg (440 924 lb)	(9.02 ft)	(14.96 ft)	(18.27 ft)
AIRCRAFT ON WHEELS WITH STANDARD TIRES,	2.75 m	4.56 m	5.46 m
OEW 181 606 kg (400 373 lb)	(9.02 ft)	(14.96 ft)	(17.91 ft)
AIRCRAFT ON WHEELS, SHOCK ABSORBERS DEFLATED AND FLAT TIRES	2.22 m	4.01 m	5 m
	(7.28 ft)	(13.16 ft)	(16.4 ft)
AIRCRAFT ON JACKS, FUSELAGE DATUM LINE PARALLEL TO GROUND AT 6.5 m (21.33 ft) FOR LANDING GEARS EXTENSION/RETRACTION	4.42 m (14.5 ft)	5.77 m (18.93 ft)	6.42 m (21.06 ft)
AIRCRAFT ON JACKS, FUSELAGE DATUM LINE PARALLEL TO GROUND AT 7.2 m (23.62 ft) FOR LANDING GEARS REMOVAL/INSTALLATION	5.12 m (16.8 ft)	6.47 m (21.23 ft)	7.12 m (23.36 ft)

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Jacking for Maintenance Jacking Dimensions FIGURE-2-14-0-991-019-B01

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



#### EXAMPLE:

ASSUME AIRCRAFT WITH A GROSS WEIGHT OF 152 000 kg A AND CENTER OF GRAVITY AT 23% RC B. THE REACTION AT THE WING JACKING POINTS IS 140 000 kg (70 000 kg PER SIDE) C AND THE REACTION AT THE FORWARD FUSELAGE JACKING POINT IS 12 000 kg D. IF THE AIRCRAFT MUST BE LIFTED OUTSIDE, THE WIND SPEED MUST NOT BE IN EXCESS OF 70 km/h.

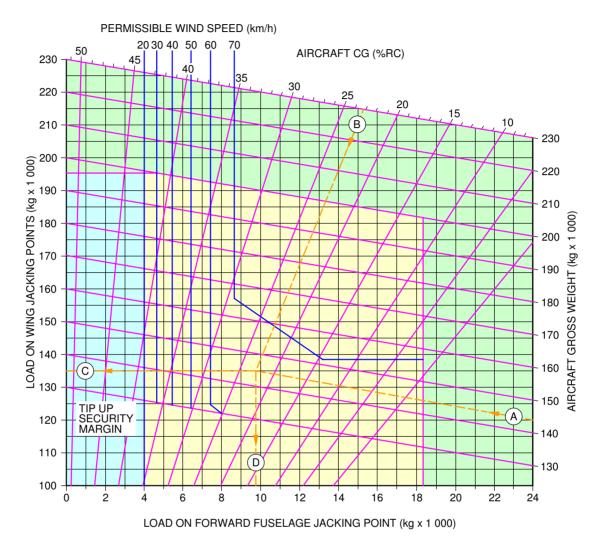
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Jacking for Maintenance Load at the Aircraft Jacking Points FIGURE-2-14-0-991-020-A01

2-14-0

### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600



#### EXAMPLE:

ASSUME AIRCRAFT WITH A GROSS WEIGHT OF 143 500 kg A AND CENTER OF GRAVITY AT 23% RC B. THE REACTION AT THE WING JACKING POINTS IS 134 000 kg (67 000 kg PER SIDE) C AND THE REACTION AT THE FORWARD FUSELAGE JACKING POINT IS 9 600 kg D. IF THE AIRCRAFT MUST BE LIFTED OUTSIDE, THE WIND SPEED MUST NOT BE IN EXCESS OF 60 km/h.

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Jacking for Maintenance Load at the Aircraft Jacking Points FIGURE-2-14-0-991-020-B01

2-14-0

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

## 2-14-1 Jacking of the Landing Gear

## \*\*ON A/C A340-500 A340-600

## Jacking of the Landing Gear

1. General

Landing gear jacking will be required to lift the landing gear wheels off the ground.

<u>NOTE</u> : You can lift the aircraft at Maximum Ramp Weight (MRW).

 $\underline{NOTE}$ : The load at each jacking position is the load required to give 25.4 mm (1 in) clearance between the ground and the tire.

2. Main Gear Jacking

The main gears are normally jacked up by placing a jack directly under the ball pad. The ball spherical radius is 19 mm (0.75 in). It is also possible to jack the main gear using a cantilever jack.

3. Nose Gear Jacking

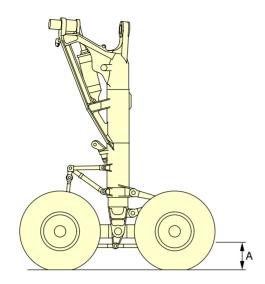
For nose gear jacking, a 19 mm (0.75 in) radius ball pad is fitted under the lower end of the shockabsorber sliding tube. Jacking can be accomplished either by placing a jack directly under the ball pad, or using an adapter fitting provided with an identical ball pad.

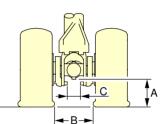
4. Center Gear Jacking

For center gear jacking, a 19 mm (0.75 in) radius ball pad is fitted under the lower end of the shockabsorber sliding tube. Jacking can be accomplished either by placing a jack directly under the ball pad, or using an adapter fitting provided with an identical ball pad.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

## \*\*ON A/C A340-500 A340-600





	MLG JACKING								
	CONFIGURATION	DIM.A	DIM.B	DIM.C	COMMENTS				
1	4 INFLATED TIRES	367 mm (14.45 in)	> 697 mm (27.44 in)	347 mm (13.66 in)	ONLY FLAT TIRE DATA AVAILABLE				
2	1 DEFLATED TIRE ON ANY AXLE	279 mm (10.98 in)	> 697 mm (27.44 in)	347 mm (13.66 in)	ONLY FLAT TIRE DATA AVAILABLE				
3	2 DEFLATED TIRES ON DIFFERENT AXLES	279 mm (10.98 in)	> 697 mm (27.44 in)	347 mm (13.66 in)	ONLY FLAT TIRE DATA AVAILABLE				
4A	2 DEFLATED TIRES ON THE SAME AXLE	165 mm (6.5 in)	> 697 mm (27.44 in)	347 mm (13.66 in)	ONLY FLAT TIRE DATA AVAILABLE				
4B	2 RIMS ON THE SAME AXLE	100 mm (3.94 in)	> 697 mm (27.44 in)	347 mm (13.66 in)					
5A	3 DEFLATED TIRES	178 mm (7 in)	> 697 mm (27.44 in)	347 mm (13.66 in)					
5B	3 RIMS	113 mm (4.45 in)	> 697 mm (27.44 in)	347 mm (13.66 in)					
6A	4 DEFLATED TIRES	192 mm (7.56 in)	> 697 mm (27.44 in)	347 mm (13.66 in)					
6B	4 RIMS	134 mm (5.28 in)	> 697 mm (27.44 in)	347 mm (13.66 in)	DIM "A" DEFINED WITH FLANGES WORN BY 50%				
7	MAXIMUM JACKING HEIGHT TO CHANGE WHEELS	570 mm (22.44 in)	842 mm (33.15 in)	347 mm (13.66 in)	WITH 25.4 mm (1 in) GROUND CLEARANCE				

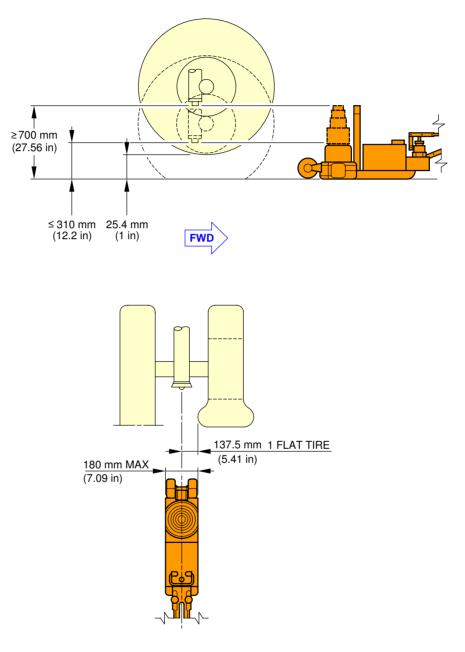
#### NOTE:

VALUES WITH 1 400 x 530 R23 TIRES ONLY.

Jacking of the Landing Gear MLG Jacking Point Heights FIGURE-2-14-1-991-011-A01 F\_AC\_021401\_1\_0110102\_01\_00

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

## \*\*ON A/C A340-500 A340-600



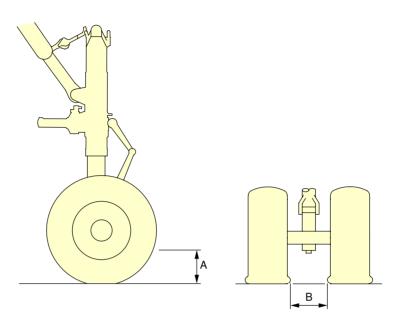
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Jacking of the Landing Gear Jacking of the NLG (Sheet 1 of 2) FIGURE-2-14-1-991-012-A01

2-14-1

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

## \*\*ON A/C A340-500 A340-600



#### NLG JACKING

	CONFIGURATION	DIM.A	DIM.B	COMMENTS
1	2 INFLATED TIRES	340 mm (13.39 in)	304 mm (11.97 in)	
2	1 DEFLATED TIRE	183 mm (7.2 in)	249 mm (9.8 in)	
3	2 DEFLATED TIRES	255 mm (10.04 in)	275 mm (10.83 in)	
4	ON 2 RIMS	244 mm (9.61 in)	382 mm (15.04 in)	DIM "A" DEFINED WITH FLANGES WORN BY 50%
5	MAXIMUM JACKING HEIGHT TO CHANGE WHEELS	475 mm (18.7 in)	N/A	WITH 25.4 mm (1 in) GROUND CLEARANCE

NOTE: VALUES WITH 45 x 18 R17 TIRES ONLY.

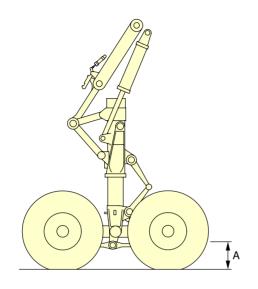
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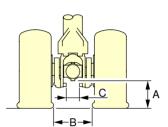
Jacking of the Landing Gear NLG Jacking Point Heights (Sheet 2 of 2) FIGURE-2-14-1-991-012-A01

2-14-1

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### \*\*ON A/C A340-500 A340-600





CLG JACKING											
	CONFIGURATION	DIM.A	DIM.B	DIM.C	COMMENTS						
1	4 INFLATED TIRES	380 mm (14.96 in)	> 476 mm (18.74 in)	N/A	ONLY FLAT TIRE DATA AVAILABLE						
2	1 DEFLATED TIRE ON ANY AXLE	292 mm (11.5 in)	> 476 mm (18.74 in)	N/A	ONLY FLAT TIRE DATA AVAILABLE						
3	2 DEFLATED TIRES ON DIFFERENT AXLES	292 mm (11.5 in)	> 476 mm (18.74 in)	N/A	ONLY FLAT TIRE DATA AVAILABLE						
4A	2 DEFLATED TIRES ON THE SAME AXLE	199 mm (7.83 in)	> 476 mm (18.74 in)	N/A	ONLY FLAT TIRE DATA AVAILABLE						
4B	2 RIMS ON THE SAME AXLE	134 mm (5.28 in)	> 476 mm (18.74 in)	N/A							
5A	3 DEFLATED TIRES	212 mm (8.35 in)	> 476 mm (18.74 in)	N/A							
5B	3 RIMS	147 mm (5.79 in)	> 476 mm (18.74 in)	N/A							
6A	4 DEFLATED TIRES	226 mm (8.9 in)	> 476 mm (18.74 in)	N/A							
6B	4 RIMS	168 mm (6.61 in)	> 476 mm (18.74 in)	N/A	DIM "A" DEFINED WITH FLANGES WORN BY 50%						
7	MAXIMUM JACKING HEIGHT TO CHANGE WHEELS	653 mm (25.71 in)	621 mm (24.45 in)	N/A	WITH 25.4 mm (1 in) GROUND CLEARANCE						

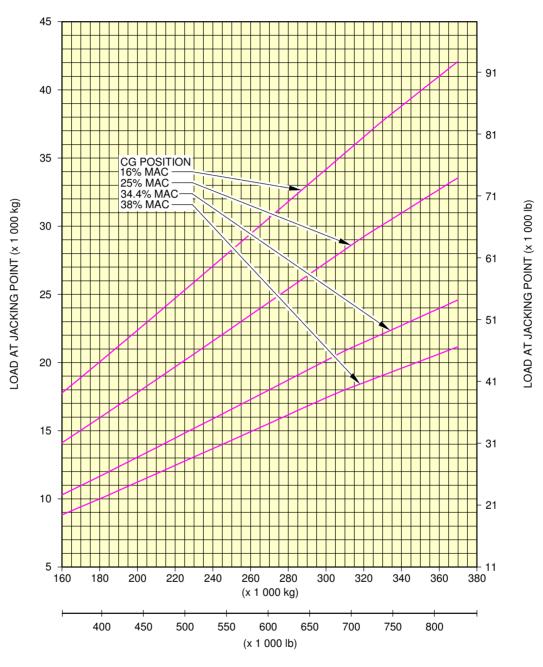
#### NOTE:

VALUES WITH 1 400 x 530 R23 TIRES ONLY.

Jacking of the Landing Gear CLG Jacking Point Heights FIGURE-2-14-1-991-013-A01 F\_AC\_021401\_1\_0130101\_01\_00

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### \*\*ON A/C A340-600



AIRCRAFT GROSS WEIGHT

F\_AC\_021401\_1\_0140101\_01\_00

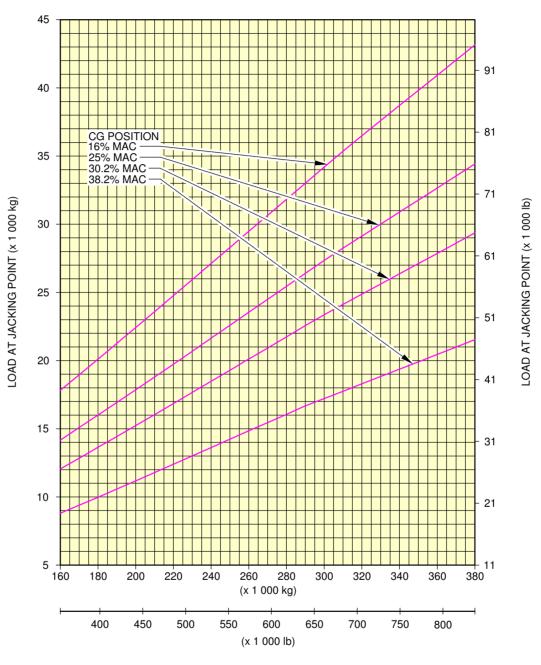
Jacking of the Landing Gear NLG Jacking Point Loads - (WV 001) FIGURE-2-14-1-991-014-A01

2-14-1

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### \*\*ON A/C A340-600



AIRCRAFT GROSS WEIGHT

F\_AC\_021401\_1\_0150101\_01\_00

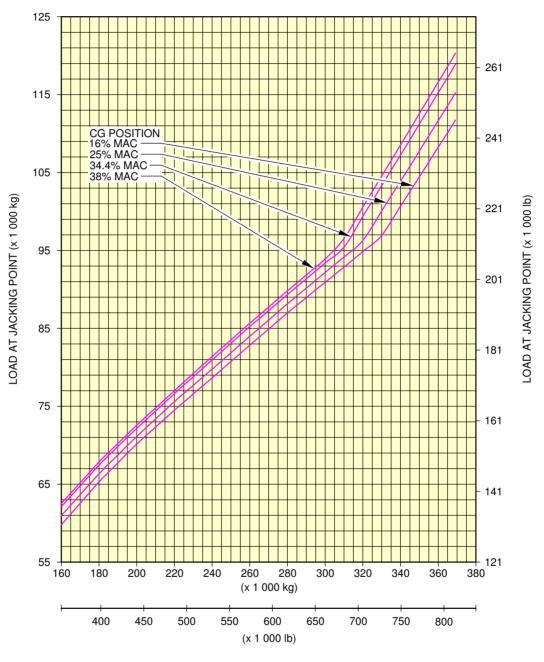
Jacking of the Landing Gear NLG Jacking Point Loads - (WV 101) FIGURE-2-14-1-991-015-A01

2-14-1

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### \*\*ON A/C A340-600



AIRCRAFT GROSS WEIGHT

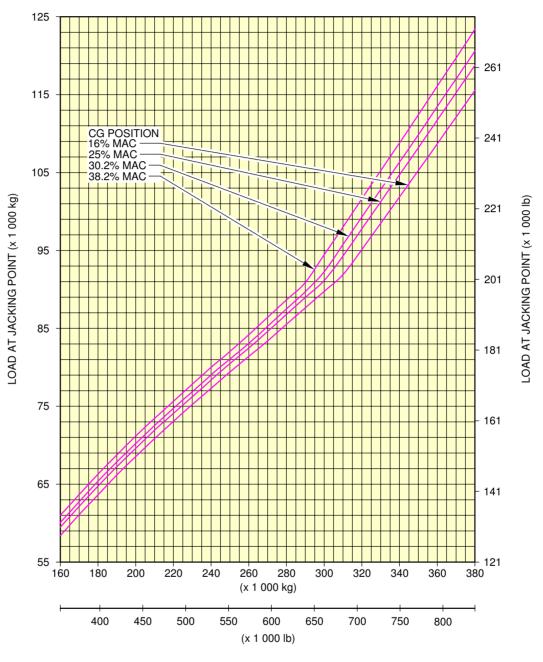
F\_AC\_021401\_1\_0160101\_01\_00

Jacking of the Landing Gear MLG Jacking Point Loads - (WV 001) FIGURE-2-14-1-991-016-A01

2-14-1

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### \*\*ON A/C A340-600



AIRCRAFT GROSS WEIGHT

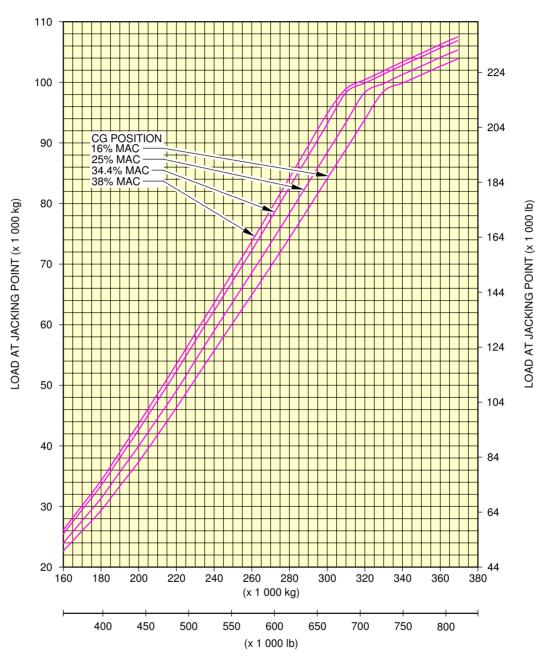
F\_AC\_021401\_1\_0170101\_01\_00

Jacking of the Landing Gear MLG Jacking Point Loads - (WV 101) FIGURE-2-14-1-991-017-A01

2-14-1

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### \*\*ON A/C A340-600



AIRCRAFT GROSS WEIGHT

F\_AC\_021401\_1\_0180101\_01\_00

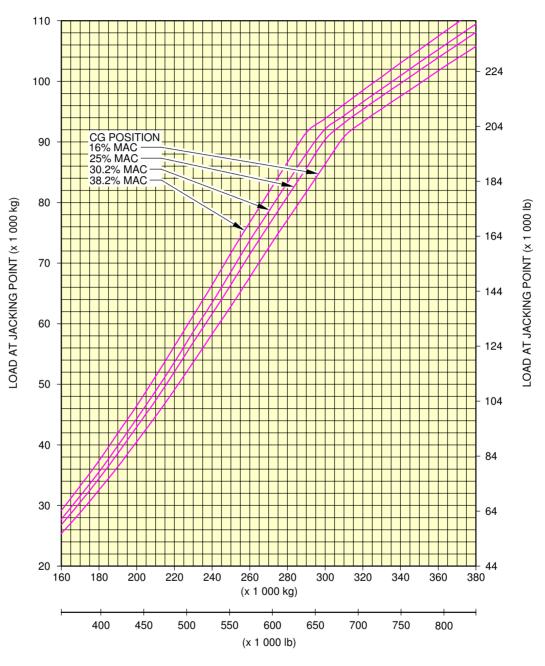
Jacking of the Landing Gear CLG Jacking Point Loads - (WV 001) FIGURE-2-14-1-991-018-A01

2-14-1

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### \*\*ON A/C A340-600



AIRCRAFT GROSS WEIGHT

F\_AC\_021401\_1\_0190101\_01\_00

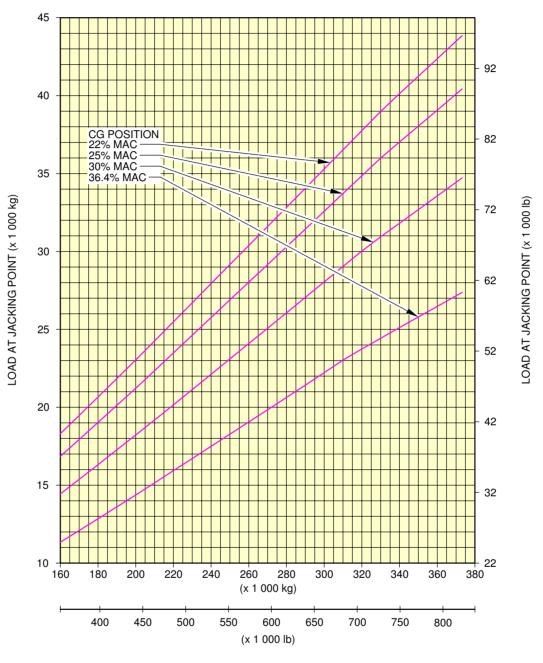
Jacking of the Landing Gear CLG Jacking Point Loads - (WV 101) FIGURE-2-14-1-991-019-A01

2-14-1

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### \*\*ON A/C A340-500



AIRCRAFT GROSS WEIGHT

F\_AC\_021401\_1\_0200101\_01\_00

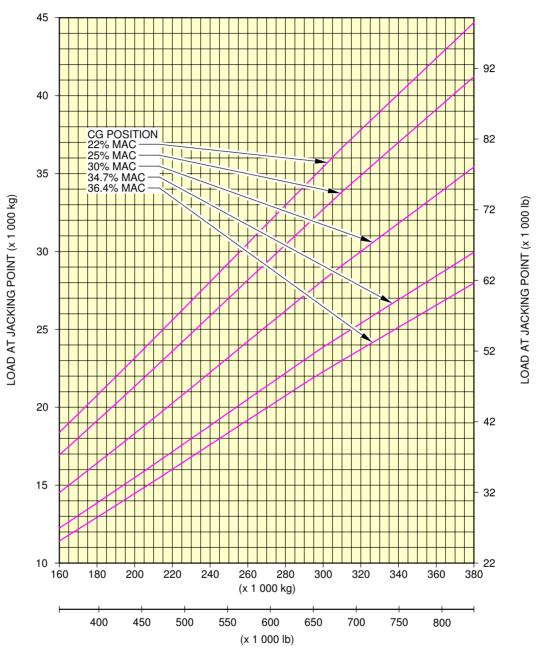
Jacking of the Landing Gear NLG Jacking Point Loads - (WV 001) FIGURE-2-14-1-991-020-A01

2-14-1

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### \*\*ON A/C A340-500



AIRCRAFT GROSS WEIGHT

F\_AC\_021401\_1\_0210101\_01\_00

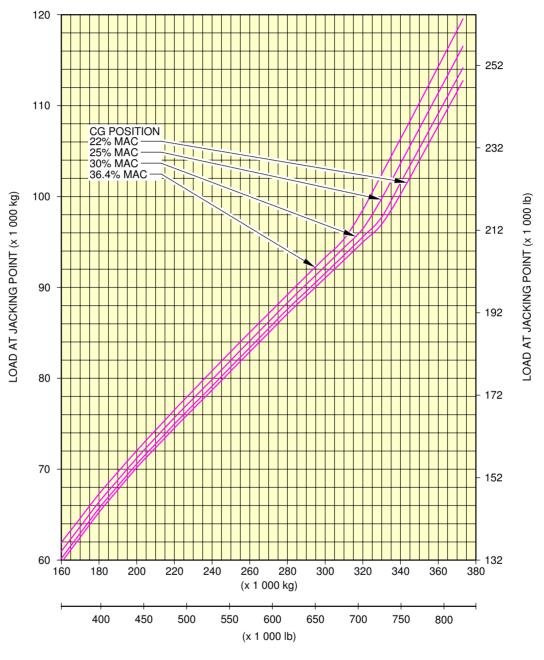
Jacking of the Landing Gear NLG Jacking Point Loads - (WV 101) FIGURE-2-14-1-991-021-A01

2-14-1

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### \*\*ON A/C A340-500



AIRCRAFT GROSS WEIGHT

F\_AC\_021401\_1\_0220101\_01\_00

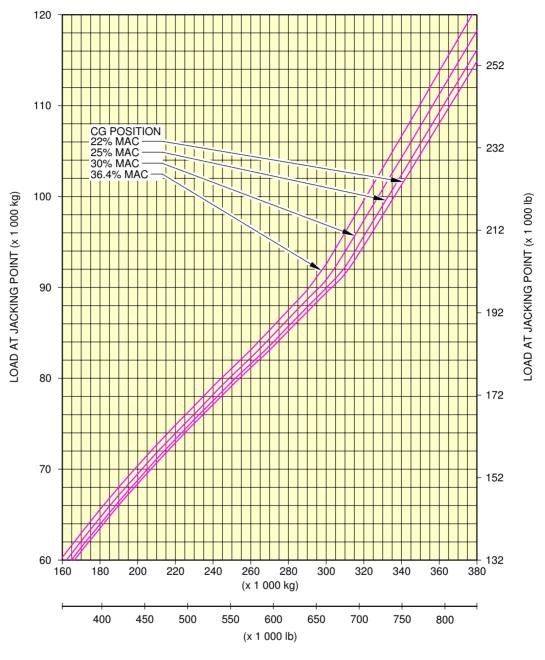
Jacking of the Landing Gear MLG Jacking Point Loads - (WV 001) FIGURE-2-14-1-991-022-A01

2-14-1

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### \*\*ON A/C A340-500



AIRCRAFT GROSS WEIGHT

F\_AC\_021401\_1\_0230101\_01\_00

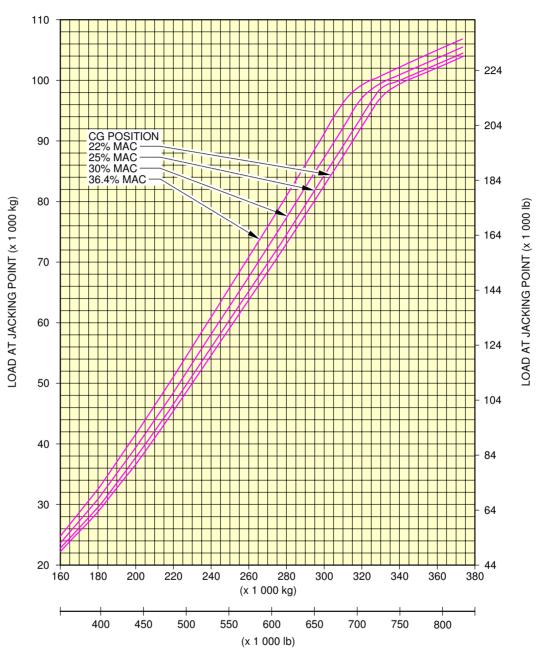
Jacking of the Landing Gear MLG Jacking Point Loads - (WV 101) FIGURE-2-14-1-991-023-A01

2-14-1

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### \*\*ON A/C A340-500



AIRCRAFT GROSS WEIGHT

F\_AC\_021401\_1\_0240101\_01\_00

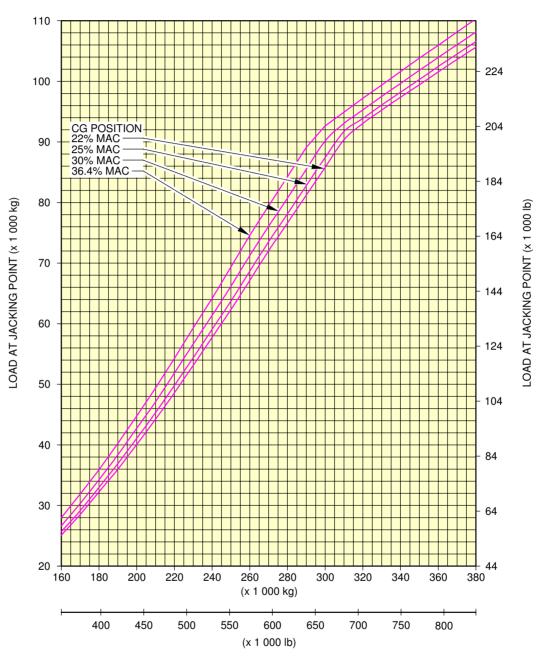
Jacking of the Landing Gear CLG Jacking Point Loads - (WV 001) FIGURE-2-14-1-991-024-A01

2-14-1

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### \*\*ON A/C A340-500



AIRCRAFT GROSS WEIGHT

F\_AC\_021401\_1\_0250101\_01\_00

Jacking of the Landing Gear CLG Jacking Point Loads - (WV 101) FIGURE-2-14-1-991-025-A01

2-14-1

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#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### 2-14-2 Support of Aircraft

### \*\*ON A/C A340-500 A340-600

### Support of Aircraft

1. Support of Aircraft

When it is necessary to support the aircraft in order to relieve the loads on the structure for the accomplishment of modifications or major work, it is advisable to provide adapters under the wings and the fuselage for an alternative means of lifting.

The aircraft must not be lifted or supported by the wings or fuselage alone. It is important to support the aircraft fuselage and wings at the same time to prevent structural damage.

A. Shoring Cradles

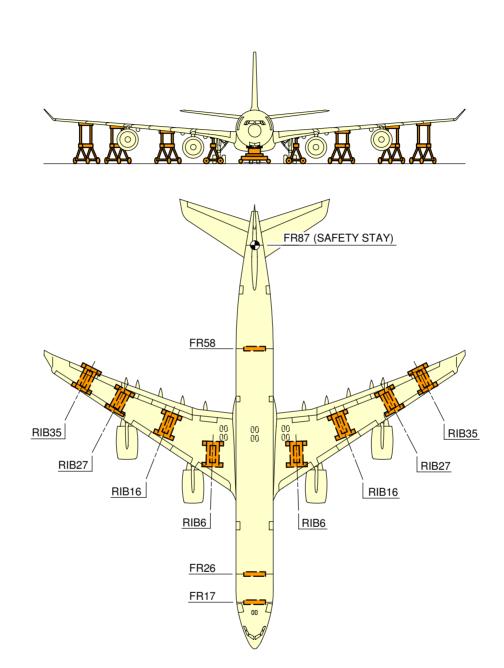
Shoring cradles are used when it is necessary to stress-jack the aircraft to carry out maintenance and repair work. These are used to oppose the deflections of the wings and reduce the stresses to an acceptable level at the area of maintenance and repair.

The shoring cradles, each with two adjustable pads, 152.4 mm (6 in) square, are positioned at four locations under each wing.

The adjustable pads are faced with thin rubber and are in contact with the wing profile at the datum intersections of the ribs and the front and rear spars (F/S and R/S).

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



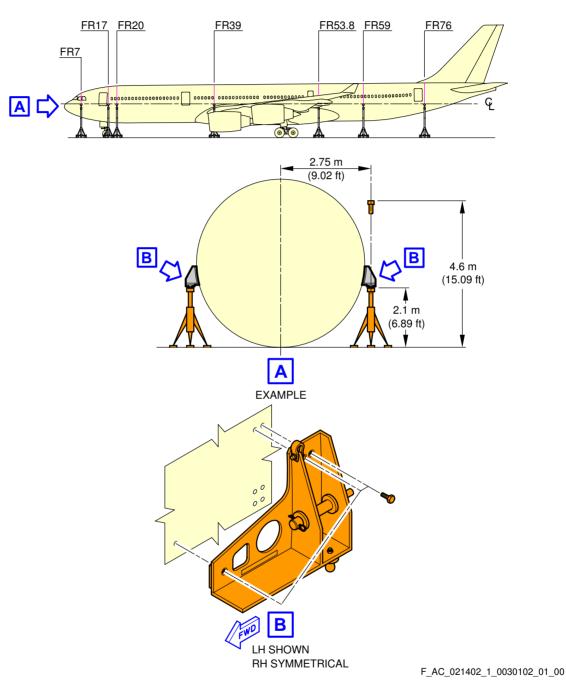
**NOTE:** THE SHORING CRADLE MUST BE INSTALLED AT THE EXACT LOCATION OF THE FRAME.

F\_AC\_021402\_1\_0030101\_01\_00

Support of Aircraft Location of Shoring Cradles (Sheet 1 of 2) FIGURE-2-14-2-991-003-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



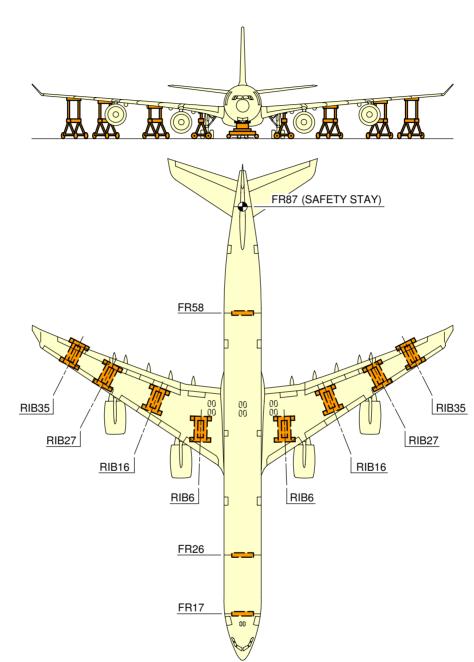
Support of Aircraft Location of Auxiliary Jacking Points (Sheet 2 of 2) FIGURE-2-14-2-991-003-A01

2-14-2

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600



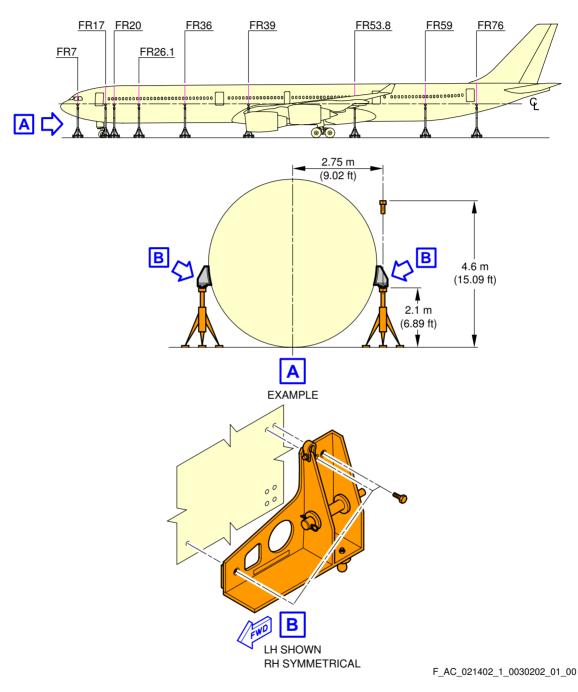
**NOTE:** THE SHORING CRADLE MUST BE INSTALLED AT THE EXACT LOCATION OF THE FRAME.

F\_AC\_021402\_1\_0030201\_01\_00

Support of Aircraft Location of Shoring Cradles (Sheet 1 of 2) FIGURE-2-14-2-991-003-B01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600



Support of Aircraft Location of Auxiliary Jacking Points (Sheet 2 of 2) FIGURE-2-14-2-991-003-B01

2-14-2

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### AIRCRAFT PERFORMANCE

### 3-1-0 General Information

### \*\*ON A/C A340-500 A340-600

**General Information** 

### 1. Standard day temperatures for the altitude shown are tabulated below:

Standard day temperatures for the altitude								
	Altitude	Standar	Standard Day Temperature					
FEET	METERS	°F	°C					
0	0	59.0	15.0					
2000	610	51.9	11.1					
4000	1220	44.7	7.1					
6000	1830	37.6	3.1					
8000	2440	30.5	-0.8					

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

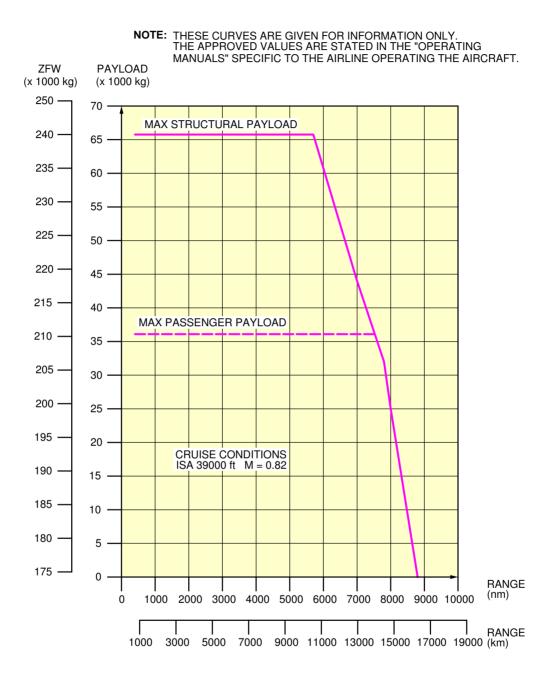
- 3-2-1 Payload / Range ISA Conditions
- \*\*ON A/C A340-500 A340-600

Payload / Range - ISA Conditions

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

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600

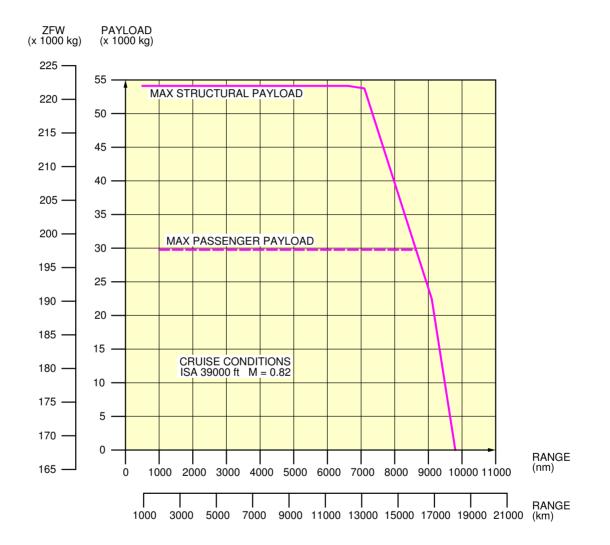


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Payload / Range - ISA Conditions RB 211 TRENT 556 engine FIGURE-3-2-1-991-018-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



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

F\_AC\_030201\_1\_0190101\_01\_01

Payload / Range - ISA Conditions RB 211 TRENT 553 engine FIGURE-3-2-1-991-019-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### 3-3-1 Take-Off Weight Limitation - ISA Conditions

### \*\*ON A/C A340-500 A340-600

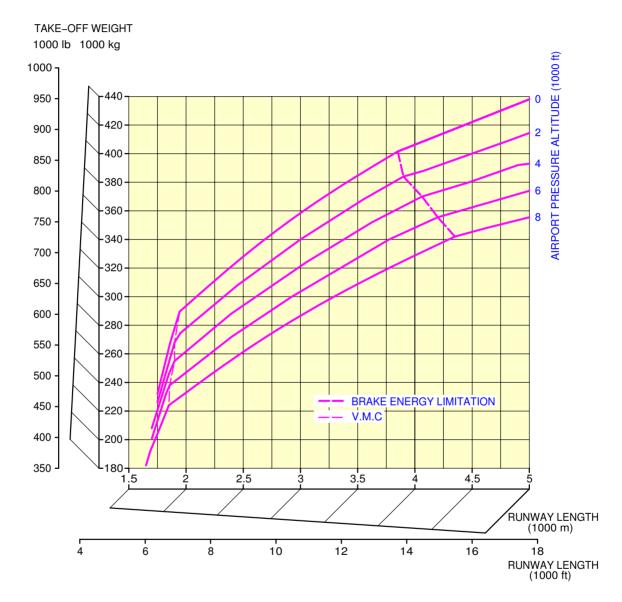
Take-Off Weight Limitation - ISA Conditions

1. This section gives the take-off weight limitation at ISA conditions.

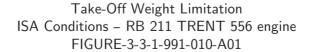
AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600





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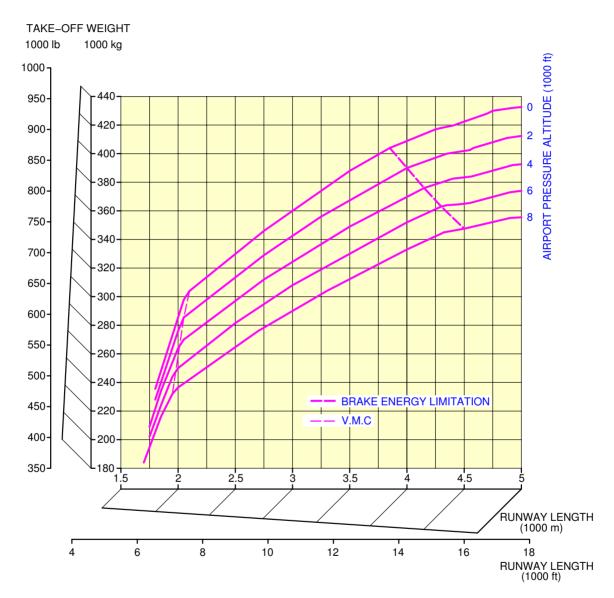
3-3-1

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500





F\_AC\_030301\_1\_0110101\_01\_00

Take-Off Weight Limitation ISA Conditions – RB 211 TRENT 553 engine FIGURE-3-3-1-991-011-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### 3-3-2 Take-Off Weight Limitation - ISA +15 °C (+59 °F) Conditions

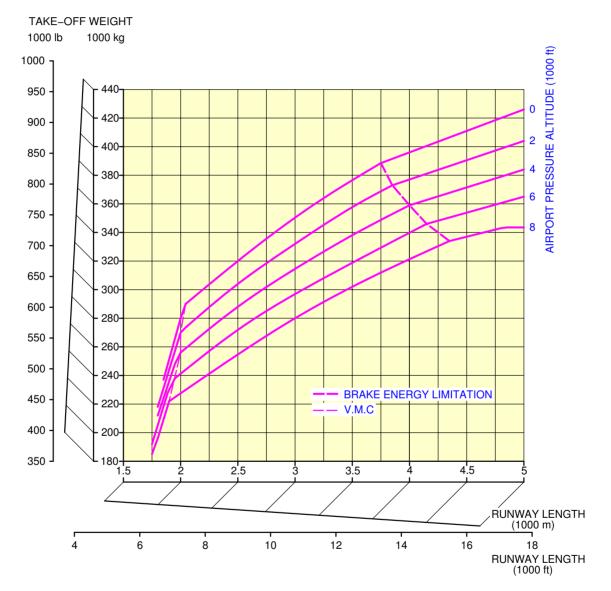
### \*\*ON A/C A340-500 A340-600

Take-Off Weight Limitation - ISA +15 °C (+59 °F) Conditions

1. This section gives the take-off weight limitation at ISA +15 °C (+59 °F) conditions.

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600



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

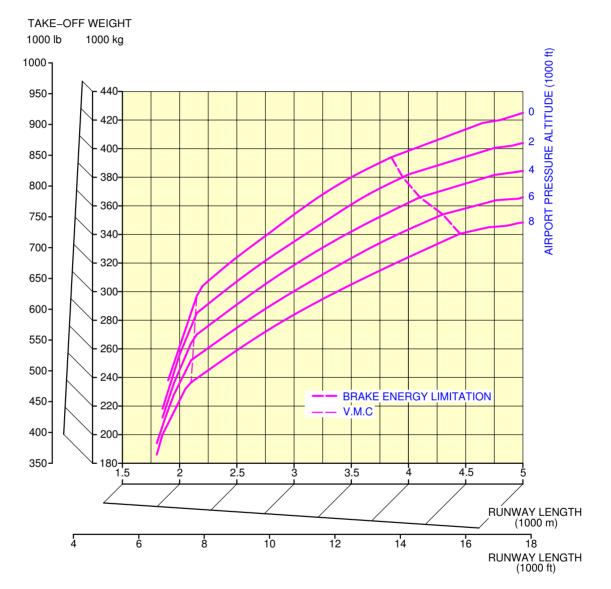
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Take-Off Weight Limitation ISA +15 °C (+59 °F) Conditions – RB 211 TRENT 556 engine FIGURE-3-3-2-991-010-A01

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



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

F\_AC\_030302\_1\_0110101\_01\_00

Take-Off Weight Limitation ISA +15 °C (+59 °F) Conditions – RB 211 TRENT 553 engine FIGURE-3-3-2-991-011-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### 3-4-1 Landing Field Length - ISA Conditions

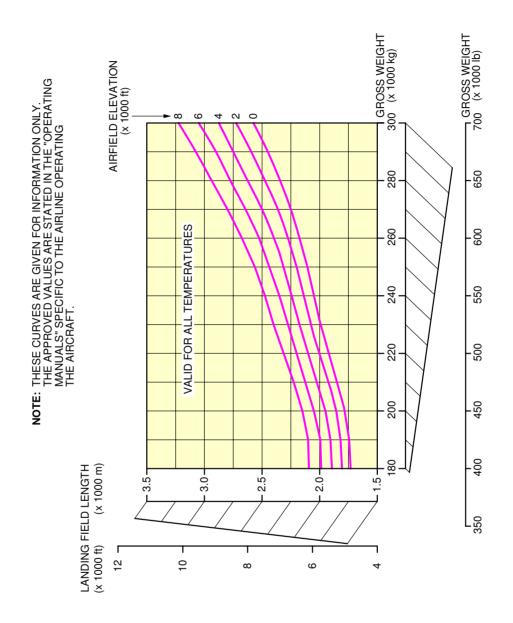
### \*\*ON A/C A340-500 A340-600

Landing Field Length - ISA Conditions

### 1. This section gives the landing field length.

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600

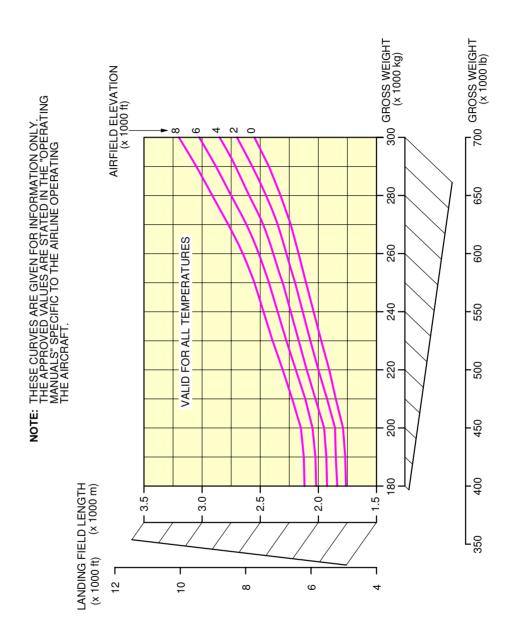


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Landing Field Length ISA Conditions – RB 211 TRENT 556 engine FIGURE-3-4-1-991-010-A01

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



F\_AC\_030401\_1\_0110101\_01\_01

Landing Field Length ISA Conditions – RB 211 TRENT 553 engine FIGURE-3-4-1-991-011-A01

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### 3-5-0 Final Approach Speed

### \*\*ON A/C A340-500 A340-600

### Final Approach Speed

### \*\*ON A/C A340-500

- 1. Final Approach Speed
  - A. This section gives the final approach speed. This is the indicated airspeed at threshold in the landing configuration, at the certificated maximum flap setting and maximum landing weight, in standard atmospheric conditions. The approach speed is used to classify the aircraft into an Aircraft Approach Category, a grouping of aircraft based on the indicated airspeed at threshold.
  - B. The final approach speed is 146 kt at a Maximum Landing Weight (MLW) of 246 000 kg (542 337 lb) and classifies the aircraft into the Aircraft Approach Category D.

<u>NOTE</u> : This value is given for information only.

### \*\*ON A/C A340-600

- 2. Final Approach Speed
  - A. This section gives the final approach speed. This is the indicated airspeed at threshold in the landing configuration, at the certificated maximum flap setting and maximum landing weight, in standard atmospheric conditions. The approach speed is used to classify the aircraft into an Aircraft Approach Category, a grouping of aircraft based on the indicated airspeed at threshold.
  - B. The final approach speed is 153 kt at a Maximum Landing Weight (MLW) of 265 000 kg (584 225 lb) and classifies the aircraft into the Aircraft Approach Category D.

<u>NOTE</u> : This value is given for information only.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### **GROUND MANEUVERING**

### 4-1-0 General Information

### \*\*ON A/C A340-500 A340-600

### General Information

1. This section provides aircraft 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 airlines in question prior to layout planning

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### 4-2-0 Turning Radii

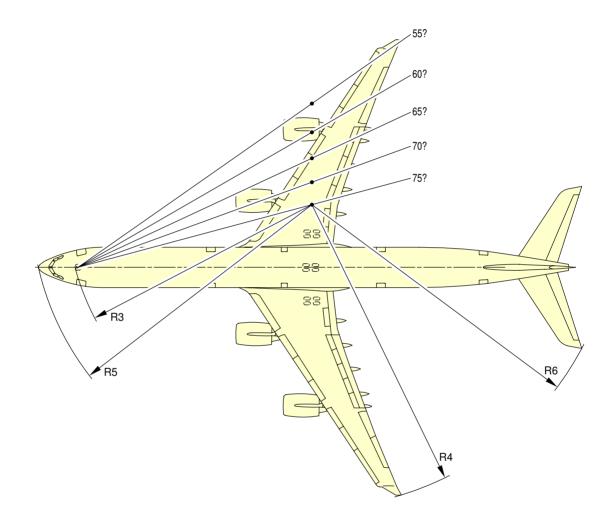
### \*\*ON A/C A340-500 A340-600

<u>Turning Radii</u>

1. This section provides the turning radii.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600



**NOTE:** FOR TURNING RADII VALUES, REFER TO SHEET 2.

F\_AC\_040200\_1\_0080101\_01\_02

Turning Radii (Sheet 1) (Sheet 1 of 2) FIGURE-4-2-0-991-008-A01

4-2-0

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### \*\*ON A/C A340-600

A340–600 TURNING RADII									
STEERING ANGLE (deg)	EFFECTIVE STEERING ANGLE (deg)		R3 NLG	R4 WING	R5 NOSE	R6 TAIL			
20	19.7	m	98.9	124.8	98.2	109.9			
20		ft	325	409	322	361			
25	24.6	m	80.2	104.7	82.8	91.1			
25		ft	263	344	272	299			
30	29.5	m	67.9	91	70.9	78.6			
50		ft	223	299	233	258			
35	34.4	m	59.3	80.9	62.8	69.7			
	34.4	ft	195	265	206	229			
40	39.2	m	53	73.2	56.9	63.1			
40		ft	174	240	187	207			
45	44	m	48.3	66.9	52.6	58			
45		ft	159	220	173	190			
50	48.8	m	44.7	61.7	49.3	53.9			
50		ft	147	202	162	177			
55	53.4	m	41.9	57.4	46.8	50.7			
		ft	138	188	154	166			
60	57.9	m	39.8	53.6	44.9	48			
00		ft	131	176	147	158			
65	62	m	38.2	50.5	43.5	45.9			
00	02	ft	125	166	143	151			
70	65.6	m	37.1	48	42.5	44.4			
/0		ft	122	158	139	146			
75	67.4	m	36.6	46.8	42.1	43.6			
/3		ft	120	153	138	143			

**NOTE:** SYMMETRIC THRUST- NO BRAKING.

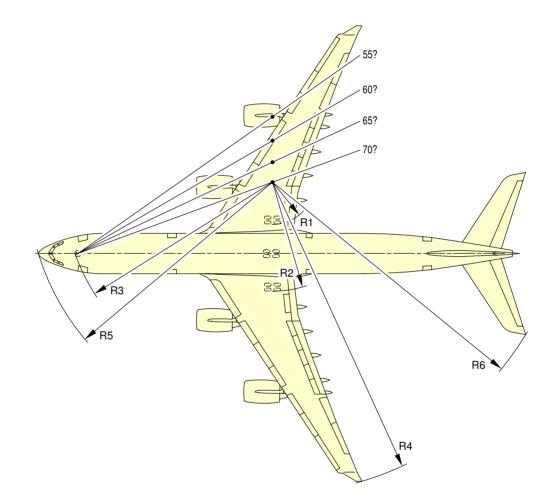
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Turning Radii (Sheet 2) (Sheet 2 of 2) FIGURE-4-2-0-991-008-A01

4-2-0

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



**NOTE:** FOR TURNING RADII VALUES, REFER TO SHEET 2.

F\_AC\_040200\_1\_0090101\_01\_02

Turning Radii (Sheet 1) (Sheet 1 of 2) FIGURE-4-2-0-991-009-A01

4-2-0

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500

A340–500 TURNING RADII									
TYPE OF	STEERING	EFFECTIVE		R1	R2	R3	R4	R5	R6
TURN	ANGLE (deg)	STEERING ANGLE (deg)		RMLG	LMLG	NLG	WING	NOSE	TAIL
2		10 5	m	78.7	84.4	83.5	110.4	85.3	94.9
2	20	19.5		258	277	274	362	280	311
2	25	24.3	m	63.1	67.4	67.6	93.5	70.0	79.2
2	25	24.0	ft	207	221	222	307	230	260
2	30	29.1	m	52.9	55.9	57.3	82.0	60.2	68.8
2	50	20.1	ft	174	183	188	269	198	226
2	35	33.9	m	45.9	47.3	50.0	73.6	53.4	61.5
			ft	151	155	164	241	175	202
2	40	38.7	m	40.8	40.8	44.6	67.1	48.5	56.1
-	-10	00.7	ft	134	134	146	220	159	184
2	45	43.4	m	37.1	35.5	40.6	61.9	44.9	51.9
-	10		ft	122	116	133	203	147	170
2	50	48.0	m	34.3	31.1	37.5	57.6	42.2	48.7
	50		ft	113	102	123	189	138	160
2	55	52.6	m ft	32.3	27.4	35.1	53.9	40.1	46.0
<u> </u>		52.0		106	90	115	177	132	151
2	60	57.0	m	30.7	24.2	33.3	50.8	38.6	43.9
-		07.0	ft	101	79	109	167	127	144
2	65	61.1	m	29.7	21.6	31.8	48.2	37.4	42.2
2		01.1	ft	97	71	104	158	123	138
2	70	64.5	m	29.0	19.5	30.9	46.2	36.6	40.9
2	70	04.0	ft	95	64	101	152	120	134
1	50	50 49.3	m	33.7	30.0	36.8	56.5	41.6	47.9
'			ft	111	98	121	185	136	157
1	55	54.0	m	31.7	26.3	34.5	52.9	39.6	45.3
			ft	104	86	113	174	130	149
1	60	58.8	m	30.2	23.0	32.6	49.7	38.0	43.1
			ft	99	75	107	163	125	141
1	65	63.5	m	29.1	20.1	31.1	46.8	36.8	41.3
			ft	95	66	102	154	121	135
1	70	68.0	m ft	28.4	17.4	30.0	44.2	35.9	39.8
	,,,	00.0		93	57	98	145	118	131

#### NOTE:

ABOVE 50?, AIRLINES MAY USE TYPE 1 OR TYPE 2 TURNS DEPENDING ON THE SITUATION. TYPE 1 TURNS USE: ASYMMETRIC THRUST DURING THE WHOLE TURN; AND DIFFERENTIAL BRAKING TO INITIATE THE TURN ONLY. TYPE 2 TURNS USE: SYMMETRIC THRUST DURING THE WHOLE TURN; AND NO DIFFERENTIAL BRAKING AT ALL. IT IS POSSIBLE TO GET LOWER VALUES THAN THOSE FROM TYPE 1 BY APPLYING DIFFERENTIAL BRAKING DURING THE WHOLE TURN. E AC. 040200, 1, 00

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Turning Radii (Sheet 2) (Sheet 2 of 2) FIGURE-4-2-0-991-009-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### 4-3-0 Minimum Turning Radii

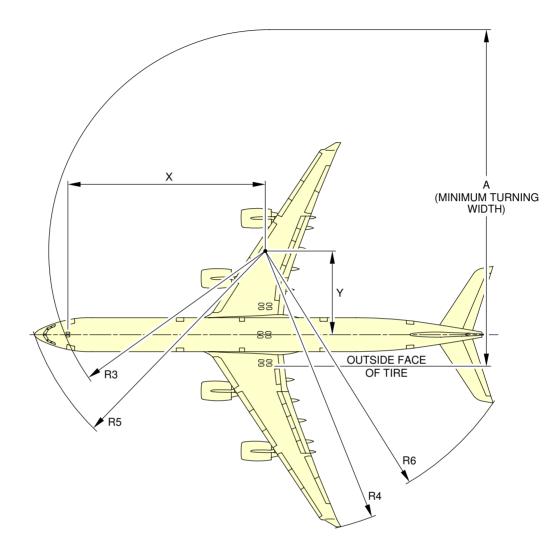
### \*\*ON A/C A340-500 A340-600

Minimum Turning Radii

#### 1. This section provides the minimum turning radii.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600



A340–600 MINIMUM TURNING RADII										
TYPE OF TURN	EFFECTIVE STEERING ANGLE (deg)		x	Y	А	R3 NLG	R4 WING	R5 NOSE	R6 TAIL	
2	67.4	m	33.2	13.7	56.7	36.6	46.8	42.1	43.6	
	67.4	ft	109	45	186	120	154	138	143	

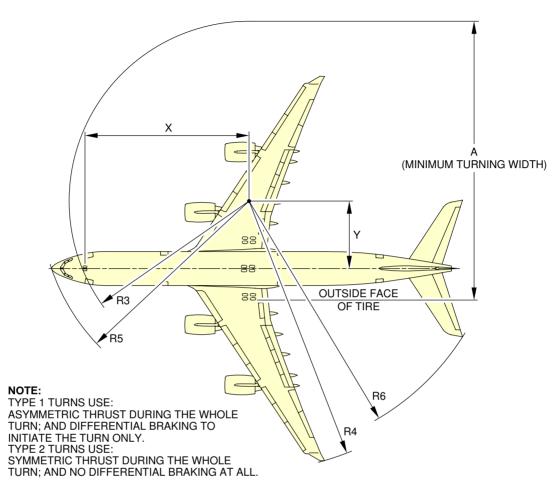
NOTE: TYPE 2 TURNS USE: SYMMETRIC THRUST DURING THE WHOLE TURN; AND NO DIFFERENTIAL BRAKING AT ALL.

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Minimum Turning Radii FIGURE-4-3-0-991-005-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



	A340–500 MINIMUM TURNING RADII										
TYPE OF TURN	STEERING ANGLE (deg)	EFFECTIVE STEERING ANGLE (deg)		x	Y	А	R3 NLG	R4 WING	R5 NOSE	R6 TAIL	
1	70 (MAX)	68.0	m	27.6	11.1	47.8	30.0	44.2	35.9	39.8	
			ft	91	36	157	98	145	118	131	
2	70 (MAX)	64.5	m	27.6	13.2	50.7	30.9	46.2	36.6	40.9	
			ft	91	43	166	101	152	120	134	

NOTE:

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

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Minimum Turning Radii FIGURE-4-3-0-991-006-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

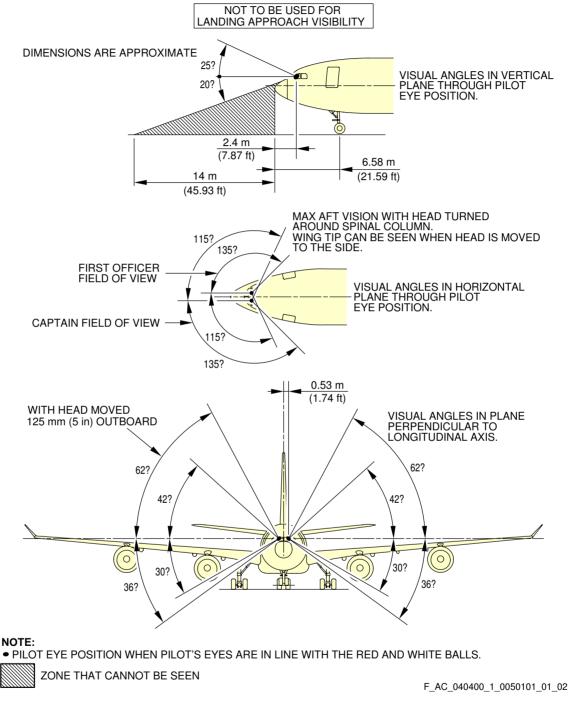
- 4-4-0 Visibility from Cockpit in Static Position
- \*\*ON A/C A340-500 A340-600

Visibility from Cockpit in Static Position

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

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

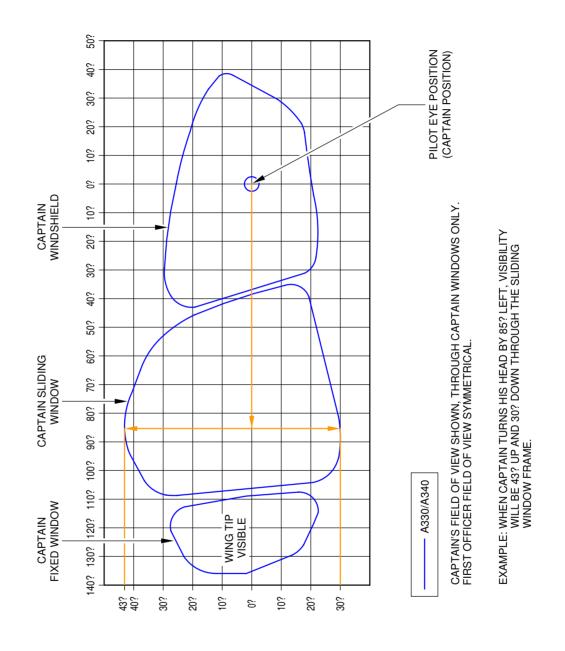
#### \*\*ON A/C A340-500 A340-600



Visibility from Cockpit in Static Position FIGURE-4-4-0-991-005-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600



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Binocular Visibility Through Windows from Captain Eye Position FIGURE-4-4-0-991-009-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

- 4-5-0 Runway and Taxiway Turn Paths
- \*\*ON A/C A340-500 A340-600

Runway and Taxiway Turn Paths

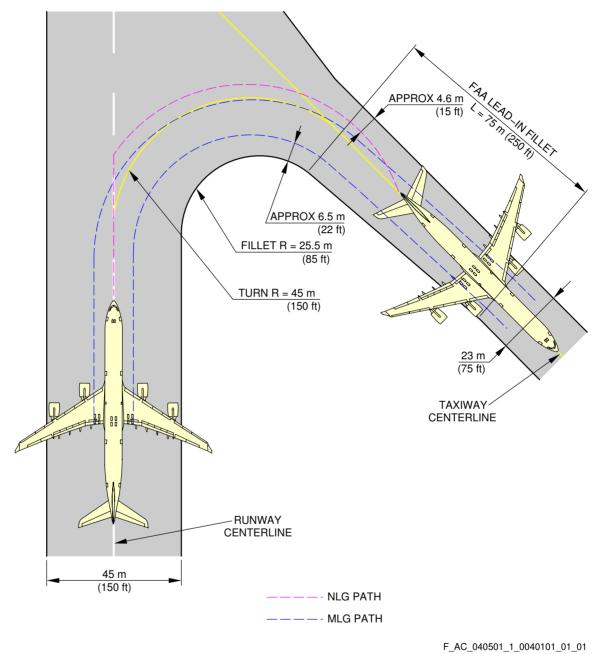
1. Runway and Taxiway Turn Paths.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

- 4-5-1 135° Turn Runway to Taxiway
- \*\*ON A/C A340-500 A340-600
- <u>135 ° Turn Runway to Taxiway</u>
- 1. This section gives the 135° turn runway to taxiway.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

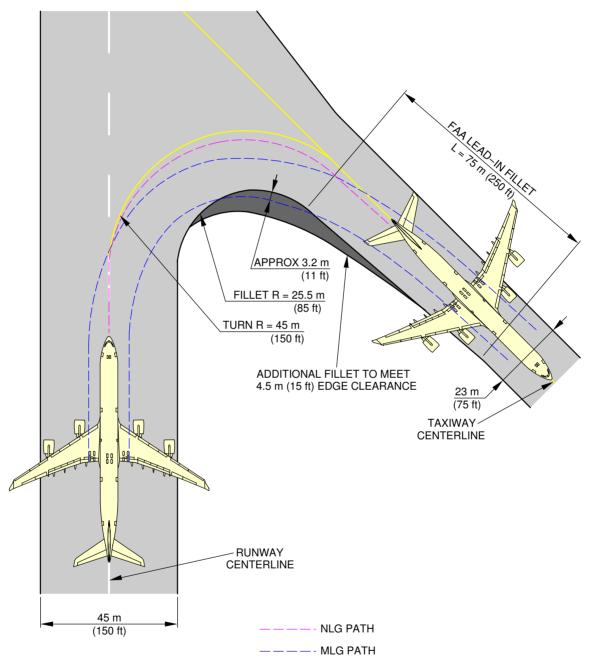
#### \*\*ON A/C A340-600



135 ° Turn - Runway to Taxiway Judgemental Oversteering Method FIGURE-4-5-1-991-004-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600

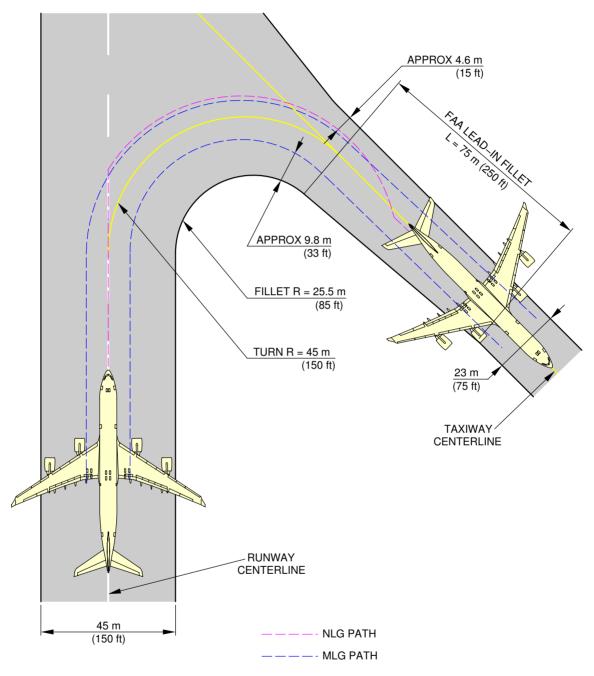


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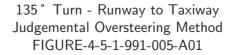
135° Turn - Runway to Taxiway Cockpit Over Centerline Method FIGURE-4-5-1-991-011-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500

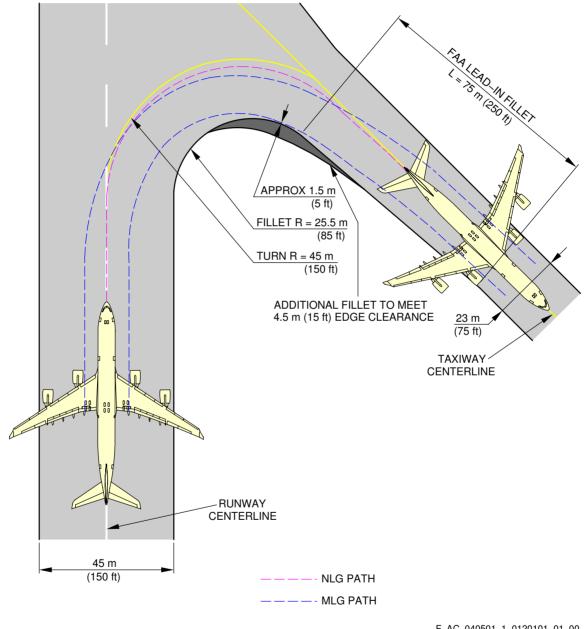


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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500



135° Turn - Runway to Taxiway Cockpit Over Centerline Method FIGURE-4-5-1-991-012-A01

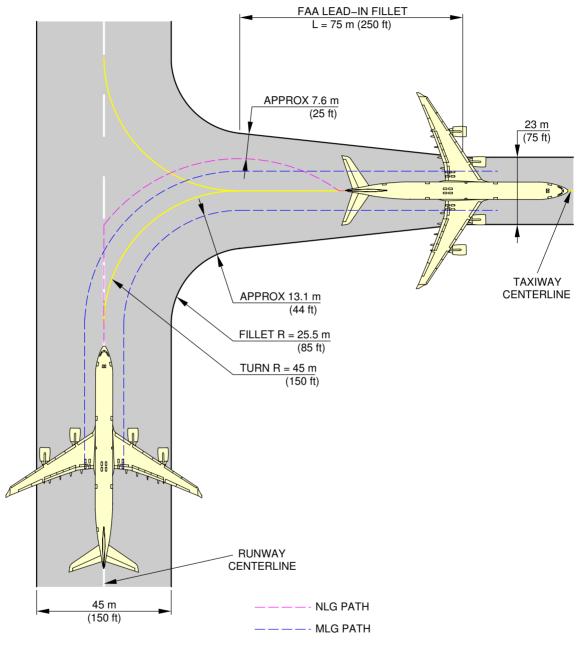
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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

- 4-5-2 90° Turn Runway to Taxiway
- \*\*ON A/C A340-500 A340-600
- <u>90° Turn Runway to Taxiway</u>
- 1. This section gives the 90  $^\circ$  turn runway to taxiway.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600

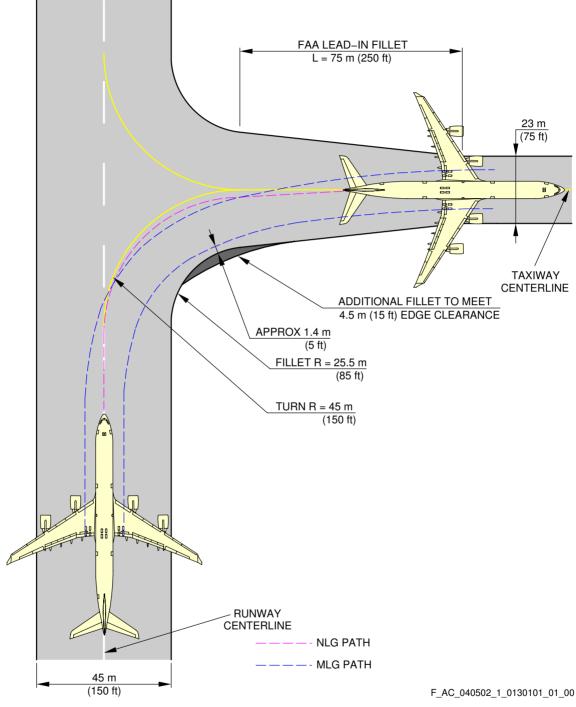


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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

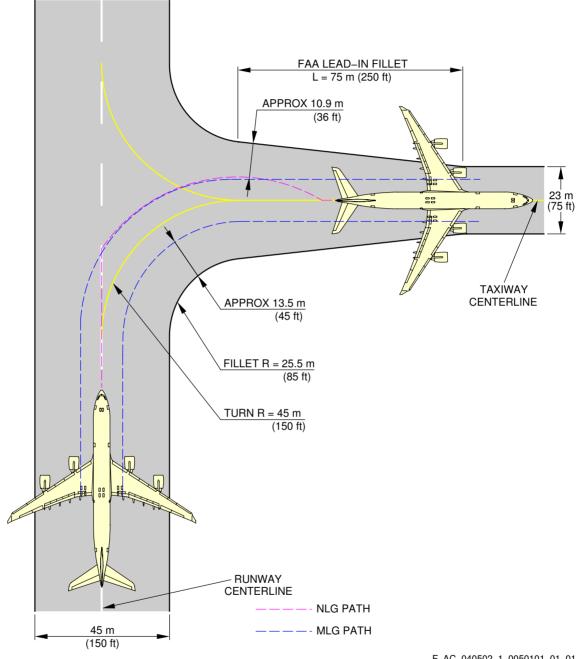
\*\*ON A/C A340-600



90° Turn - Runway to Taxiway Cockpit Over Centerline Method FIGURE-4-5-2-991-013-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500

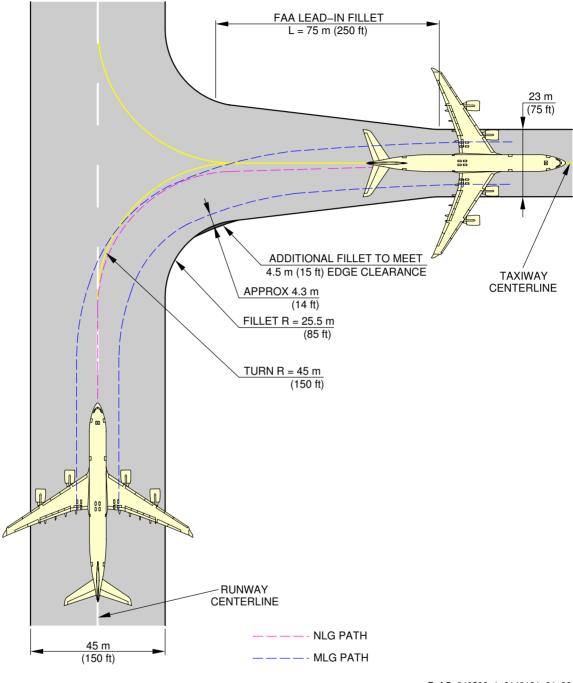


90° Turn - Runway to Taxiway Judgement Oversteering Method FIGURE-4-5-2-991-005-A01

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



90° Turn - Runway to Taxiway Cockpit Over Centerline Method FIGURE-4-5-2-991-014-A01

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### 4-5-3 180° Turn on a Runway

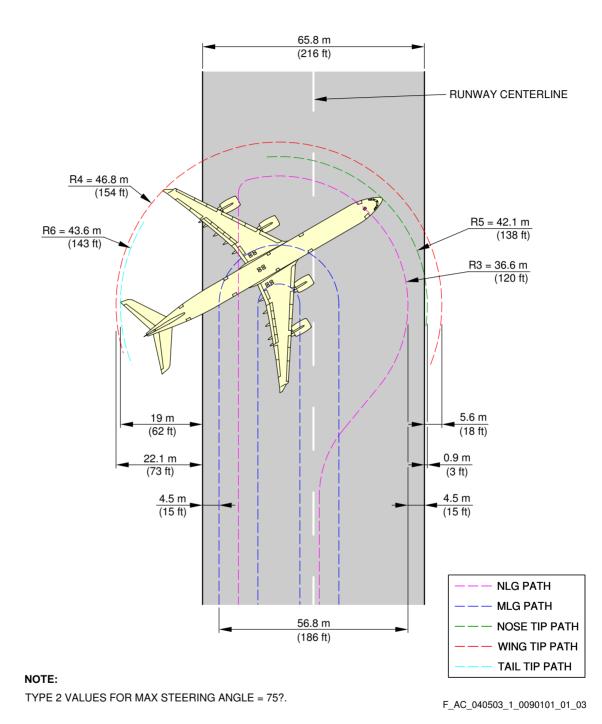
### \*\*ON A/C A340-500 A340-600

<u>180° Turn on a Runway</u>

### 1. This section provides the 180° turn on a runway.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

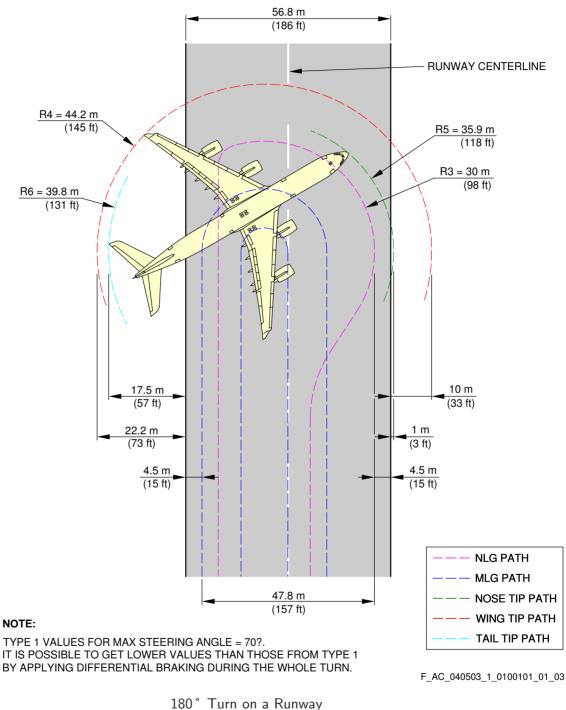
#### \*\*ON A/C A340-600



180° Turn on a Runway FIGURE-4-5-3-991-009-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500



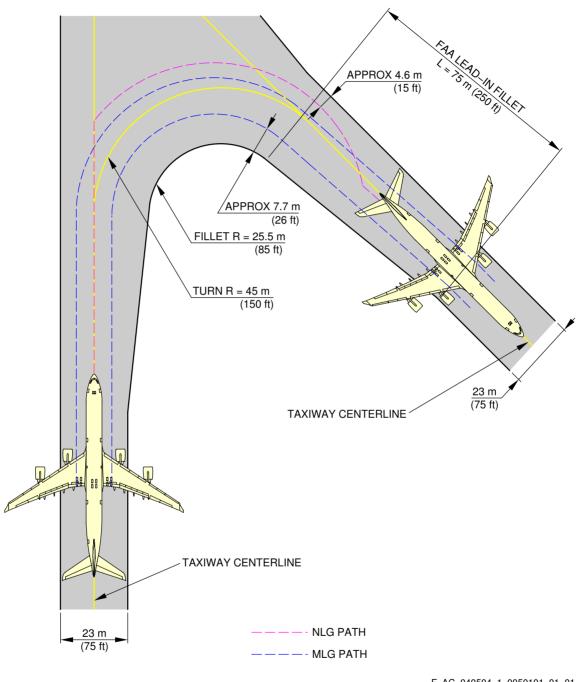
180° I urn on a Runway FIGURE-4-5-3-991-010-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

- 4-5-4 135° Turn Taxiway to Taxiway
- \*\*ON A/C A340-500 A340-600
- <u>135 ° Turn Taxiway to Taxiway</u>
- 1. This section gives the 135° turn taxiway to taxiway.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

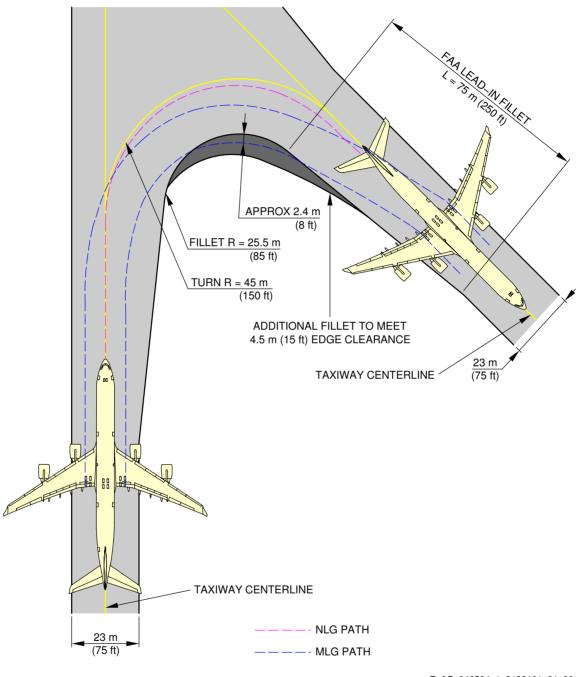
\*\*ON A/C A340-600



135° Turn - Taxiway to Taxiway Judgement Oversteering Method FIGURE-4-5-4-991-005-A01 F\_AC\_040504\_1\_0050101\_01\_01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

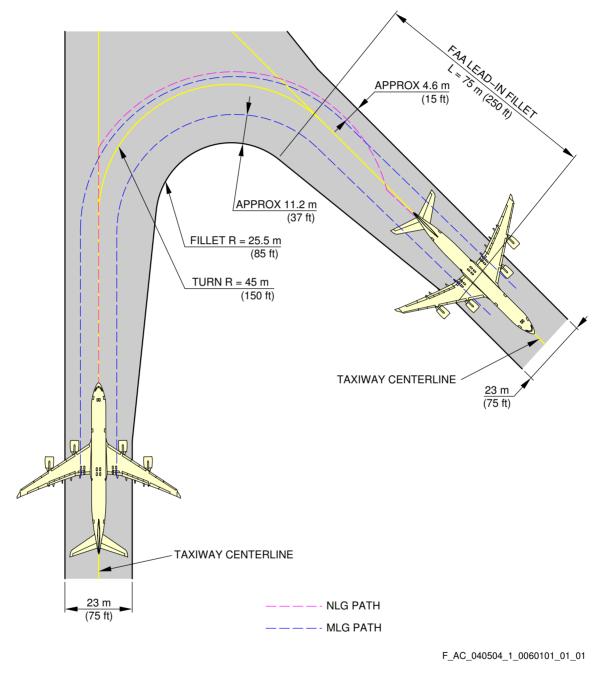
\*\*ON A/C A340-600



135 ° Turn - Taxiway to Taxiway Cockpit Over Centerline Method FIGURE-4-5-4-991-013-A01 F\_AC\_040504\_1\_0130101\_01\_00

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

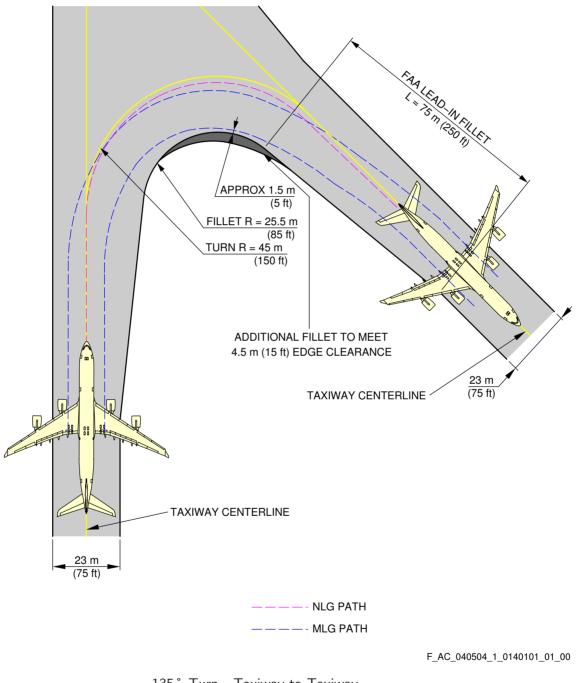
#### \*\*ON A/C A340-500



135° Turn - Taxiway to Taxiway Judgement Oversteering Method FIGURE-4-5-4-991-006-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500



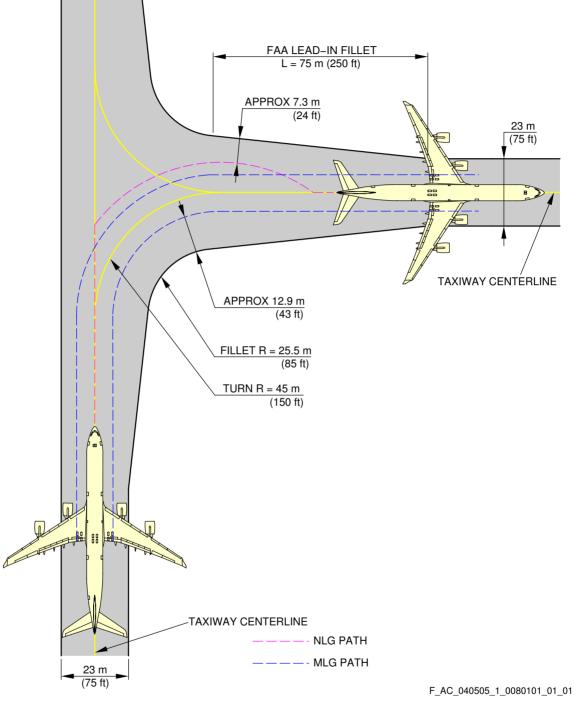
135° Turn - Taxiway to Taxiway Cockpit Over Centerline Method FIGURE-4-5-4-991-014-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

- 4-5-5 90° Turn Taxiway to Taxiway
- \*\*ON A/C A340-500 A340-600
- <u>90 ° Turn Taxiway to Taxiway</u>
- 1. This section gives the 90  $^{\circ}$  turn taxiway to taxiway.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

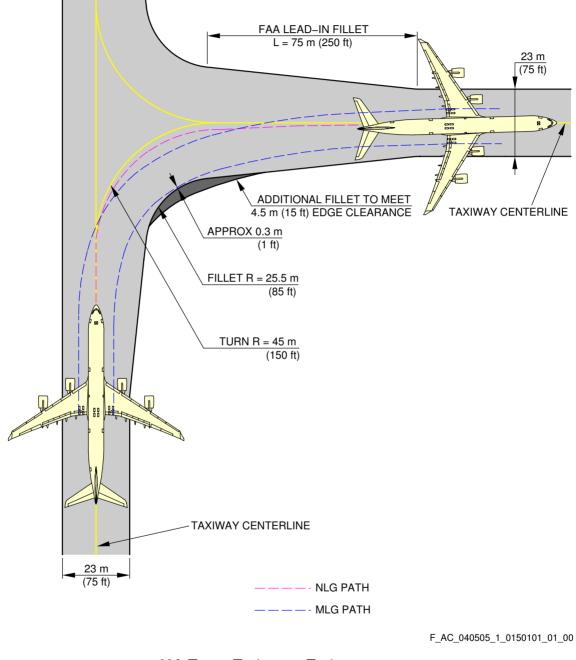
\*\*ON A/C A340-600



90° Turn - Taxiway to Taxiway Judgemental Oversteering Method FIGURE-4-5-5-991-008-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

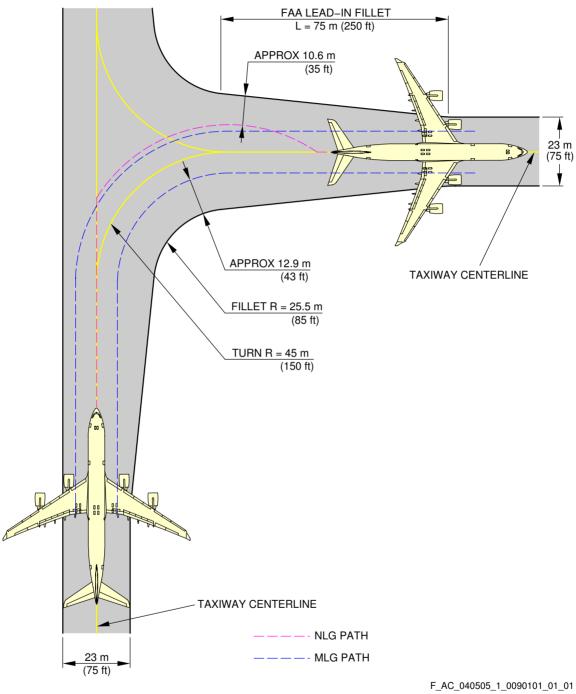
\*\*ON A/C A340-600

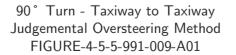


90° Turn - Taxiway to Taxiway Cockpit Over Centerline Method FIGURE-4-5-5-991-015-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

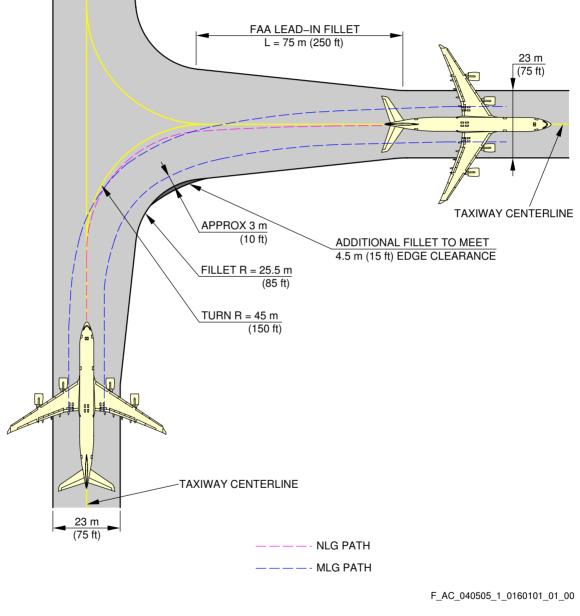
\*\*ON A/C A340-500

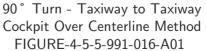




AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500





AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

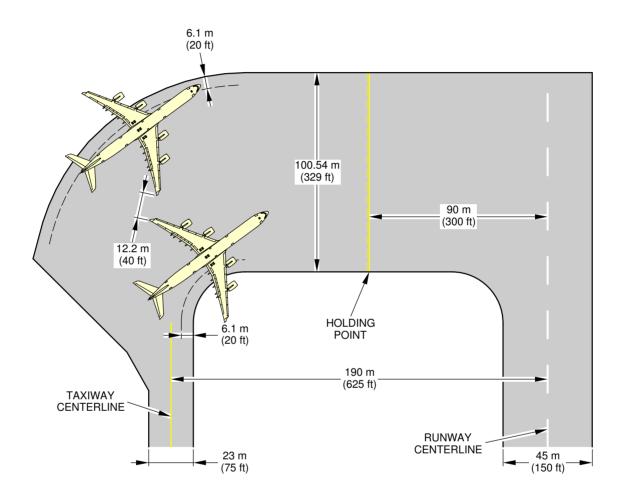
- 4-6-0 Runway Holding Bay (Apron)
- \*\*ON A/C A340-500 A340-600

Runway Holding Bay (Apron)

#### 1. This section provides the runway holding bay (Apron).

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600



NOTE: 20? NOSE-WHEEL STEERING ANGLE. COORDINATE WITH USING AIRLINE FOR SPECIFIC PLANNED OPERATING PROCEDURES.

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Runway Holding Bay (Apron) FIGURE-4-6-0-991-004-A01

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### 4-7-0 Minimum Line-Up Distance Corrections

#### \*\*ON A/C A340-500 A340-600

#### Minimum Line-Up Distance Corrections

 The ground maneuvers were performed using asymmetric thrust and differential-only braking to initiate the turn. TODA: Take-Off Distance Available ASDA: Acceleration-Stop Distance Available

2. 90° Turn on Runway Entry

This section gives the minimum line-up distance correction for a 90° turn on runway entry. This maneuver consists in a 90° turn at minimum turn radius. It starts with the edge of the MLG at a distance of 4.5 m (15 ft) from the taxiway edge, and finishes with the aircraft aligned on the centerline of the runway, see FIGURE 4-7-0-991-025-A.

During the turn, all the clearances must meet the minimum value of 4.5 m (15 ft) for this category of aircraft as recommended in ICAO Annex 14.

3. 180° Turn on Runway Turn Pad

This section gives the minimum line-up distance correction for a 180° turn on the runway turn pad. This maneuver consists in a 180° turn at minimum turn radius on a runway turn pad with standard ICAO geometry.

It starts with the edge of the MLG at a distance of 4.5 m (15 ft) from the pavement edge, and it finishes with the aircraft aligned on the centerline of the runway, see FIGURE 4-7-0-991-026-A. During the turn, all the clearances must meet the minimum value of 4.5 m (15 ft) for this category of aircraft as recommended in ICAO Annex 14.

4. 180° Turn on Runway Width

This section gives the minimum line-up distance correction for a  $180^{\circ}$  turn on the runway width. For this maneuver, the pavement width is considered to be the runway width, which is a frozen parameter (45 m (150 ft) and 60 m (200 ft)).

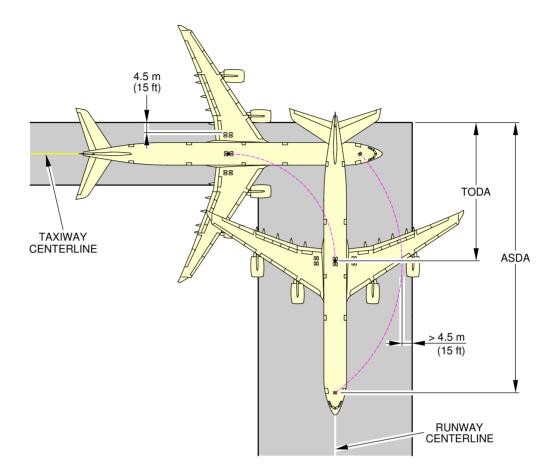
As per the standard operating procedures for the "180 $^{\circ}$  turn on runway" (described in the Flight Crew Operating Manual), the aircraft is initially angled with respect to the runway centerline when starting the 180 $^{\circ}$  turn, see FIGURE 4-7-0-991-027-A.

The value of this angle depends on the aircraft type and is mentioned in the FCOM.

During the turn, all the clearances must meet the minimum value of 4.5 m (15 ft) for this category of aircraft as recommended in ICAO Annex 14.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600



90? TURN ON RUNWAY ENTRY											
	MAX STEERING ANGLE			/IDE RUN RD WIDT		60 m (200 ft) WIDE RUNWAY					
AIRCRAFT TYPE			-	1 LINE-L		MINIMUM LINE-UP DISTANCE CORRECTION					
			ODA	ON A	SDA	ON T	ODA	ON ASDA			
A340–500	70?	24.5 m	80 ft	52.5 m	172 ft	22.1 m	73 ft	50.1 m	164 ft		
A340–600	76?	33.6 m	110 ft	66.8 m	219 ft	20.5 m	67 ft	53.7 m	176 ft		

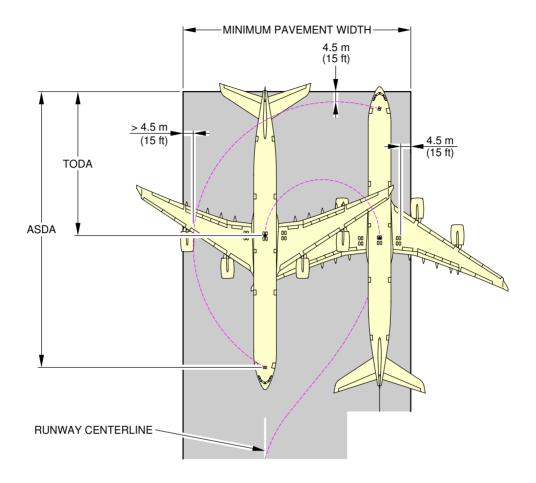
#### NOTE:

ASDA: ACCELERATION-STOP DISTANCE AVAILABLE TODA: TAKE-OFF DISTANCE AVAILABLE

Minimum Line-Up Distance Corrections 90° Turn on Runway Entry FIGURE-4-7-0-991-025-A01 F\_AC\_040700\_1\_0250101\_01\_00

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600



	180? TURN ON RUNWAY TURNPAD												
	45 m (150 ft) WIDE RUNWAY (STANDARD WIDTH)				60 m (200 ft) WIDE RUNWAY								
AIRCRAFT TYPE	MAX STEERING ANGLE	MINIMUM LINE-UF DISTANCE CORRECTI		-		JIRED MUM MENT	MINIMUM LINE–UP DISTANCE CORRECTION PAVEM		мим				
		ON T	TODA ON ASDA WIDTH		ON T	ODA	ON A	SDA	WID	TH			
A340-500	70?	36.2 m	119 ft	64.2 m	210 ft	60.7 m	199 ft	35.2 m	116 ft	63.2 m	207 ft	63.4 m	208 ft
A340-600	76?	45.3 m	149 ft	78.5 m	258 ft	78.9 m	259 ft	39.7 m	130 ft	72.9 m	239 ft	60.2 m	198 ft

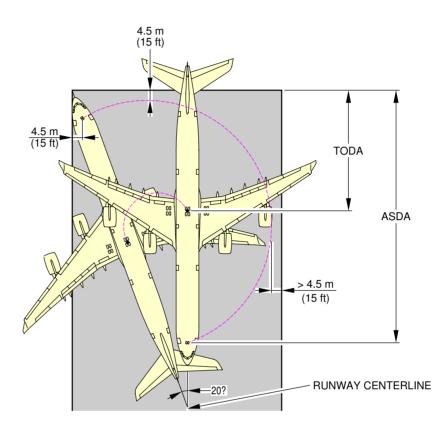
#### NOTE:

ASDA: ACCELERATION-STOP DISTANCE AVAILABLE TODA: TAKE-OFF DISTANCE AVAILABLE

Minimum Line-Up Distance Corrections 180° Turn on Runway Turn Pad FIGURE-4-7-0-991-026-A01 F\_AC\_040700\_1\_0260101\_01\_00

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600



	180? TURN ON RUNWAY WIDTH							
		45 m (150 ft) WIDE RUNWAY (STANDARD WIDTH)			60 m (200 ft) WIDE RUNWAY			
AIRCRAFT TYPE	MAX STEERING ANGLE	MINIMUM LINE-UP DISTANCE CORRECTION		MINIMUM LINE-UP DISTANCE CORRECTION			N	
		ON TODA	ON TODA ON ASDA		ODA	ON A	SDA	
A340–500	70?	NOT POSSIBLE		48.2 m	158 ft	76.2 m	250 ft	
A340-600	76?	NOTEC		NOT PC	OSSIBLE			

#### NOTE:

ASDA: ACCELERATION-STOP DISTANCE AVAILABLE TODA: TAKE-OFF DISTANCE AVAILABLE

Minimum Line-Up Distance Corrections 180° Turn on Runway Width FIGURE-4-7-0-991-027-A01 F\_AC\_040700\_1\_0270101\_01\_00

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### 4-8-0 Aircraft Mooring

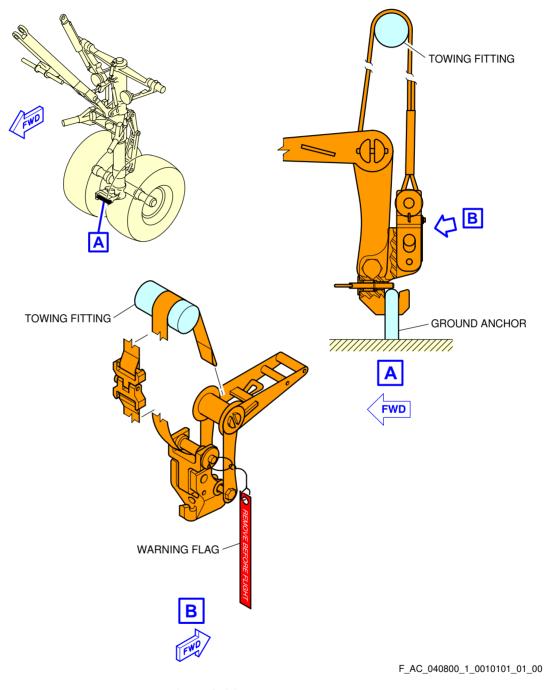
## \*\*ON A/C A340-500 A340-600

Aircraft Mooring

1. This section provides information on aircraft mooring.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### \*\*ON A/C A340-500 A340-600



Aircraft Mooring FIGURE-4-8-0-991-001-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

## TERMINAL SERVICING

#### 5-1-0 Aircraft Servicing Arrangements

#### \*\*ON A/C A340-500 A340-600

#### Aircraft Servicing Arrangements

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

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

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### 5-1-1 Symbols Used on Servicing Diagrams

## \*\*ON A/C A340-500 A340-600

## 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
BULK	BULK TRAIN
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
PBB	PASSENGER BOARDING BRIDGE
PS	PASSENGER STAIRS
TOW	TOW TRACTOR
ULD	ULD TRAIN
WV	POTABLE WATER VEHICLE

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### 5-1-2 Typical Ramp Layout - Open Apron

### \*\*ON A/C A340-500 A340-600

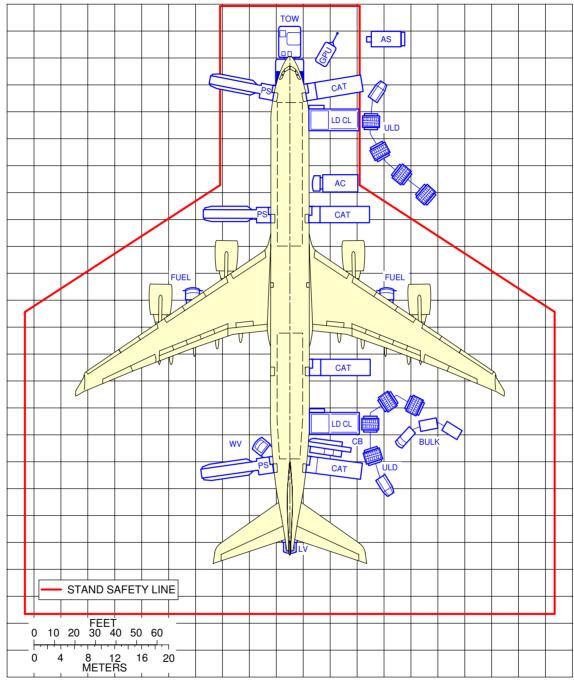
#### Typical Ramp Layout - Open Apron

1. This section provides the typical servicing arrangements on the open apron, for the passenger version of the aircraft.

The Stand Safety Line delimits the Aircraft Safety Area (minimum distance of 7.5 m (24.61 ft) from the aircraft). No vehicle must be parked in this area before complete stop of the aircraft (wheel chocks in position on landing gears).

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

## \*\*ON A/C A340-600

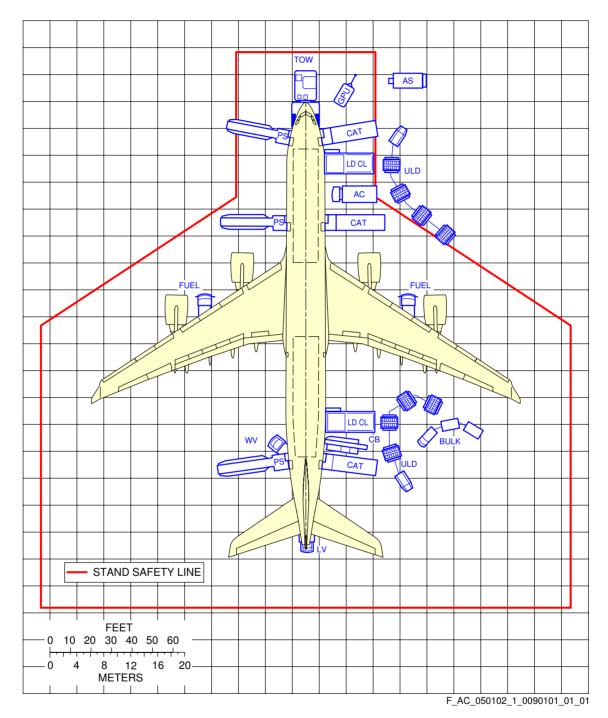


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Typical Ramp Layout Open Apron FIGURE-5-1-2-991-008-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

## \*\*ON A/C A340-500



Typical Ramp Layout Open Apron FIGURE-5-1-2-991-009-A01

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### 5-1-3 Typical Ramp Layout - Gate

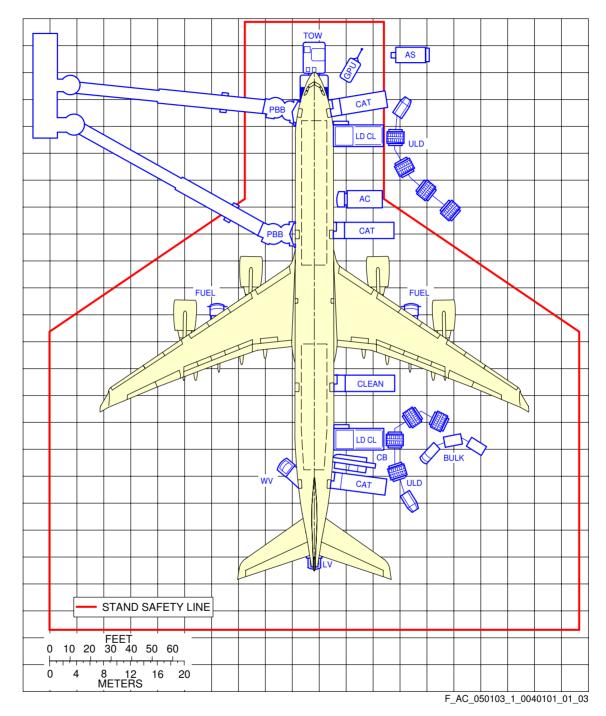
### \*\*ON A/C A340-500 A340-600

#### Typical Ramp Layout - Gate

 This section provides the typical servicing arrangements in the gate area for the passenger version of the aircraft, with two Passenger Boarding Bridges. The Stand Safety Line delimits the Aircraft Safety Area (minimum distance of 7.5 m (24.61 ft) from the aircraft). No vehicle must be parked in this area before complete stop of the aircraft (wheel chocks in position on landing gears).

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

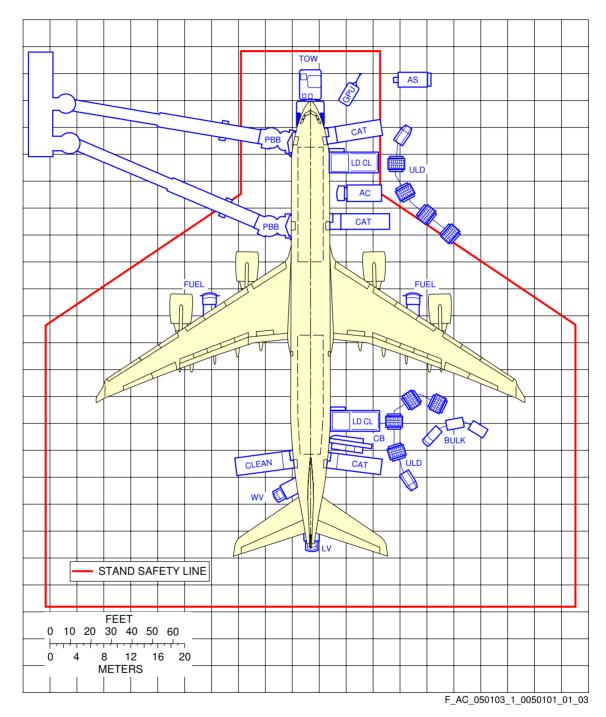
## \*\*ON A/C A340-600



Typical Ramp Layout Gate FIGURE-5-1-3-991-004-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500



Typical Ramp Layout Gate FIGURE-5-1-3-991-005-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### 5-2-0 Terminal Operations - Full Servicing

### \*\*ON A/C A340-600

#### Terminal Operations - Full Servicing Turn Round Time

- This section provides a typical turn round time charts showing the typical time for ramp activities during aircraft turn round. Actual times may vary due to each operator's specific practices, resources, equipment and operating conditions.
- 2. Assumptions used for full servicing turn round time chart
  - A. PASSENGER HANDLING
    319 pax: 12 F/C + 42 B/C + 265 Y/C.
    All passengers deplane and board the aircraft.
    2 Passenger Boarding Bridges (PBB) used at doors L1 and L2.
    Equipment positioning + opening door = +3 min.
    Closing door + equipment removal = +3 min.
    No Passenger with Reduced Mobility (PRM) on board.

Deplaning:

- 160 pax at door L1 (12 F/C + 42 B/C + 106 Y/C)
- 159 pax at door L2 (159 Y/C)
- Deplaning rate = 25 pax/min per door
- Priority deplaning for premium passengers.

#### Boarding:

- 160 pax at door L1 (12 F/C + 42 B/C + 106 Y/C)
- 159 pax at door L2 (159 Y/C)
- Boarding rate = 15 pax/min per door
- Last Pax Seating allowance (LPS) + headcounting = +4 min.
- B. CARGO

2 cargo loaders + 1 belt loader. Opening door + equipment positioning = +2.5 min. Equipment removal + closing door = +2.5 min.

Cargo exchange:

- FWD cargo compartment: 20 LD3
- AFT cargo compartment: 6 pallets
- Bulk cargo compartment: 1 000 kg (2 205 lb).

LD3 unloading/loading times:

- Unloading = 1.2 min/LD3
- Loading = 1.4 min/LD3.

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

Pallet unloading/loading times:

- Unloading = 2.4 min/pallet
- Loading = 2.8 min/pallet.

Bulk unloading/loading times:

- Unloading = 9.2 min/t
- Loading = 10.5 min/t.
- C. REFUELING

Block-fuel quantity for nominal range through 4 nozzles. 178 000 l (47 023 US gal) at 50 psi (3.45 bar). Dispenser positioning + connection = +3 min. Disconnection + dispenser removal = +3 min.

D. CLEANING

Cleaning is performed in available time.

E. CATERING

3 catering trucks for servicing galleys at doors R1, R2 and R5. Equipment positioning + opening door = +5 min. Closing door + equipment removal = +3 min.

Full Size Trolley Equivalent (FSTE) to unload and load: 45 FSTE

- 9 FSTE at door R1
- 9 FSTE at door R2
- 27 FSTE at door R5.

Time for trolley exchange = 1.5 min per FSTE.

### F. GROUND HANDLING/GENERAL SERVICING Start of operations:

- Bridges: t0 = 0
- Others: t0 + 1 min.

Vehicle positioning/removal = +2 min (except for fuel and catering trucks).

Ground Power Unit (GPU): up to 2  $\times$  90 kVA.

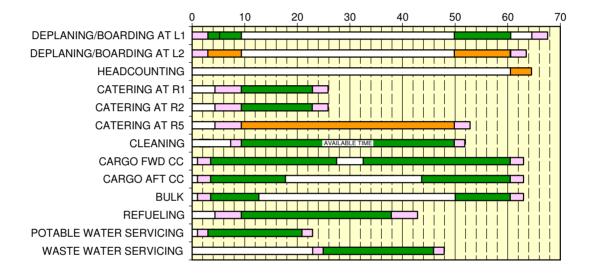
Air conditioning: two hoses.

Potable water servicing: 100% uplift, 700 l (185 US gal) at 60 l/min (15.85 US gal/min). Waste water servicing: draining + rinsing.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600

## TRT: 68 min



GSE POSITIONING/REMOVAL
ACTIVITY
CRITICAL PATH

F\_AC\_050200\_1\_0060101\_01\_01

Full Servicing Turn Round Time Chart FIGURE-5-2-0-991-006-A01

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### \*\*ON A/C A340-500

Terminal Operations - Full Servicing Turn Round Time

- This section provides a typical turn round time charts showing the typical time for ramp activities during aircraft turn round. Actual times may vary due to each operator's specific practices, resources, equipment and operating conditions.
- 2. Assumptions used for full servicing turn round time chart
  - A. PASSENGER HANDLING
    246 pax: 8 F/C + 42 B/C + 196 Y/C.
    All passengers deplane and board the aircraft.
    2 Passenger Boarding Bridges (PBB) used at doors L1 and L2.
    Equipment positioning + opening door = +3 min.
    Closing door + equipment removal = +3 min.
    No Passenger with Reduced Mobility (PRM) on board.

Deplaning:

- 123 pax at door L1 (8 F/C + 42 B/C + 73 Y/C)
- 123 pax at door L2 (123 Y/C)
- Deplaning rate = 25 pax/min per door
- Priority deplaning for premium passengers.

Boarding:

- 123 pax at door L1 (8 F/C + 42 B/C + 73 Y/C)
- 123 pax at door L2 (123 Y/C)
- Boarding rate = 15 pax/min per door
- Last Pax Seating allowance (LPS) + headcounting = +4 min.

### B. CARGO

2 cargo loaders + 1 belt loader.

Opening door + equipment positioning = +2.5 min.

Equipment removal + closing door = +2.5 min.

Cargo exchange:

- FWD cargo compartment: 16 LD3
- AFT cargo compartment: 4 pallets
- Bulk cargo compartment: 1 000 kg (2 205 lb).

LD3 unloading/loading times:

- Unloading = 1.2 min/LD3
- Loading = 1.4 min/LD3.

Pallet unloading/loading times:

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

- Unloading = 2.4 min/pallet
- Loading = 2.8 min/pallet.

Bulk unloading/loading times:

- Unloading = 9.2 min/t
- Loading = 10.5 min/t.
- C. REFUELING

Block-fuel quantity for nominal range through 4 nozzles. 191 000 l (50 457 US gal) at 50 psi (3.45 bar). Dispenser positioning + connection = +3 min. Disconnection + dispenser removal = +3 min.

D. CLEANING

Cleaning is performed in available time.

E. CATERING

3 catering trucks for servicing galleys at doors R1, R2 and R4. Equipment positioning + opening door = +5 min. Closing door + equipment removal = +3 min.

Full Size Trolley Equivalent (FSTE) to unload and load: 39 FSTE

- 8 FSTE at door R1
- 9 FSTE at door R2
- 22 FSTE at door R4.

Time for trolley exchange = 1.5 min per FSTE.

- F. GROUND HANDLING/GENERAL SERVICING Start of operations:
  - Bridges: t0 = 0
  - Others: t0 + 1 min.

Vehicle positioning/removal = +2 min (except for fuel and catering trucks).

Ground Power Unit (GPU): up to  $2 \times 90$  kVA.

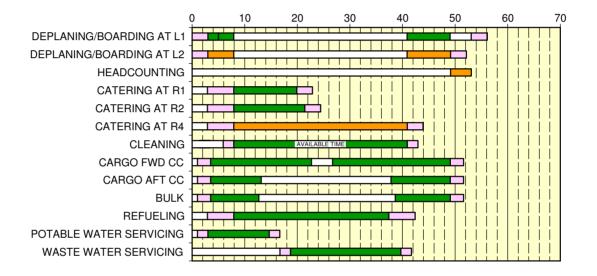
Air conditioning: two hoses.

Potable water servicing: 100% uplift, 700 l (185 US gal) at 60 l/min (15.85 US gal/min). Waste water servicing: draining + rinsing.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500

## TRT: 56 min



GSE POSITIONING/REMOVAL
ACTIVITY
CRITICAL PATH

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Full Servicing Turn Round Time Chart FIGURE-5-2-0-991-007-A01

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### 5-3-0 Terminal Operations - Transit

### \*\*ON A/C A340-600

#### Terminal Operations - Minimum Servicing Turn-Round Time

- This section provides typical turn-round time chart showing the typical times for ramp activities during aircraft turn-round. Actual times may vary due to each operator's specific practice and operating conditions.
- 2. Assumptions for minimum servicing turn-round time chart
  - A. PASSENGER HANDLING 319 pax (12 F/C + 42 B/C + 265 Y/C) 50% of passengers deboard and board the aircraft 1 Passenger Boarding Bridge (PBB) used at door L1 Equipment positioning/removal + opening/closing door = 3 min No Passenger with Reduced Mobility (PRM) on board

### Deboarding:

- 160 pax at door L1
- Deboarding rate = 25 pax/min per door

### Boarding:

- 160 pax at door L1
- Boarding rate = 15 pax/min per door
- Last Pax Seating allowance (LPS) + headcounting = +4 min
- B. CARGO

1 cargo loader + 1 belt loader Equipment positioning/removal + opening/closing door = 2.5 min

Cargo exchange:

- 6 LD3 in AFT cargo compartment
- 500 kg (1 102 lb) in bulk cargo compartment

LD3 off-loading/loading times:

- Off-loading = 1.2 min/LD3
- Loading = 1.4 min/LD3

### Bulk off-loading/loading times:

- Off-loading = 9.2 min/t
- Loading = 10.5 min/t
- C. REFUELLING

Refuelling through 2 nozzles 30% of max capacity at 50 psi (3.45 bar)

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

Dispenser positioning/removal =  $3 \min$ 

- D. CLEANING Performed in available time
- E. CATERING

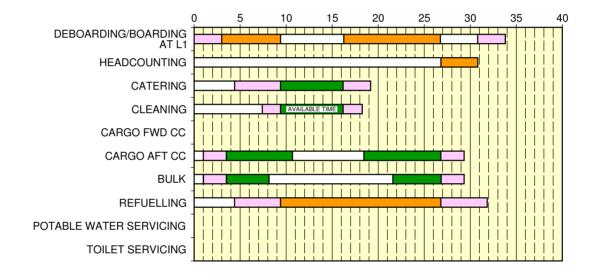
1 catering truck for servicing galleys as required Equipment positioning + door opening = 5 min Equipment removal + door closing = 3 min Performed in available time Time for trolley exchange = 1.5 min per FSTE

- F. GROUND HANDLING/SERVICING Start of operations:
  - Bridges: t0 = 0
  - Others: t0 + 1 min

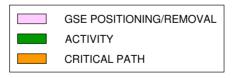
Vehicle positioning/removal = 2 min (except for fuel and catering trucks) Ground Power Unit (GPU): up to  $2 \times 90$  kVA Air conditioning: two hoses No potable water servicing No toilet servicing

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600



## TRT: 34 min



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Minimum Servicing Turn-Round Time FIGURE-5-3-0-991-007-A01

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### \*\*ON A/C A340-500

Terminal Operations - Minimum Servicing Turn-Round Time

1. This section provides typical turn-round time chart showing the typical times for ramp activities during aircraft turn-round.

Actual times may vary due to each operator's specific practice and operating conditions.

- 2. Assumptions for minimum servicing turn-round time chart
  - A. PASSENGER HANDLING

246 pax (8 F/C + 42 B/C + 196 Y/C) 50% of passengers deboard and board the aircraft 1 Passenger Boarding Bridge (PBB) used at door L1 Equipment positioning/removal + opening/closing door = 3 min No Passenger with Reduced Mobility (PRM) on board

Deboarding:

- 123 pax at door L1
- Deboarding rate = 25 pax/min per door

### Boarding:

- 123 pax at door L1
- Boarding rate = 15 pax/min per door
- Last Pax Seating allowance (LPS) + headcounting = +4 min
- B. CARGO

1 cargo loader + 1 belt loader Equipment positioning/removal + opening/closing door = 2.5 min

Cargo exchange:

- 4 LD3 in AFT cargo compartment
- 500 kg (1 102 lb) in bulk cargo compartment

LD3 off-loading/loading times:

- Off-loading = 1.2 min/LD3
- Loading = 1.4 min/LD3

Bulk off-loading/loading times:

- Off-loading = 9.2 min/t
- Loading = 10.5 min/t
- C. REFUELLING

Refuelling through 2 nozzles 30% of max capacity at 50 psi (3.45 bar) Dispenser positioning/removal = 3 min

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

D. CLEANING

Performed in available time

E. CATERING

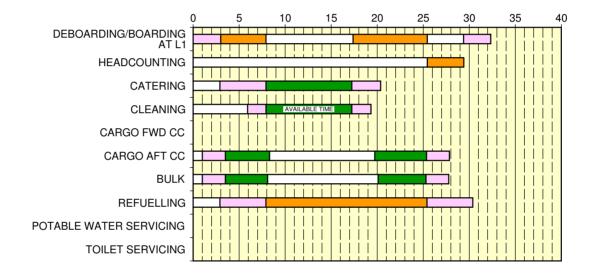
1 catering truck for servicing galleys as required Equipment positioning + door opening = 5 min Equipment removal + door closing = 3 min Performed in available time Time for trolley exchange = 1.5 min per FSTE

- F. GROUND HANDLING/SERVICING Start of operations:
  - Bridges: t0 = 0
  - Others: t0 + 1 min

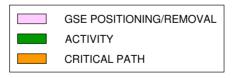
Vehicle positioning/removal = 2 min (except for fuel and catering trucks) Ground Power Unit (GPU): up to  $2 \times 90$  kVA Air conditioning: two hoses No potable water servicing No toilet servicing

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



## TRT: 32 min



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Minimum Servicing Turn-Round Time FIGURE-5-3-0-991-008-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

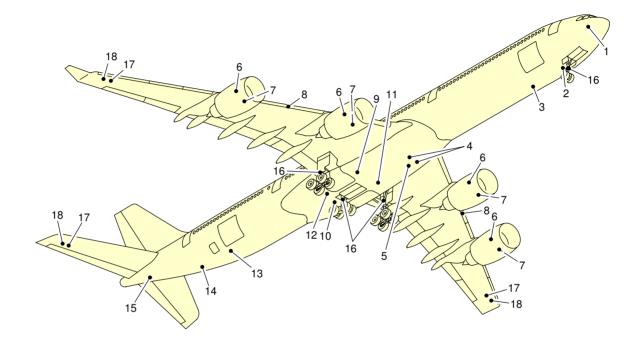
- 5-4-1 Ground Service Connections Layout
- \*\*ON A/C A340-500 A340-600

Ground Service Connections Layout

1. This section provides the ground service connections layout.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-600



- 1 OXYGEN SERVICING
- 2 GROUND ELECTRICAL POWER CONNECTORS
- 3 POTABLE WATER DRAIN
- 4 LOW PRESSURE AIR PRE-CONDITIONING
- 5 HIGH PRESSURE AIR PRE-CONDITIONING
- AND ENGINE STARTING 6 - ENGINE OIL FILLING
- 7 IDG OIL FILLING
- 8 PRESSURE REFUEL/DEFUEL COUPLINGS 9 - HYDRAULIC GROUND POWER SUPPLY
- (YELLOW)

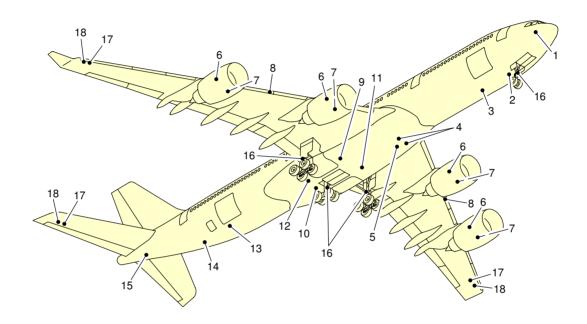
- 10 HYDRAULIC RESERVOIR FILLING AND GROUND POWER SUPPLY (GREEN)
- 11 HYDRAULIC RESERVOIR AIR PRESSURIZATION AND GROUND POWER SUPPLY (BLUE)
- 12 REFUEL/DEFUEL PANEL
- 13 POTABLE WATER SERVICE PANEL
- 14 WASTE WATER SERVICE PANEL
- 15 APU OIL FILLING
- 16 GROUNDING (EARTHING) POINT
- 17 NACA FLAME ARRESTOR
- **18 OVERPRESSURE PROTECTOR**

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Ground Service Connections Layout FIGURE-5-4-1-991-004-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500



- 1 OXYGEN SERVICING
- 2 GROUND ELECTRICAL POWER CONNECTORS
- 3 POTABLE WATER DRAIN
- 4 LOW PRESSURE AIR PRE-CONDITIONING
- 5 HIGH PRESSURE AIR PRE-CONDITIONING
- AND ENGINE STARTING 6 – ENGINE OIL FILLING
- 7 IDG OIL FILLING
- 8 PRESSURE REFUEL/DEFUEL COUPLINGS
- 9 HYDRAULIC GROUND POWER SUPPLY (YELLOW)
- 10 HYDRAULIC RESERVOIR FILLING AND GROUND POWER SUPPLY (GREEN)
- 11 HYDRAULIC RESERVOIR AIR PRESSURIZATION AND GROUND POWER SUPPLY (BLUE)
- 12 REFUEL/DEFUEL PANEL
- 13 POTABLE WATER SERVICE PANEL
- 14 WASTE WATER SERVICE PANEL
- 15 APU OIL FILLING
- 16 GROUNDING (EARTHING) POINT
- 17 NACA FLAME ARRESTOR
- 18 OVERPRESSURE PROTECTOR

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Ground Service Connections Layout FIGURE-5-4-1-991-005-A01

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### 5-4-2 Grounding Points

\*\*ON A/C A340-500 A340-600

Grounding (Earthing) Points

#### \*\*ON A/C A340-600

1. Grounding (Earthing) Points

	DISTANCE					
ACCESS	AFT OF NOSE	FROM AIRCRAF	FROM AIRCRAFT CENTERLINE			
	AFT OF NOSE	LH SIDE	RH SIDE	FROM GROUND		
On Nose Landing Gear	6.57 m	On centerline		1.40 m		
leg:	(21.56 ft)			(4.59 ft)		
On left Main Landing	39.45 m	5.34 m		1.50 m		
Gear leg:	(129.43 ft)	(17.52 ft)		(4.92 ft)		
On right Main Landing	39.45 m		5.34 m	1.50 m		
Gear leg:	(129.43 ft)		(17.52 ft)	(4.92 ft)		

- A. The grounding (earthing) stud on each landing gear leg is designed for use with a clip-on connector (such as Appleton TGR).
- B. The grounding (earthing) studs are used to connect the aircraft to an approved ground (earth) connection on the ramp or in the hangar for:
  - Refuel/defuel operations
  - Maintenance operations
  - Bad weather conditions.

<u>NOTE</u> : In all other conditions, the electrostatic discharge through the tire is sufficient.

## \*\*ON A/C A340-500

2. Grounding (Earthing) Points

	DISTANCE					
ACCESS	AFT OF NOSE	FROM AIRCRAF	MEAN HEIGHT			
	AFT OF NOSE	LH SIDE	RH SIDE	FROM GROUND		
On Nose Landing Gear		On centerline		1.40 m		
leg:	(21.56 ft)	On centenine		(4.59 ft)		
On left Main Landing	34.15 m	5.34 m		1.50 m		
Gear leg:	(112.04 ft)	(17.52 ft)		(4.92 ft)		

5 - 4 - 2

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

	DISTANCE					
ACCESS	AFT OF NOSE	FROM AIRCRAF	MEAN HEIGHT			
		LH SIDE	RH SIDE	FROM GROUND		
On right Main Landing	34.15 m		5.34 m	1.50 m		
Gear leg:	(112.04 ft)		(17.52 ft)	(4.92 ft)		

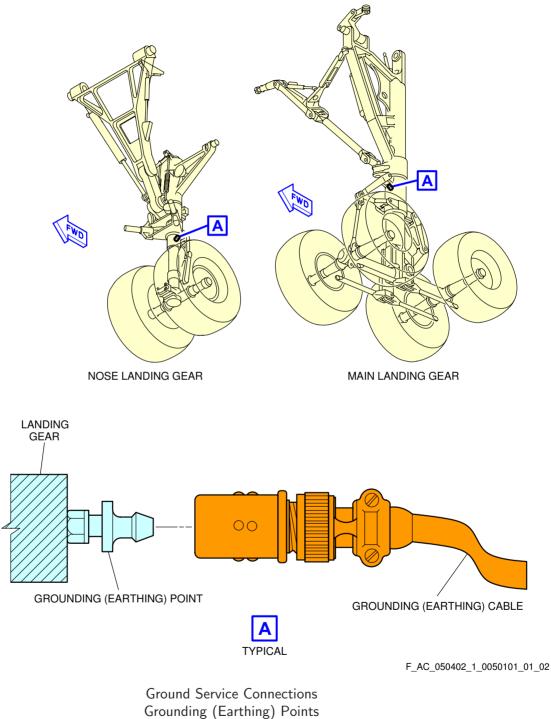
- A. The grounding (earthing) stud on each landing gear leg is designed for use with a clip-on connector (such as Appleton TGR).
- B. The grounding (earthing) studs are used to connect the aircraft to an approved ground (earth) connection on the ramp or in the hangar for:
  - Refuel/defuel operations
  - Maintenance operations
  - Bad weather conditions.

<u>NOTE</u> : In all other conditions, the electrostatic discharge through the tire is sufficient.



AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600



Grounding (Earthing) Points FIGURE-5-4-2-991-005-A01

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### 5-4-3 Hydraulic System

\*\*ON A/C A340-500 A340-600

#### Hydraulic Servicing

#### \*\*ON A/C A340-600

1. Ground Service Panels

		DISTANCE				
		FROM AIRCRAF	FROM AIRCRAFT CENTERLINE			
ACCESS	AFT OF NOSE	LH SIDE	RH SIDE	HEIGHT FROM		
				GROUND		
Green System:	35.62 m	1.50 m		2.10 m		
Access Door 197FB	(116.86 ft)	(4.92 ft)		(6.89 ft)		
Yellow System:	30.32 m		1.70 m	1.80 m		
Access Door 196PB	(99.48 ft)		(5.58 ft)	(5.91 ft)		
Blue System: Access Door 195MB	27.82 m (91.27 ft)	1.50 m (4.92 ft)		1.75 m (5.74 ft)		

#### A. Reservoir pressurization

On the Blue ground service panel:

- One self-sealing connector Green reservoir pressurization.
- One self-sealing connector Blue and Yellow reservoir pressurization.
- B. Reservoir filling

On the Green ground service panel:

- One self-sealing connector reservoir filling.
- One self-sealing connector reservoir filling (hand pump).
- C. Ground test

On each ground service panel:

- One self-sealing connector suction.
- One self-sealing connector delivery.
- D. Accumulator charging

On each ground service panel:

- One nitrogen charging connector power accumulator.
- On the Blue ground service panel:
- Two nitrogen charging connectors parking/ultimate emergency brake accumulators.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

<u>NOTE</u> : The nitrogen charging connectors for the normal and alternate braking systems are installed on the accumulators located on the main and center landing gear legs.

### \*\*ON A/C A340-500

2. Ground Service Panels

		DISTANCE				
		FROM AIRCRAF	T CENTERLINE	MEAN		
ACCESS	AFT OF NOSE			HEIGHT		
		LH SIDE	RH SIDE	FROM GROUND		
Green System:	30.32 m	1.50 m		2.10 m		
Access Door 197FB	(99.48 ft)	(4.92 ft)		(6.89 ft)		
Yellow System:	25.02 m		1.70 m	1.80 m		
Access Door 196PB	(82.09 ft)		(5.58 ft)	(5.91 ft)		
Blue System: Access Door 195MB	22.47 m (73.72 ft)	1.50 m (4.92 ft)		1.75 m (5.74 ft)		

#### A. Reservoir pressurization

On the Blue ground service panel:

- One self-sealing connector Green reservoir pressurization.
- One self-sealing connector Blue and Yellow reservoir pressurization.
- B. Reservoir filling

On the Green ground service panel:

- One self-sealing connector reservoir filling.
- One self-sealing connector reservoir filling (hand pump).
- C. Ground test

On each ground service panel:

- One self-sealing connector suction.
- One self-sealing connector delivery.
- D. Accumulator charging

On each ground service panel:

- One nitrogen charging connector power accumulator.
- On the Blue ground service panel:
- Two nitrogen charging connectors parking/ultimate emergency brake accumulators.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

<u>NOTE</u> : The nitrogen charging connectors for the normal and alternate braking systems are installed on the accumulators located on the main and center landing gear legs.

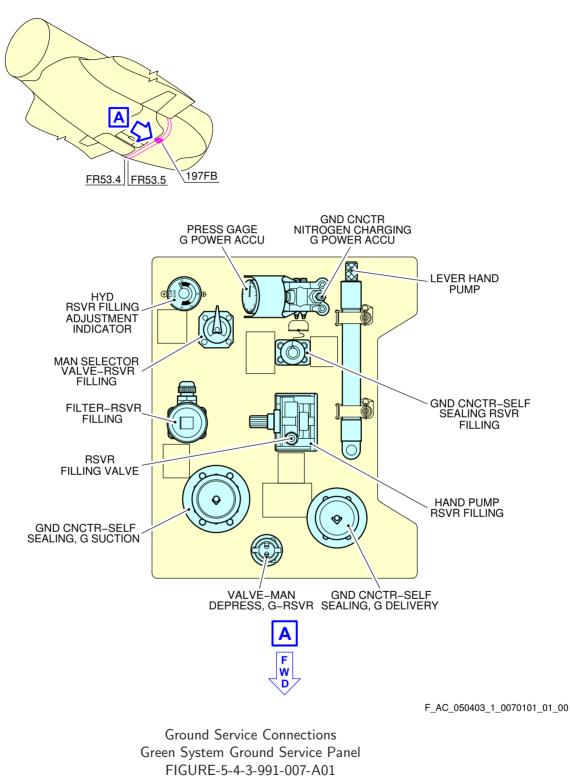
### \*\*ON A/C A340-500 A340-600

### 3. A/C Emergency Generation

	DISTANCE					
ACCESS		FROM AIRCRAF	MEAN HEIGHT			
	AFT OF NOSE	LH SIDE	RH SIDE	FROM GROUND		
RAT Safety-Pin Installation: Access Panel 633SL	42.00 m (137.80 ft)		14.20 m (46.59 ft)	4.15 m (13.62 ft)		

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

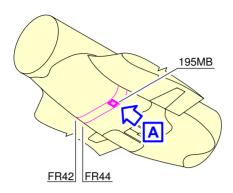
#### \*\*ON A/C A340-500 A340-600

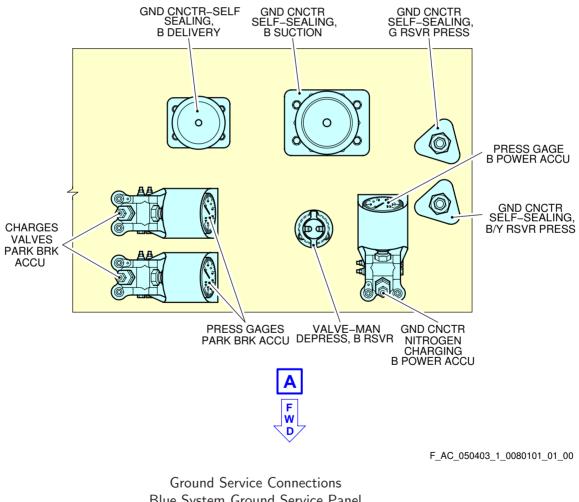


5-4-3

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600

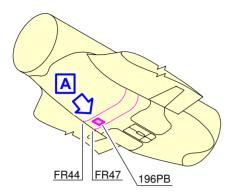


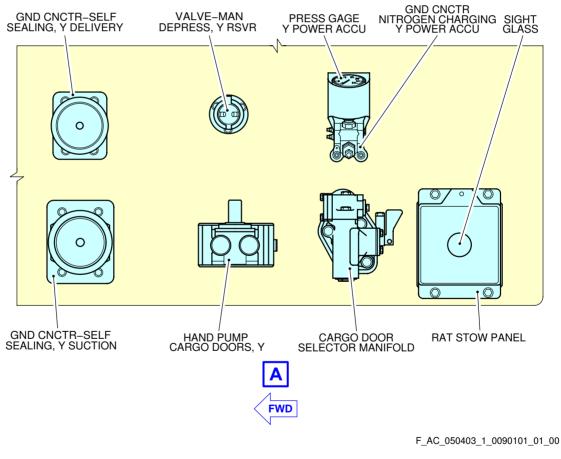


Blue System Ground Service Panel FIGURE-5-4-3-991-008-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600

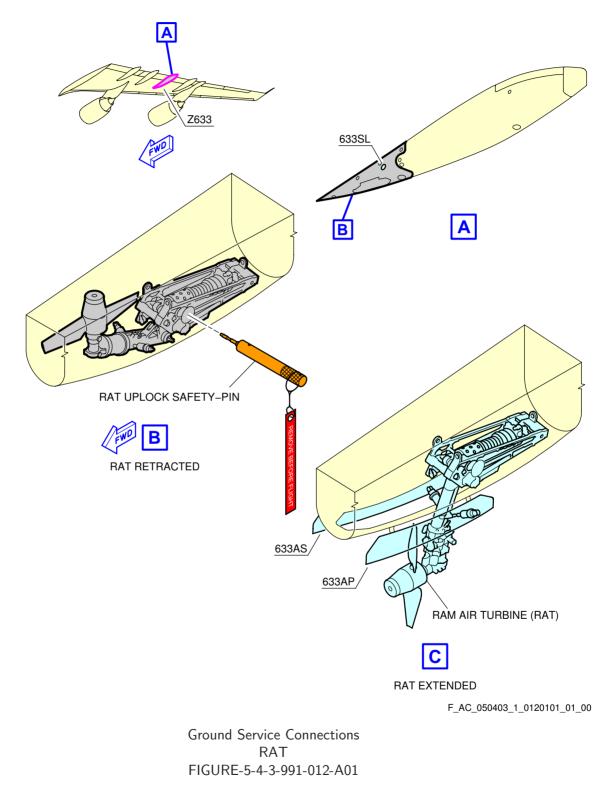




Ground Service Connections Yellow System Ground Service Panel FIGURE-5-4-3-991-009-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600



5-4-3

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### 5-4-4 Electrical System

#### \*\*ON A/C A340-500 A340-600

#### **Electrical Servicing**

1. A/C External Power

	DISTANCE			
ACCESS	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT
		LH SIDE	RH SIDE	FROM GROUND
A/C External Power: Access Door 121EL	7.00 m (22.97 ft)	On centerline		2.00 m (6.56 ft)

<u>NOTE</u> : Distances are approximate.

#### 2. Technical Specifications

- A. External Power Receptacles:
  - Two receptacles according to MS 90362-3 90 kVA.
- B. Power Supply:
  - Three-phase, 115 V, 400 Hz.
- C. Electrical Connectors for Servicing:
  - AC outlets: HUBBELL 5258
  - DC outlets: HUBBELL 7472.

#### 3. Tow Truck Power

	DISTANCE				
ACCESS	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT	
		LH SIDE	RH SIDE	FROM GROUND	
NLG Service Panel: 5GC	6.58 m (21.59 ft)		0.50 m (1.64 ft)	TBD	

- 4. Technical Specifications
  - A. Power Supply:
    - Two-phase, 115 V, 400 Hz
    - 28V DC.
  - B. Electrical Connector for Servicing:
    - Bernier, 22-11-10-13 Connector.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

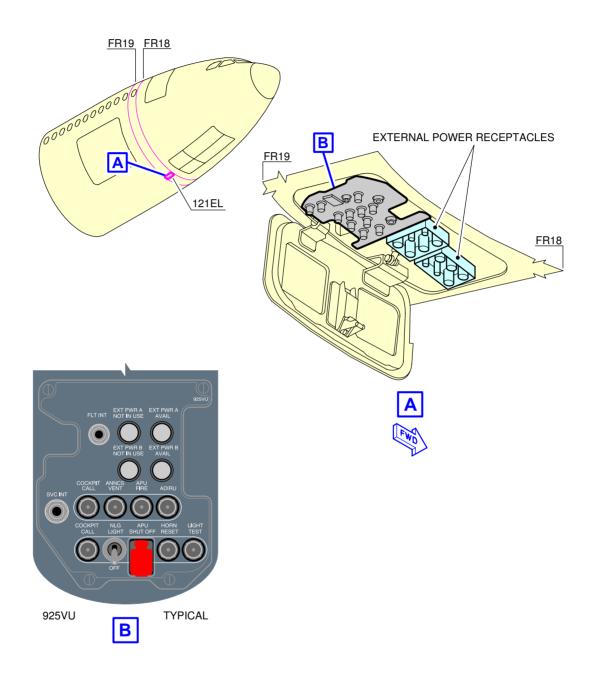
C. Pin Allocation:

	Pin Identification	
А		28V DC
В		0V DC
D		115V AC
E		0V AC
G		PWR SPLY
Н		INT LOCK

<u>NOTE</u>: The power cable should be extendable in order to guarantee fit and non-interference with nose gear nor tow vehicle during the pick-up and the towing process. The connector shall be secured against pull-out by means of straps against the nose gear.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600



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Ground Service Connections Electrical Service Panel FIGURE-5-4-4-991-004-A01

 $\begin{array}{c} {\sf Page \ 3} \\ {\sf Jun \ 01/20} \end{array}$ 

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### 5-4-5 Oxygen System

### \*\*ON A/C A340-500 A340-600

#### Oxygen Servicing

1. Oxygen Servicing

	DISTANCE			
ACCESS		FROM AIRCRAF	T CENTERLINE	MEAN HEIGHT
ACCESS	AFT OF NOSE	LH SIDE	RH SIDE	FROM GROUND
Oxygen Replenishment (Option 1): Access Door 811	2.50 m (8.20 ft)		0.53 m (1.74 ft)	3.20 m (10.50 ft)
Oxygen Replenishment (Option 2): Access Door 811	2.50 m (8.20 ft)		0.68 m (2.23 ft)	3.20 m (10.50 ft)

- 0 – Basic: Replenishment by replacement of oxygen cylinders in the avionic compartment

- 1 – Option: External charging in the avionic compartment

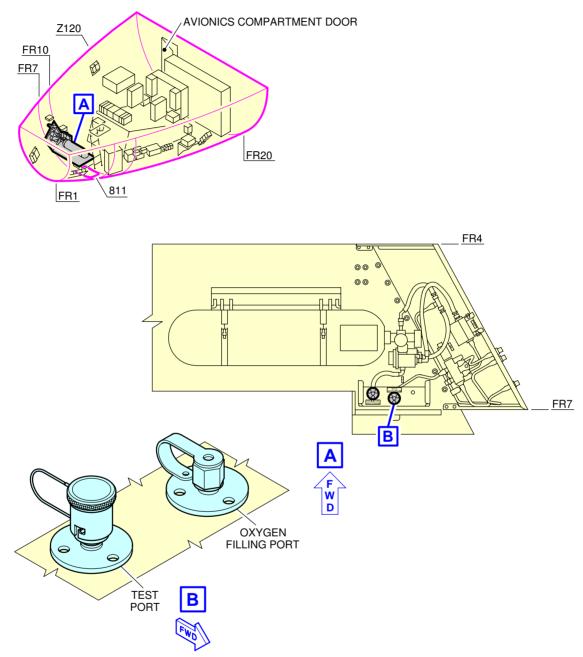
- 2 – Option: External charging in the avionic compartment.

One or two MIL-DTL 7891 standard service connections (external charging in the avionics compartment).

<u>NOTE</u> : Internal charging connection provided.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600



NOTE:

THE NUMBER OF OXYGEN CYLINDERS DEPENDS ON THE SYSTEM CONFIGURATION.

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Ground Service Connections Oxygen Servicing FIGURE-5-4-5-991-004-A01

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### 5-4-6 Fuel System

### \*\*ON A/C A340-500 A340-600

#### Fuel System

### \*\*ON A/C A340-600

### 1. Refuel/Defuel Control Panel

	DISTANCE				
ACCESS		FROM AIRCRAFT CENTERLINE		MEAN HEIGHT	
ACCESS	AFT OF NOSE	LH SIDE	RH SIDE	FROM GROUND	
Refuel/Defuel Control Panel: Access Door 198FB	42.5 m (139.44 ft)	-	1.4 m (4.59 ft)	2 m (6.56 ft)	

- A. Refuel/Defuel pressure/suction:
  - Maximum pressure: 50 psi (3.45 bar)
  - Maximum suction: 11 psi (0.76 bar).
- B. Flow rate:
  - 2 couplings (total/min): 1576 I (416 US gal)
  - 4 couplings (total/min): 1438 | (380 US gal).
- 2. Refuel/Defuel Connectors

	DISTANCE			
ACCESS		FROM AIRCRAF	T CENTERLINE	MEAN HEIGHT
	AFT OF NOSE	LH SIDE	RH SIDE	FROM GROUND
Refuel/Defuel Coupling, Left: Access Door 522HB	(121.72 ft)	-	12.6 m (41.34 ft)	5 m (16.4 ft)
Refuel/Defuel Coupling, Right: Access Door 622HB	37.1 m (121.72 ft)	12.6 m (41.34 ft)	-	5 m (16.4 ft)

- A. Refuel/Defuel couplings:
  - Four standard 2.5 in. ISO 45 connections.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### 3. Overpressure Protector and NACA Flame Arrestor

		DISTANCE			
ACCESS		FROM AIRCRAF	T CENTERLINE	MEAN HEIGHT	
	AFT OF NOSE	LH SIDE	RH SIDE	FROM GROUND	
Overpressure Protector (Wing) Access Panel 550DB (650DB)	47.03 m (154.3 ft)	28.7 m (94.16 ft)	28.7 m (94.16 ft)	5.75 m (18.86 ft)	
NACA Flame Arrestor (Wing) Access Panel 550DB (650DB)	47.03 m (154.3 ft)	28.1 m (92.19 ft)	28.1 m 592.19 ft)	5.7 m (18.7 ft)	
Overpressure Protector (Trim Tank) Access Panel 346AB	72.93 m (239.27 ft)	7.10 m (23.29 ft)	7.10 m (23.29 ft)	5.7 m (18.7 ft)	
NACA Flame Arrestor (Trim Tank) Access Panel 346AB	72.93 m (239.27 ft)	7.10 m (23.29 ft)	7.10 m (23.29 ft)	5.7 m (18.7 ft)	

#### \*\*ON A/C A340-500

4. Refuel/Defuel Control Panel

	DISTANCE				
ACCESS		FROM AIRCRAFT CENTERLINE		MEAN HEIGHT	
ACCESS	AFT OF NOSE	LH SIDE	RH SIDE	FROM GROUND	
Refuel/Defuel Control Panel: Access Door 198FB	37.2 m (122.05 ft)	-	1.4 m (4.59 ft)	2 m (6.56 ft)	

- A. Refuel/Defuel pressure/suction:
  - Maximum pressure: 50 psi (3.45 bar)
  - Maximum suction: 11 psi (0.76 bar).
- B. Flow rate:
  - 2 couplings (total/min): 1576 I (416 US gal)
  - 4 couplings (total/min): 1438 I (380 US gal).

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

5. Refuel/Defuel Connectors

	DISTANCE			
ACCESS		FROM AIRCRAF	T CENTERLINE	MEAN HEIGHT
	AFT OF NOSE	LH SIDE	RH SIDE	FROM GROUND
Refuel/Defuel Coupling, Left: Access Door 522HB	(103.02 ft)	12.6 m (41.34 ft)	-	5 m (16.4 ft)
Refuel/Defuel Coupling, Right: Access Door 622HB	31.4 m (103.02 ft)	-	12.6 m (41.34 ft)	5 m (16.4 ft)

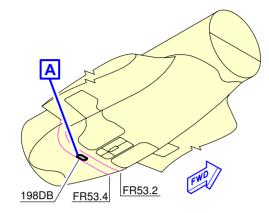
- A. Refuel/Defuel couplings:
  - Four standard 2.5 in. ISO 45 connections.

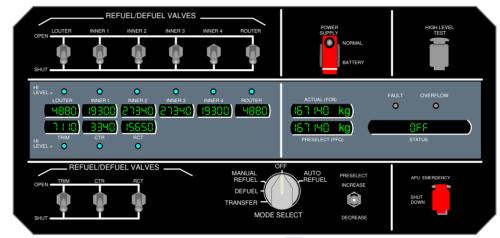
### 6. Overpressure Protector and NACA Flame Arrestor

	DISTANCE			
ACCESS		FROM AIRCRAF	T CENTERLINE	MEAN HEIGHT
Access	AFT OF NOSE	LH SIDE	RH SIDE	FROM GROUND
Overpressure Protector (Wing) Access Panel 550DB (650DB)	41.73 m (136.91 ft)	28.7 m (94.16 ft)	28.7 m (94.16 ft)	5.75 m (18.86 ft)
NACA Flame Arrestor (Wing) Access Panel 550DB (650DB)	41.73 m (136.91 ft)	28.1 m (92.19 ft)	28.1 m 592.19 ft)	5.7 m (18.7 ft)
Overpressure Protector (Trim Tank) Access Panel 346AB	65.5 m (214.9 ft)	7.10 m (23.29 ft)	7.10 m (23.29 ft)	5.7 m (18.7 ft)
NACA Flame Arrestor (Trim Tank) Access Panel 346AB	65.5 m (214.9 ft)	7.10 m (23.29 ft)	7.10 m (23.29 ft)	5.7 m (18.7 ft)

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500 A340-600







02>



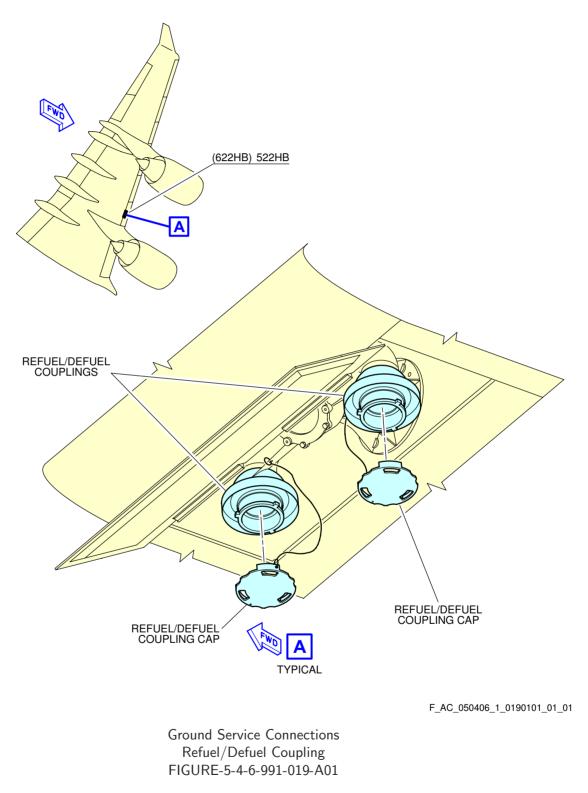
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NOTE: 01 ON A/C A340–500 02 ON A/C A340–600

> Ground Service Connections Refuel/Defuel Control Panel FIGURE-5-4-6-991-017-A01

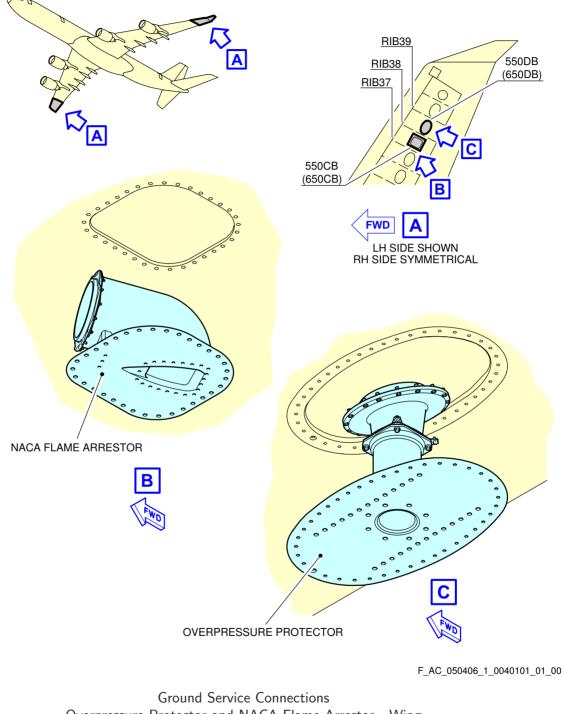
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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING



AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

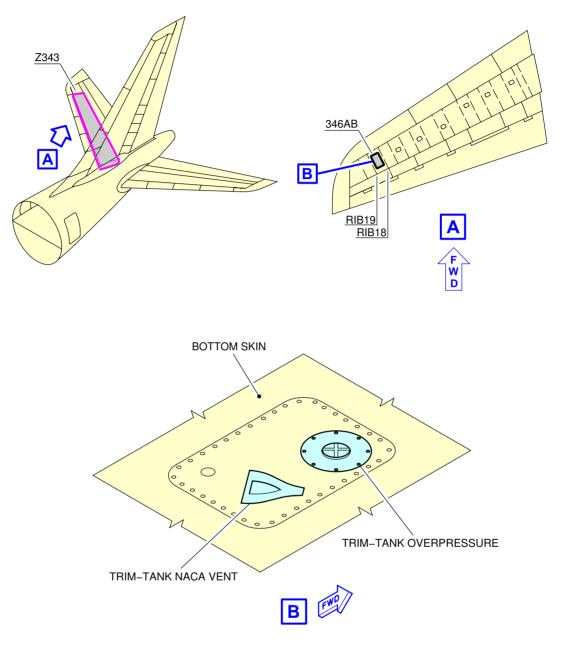
#### \*\*ON A/C A340-500 A340-600



Overpressure Protector and NACA Flame Arrestor - Wing FIGURE-5-4-6-991-004-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600



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Ground Service Connections Overpressure Protector and NACA Flame Arrestor - Trim Tank FIGURE-5-4-6-991-020-A01

5-4-6

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#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### 5-4-7 Pneumatic System

#### \*\*ON A/C A340-500 A340-600

### Pneumatic Servicing

#### \*\*ON A/C A340-600

### 1. High Pressure Air Connection

		DISTANCE			
		FROM AIRCRAFT CENTERLINE		MEAN	
ACCESS	AFT OF NOSE			HEIGHT	
	ALL OF NOSE	LH SIDE	RH SIDE	FROM	
				GROUND	
HP Connectors:	29.71 m	0.35 m		1.75 m	
Access Door 193DB	(97.47 ft)	(1.15 ft)		(5.74 ft)	

### A. Connectors:

- Two standard 3 in. ISO 2026 connections.

### 2. Low Pressure Air Connection

	DISTANCE			
		FROM AIRCRAF	T CENTERLINE	MEAN
ACCESS	AFT OF NOSE			HEIGHT
	AFTOFNOSE	LH SIDE	RH SIDE	FROM
				GROUND
LP Connector: Access Door 193BB	28.75 m (94.32 ft)	On centerline		1.8 m (5.91 ft)
LP Connector: Access Door 193GB	28.75 m (94.32 ft)	0.63 m (2.07 ft)		1.8 m (5.91 ft)

### A. Connectors:

- Two standard 8 in. SAE AS4262 connections.

### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500

3. High Pressure Air Connection

	DISTANCE				
ACCESS		FROM AIRCRAFT CENTERLINE		MEAN	
	AFT OF NOSE			HEIGHT	
	ALLOLNOSE	LH SIDE	RH SIDE	FROM	
				GROUND	
HP Connectors:	23.41 m	0.35 m		1.75 m	
Access Door 193DB	(76.8 ft)	(1.15 ft)		(5.74 ft)	

#### A. Connectors:

- Two standard 3 in. ISO 2026 connections.

#### 4. Low Pressure Air Connection

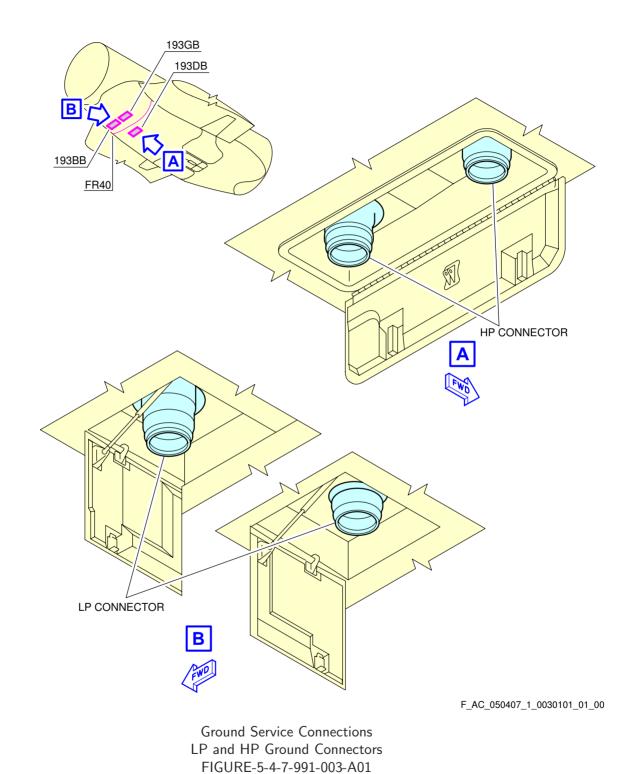
	DISTANCE				
ACCESS		FROM AIRCRAF	T CENTERLINE	MEAN	
	AFT OF NOSE			HEIGHT	
	AFT OF NOSE	LH SIDE	LH SIDE RH SIDE		
				GROUND	
LP Connector:	23.45 m			1.8 m	
Access Door 193BB	(76.94 ft)	On centerline		(5.91 ft)	
LP Connector:	23.45 m	0.63 m		1.8 m	
Access Door 193GB	(76.94 ft)	(2.07 ft)		(5.91 ft)	

### A. Connectors:

- Two standard 8 in. SAE AS4262 connections.

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### \*\*ON A/C A340-500 A340-600



5-4-7

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### 5-4-8 Oil System

#### \*\*ON A/C A340-500 A340-600

#### **Oil Servicing**

#### \*\*ON A/C A340-600

1. RR TRENT 500 Series Engine

A. Engine Oil Replenishment:
 One gravity filling cap and one pressure filling connection per engine.

ACCESS		DISTANCE				
		FROM AIRCRAF	T CENTERLINE	MEAN		
	AFT OF NOSE	LH SIDE	RH SIDE	HEIGHT FROM GROUND		
Engine 1:	36.30 m	17.85 m		3.15 m		
Access Door: 416BR	(119.09 ft)	(58.56 ft)		(10.33 ft)		
Engine 2:	29.70 m	7.95 m		1.60 m		
Access Door: 426BR	(97.44 ft)	(26.08 ft)		(5.25 ft)		
Engine 3:	29.70 m		10.80 m	1.60 m		
Access Door: 436BR	(97.44 ft)		(35.43 ft)	(5.25 ft)		
Engine 4:	36.30 m		20.70 m	3.15 m		
Access Door: 446BR	(119.09 ft)		(67.91 ft)	(10.33 ft)		

- (1) Approximate tank capacity:
  - Full level: 23.70 l (6.26 US gal).
  - Usable: 15.90 | (4.20 US gal).
- B. IDG Oil Replenishment: One pressure filling connection per engine.

ACCESS	DISTANCE			
		FROM AIRCRAF	FROM AIRCRAFT CENTERLINE	
	AFT OF NOSE			HEIGHT
	AFT OF NOSE	LH SIDE	RH SIDE	FROM
				GROUND
Engine 1:	36.97 m	19.66 m		1.85 m
Access Door: 415CL	(121.29 ft)	(64.50 ft)		(6.07 ft)

### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

		DISTANCE			
ACCESS		FROM AIRCRAF	T CENTERLINE	MEAN	
	AFT OF NOSE	LH SIDE	RH SIDE	HEIGHT FROM GROUND	
Engine 2:	30.36 m	9.76 m		0.80 m	
Access Door: 425CL	(99.61 ft)	(32.02 ft)		(2.62 ft)	
Engine 3:	30.36 m		8.98 m	0.80 m	
Access Door: 435CL	(99.61 ft)		(29.46 ft)	(2.62 ft)	
Engine 4:	36.97 m		18.87 m	1.85 m	
Access Door: 445CL	(121.29 ft)		(61.91 ft)	(6.07 ft)	

- (1) IDG oil replenishment:
  - one ozone self-sealing pressure fill and overfill connector.
- (2) Max delivery pressure:
  - 2.41 bar (34.95 psi).
- (3) Approximate max oil capacity of the IDG:6.80 | (1.80 US gal).
- C. Starter Oil Replenishment: One filling connection per engine.

		DISTA	NCE	
	AFT OF NOSE	FROM AIRCRAF	T CENTERLINE	MEAN
ACCESS		LH SIDE	RH SIDE	HEIGHT FROM GROUND
Engine 1:	36.30 m	19.72 m		1.80 m
Access Door: 415AL (416AR)	(119.09 ft)	(64.70 ft)		(5.91 ft)
Engine 2:	29.70 m	9.82 m		0.77 m
Access Door: 425AL (426AR)	(97.44 ft)	(32.22 ft)		(2.53 ft)
Engine 3:	29.70 m		8.92 m	0.77 m
Access Door: 435AL (436AR)	(97.44 ft)		(29.27 ft)	(2.53 ft)
Engine 4:	36.30 m		18.82 m	1.80 m
Access Door: 445AL (446AR)	(119.09 ft)		(61.75 ft)	(5.91 ft)

- (1) Pneumatic starter, oil replenishment:
  - one gravity filling plug.

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

(2) Approximate max oil capacity of the starter:0.40 | (0.11 US gal).

#### \*\*ON A/C A340-500

- 2. RR TRENT 500 Series Engine
  - A. Engine Oil Replenishment:
     One gravity filling cap and one pressure filling connection per engine.

		DISTANCE				
ACCESS		FROM AIRCRAF	T CENTERLINE	MEAN		
	AFT OF NOSE	LH SIDE	RH SIDE	HEIGHT FROM GROUND		
Engine 1:	31.00 m	17.85 m		3.15 m		
Access Door: 416BR	(101.71 ft)	(58.56 ft)		(10.33 ft)		
Engine 2:	24.42 m	7.95 m		1.60 m		
Access Door: 426BR	(80.12 ft)	(26.08 ft)		(5.25 ft)		
Engine 3:	24.42 m		10.80 m	1.60 m		
Access Door: 436BR	(80.12 ft)		(35.43 ft)	(5.25 ft)		
Engine 4:	31.00 m		20.70 m	3.15 m		
Access Door: 446BR	(101.71 ft)		(67.91 ft)	(10.33 ft)		

- (1) Approximate tank capacity:
  - Full level: 23.70 l (6.26 US gal).
  - Usable: 15.90 I (4.20 US gal).
- B. IDG Oil Replenishment:

One pressure filling connection per engine.

	DISTANCE			
		FROM AIRCRAF	T CENTERLINE	MEAN
ACCESS	AFT OF NOSE			HEIGHT
	AFT OF NOSE	LH SIDE RH SIDE F		FROM
				GROUND
Engine 1:	31.66 m	19.66 m		1.85 m
Access Door: 415CL	(103.87 ft)	(64.50 ft)		(6.07 ft)
Engine 2:	25.05 m	9.76 m		0.80 m
Access Door: 425CL	(82.19 ft)	(32.02 ft)		(2.62 ft)

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

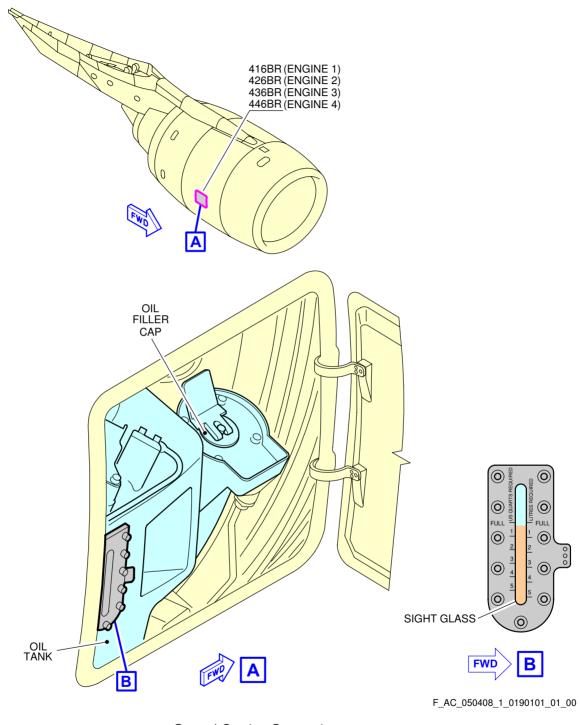
		DISTANCE				
ACCESS		FROM AIRCRAI	T CENTERLINE	MEAN		
	AFT OF NOSE			HEIGHT		
	AFT OF NOSE	LH SIDE RH SIDE	FROM			
				GROUND		
Engine 3:	25.05 m		8.98 m	0.80 m		
Access Door: 435CL	(82.19 ft)		(29.46 ft)	(2.62 ft)		
Engine 4:	31.66 m		18.87 m	1.85 m		
Access Door: 445CL	(103.87 ft)		(61.91 ft)	(6.07 ft)		

- (1) IDG oil replenishment:
  - one ozone self-sealing pressure fill and overfill connector.
- (2) Max delivery pressure:
  - 2.41 bar (34.95 psi).
- (3) Approximate max oil capacity of the IDG:
  - 6.80 l (1.80 US gal).
- C. Starter Oil Replenishment: One filling connection per engine.

		DISTANCE				
		FROM AIRCRAF	T CENTERLINE	MEAN		
ACCESS	AFT OF NOSE	LH SIDE	RH SIDE	HEIGHT FROM GROUND		
Engine 1:	31.00 m	19.72 m		1.80 m		
Access Door: 415AL (416AR)	(101.71 ft)	(64.70 ft)		(5.91 ft)		
Engine 2: Access Door: 425AL (426AR)	24.42 m (80.12 ft)	9.82 m (32.22 ft)		0.77 m (2.53 ft)		
Engine 3: Access Door: 435AL (436AR)	24.42 m (80.12 ft)		8.92 m (29.27 ft)	0.77 m (2.53 ft)		
Engine 4: Access Door: 445AL (446AR)	31.00 m (101.71 ft)		18.82 m (61.75 ft)	1.80 m (5.91 ft)		

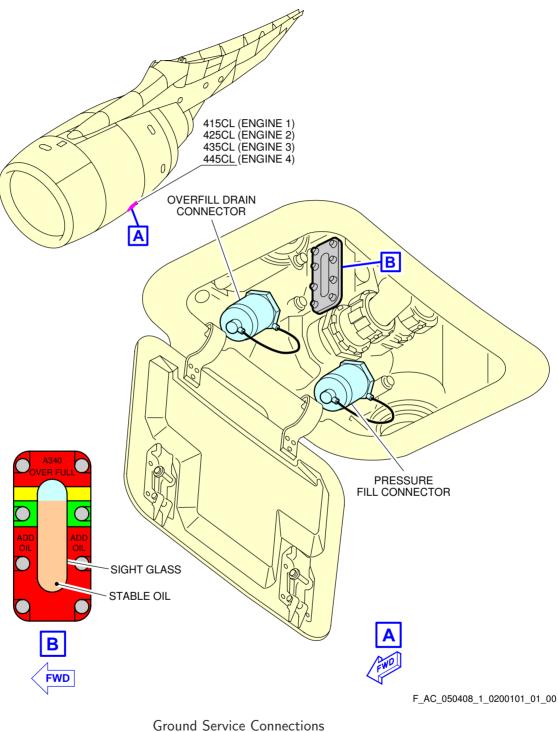
- (1) Pneumatic starter, oil replenishment:
  - one gravity filling plug.
- (2) Approximate max oil capacity of the starter:
  - 0.40 | (0.11 US gal).

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING



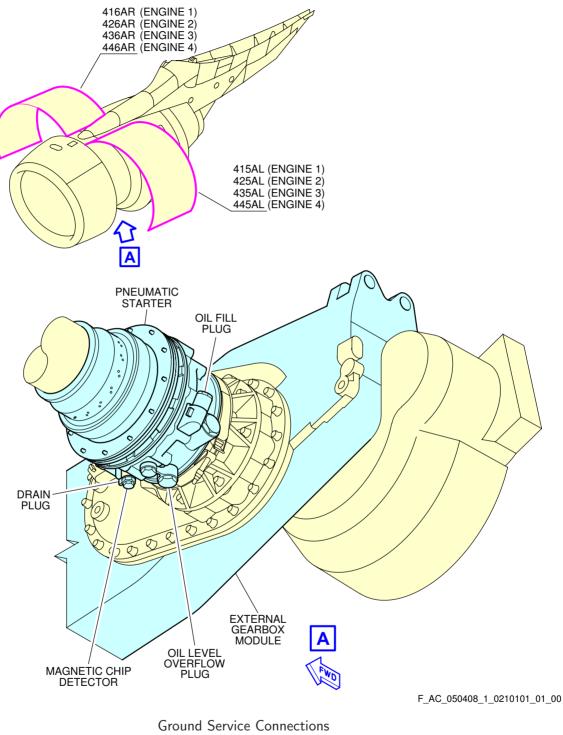


AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING





AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING





### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600

#### APU Oil Servicing

#### \*\*ON A/C A340-600

1. APU Oil Servicing: APU oil gravity filling cap.

	DISTANCE			
ACCESS AFT OF NOSE		FROM AIRCRAF	T CENTERLINE	MEAN HEIGHT
	AFT OF NOSE	LH SIDE	RH SIDE	FROM GROUND
APU Oil				
Replenishment:	71 m	0.4 m		8 m
Access Doors:	(232.94 ft)	(1.31 ft)		(26.25 ft)
316AR, 315AL				

- A. Tank capacity (usable):
  - APU Type: 331-350: 7.3 | (1.93 US gal)
  - APU Type: 331-600: 11 I (2.91 US gal).

### \*\*ON A/C A340-500

- 2. APU Oil Servicing:
  - APU oil gravity filling cap.

		DISTANCE				
ACCESS		FROM AIRCRAFT CENTERLINE		MEAN HEIGHT		
	AFT OF NOSE	LH SIDE	RH SIDE	FROM GROUND		
APU Oil						
Replenishment:	63.5 m	0.4 m		8 m		
Access Doors:	(208.33 ft)	(1.31 ft)		(26.25 ft)		
316AR, 315AL						

- A. Tank capacity (usable):
  - APU Type: 331-350: 7.3 | (1.93 US gal)
  - APU Type: 331-600: 11 I (2.91 US gal).

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500 A340-600

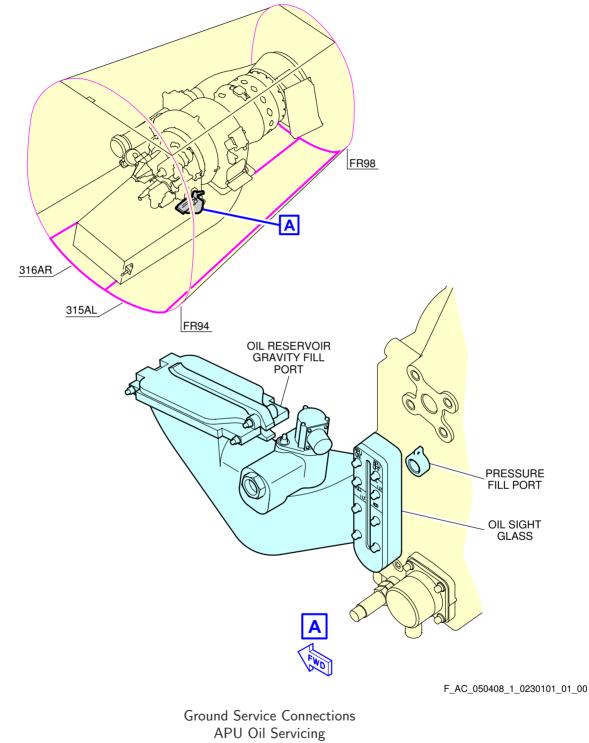


FIGURE-5-4-8-991-023-A01

### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### 5-4-9 Potable Water System

#### \*\*ON A/C A340-600

### Potable Water Servicing

1. Potable Water Servicing

	DISTANCE			
ACCESS	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT
		LH SIDE	RH SIDE	FROM GROUND
Potable-Water	58.75 m		0.5 m	3.5 m
Service Panel:	(192.75 ft)		(1.64 ft)	(11.48 ft)
Access Door 154BR	(192.15 11)		(1.04 10)	(11.40 11)

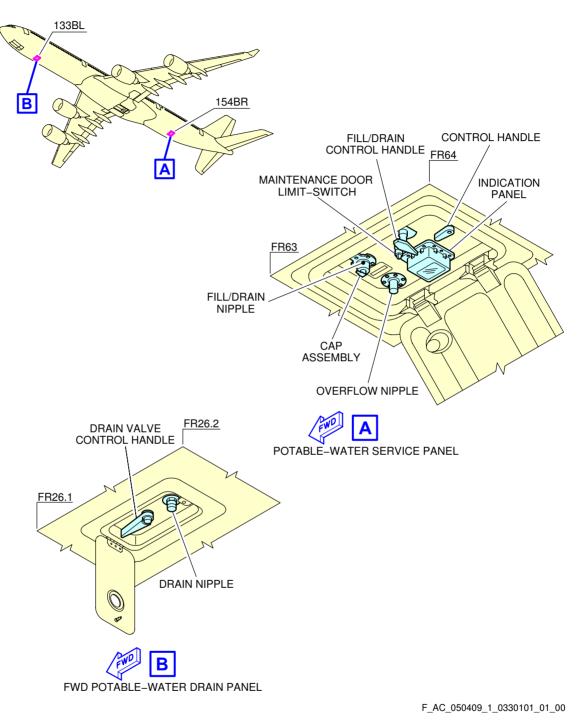
<u>NOTE</u> : Distances are approximate.

### 2. Technical Specifications

- A. Connectors
  - Roylin, 3/4 in. (ISO 17775).
- B. Capacity
  - 1070 l (282.66 US gal).
- C. Filling Pressure and Flow Rate
  - Filling pressure: 1.72/2.07 bar (25/30 psi)
  - Flow rate: 87.5 l/min (23.12 US gal/min).

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

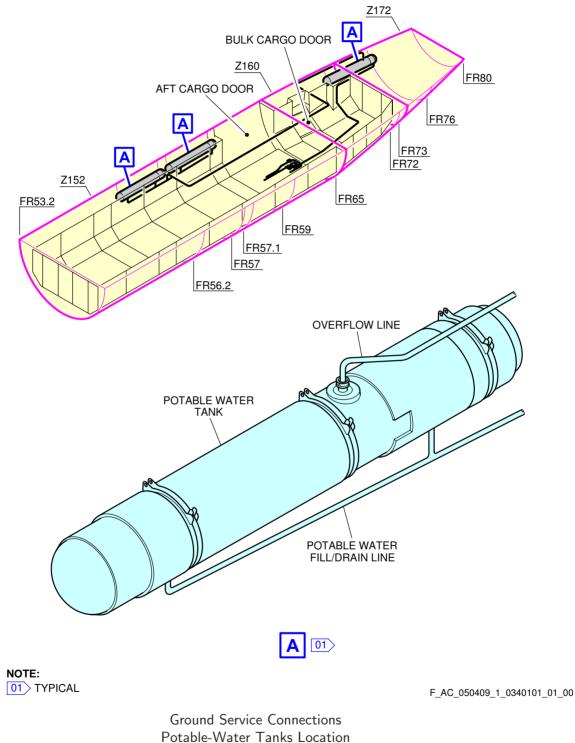
\*\*ON A/C A340-600



Ground Service Connections Potable-Water Ground Service Panels FIGURE-5-4-9-991-033-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600



### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500

Potable Water Servicing

1. Potable Water Servicing

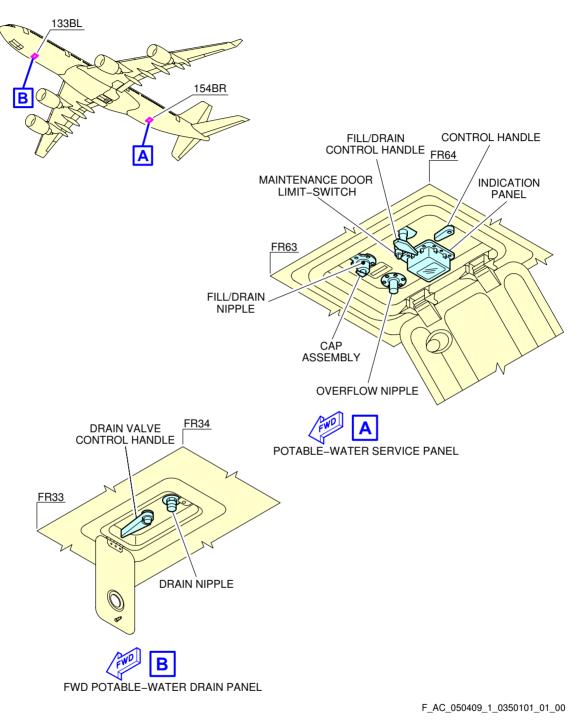
	DISTANCE			
ACCESS	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT
		LH SIDE	RH SIDE	FROM GROUND
Potable-Water	51.32 m		0.5 m	3.5 m
Service Panel:	(168.37 ft)		(1.64 ft)	(11.48 ft)
Access Door 154BR	(100.37 IL)		(1.04 10)	(11.40 11)

<u>NOTE</u> : Distances are approximate.

- 2. Technical Specifications
  - A. Connectors
    - Roylin, 3/4 in. (ISO 17775)
  - B. Capacity
    - 700 I (184.92 US gal).
  - C. Filling Pressure and Flow Rate
    - Filling pressure: 1.72/2.07 bar (25/30 psi)
    - Flow rate: 87.5 l/min (23.12 US gal/min).

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



Ground Service Connections Potable-Water Ground Service Panels FIGURE-5-4-9-991-035-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500

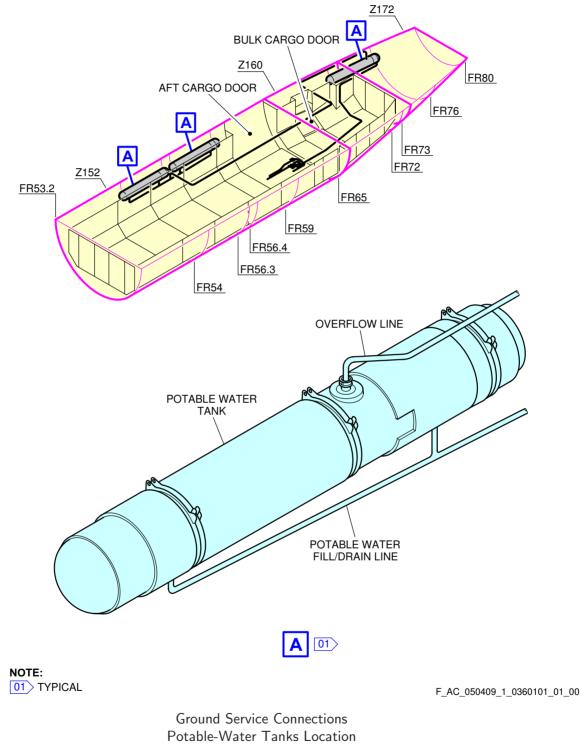


FIGURE-5-4-9-991-036-A01

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### 5-4-10 Waste Water System

#### \*\*ON A/C A340-500 A340-600

#### Waste Water Servicing

#### \*\*ON A/C A340-600

1. Waste Water Servicing

	DISTANCE			
ACCESS	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT
		LH SIDE	RH SIDE	FROM GROUND
Waste Water Ground Service Panel: Access Door 171AL	60.61 m (198.85 ft)	0.10 m (0.33 ft)		4.00 m (13.12 ft)

### A. Connectors:

- Flushing and filling: Roylin, 1 in. (ISO 17775).
- Draining: Roylin, 4 in. (ISO 17775).
- B. Capacity (four tanks basic configuration):
  - 1050 l (277.38 US gal).
- C. Operating pressure:
  - 0.07 bar (1.02 psi)/0.70 bar (10.15 psi).
- D. Flow rate:
  - 87.5 l/min (23.1 US gal/min).

#### \*\*ON A/C A340-500

2. Waste Water Servicing

	DISTANCE			
ACCESS	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT
		LH SIDE	RH SIDE	FROM GROUND
Waste Water Ground Service Panel: Access Door 171AL	53.18 m (174.48 ft)	0.10 m (0.33 ft)		4.00 m (13.12 ft)

- A. Connectors:
  - Flushing and filling: Roylin, 1 in. (ISO 17775).
  - Draining: Roylin, 4 in. (ISO 17775).

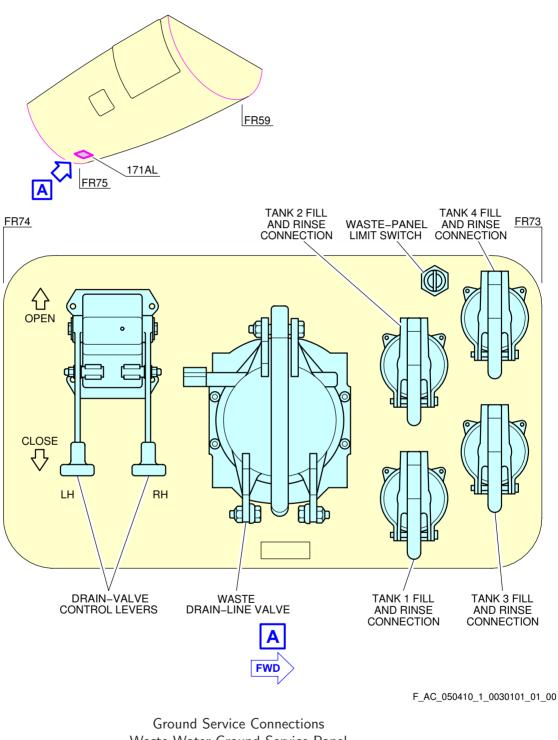
5-4-10

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

- B. Capacity (four tanks basic configuration):
  - 1050 l (277.38 US gal).
- C. Operating pressure:
  - 0.07 bar (1.02 psi)/0.70 bar (10.15 psi).
- D. Flow rate:
  - 87.5 l/min (23.1 US gal/min).

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500 A340-600

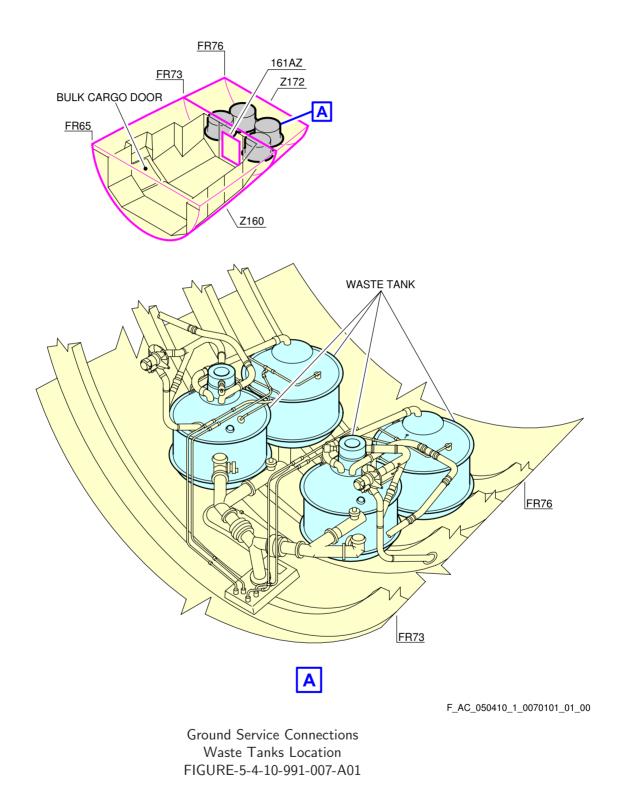


Waste Water Ground Service Panel FIGURE-5-4-10-991-003-A01

5-4-10

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600



5-4-10

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#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### 5-4-11 Cargo Control Panels

## \*\*ON A/C A340-500 A340-600

### Cargo Control Panels

### \*\*ON A/C A340-600

### 1. Cargo Control Panels

	DISTANCE				
ACCESS	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT	
		LH SIDE	RH SIDE	FROM GROUND	
FWD CLS* Panel:	14.17 m		2.60 m	3.10 m	
Access Door 122DR	(46.49 ft)		(8.53 ft)	(10.17 ft)	
FWD Cargo Door	13.87 m		2.40 m	3.50 m	
Panel:	(45.51 ft)		(7.87 ft)	(11.48 ft)	
Access Door 122CR			(1.01 10)	(11.10 11)	
AFT CLS* Panel:	59.60 m		2.60 m	4.70 m	
Access Door	(195.54 ft)		(8.53 ft)	(15.42 ft)	
152MR	(100:01 10)		(0.00 10)	(10.12.10)	
AFT Cargo Door	59.20 m		2.40 m	4.10 m	
Panel:	(194.23 ft)		(7.87 ft)	(13.45 ft)	
Access Door 152NR	(13 1.20 10)		(1.01 10)		

### NOTE : \* CLS - CARGO LOADING SYSTEMS

### \*\*ON A/C A340-500

### 2. Cargo Control Panels

	DISTANCE				
ACCESS	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT	
		LH SIDE	RH SIDE	FROM GROUND	
FWD CLS* Panel: Access Door 122DR	14.17 m (46.49 ft)		2.60 m (8.53 ft)	3.10 m (10.17 ft)	
FWD Cargo Door Panel: Access Door 122CR	13.87 m (45.51 ft)		2.40 m (7.87 ft)	3.50 m (11.48 ft)	
AFT CLS* Panel: Access Door 152MR	51.94 m (170.41 ft)		2.60 m (8.53 ft)	4.70 m (15.42 ft)	

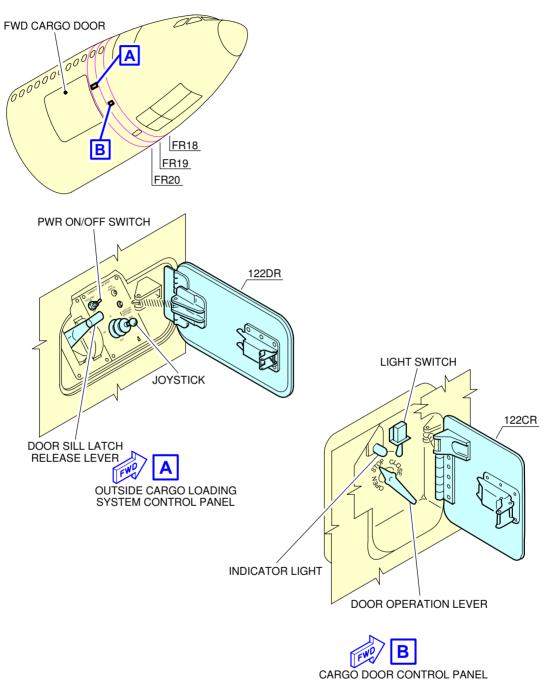
AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

	DISTANCE			
ACCESS	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT
		LH SIDE	RH SIDE	FROM GROUND
AFT Cargo Door Panel: Access Door 152NR	51.64 m (169.42 ft)		2.40 m (7.87 ft)	4.10 m (13.45 ft)

NOTE : \* CLS - CARGO LOADING SYSTEMS

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### \*\*ON A/C A340-500 A340-600



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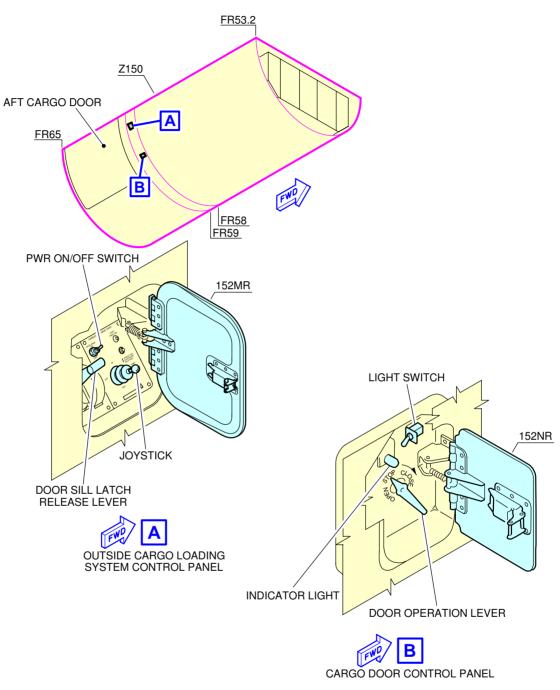
Forward Cargo Control Panels FIGURE-5-4-11-991-006-A01

5-4-11

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500 A340-600



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Aft Cargo Control Panels FIGURE-5-4-11-991-007-A01

5-4-11

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### 5-5-0 Engine Starting Pneumatic Requirements

### \*\*ON A/C A340-500 A340-600

### Engine Starting Pneumatic Requirements

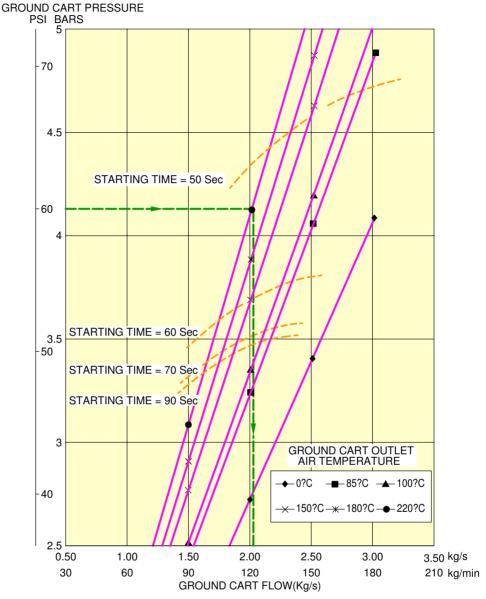
 Engine Starting Pneumatic Requirements. To determinate the airflow required at ground connection, refer to the example given in FIGURE 5-5-0-991-003-A.

For engine starting pneumatic requirements for:

- Low ambient temperatures, refer to 05-05-01,
- Medium ambient temperatures, refer to 05-05-02,
- High ambient temperatures, refer to 05-05-03.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600



EXAMPLE TO DETERMINATE THE AIRFLOW REQUIRED AT THE FUSELAGE CONNECTION: -FOR AN AIR START UNIT DELIVERING 60 PSIA (4.14 BARS) AIR PRESSURE AT THE FUSELAGE CONNECTOR

-AT A SUPPLIED AIR TEMPERATURE OF 220?C (428?F) AT THE FUSELAGE CONNECTOR

- 1. DRAW AN HORIZONTAL LINE FROM THE SUPPLIED AIR PRESSURE (60 PSIA (4.14 BARS)).
- 2. FROM THE INTERSECTION WITH THE AIR SUPPLY TEMPERATURE AT FUSELAGE CONNECTION (220?C (428?F)), DRAW A VERTICAL LINE.
- 3. THE INTERSECTION WITH THE HORIZONTAL AXIS GIVES THE REQUIRED AIRFLOW AT GROUND CONNECTION (125 kg/min (2.08 kg/s)). F\_AC\_050500\_1\_0030101\_01\_00

Engine Starting Pneumatic Requirements FIGURE-5-5-0-991-003-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### 5-5-1 Low Ambient Temperatures

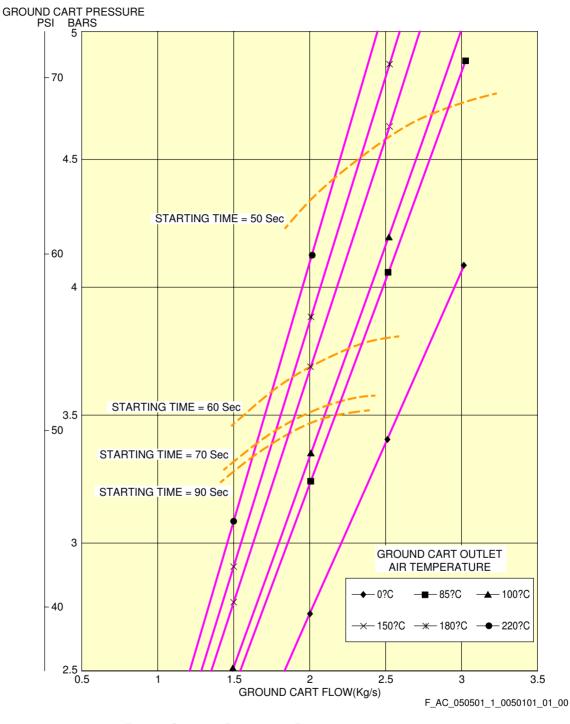
### \*\*ON A/C A340-500 A340-600

Low Ambient Temperatures

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

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600



Engine Starting Pneumatic Requirements Low Ambient Temperature -40  $^{\circ}$  C (-40  $^{\circ}$  F) – RB 211 TRENT 500 series engine FIGURE-5-5-1-991-005-A01

5-5-1

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### 5-5-2 Medium Ambient Temperatures

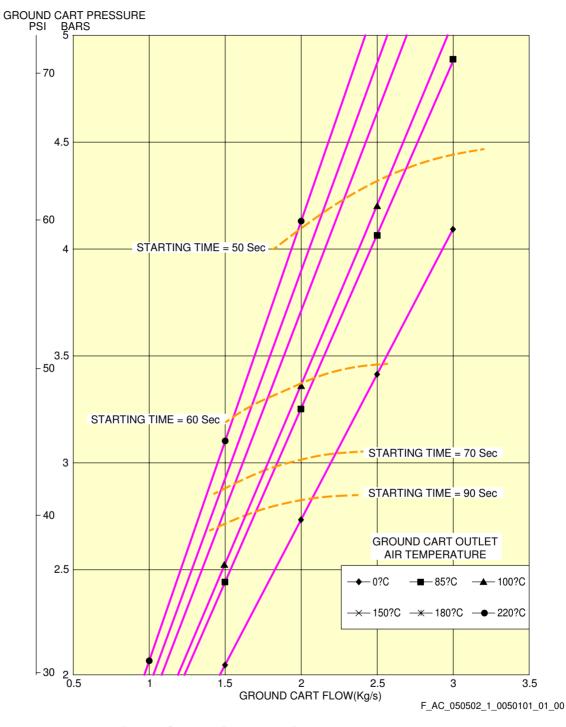
### \*\*ON A/C A340-500 A340-600

Medium Ambient Temperatures

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

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600



Engine Starting Pneumatic Requirements Medium Ambient Temperature +15 °C (+59 °F) – RB 211 TRENT 500 series engine FIGURE-5-5-2-991-005-A01

5-5-2

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

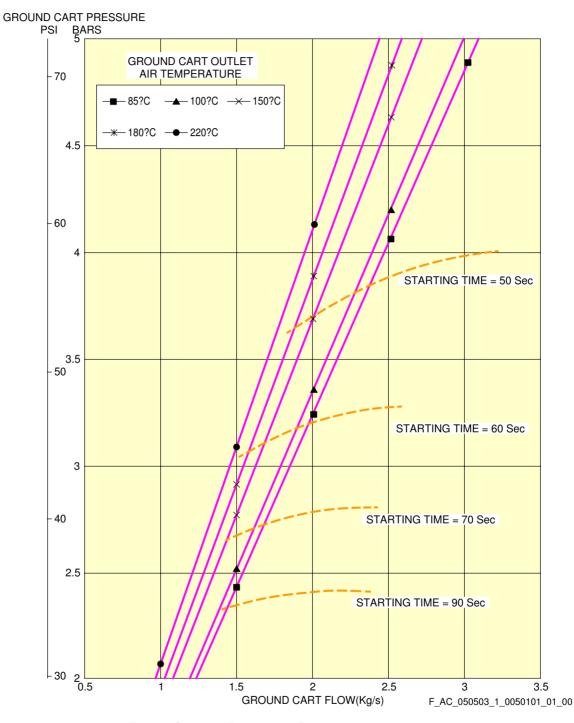
- 5-5-3 High Ambient Temperatures
- \*\*ON A/C A340-500 A340-600

High Ambient Temperatures

1. This section provides the engine starting pneumatic requirements for a temperature upper +50 °C (+122 °F).

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600



Engine Starting Pneumatic Requirements High Ambient Temperature +50 °C (+122 °F) – RB 211 TRENT 500 series engine FIGURE-5-5-3-991-005-A01

5-5-3

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### 5-6-0 Ground Pneumatic Power Requirements

### \*\*ON A/C A340-500 A340-600

### Ground Pneumatic Power Requirements

1. General

This section describes the required performance for the ground equipment to maintain the cabin temperature at 27 °C (80.6 °F) for the cooling or 21 °C (69.8 °F) for heating cases after boarding (Section 5.7 - steady state), and provides the time needed to cool down or heat up the aircraft cabin to the required temperature (Section 5.6 - dynamic cases with aircraft empty).

ABBREVIATION	DEFINITION		
A/C	Aircraft		
АНМ	Aircraft Handling Manual		
GC	Ground Connection		
GSE	Ground Service Equipment		
IFE	In-Flight Entertainment		
LP	Low Pressure		
LPGC	Low Pressure Ground Connection		
OAT	Outside Air Temperature		
PCA	Pre-Conditioned Air		

- A. The air flow rates and temperature requirements for the GSE, provided in Sections 5.6 and 5.7, are given at A/C ground connection.
  - <u>NOTE</u>: The cooling capacity of the equipment (kW) is only indicative and is not sufficient by itself to ensure the performance (outlet temperature and flow rate combinations are the requirements needed for ground power). An example of cooling capacity calculation is given in Section 5.7.
- B. The air flow rates and temperature requirements for the GSE are given for the A/C in the configuration "2 LP ducts connected".

<u>NOTE</u> : The maximum air flow is driven by pressure limitation at LPGC.

C. For temperatures at ground connection below +2 °C (+35.6 °F) (Subfreezing), the ground equipment shall be compliant with the Airbus document "Subfreezing PCA Carts – Compliance Document for Suppliers" (contact Airbus to obtain this document) defining all the requirements with which Subfreezing Pre-Conditioning Air equipment must comply to allow its use on Airbus aircraft. These requirements are in addition to the functional specifications included in the IATA AHM997.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

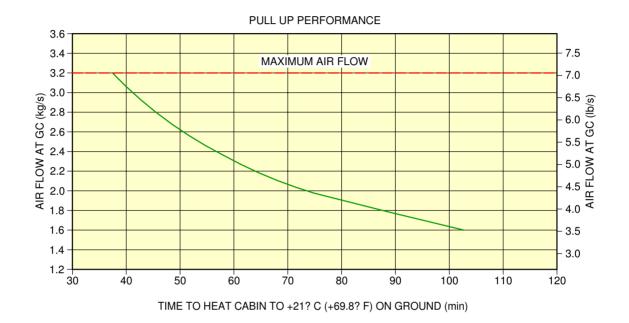
2. Ground Pneumatic Power Requirements

This section provides the ground pneumatic power requirements for:

- Heating (pull up) the cabin, initially at OAT, up to 21 °C (69.8 °F) (see FIGURE 5-6-0-991-005-A)
- Cooling (pull down) the cabin, initially at OAT, down to 27 °C (80.6 °F) (see FIGURE 5-6-0-991-006-A).

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600



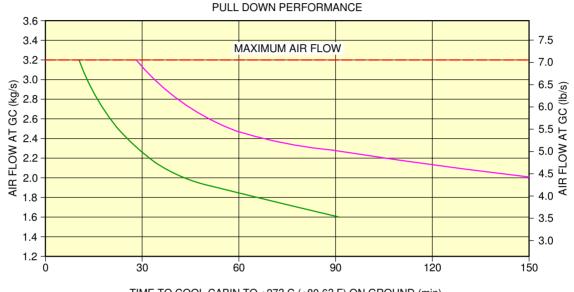
 OAT ISA –38? C (–36.4? F); GC INLET +70? C (+158? F); EMPTY CABIN; IFE OFF; NO SOLAR LOAD; LIGHTS ON; GALLEYS OFF; RECIRCULATION FANS ON

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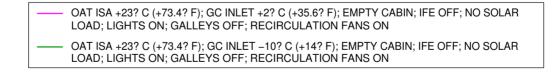
Ground Pneumatic Power Requirements Heating FIGURE-5-6-0-991-005-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600



TIME TO COOL CABIN TO +27? C (+80.6? F) ON GROUND (min)



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Ground Pneumatic Power Requirements Cooling FIGURE-5-6-0-991-006-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### 5-7-0 Preconditioned Airflow Requirements

### \*\*ON A/C A340-500 A340-600

#### Preconditioned Airflow Requirements

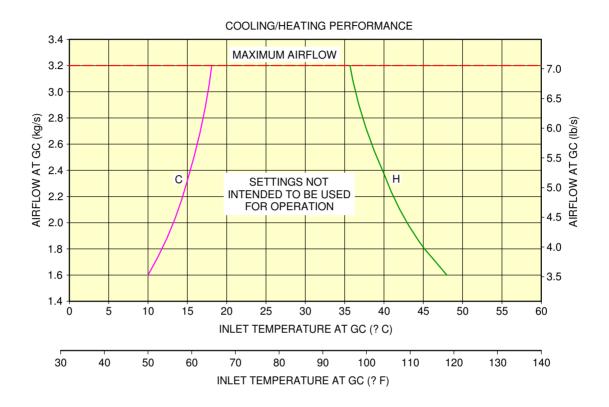
1. This section provides the preconditioned airflow rate and temperature needed to maintain the cabin temperature at 24 °C (75.2 °F) for the cooling or 21 °C (69.8 °F) for the heating cases.

These settings are not intended to be used for operation (they are not a substitute for the settings given in the AMM). They are based on theoretical simulations and give the picture of a real steady state.

The purpose of the air conditioning (cooling) operation (described in the AMM) is to maintain the cabin temperature below 27  $\degree$ C (80.6  $\degree$ F) during boarding (therefore it is not a steady state).

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600



OAT ISA; EMPTY CABIN; IFE ON; LIGHTS ON; NO SOLAR LOAD; RECIRCULATION FANS ON; GALLEYS ON
 OAT ISA –38? C (–36.4? F); EMPTY CABIN; IFE OFF; LIGHTS ON; NO SOLAR LOAD; RECIRCULATION
 FANS ON; GALLEYS OFF

#### EXAMPLE:

COOLING CAPACITY CALCULATION: FOR THE CONDITIONS "C", THE COOLING CAPACITY OF 1.6 kg/s x 1 kJ/(kg.? C) x (24 - 10) = 22.4 kW (OR 6.7 TONS COOLING CAPACITY) IS NEEDED TO MAINTAIN THE CABIN TEMPERATURE AT 24? C (75.2? F) (1.6 kg/s AT 10? C (50? F) FOR AIR AT GC INLET).

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Preconditioned Airflow Requirements FIGURE-5-7-0-991-004-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### 5-8-0 Ground Towing Requirements

### \*\*ON A/C A340-500 A340-600

### Ground Towing Requirements

1. This section provides information on aircraft towing.

The A340-500/-600 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 ISI 09.11.00001. It is possible to tow or push the aircraft, at maximum ramp weight with engines at zero or up to idle thrust, using a towbar attached to the NLG. One towbar 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 ARM 07).

This section shows the chart to determine the drawbar pull and tow tractor mass requirements as a function of the following physical characteristics:

- Aircraft weight,
- Number of engines at idle,
- Slope.

The following chart is applicable to both A340-500 and -600 aircraft.

2. Towbar design guidelines

The aircraft towbar shall comply with the following standards:

- ISO 8267-1, "Aircraft Towbar Attachment Fitting Interface Requirements Part 1: Main Line Aircraft",
- ISO 9667, "Aircraft Ground Support Equipment Towbars",
- IATA Airport Handling Manual AHM 958, "Functional Specification for an Aircraft Towbar".

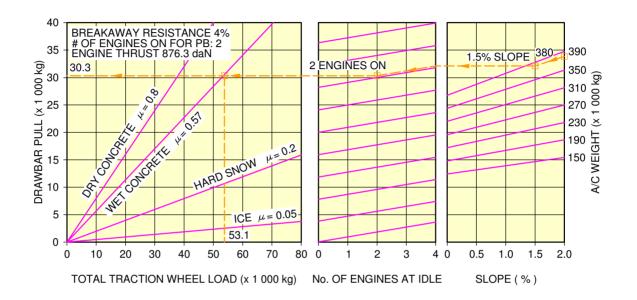
A conventional type towbar is required which should be equipped with a damping system (to protect the NLG against jerks) and with towing shear pins:

- A traction shear pin calibrated at 40 400 daN (90 823 lbf),
- A torsion pin calibrated at 4 800 m.daN (424 836 lbf.in).

The towing head is designed according to ISO 8267-1, cat. IV.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600



EXAMPLE HOW TO DETERMINE THE MASS REQUIREMENT TO TOW A A340–500 OR –600 AT 380 000 kg, 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 (380 000 kg),
- FROM THIS POINT DRAW A PARALLEL LINE TO THE REQUIRED SLOPE PERCENTAGE (1.5%),
- FROM THE POINT OBTAINED DRAW A STRAIGHT HORIZONTAL LINE UNTIL No. OF ENGINES AT IDLE = 4,
- FROM THIS POINT DRAW A PARALLEL LINE TO THE REQUESTED №. OF ENGINES (2),
- 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 (30 300 kg),
- SEARCH THE INTERSECTION WITH THE "WET CONCRETE" LINE. THE OBTAINED X-COORDINATE IS THE RECOMMENDED MINIMUM TRACTOR WEIGHT (53 100 kg).

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Ground Towing Requirements FIGURE-5-8-0-991-010-A01

### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### 5-9-0 De-Icing and External Cleaning

### \*\*ON A/C A340-500 A340-600

### De-Icing and External Cleaning

- De-Icing and External Cleaning on Ground The mobile equipment for aircraft de-icing and external cleaning must be capable of reaching heights up to approximately 17 m (56 ft).
- 2. De-Icing

AIRCRAFT TYPE	Wing Top Surface (Both Sides)	Wingtip Devices (Both Inside and Outside Surfaces) (Both Sides)	HTP Top Surface (Both Sides)	VTP (Both Sides)
A340-500	373 m <sup>2</sup>	11 m <sup>2</sup>	90 m <sup>2</sup>	103 m <sup>2</sup>
	(4 015 ft <sup>2</sup> )	(118 ft <sup>2</sup> )	(969 ft <sup>2</sup> )	(1 109 ft <sup>2</sup> )
A340-600	373 m <sup>2</sup>	11 m <sup>2</sup>	90 m <sup>2</sup>	103 m <sup>2</sup>
	(4 015 ft <sup>2</sup> )	(118 ft <sup>2</sup> )	(969 ft <sup>2</sup> )	(1 109 ft <sup>2</sup> )

AIRCRAFT TYPE	Fuselage Top Surface (Top Third - 120° Arc)	Nacelle and Pylon (Top Third - 120° Arc) (All Engines)	Total De-Iced Area
A340-500	338 m <sup>2</sup>	83 m <sup>2</sup>	998 m <sup>2</sup>
	(3 638 ft <sup>2</sup> )	(893 ft <sup>2</sup> )	(10 742 ft <sup>2</sup> )
A340-600	382 m <sup>2</sup>	83 m <sup>2</sup>	1 042 m <sup>2</sup>
	(4 112 ft <sup>2</sup> )	(893 ft <sup>2</sup> )	(11 216 ft <sup>2</sup> )

<u>NOTE</u> : Dimensions are approximate.

3. External Cleaning

AIRCRAFT TYPE	Wing Top Surface (Both Sides)	Wing Lower Surface (Including Flap Track Fairing) (Both Sides)	Wingtip Devices (Both Inside and Outside Surfaces) (Both Sides)	HTP Top Surface (Both Sides)	HTP Lower Surface (Both Sides)
A340-500	373 m <sup>2</sup>	412 m <sup>2</sup>	11 m <sup>2</sup>	90 m <sup>2</sup>	90 m <sup>2</sup>
	(4 015 ft <sup>2</sup> )	(4 435 ft <sup>2</sup> )	(118 ft <sup>2</sup> )	(969 ft <sup>2</sup> )	(969 ft <sup>2</sup> )
A340-600	373 m <sup>2</sup>	412 m <sup>2</sup>	11 m <sup>2</sup>	90 m <sup>2</sup>	90 m <sup>2</sup>
	(4 015 ft <sup>2</sup> )	(4 435 ft <sup>2</sup> )	(118 ft <sup>2</sup> )	(969 ft <sup>2</sup> )	(969 ft <sup>2</sup> )

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

AIRCRAFT TYPE	VTP (Both Sides)	Fuselage and Belly Fairing	Nacelle and Pylon (All Engines)	Total Cleaned Area
A340-500	103 m <sup>2</sup>	1 024 m <sup>2</sup>	244 m <sup>2</sup>	2 363 m <sup>2</sup>
	(1 109 ft <sup>2</sup> )	(11 022 ft <sup>2</sup> )	(2 626 ft <sup>2</sup> )	(25 435 ft <sup>2</sup> )
A340-600	103 m <sup>2</sup>	1 156 m <sup>2</sup>	244 m <sup>2</sup>	2 494 m <sup>2</sup>
	(1 109 ft <sup>2</sup> )	(12 443 ft <sup>2</sup> )	(2 626 ft <sup>2</sup> )	(26 845 ft <sup>2</sup> )

<u>NOTE</u> : Dimensions are approximate.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### **OPERATING CONDITIONS**

### 6-1-0 Engine Exhaust Velocities and Temperatures

### \*\*ON A/C A340-500 A340-600

### Engine Exhaust Velocities and Temperatures

1. General

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

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

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

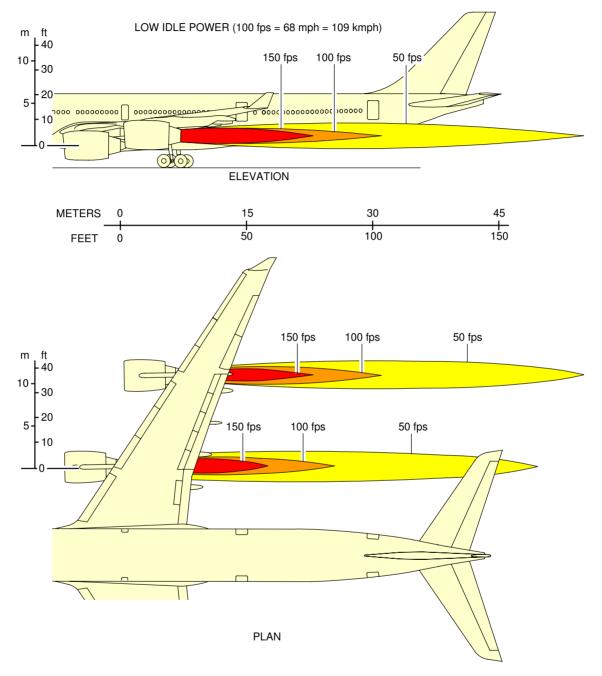
### \*\*ON A/C A340-500 A340-600

Engine Exhaust Velocities Contours - Ground Idle Power

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

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600



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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

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

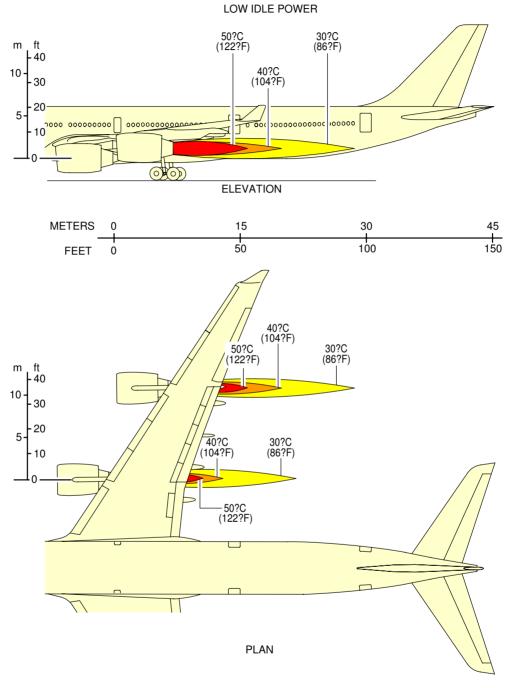
### \*\*ON A/C A340-500 A340-600

Engine Exhaust Temperatures Contours - Ground Idle Power

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

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600



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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

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

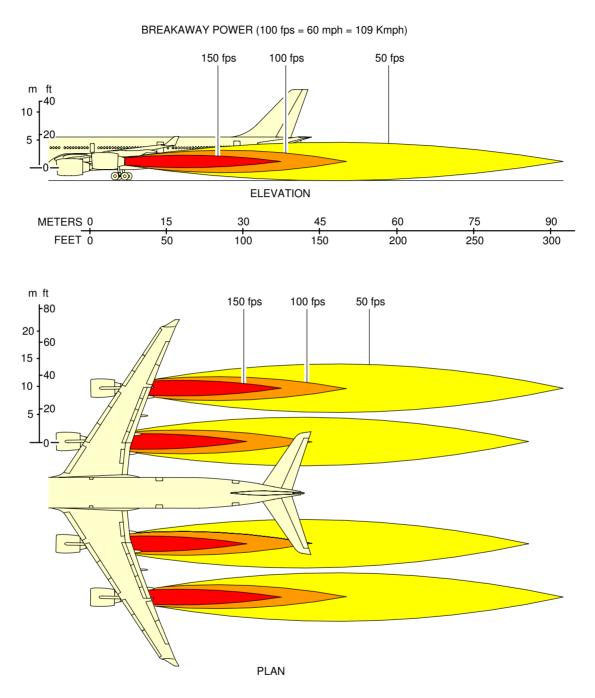
### \*\*ON A/C A340-500 A340-600

Engine Exhaust Velocities Contours - Breakaway Power

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

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### \*\*ON A/C A340-500 A340-600



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6-1-3

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

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

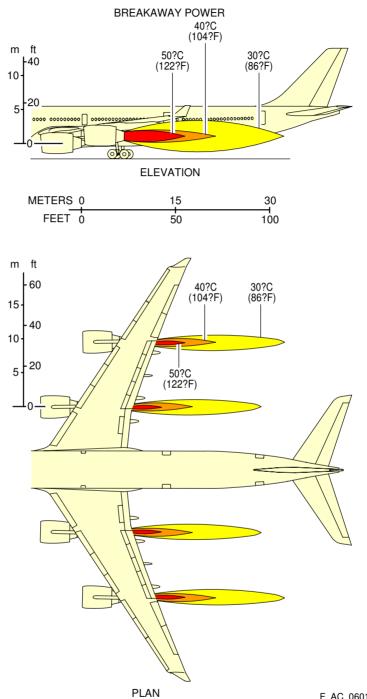
### \*\*ON A/C A340-500 A340-600

Engine Exhaust Temperatures Contours - Breakaway Power

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

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600



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Engine Exhaust Temperatures Breakaway Power - RR TRENT 500 series engine FIGURE-6-1-4-991-005-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

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

### \*\*ON A/C A340-500 A340-600

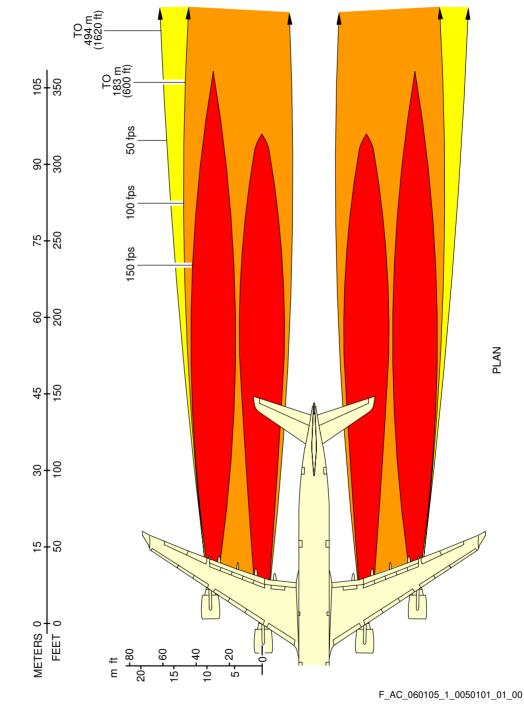
Engine Exhaust Velocities Contours - Takeoff Power

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

### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600

MAX TAKE-OFF POWER (100 fps = 68 mph = 109 kmph)





6-1-5

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

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

### \*\*ON A/C A340-500 A340-600

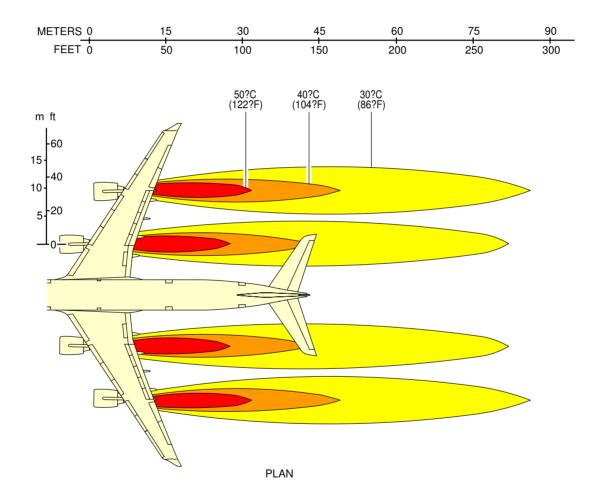
Engine Exhaust Temperatures Contours - Takeoff Power

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

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500 A340-600





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Engine Exhaust Temperatures Takeoff Power - RR TRENT 500 series engine FIGURE-6-1-6-991-005-A01

 $\begin{array}{c} {\sf Page \ 2} \\ {\sf Jun \ 01/20} \end{array}$ 

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

6-3-0 Danger Areas of Engines

### \*\*ON A/C A340-500 A340-600

Danger Areas of Engines

- 1. Danger Areas of the Engines.
  - <u>NOTE</u>: Areas with exhaust velocities of more than 56 km/h (35 mph, 50 ft/s or 15 m/s) are defined as areas where injury to persons and/or damage to machinery can occur.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### 6-3-1 Ground Idle Power

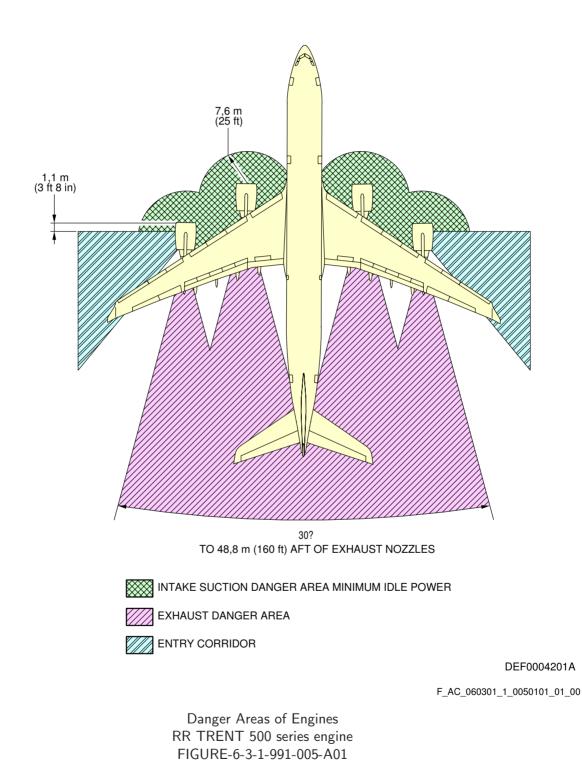
### \*\*ON A/C A340-500 A340-600

Ground Idle Power

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

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600



6-3-1

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### 6-3-2 Breakaway Power

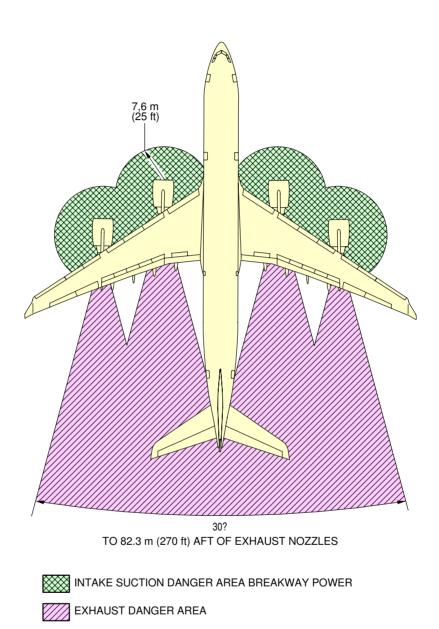
#### \*\*ON A/C A340-500 A340-600

Breakaway Power

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

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500 A340-600



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Danger Areas of Engines RR TRENT 500 series engine FIGURE-6-3-2-991-005-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### 6-3-3 Takeoff Power

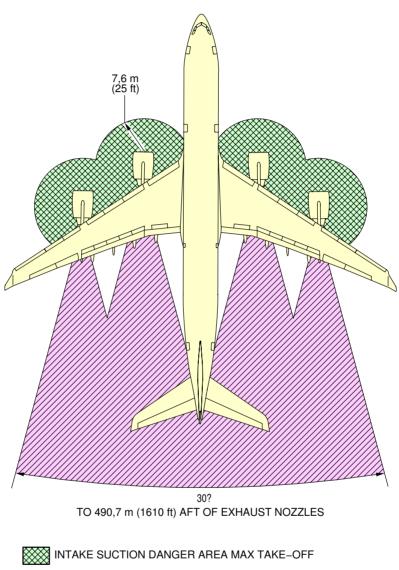
#### \*\*ON A/C A340-500 A340-600

Takeoff Power

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

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500 A340-600



EXHAUST DANGER AREA

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Danger Areas of Engines RR TRENT 500 series engine FIGURE-6-3-3-991-005-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

- 6-4-0 APU Exhaust Velocities and Temperatures
- \*\*ON A/C A340-500 A340-600
- APU Exhaust Velocities and Temperatures
- 1. APU Exhaust Velocities and Temperatures.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### 6-4-1 APU

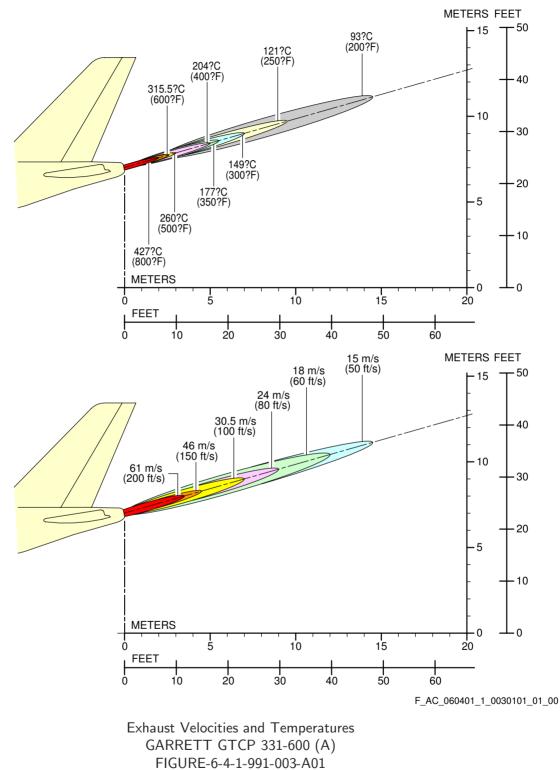
#### \*\*ON A/C A340-500 A340-600

#### APU - GARRETT

#### 1. This section gives APU exhaust velocities and temperatures.

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500 A340-600



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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### PAVEMENT DATA

#### 7-1-0 General Information

#### \*\*ON A/C A340-500 A340-600

#### General Information

1. 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 aircraft configuration is shown with a minimum range of five loads on the Main Landing Gear (MLG).

All curves on the charts represent data at a constant specified tire pressure with:

- The aircraft loaded to the Maximum Ramp Weight (MRW),
- The CG at its maximum permissible aft position.

Pavement requirements for commercial aircraft are derived from the static analysis of loads imposed on the MLG struts.

Landing Gear Footprint:

Section 07-02-00 presents basic data on the landing gear footprint configuration, MRW and tire sizes and pressures.

Maximum Pavement Loads: Section 07-03-00 shows maximum vertical and horizontal pavement loads for certain critical conditions at the tire-ground interfaces.

Landing Gear Loading on Pavement:

Section 07-04-00 contains charts to find these loads throughout the stability limits of the aircraft at rest on the pavement.

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

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

Section 07-05-00 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 the Aircraft Classification Number (ACN).

Flexible Pavement Requirements - LCN Conversion Method:

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

The Load Classification Number (LCN) curves are no longer provided in section 07-06-00 since the LCN system for reporting pavement strength is obsolete, having been replaced by the ICAO recommended ACN/PCN system in 1983. For questions regarding the LCN system, contact Airbus.

Rigid Pavement Requirements - PCA (Portland Cement Association) Design Method: Section 07-07-00 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.

Rigid Pavement Requirements - LCN Conversion:

The Load Classification Number (LCN) curves are no longer provided in section 07-08-00 since the LCN system for reporting pavement strength is obsolete, having been replaced by the ICAO recommended ACN/PCN system in 1983. For questions regarding the LCN system, contact Airbus.

ACN/PCN Reporting System:

Section 07-09-00 provides ACN data prepared according to the ACN/PCN system as referenced in ICAO Annex 14, "Aerodromes", Volume 1 "Aerodrome Design and Operations" Fourth Edition, July 2004, incorporating Amendments 1 to 6.

The ACN/PCN system provides a standardized international aircraft/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 less than or equal to the PCN can operate without restriction on the pavement.

Numerically the ACN is two times the derived single wheel load expressed in thousands of kilograms. The derived single wheel load is defined as the load on a single tire inflated to 1.25 MPa (181 psi) that would have the same pavement requirements as the aircraft.

Computationally the ACN/PCN system uses PCA program PDILB for rigid pavements and S-77-1 for flexible pavements to calculate ACN values.

The Airport Authority must decide on the method of pavement analysis and the results of their evaluation shown as follows:

PCN								
PAVEMENT	SUBGRADE	TIRE PRESSURE CATEGORY						
TYPE	CATEGORY	TIKE T KESSORE CATEGORT						
R - Rigid	A - High	W - No pressure limit	T - Technical					
F - Flexible		X - High pressure limited to 1.75 MPa (254 psi)	U - Using Aircraft					
		Y - Medium pressure limited to 1.25 MPa (181 psi)						

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

	PCN						
PAVEMENT TYPE	SUBGRADE CATEGORY	TIRE PRESSURE CATEGORY	EVALUATION METHOD				
	D - Ultra Low	Z - Low pressure limited to 0.5 MPa (73 psi)					

For flexible pavements, the four subgrade categories (CBR) are:

- A.	High	Strength		CBR 15
------	------	----------	--	--------

- B. Medium Strength CBR 10C. Low Strength CBR 6
- D. Ultra Low Strength CBR 3

For rigid pavements, the four subgrade categories (k) are:

- A. High Strength	$k = 150 \text{ MN}/m^3$ (550 pci)
- B. Medium Strength	$k = 80 \text{ MN}/m^3$ (300 pci)
- C. Low Strength	$k = 40 \text{ MN}/m^3 (150 \text{ pci})$
- D. Ultra Low Strength	$k = 20 \text{ MN}/m^3$ (75 pci)

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

7-2-0 Landing Gear Footprint

#### \*\*ON A/C A340-500 A340-600

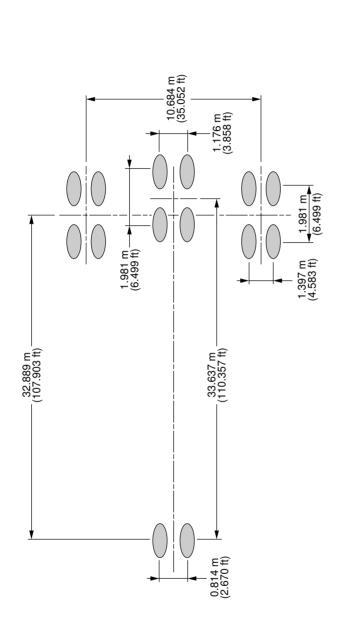
Landing Gear Footprint

1. This section provides data about the landing gear footprint in relation to the aircraft MRW and tire sizes and pressures.

The landing-gear footprint information is given for all the operational weight variants of the aircraft.

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600



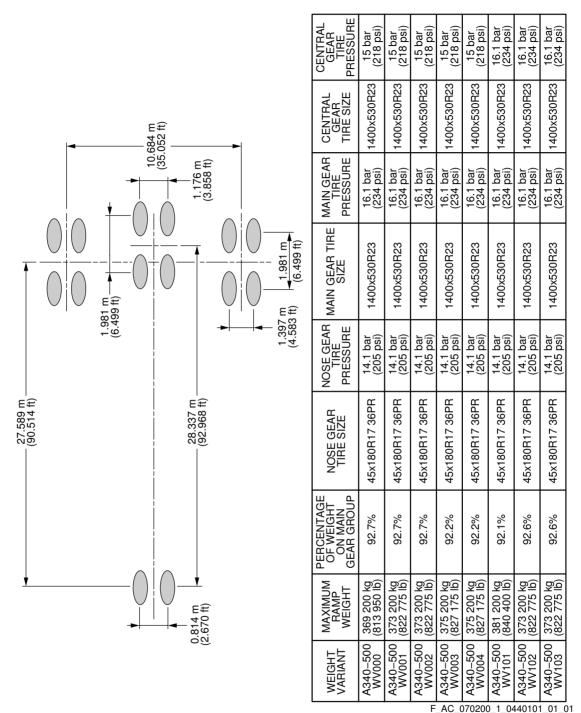
111						
CENTRAL GEAR TIRE PRESSURE	15 bar (218 psi)	15 bar (218 psi)	16.1 bar (234 psi)	16.1 bar (234 psi)	16.1 bar (234 psi)	
CENTRAL GEAR TIRE SIZE	1400×530R23	1400×530R23	1400×530R23	1400×530R23	1400×530R23	
MAIN GEAR TIRE PRESSURE	16.1 bar (234 psi)					
NOSE GEAR MAIN GEAR TIRE MAIN GEAR TIRE PRESSURE PRESSURE	1400×530R23	1400×530R23	1400×530R23	1400×530R23	1400×530R23	
NOSE GEAR TIRE PRESSURE	13.7 bar (199 psi)	13.7 bar (199 psi)	13.9 bar (202 psi)	13.9 bar (202 psi)	13.9 bar (202 psi)	
NOSE GEAR TIRE SIZE	45x180R17 36PR	-				
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	% <b>3</b> °2%	%†`86	%6'36	63.4%	93.5%	
MAXIMUM RAMP WEIGHT	366 200 kg (807 325 lb)	369 200 kg (813 950 lb)	381 200 kg (840 400 lb)	369 200 kg (813 950 lb)	366 200 kg (807 325 lb)	
WEIGHT VARIANT	H A340-600 WV000	A340-600 0 WV001	002 A340-600 001 WV101	4 A340-600 WV102	A340-600 WV103	_01_02

Landing Gear Footprint FIGURE-7-2-0-991-032-A01

# **© A340-500/-600**

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



Landing Gear Footprint FIGURE-7-2-0-991-044-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### 7-3-0 Maximum Pavement Loads

#### \*\*ON A/C A340-500 A340-600

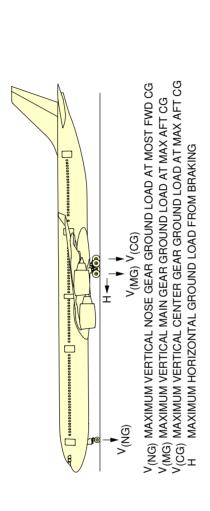
#### Maximum Pavement Loads

1. This section provides maximum vertical and horizontal pavement loads for some critical conditions at the tire-ground interfaces.

The maximum pavement loads are given for all the operational weight variants of the aircraft.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600



7	H (PER STRUT)	STEADY BRAKING AT 10 ft/s? DECELERATION COEFFICIENT = 0.8	94 360 kg (208 025 lb) (c) 85 260 kg (187 975 lb) (d)	
	H (PEF	STEADY BRAKING AT 10 ft/s? DECELERATION	39 200 kg (c) (86 425 lb) 35 420 kg (d) (78 100 lb) (d)	
	) RUT)	AD AT CG	35 % MAC (a)	
9	V <sub>(CG)</sub> (PER STRUT)	STATIC LOAD AT MAX AFT CG	106 570 kg (234 950 lb)	
	) RUT)	AD AT CG	35 % MAC (a)	
5	V <sub>(MG)</sub> (PER STRUT)	STATIC LO, MAX AFT	117 950 kg (260 025 lb)	
4	/(NG)	STATIC BRAKING AT 10 ft/s? DECELERATION	55 250 kg (121 800 lb)	
	V <sub>(N</sub>		16 % MAC (b)	
3		MAXIMUM RAMP WEIGHT MOST FWD CG	kg 40 320 kg 5 lb) (88 900 lb)	
2		MAXIMUM RAMP WEIGHT	366 200 kg (807 325 lb)	
-		MODEL	A340-600 366 200 h WV000 (807 325	

LOADS CALCULATED USING AIRCRAFT AT 354 600 kg (781 750 lb). NOTE:

(a) LOADS CALCULATED USING AIRCRAFT AT MRW.
(b) LOADS CALCULATED USING AIRCRAFT AT 354 60
(c) BRAKED MAIN GEAR.
(d) BRAKED CENTER GEAR. F\_AC\_070300\_1\_0110101\_01\_03

Maximum Pavement Loads (Sheet 1 of 2) FIGURE-7-3-0-991-011-A01

7-3-0

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#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600

			1		1	
7	H (PER STRUT)		95 140 kg (c) (209 750 lb) 85 500 kg (d) (188 500 lb) (d)	96 810 kg (c) (213 425 lb) 87 780 kg (d) (193 525 lb) (d)	94 530 kg (c) (208 400 lb) 86 670 kg (d) (191 075 lb) (d)	93 820 kg (c) (206 850 lb) 86 280 kg (190 225 lb) (d)
	H (PEI	ç Ş TION	(c) (d)	(c) (d)	(c) (d)	(c) (d)
	-	STEADY BRAKING AT 10 ft/s? DECELERATIO	39 590 kg (87 275 lb) 35 580 kg (78 450 lb)	40 760 kg (89 850 lb) 36 960 kg (81 475 lb)	39 340 kg (86 725 lb) 36 070 kg (79 525 lb)	38 980 kg (85 925 lb) 35 850 kg (79 025 lb)
	a) RUT)	AD AT T CG	34.43 % MAC (a)	30.2 % MAC (a)	34.43 % MAC (a)	35 % MAC (a)
9	<sup>V</sup> (CG) (PER STRUT)	STATIC LOAD AT MAX AFT CG         STATIC LOAD AT MAX AFT CG         STATIC LOAD AT           118 930 kg         34.43 %         106 880 kg         34.43 %           262 200 lb)         MAC         (235 625 lb)         (a)           121 020 kg         30.2 %         109 720 kg         30.2 %           (266 800 lb)         MAC         (241 900 lb)         MAC		108 340 kg (238 850 lb)	107 850 kg (237 775 lb)	
	a) RUT)	AD AT F CG MAC ( (a) (a) (a) (a) (a) (a) (a) (a) (a) (a)		34.43 % MAC (a)	35 % MAC (a)	
5	V <sub>(MG)</sub> (PER STRUT)	STATIC LOAD AT MAX AFT CG	118 930 kg (262 200 lb)	121 020 kg (266 800 lb)	118 160 kg 34.43 % 108 340 kg 34.43 % (260 500 lb) (a) (238 850 lb) (a)	117 270 kg (258 525 lb)
4	(B)	STATIC BRAKING AT 10 ft/s? DECELERATION	55 250 kg (121 800 lb)	55 070 kg (121 400 lb)	55 070 kg (121 400 lb)	55 110 kg (121 500 lb)
	V <sub>(NG)</sub>	AD AT	16 % MAC (b)	16 % MAC (b)	16 % MAC (b)	16 % MAC (b)
З	V(h UM STATIC LOAD AT MOST FWD CG		kg 40 320 kg (B) (88 900 lb)	kg 40 330 kg lb) (88 900 lb)	40 330 kg (88 900 lb)	kg 40 330 kg (88 900 lb)
2		MAXIMUM RAMP WEIGHT	369 200 kg (813 950 lb)	381 200 kg (840 400 lb)	A340–600 369 200 kg 40 330 kg WV102 (813 950 lb) (88 900 lb)	366 200 kg (807 325 lb)
-		MODEL	A340-600 369 200 WV001 (813 950	A340–600 381 200 WV101 (840 400	A340-600 WV102	A340-600 366 200 WV103 (807 325

Maximum Pavement Loads (Sheet 2 of 2) FIGURE-7-3-0-991-011-A01

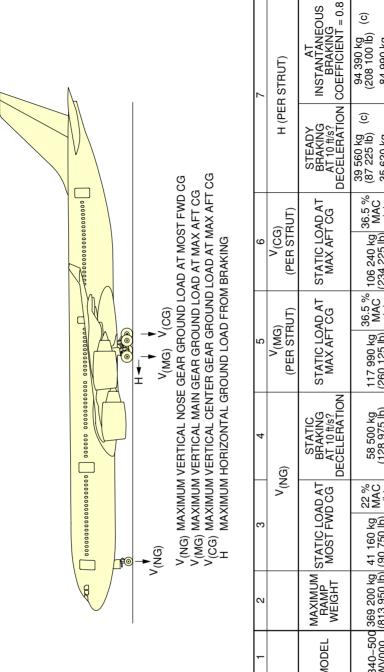
NOTE: (a) LOADS CALCULATED USING AIRCRAFT AT MRW. (b) LOADS CALCULATED USING AIRCRAFT AT 354 600 kg (781 750 lb). (c) BRAKED MAIN GEAR. (d) BRAKED CENTER GEAR.

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7-3-0

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



Ø g ΰ 84 990 kg (187 375 lb) 95 630 kg (210 825 lb) 85 410 kg (188 300 lb) g g <u></u> 40 090 kg (88 375 lb) 35 810 kg (78 950 lb) 35 620 kg (78 525 lb) 36.4 % MAC (a) (a) 106 240 kg (234 225 lb) 106 760 kg (235 375 lb) 36.5 % MAC (a) 36.4 % MAC (a) 117 990 kg (260 125 lb) 119 540 kg (263 550 lb) 58 500 kg (128 975 lb) 58 500 kg (128 975 lb) 22 % MAC (b) 22 % MAC (b) 41 160 kg (90 750 lb) 41 160 kg (90 750 lb) 369 200 kg (813 950 lb) 373 200 kg (822 775 lb) A340-500 (( WV000 (( A340-500 WV001 (( MODEL

LOADS CALCULATED USING AIRCRAFT AT 349 200 kg (769 850 lb) (a) LOADS CALCULATED USING AIRCRAFT AT MRW
(b) LOADS CALCULATED USING AIRCRAFT AT 349 20
(c) BRAKED MAIN GEAR
(d) BRAKED CENTER GEAR NOTE:

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Maximum Pavement Loads (Sheet 1 of 2) FIGURE-7-3-0-991-013-A01

7-3-0

**⑤A340-500/-600** 

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500

		~							1
	STRUT)	AT INSTANTANEOUS BRAKING COEFFICIENT = 0.8	95 630 kg (c) (210 825 lb) 85 410 kg (d) (188 300 lb) (d)	95 740 kg (c) (211 075 lb) (c) 85 380 kg (d) (188 225 lb) (d)	95 740 kg (c) (211 075 lb) (c) 85 380 kg (d) (188 225 lb) (d)	96 470 kg (c) (212 675 lb) (c) 87 990 kg (d) (193 975 lb) (d)	94 750 kg (c) (208 900 lb) (c) 87 070 kg (d) (191 950 lb) (d)	94 750 kg (c) (208 900 lb) (c) 87 070 kg (d) (191 950 lb) (d)	
7	H (PER SI		(c) (c)	(c) (c)	(c) (c)	(c) (c)	(c) (c)	(c) (d	
	н	STEADY BRAKING AT 10 ft/s? DECELERATION	40 090 kg (88 375 lb) 35 810 kg (78 950 lb)	40 330 kg (88 900 lb) 35 960 kg (79 275 lb)	40 330 kg (88 900 lb) 35 960 kg (79 275 lb)	40 690 kg (89 700 lb) 37 110 kg (81 825 lb)	39 740 kg (87 600 lb) 36 520 kg (80 525 lb)	39 740 kg (87 600 lb) 36 520 kg (80 525 lb)	
	a) RUT)	AD AT T CG	36.4 % MAC (a)	35.01 % MAC (a)	35.01 % MAC (a)	34.7 % MAC (a)	36.4 % MAC (a)	36.4 % MAC (a)	
9	<sup>V</sup> (CG) (PER STRUT)	STATIC LOAD AT MAX AFT CG	106 760 kg (235 375 lb)	g 35.01 % 106 730 kg 30 lb) (a) (235 300 lb)	106 730 kg (235 300 lb)	109 980 kg (242 475 lb)	108 840 kg (239 950 lb)	108 840 kg (239 950 lb)	
	a) RUT)	AD AT F CG	36.4 % MAC (a)	35.01 % MAC (a)	35.01 % MAC (a)	34.7 % MAC (a)	36.4 % MAC (a)	36.4 % MAC (a)	
5 2	V <sub>(MG)</sub> (PER STRUT)	STATIC LOAD AT MAX AFT CG	119 540 kg (263 550 lb)	119 680 kg (263 850 lb)	119 680 kg (263 850 lb)	120 590 kg (265 850 lb)	118 440 kg (261 125 lb)	118 440 kg (261 125 lb)	g (769 850 lt
4	G)	STATIC BRAKING AT 10 ft/s? DECELERATION	58 500 kg (128 975 lb)	58 500 kg (128 975 lb)	58 500 kg (128 975 lb)	58 440 kg (128 850 lb)	58 440 kg (128 850 lb)	58 440 kg (128 850 lb)	re: Loads calculated USING AIRCRAFT AT MRW Loads calculated USING AIRCRAFT AT 349 200 kg (769 850 lb) BRAKED MAIN GEAR BRAKED CENTER GEAR
	V <sub>(NG)</sub>		22 % MAC (b)	22 % MAC (b)	22 % MAC (b)	22 % MAC (b)	22 % MAC (b)	22 % MAC (b)	AIRCR
ς		STATIC LOAD AT MOST FWD CG	kg 41 160 kg lb) (90 750 lb)	41 160 kg (90 750 lb)	41 160 kg (90 750 lb)	41 150 kg (90 725 lb)	41 150 kg (90 725 lb)	41 150 kg (90 725 lb)	ED USING ED USING AR GEAR
2		MAXIMUM RAMP WEIGHT		ରୁ ଜି	by lo	by Q	by Ga	by Ga	E: LOADS CALCULATED US LOADS CALCULATED US BRAKED MAIN GEAR BRAKED CENTER GEAR
-		MODEL	A340-500 373 200 WV002 (822 775	A340–500 375 200 WV003 (827 175	A340–500 375 200 WV004 (827 175	A340–500 381 200 WV101 (840 400	A340–500 373 200 WV102 (822 775	A340–500 373 200 WV103 (822 775	NOTE: (a) LOADS (b) LOADS (c) BRAKE (d) BRAKE
								F_AC_	_070300_1_0130102_01_01

Maximum Pavement Loads (Sheet 2 of 2) FIGURE-7-3-0-991-013-A01

7-3-0

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### 7-4-0 Landing Gear Loading on Pavement

#### \*\*ON A/C A340-500 A340-600

#### Landing Gear Loading on Pavement

- This section provides data about the landing gear loading on pavement. The MLG loading on pavement graphs are given for the weight variants that produce (at the MRW and maximum aft CG and standard tire pressure) the lowest ACN (and LCN) and the highest ACN (and LCN) for each type of aircraft.
- MLG Loading on Pavement Example, see FIGURE 7-4-0-991-009-A (Sheet 1), calculation of the total weight on the MLG for:
  - An aircraft with a MRW of 369 200 kg (813 950 lb),
  - The aircraft gross weight is 280 000 kg (617 300 lb),
  - A percentage of weight on the MLG of 92.69% (percentage of weight on the MLG at MRW and maximum aft CG at MRW).

The total weight on the MLG group is 259 530 kg (572 175 lb).

 Main Gear and Center Gear Loading on Pavement The MLG group consists of two main gears (4-wheel bogies) plus one center gear (4-wheel bogies).

Example, see FIGURE 7-4-0-991-009-A (Sheet 2), calculation of the total weight on the MLG for:

- An aircraft with a MRW of 369 200 kg (813 950 lb),
- The aircraft gross weight is 280 000 kg (617 300 lb),
- A percentage of weight on the MLG of 92.66% (percentage of weight on the MLG at 280 000 kg (617 290 lb) and maximum aft CG at MRW).

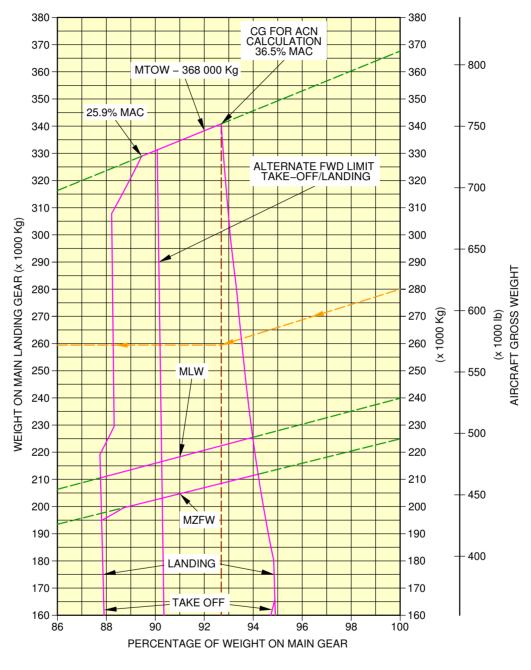
The load on the two main gears is 178 450 kg (393 425 lb) and the load on the center gear is 81 000 kg (178 575 lb).

The total weight on the MLG group is 259 450 kg (572 000 lb).

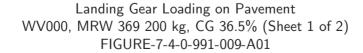
 $\underline{NOTE}$ : The CG in the figure title is the CG used for ACN/LCN calculation.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



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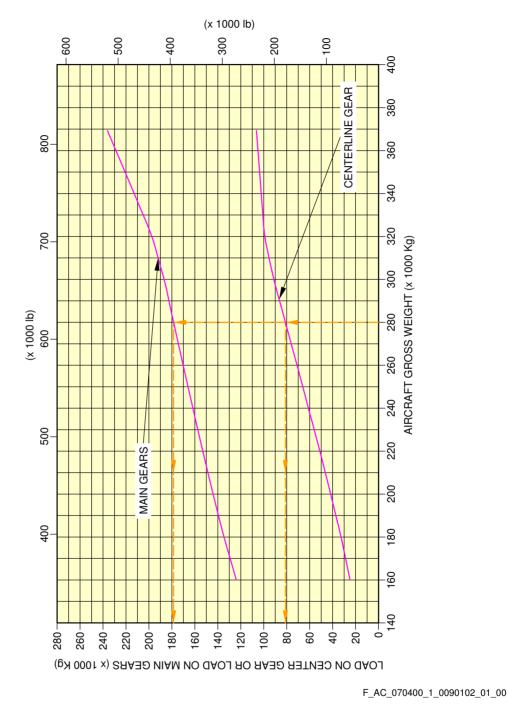


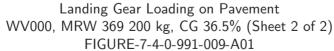
7-4-0

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



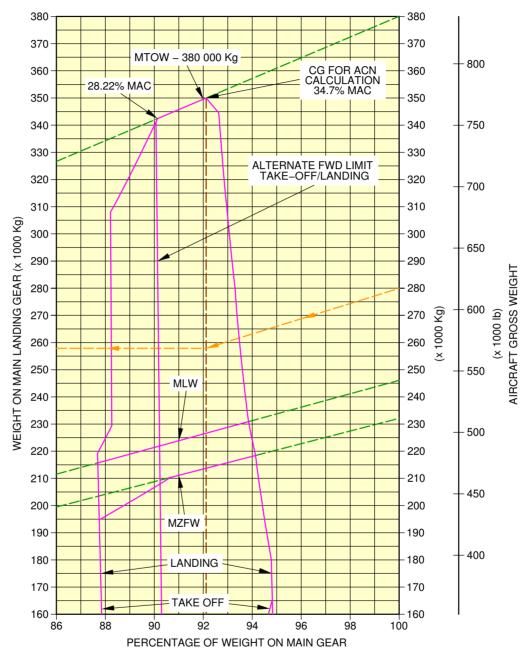


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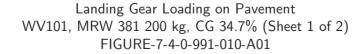
Page 3 Jun 01/20

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



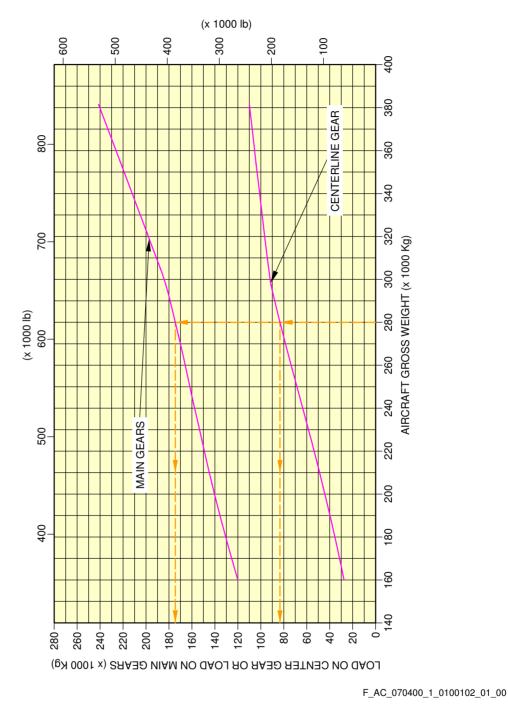
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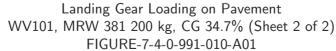


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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



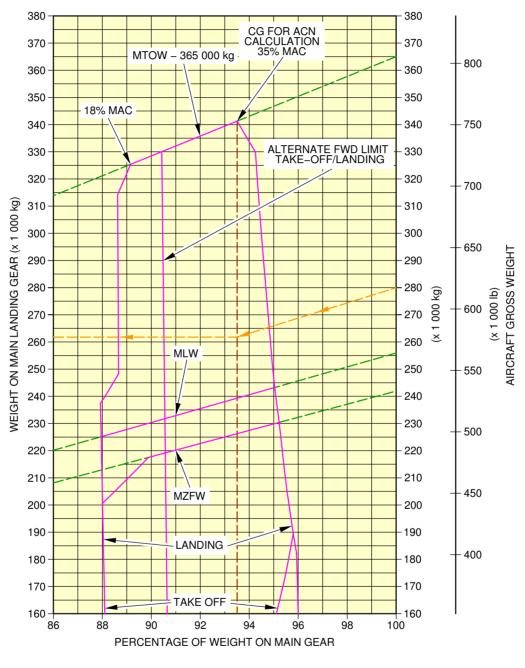


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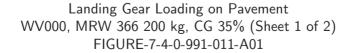
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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600



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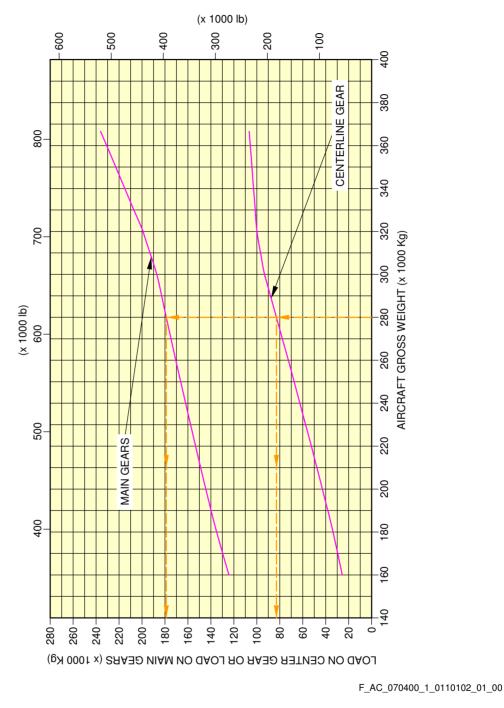


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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600



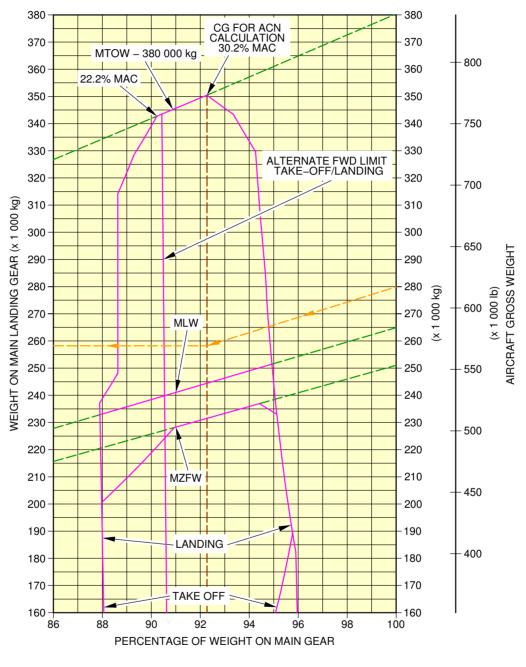
Landing Gear Loading on Pavement WV000, MRW 366 200 kg, CG 35% (Sheet 2 of 2) FIGURE-7-4-0-991-011-A01

7-4-0

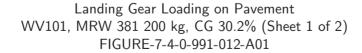
Page 7 Jun 01/20

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600



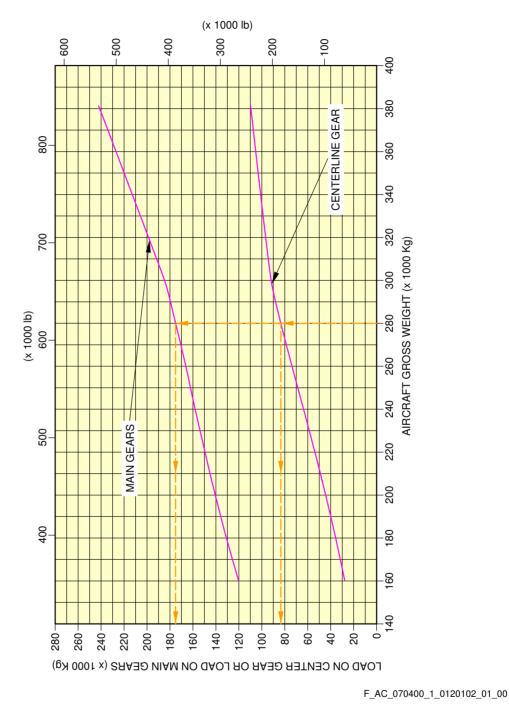
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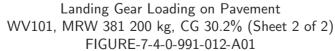


7-4-0

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600





AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

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

#### \*\*ON A/C A340-500 A340-600

Flexible Pavement Requirements - US Army Corps of Engineers Design Method

 This section provides data about the flexible pavement requirements. The MLG loading on pavement graphs are given for the weight variants that produce (at the MRW and maximum aft CG and standard tire pressure) the lowest ACN and the highest ACN for each type of aircraft.

They are calculated with the US Army Corps of Engineers Design Method.

To find a flexible pavement thickness, you must know the Subgrade Strength (CBR), the annual departure level and the weight on one MLG.

The line that shows 10 000 coverages is used to calculate the Aircraft Classification Number (ACN). The procedure that follows is used to develop flexible pavement design curves:

- With the scale for pavement thickness at the bottom and the scale for CBR at the top, a random line is made to show 10 000 coverages,
- A plot is then made of the incremental values of the weight on the MLG,
- Annual departure lines are made based on the load lines of the weight on the MLG that is shown on the graph.

Example, see FIGURE 7-5-0-991-007-A, calculation of the thickness of the flexible pavement for MLG:

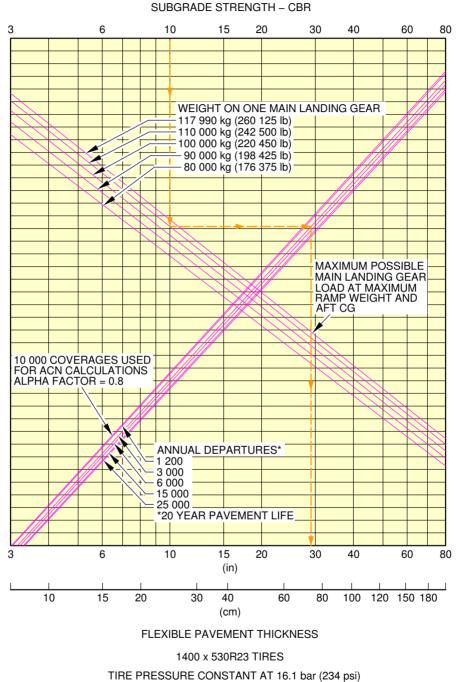
- An aircraft with a MRW of 369 200 kg (813 950 lb),
- A "CBR" value of 10,
- An annual departure level of 3 000,
- The load on one MLG of 110 000 kg (242 500 lb).

The required flexible pavement thickness is 73.4 cm (29 in).

 $\underline{\mathsf{NOTE}}$  : The CG in the figure title is the CG used for ACN calculation.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500

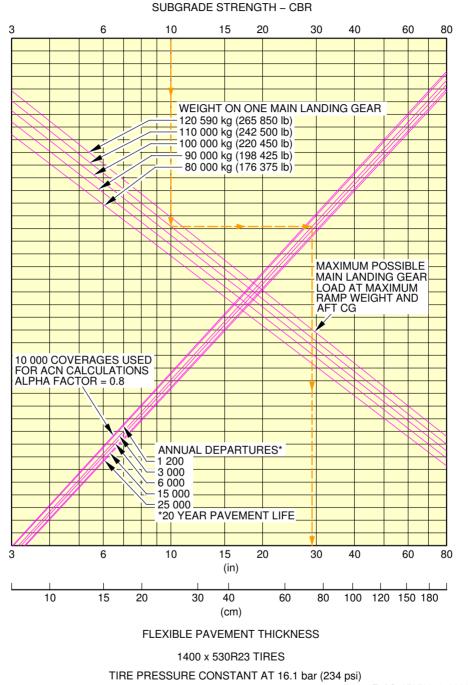


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Flexible Pavement Requirements WV000, MRW 369 200 kg, CG 36.5% (Sheet 1 of 2) FIGURE-7-5-0-991-007-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-500

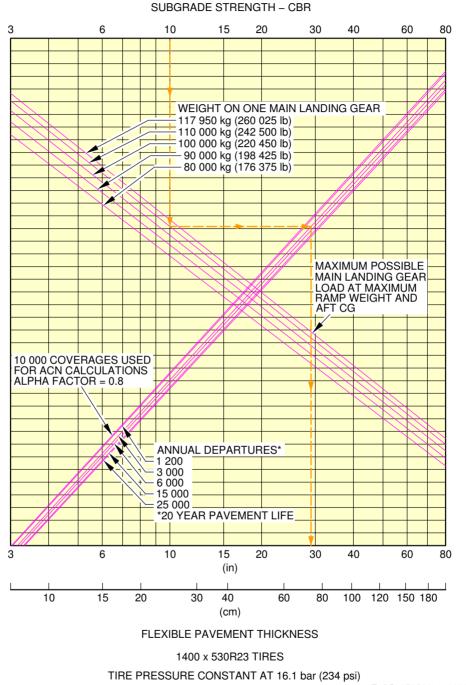


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Flexible Pavement Requirements WV101, MRW 381 200 kg, CG 34.7% (Sheet 2 of 2) FIGURE-7-5-0-991-008-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-600

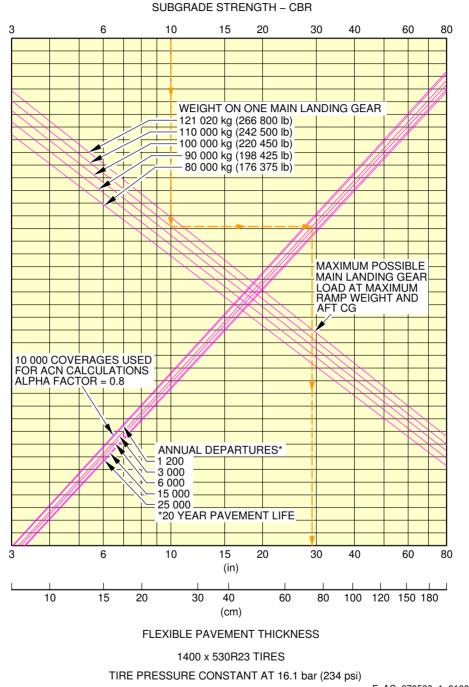


F\_AC\_070500\_1\_0090101\_01\_01

Flexible Pavement Requirements WV000, MRW 366 200 kg, CG 35% (Sheet 1 of 2) FIGURE-7-5-0-991-009-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### \*\*ON A/C A340-600



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Flexible Pavement Requirements WV101, MRW 381 200 kg, CG 30.2% (Sheet 2 of 2) FIGURE-7-5-0-991-010-A01

7-5-0

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

#### 7-6-0 Flexible Pavement Requirements - LCN Conversion

#### \*\*ON A/C A340-500 A340-600

#### Flexible Pavement Requirements - LCN Conversion

 The Load Classification Number (LCN) curves are no longer provided in section 07-06-00 since the LCN system for reporting pavement strength is obsolete, having been replaced by the ICAO recommended ACN/PCN system in 1983.
 For questions regarding the LCN system, contact Airbus.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

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

#### \*\*ON A/C A340-500 A340-600

Rigid Pavement Requirements - Portland Cement Association Design Method

1. This section provides data about the rigid pavement requirements for the PCA (Portland Cement Association) design method.

The MLG loading on pavement graphs are given for the weight variants that produce (at the MRW and maximum aft CG and standard tire pressure) the lowest ACN and the highest ACN for each type of aircraft.

To find a rigid pavement thickness, you must know the Subgrade Modulus (k), the permitted working stress and the weight on one MLG.

The procedure that follows is used to develop rigid pavement design curves:

- With the scale for pavement thickness on the left and the scale for permitted working stress on the right, a random load line is made. This represents the MLG maximum weight to be shown,
- A plot is then made of all values of the subgrade modulus (k values),
- More load lines for the incremental values of the weight on the MLG are made based on the curve for  $k = 80 \text{ MN/m}^3$ , which is already shown on the graph.

Example, see FIGURE 7-7-0-991-006-A , calculation of the thickness of the rigid pavement for the MLG:

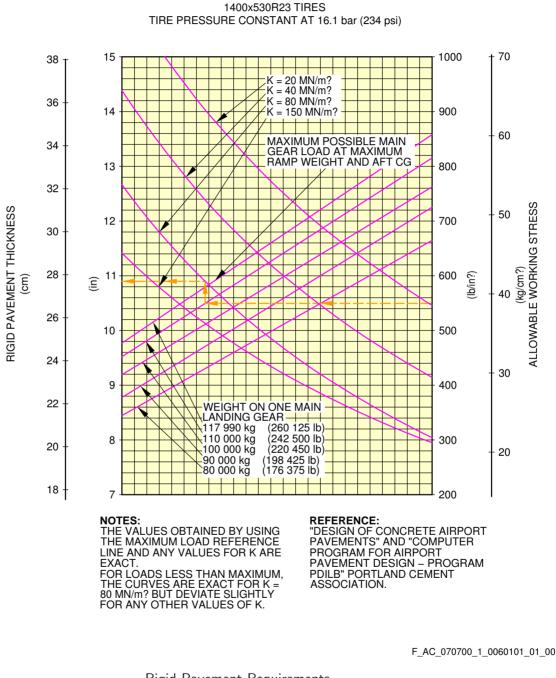
- An aircraft with a MRW of 369 200 kg (813 950 lb),
- A k value of 80 MN/m<sup>3</sup> (300 lbf/in<sup>3</sup>),
- A permitted working stress of 38.67 kg/cm<sup>2</sup> (550 lb/in<sup>2</sup>),
- The load on one MLG is 110 000 kg (242 500 lb).

The required rigid pavement thickness is 277 mm (11 in).

<u>NOTE</u> : The CG in the figure title is the CG used for ACN calculation.

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500

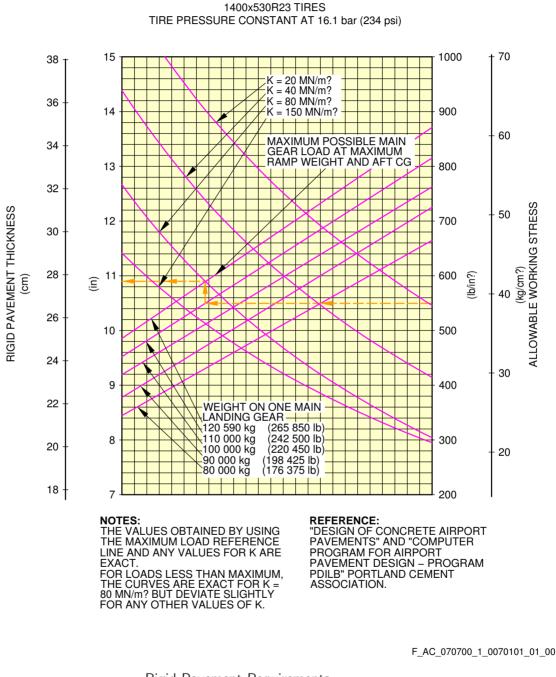


Rigid Pavement Requirements WV000, MRW 369 200 kg, CG 36.5% FIGURE-7-7-0-991-006-A01

7-7-0

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500

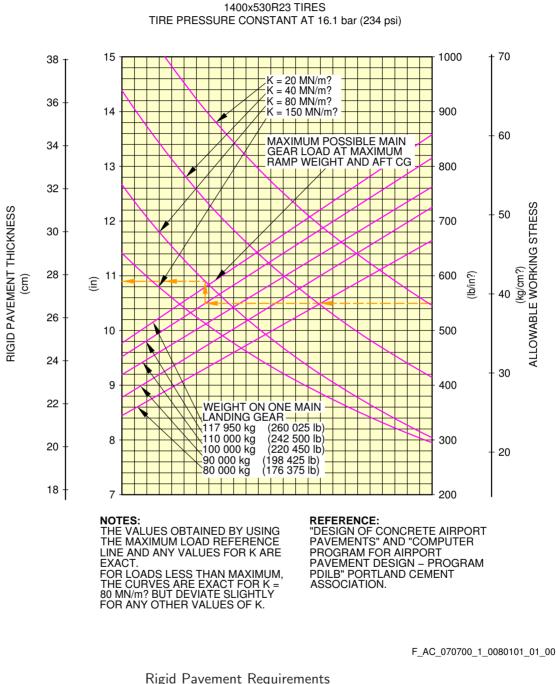


Rigid Pavement Requirements WV101, MRW 381 200 kg, CG 34.7% FIGURE-7-7-0-991-007-A01

7-7-0

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600

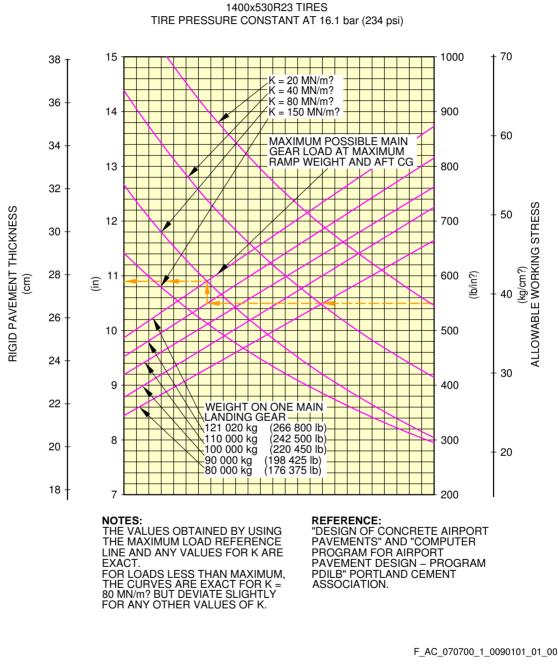


Rigid Pavement Requirements WV000, MRW 366 200 kg, CG 35% FIGURE-7-7-0-991-008-A01

7-7-0

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600



Rigid Pavement Requirements WV101, MRW 381 200 kg, CG 30.2% FIGURE-7-7-0-991-009-A01

7-7-0

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### 7-8-0 Rigid Pavement Requirements - LCN Conversion

### \*\*ON A/C A340-500 A340-600

### Rigid Pavement Requirements - LCN Conversion

 The Load Classification Number (LCN) curves are no longer provided in section 07-08-00 since the LCN system for reporting pavement strength is obsolete, having been replaced by the ICAO recommended ACN/PCN system in 1983.
 For questions regarding the LCN system, contact Airbus.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

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

### \*\*ON A/C A340-500 A340-600

### Aircraft Classification Number - Flexible and Rigid Pavements

 This section provides data about the Aircraft Classification Number (ACN) for an aircraft gross weight in relation to a subgrade strength value for flexible and rigid pavement. The MLG loading on pavement graphs are given for the weight variants that produce (at the MRW and maximum aft CG and standard tire pressure) the lowest ACN and the highest ACN for each type of aircraft.

To find the ACN of an aircraft on flexible and rigid pavement, you must know the aircraft gross weight and the subgrade strength.

<u>NOTE</u>: 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).

Example, see FIGURE 7-9-0-991-018-A (sheet 1), calculation of the ACN for flexible pavement for:

- An aircraft with a MRW of 369 200 kg (813 950 lb),
- An aircraft gross weight of 280 000 kg (617 300 lb),
- A medium subgrade strength (code B).

The ACN for flexible pavement is 48.

Example, see FIGURE 7-9-0-991-018-A (sheet 2), calculation of the ACN for rigid pavement for:

- An aircraft with a MRW of 369 200 kg (813 950 lb),
- An aircraft gross weight of 280 000 kg (617 300 lb),
- A medium subgrade strength (code B).

The ACN for rigid pavement is 49.

2. Aircraft Classification Number - ACN table

The tables in FIGURE 7-9-0-991-006-A and FIGURE 7-9-0-991-007-A provide ACN data in tabular format similar to the one used by ICAO in the "Aerodrome Design Manual Part 3, Pavements - Edition 1983" for all the operational weight variants of the aircraft.

As an approximation, use a linear interpolation in order to get the ACN at the required operating weight using the following equation:

-  $ACN = ACN \min + (ACN \max - ACN \min) \times (Operating weight - 180 000 kg)/(MRW - 180 000 kg)$ 

As an approximation, also use a linear interpolation in order to get the aircraft weight at the pavement PCN using the following equation:

Operating weight = 180 000 kg + (MRW - 180 000 kg) × (PCN - ACN min)/(ACN max - ACN min)

With ACN max = ACN calculated at the MRW in the table and with ACN min = ACN calculated at 180 000 kg.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

 $\underline{NOTE}$ : The CG in the figure title is the CG used for ACN calculation.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500

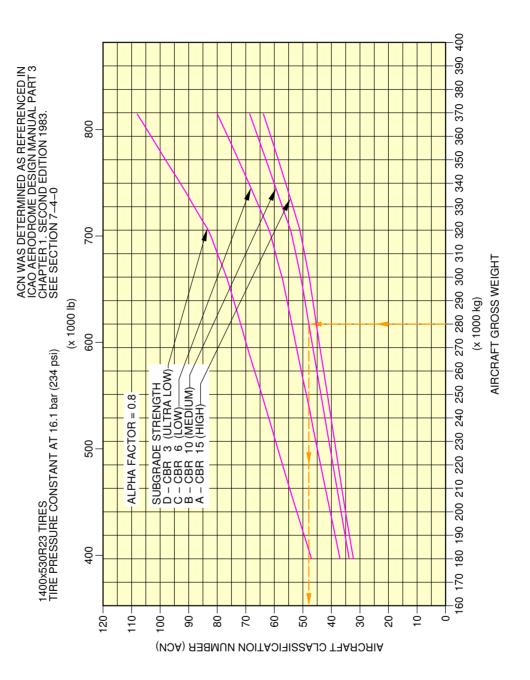
	ALL UP MASS (kg)	LOAD ON ONE MAIN GEAR LEG (%)	TIRE PRESSURE (Mpa)	ACN FOR RIGID PAVEMENT SUBGRADES – MN/m?				ACN FOR FLEXIBLE PAVEMENT SUBGRADES – CBR			
				High 150	Medium 80	Low 40	Ultral–low 20	High 15	Medium 10	Low 6	Ultral–Iow 3
A340–500	369 200	32.0	1.61	62	71	83	96	64	69	80	108
WV000	180 000	37.4	1.01	33	35	39	45	32	34	37	47
A340-500	373 200	32.0	1.61	63	72	85	98	65	70	82	110
WV001	180 000	37.4		33	35	39	45	32	34	37	47
A340-500	373 200	32.0	1.61	63	72	85	98	65	70	82	110
WV002	180 000	37.4		33	35	39	45	32	34	37	47
A340-500	375 200	31.9	1.61	63	72	85	98	65	70	82	110
WV003	180 000	37.3	1.01	33	35	39	45	32	34	37	47
A340-500	375 200	31.9	1.61	63	72	85	98	65	70	82	110
WV004	180 000	37.3	1.01	33	35	39	45	32	34	37	47
A340-500	381 200	31.6	1.61	63	73	86	99	66	71	83	111
WV101	180 000	36.3	1.01	32	34	38	44	31	33	36	45
A340-500	373 200	31.7	1.61	62	71	84	97	64	69	80	108
WV102	180 000	36.4		33	34	38	44	31	33	36	45
A340-500	373 200	31.7	1.61	62	71	84	97	64	69	80	108
WV103	180 000	36.4		33	34	38	44	31	33	36	45

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Aircraft Classification Number ACN Table FIGURE-7-9-0-991-006-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500

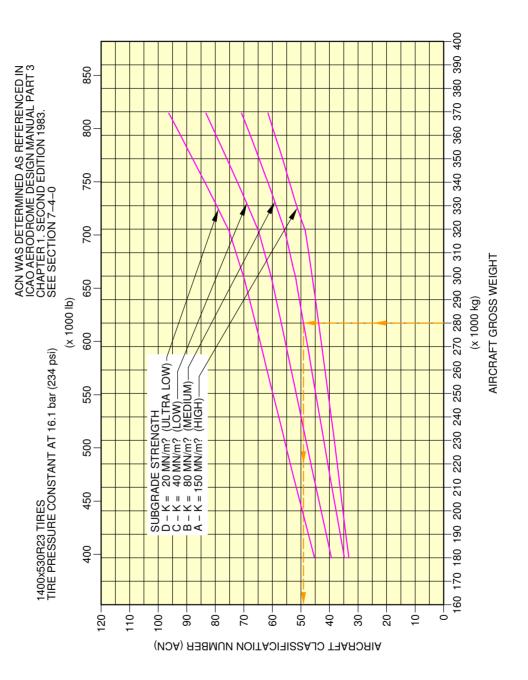


F\_AC\_070900\_1\_0180101\_01\_00

Aircraft Classification Number Flexible Pavement - WV000, MRW 369 200 kg, CG 36.5% (Sheet 1 of 2) FIGURE-7-9-0-991-018-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



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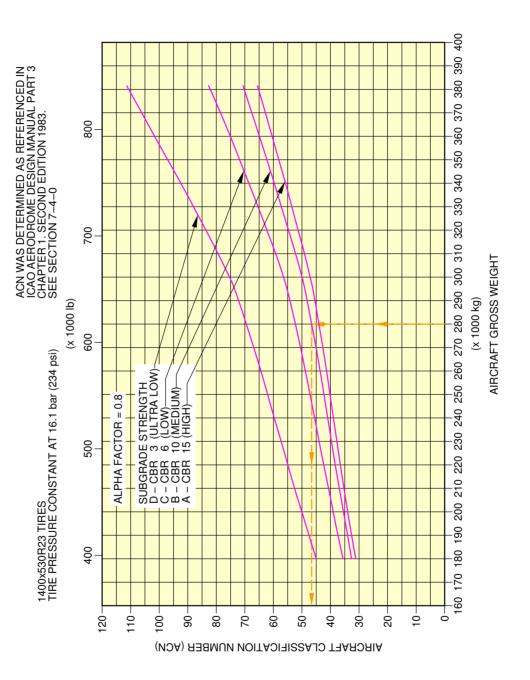
Aircraft Classification Number Rigid Pavement - WV000, MRW 369 200 kg, CG 36.5% (Sheet 2 of 2) FIGURE-7-9-0-991-018-A01

7-9-0

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500

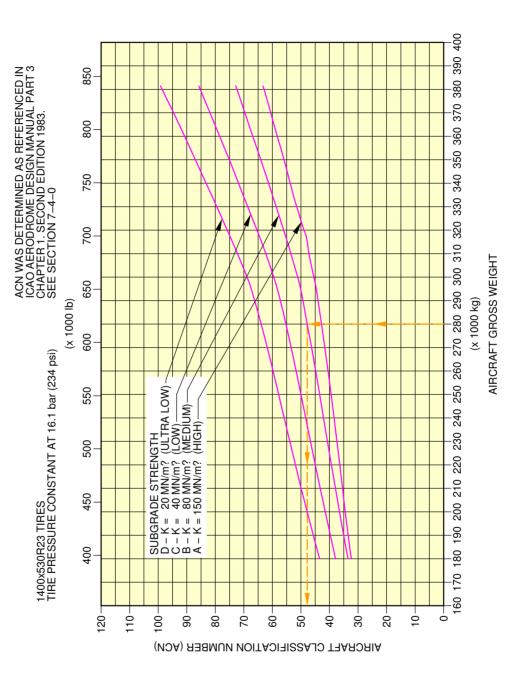


F\_AC\_070900\_1\_0190101\_01\_01

Aircraft Classification Number Flexible Pavement - WV101, MRW 381 200 kg, CG 34.7% (Sheet 1 of 2) FIGURE-7-9-0-991-019-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



F\_AC\_070900\_1\_0190102\_01\_00

Aircraft Classification Number Rigid Pavement - WV101, MRW 381 200 kg, CG 34.7% (Sheet 2 of 2) FIGURE-7-9-0-991-019-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600

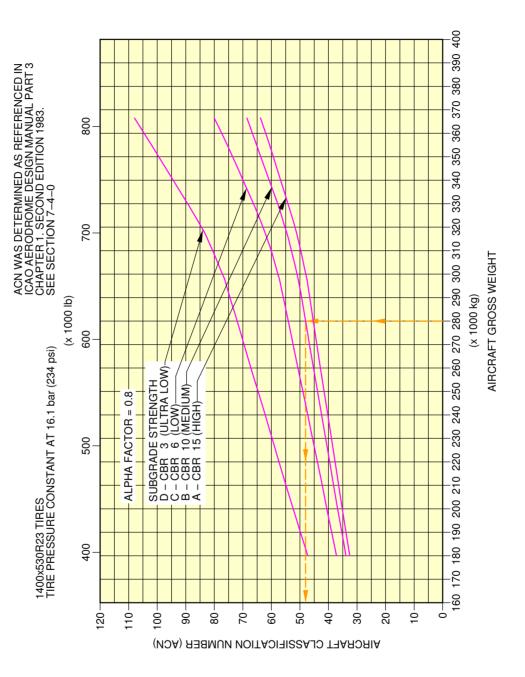
AIRCRAFT TYPE	ALL UP	LOAD ON ONE MAIN GEAR LEG (%)	TIRE PRESSURE (Mpa)	ACN FOR RIGID PAVEMENT SUBGRADES – MN/m?				ACN FOR FLEXIBLE PAVEMENT SUBGRADES – CBR			
MAS	MASS (Kg)			High 150	Medium 80	Low 40	Ultral–low 20	High 15	Medium 10	Low 6	Ultral–Iow 3
A340-600	366 200	32.2	1.61	61	71	83	96	64	69	80	108
WV000	180 000	37.5	1.01	33	35	40	46	33	34	37	47
A340-600	369 200	32.2	1.61	62	71	84	97	64	69	81	109
WV001	180 000	37.5		33	35	40	45	32	34	37	47
A340-600	381 200	31.7	1.61	64	73	86	100	66	71	83	112
WV101	180 000	36.3	1.01	32	34	38	44	31	33	36	45
A340-600	369 200	32.0	1.61	62	71	83	96	64	69	80	108
WV102	180 000	36.6		33	34	38	44	32	33	36	46
A340-600	366 200	32.0	1.61	61	70	83	95	63	68	79	107
WV103	180 000	36.6		33	34	38	44	32	33	36	46

F\_AC\_070900\_1\_0070101\_01\_00

Aircraft Classification Number ACN Table FIGURE-7-9-0-991-007-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600

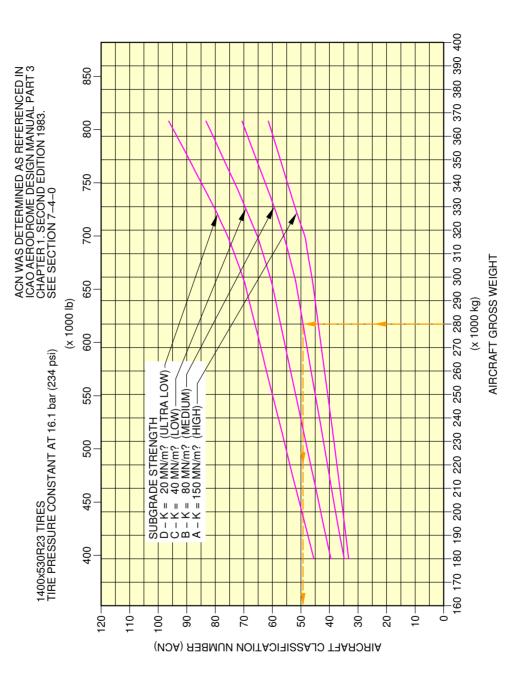


F\_AC\_070900\_1\_0200101\_01\_00

Aircraft Classification Number Flexible Pavement - WV000, MRW 366 200 kg, CG 35% (Sheet 1 of 2) FIGURE-7-9-0-991-020-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600

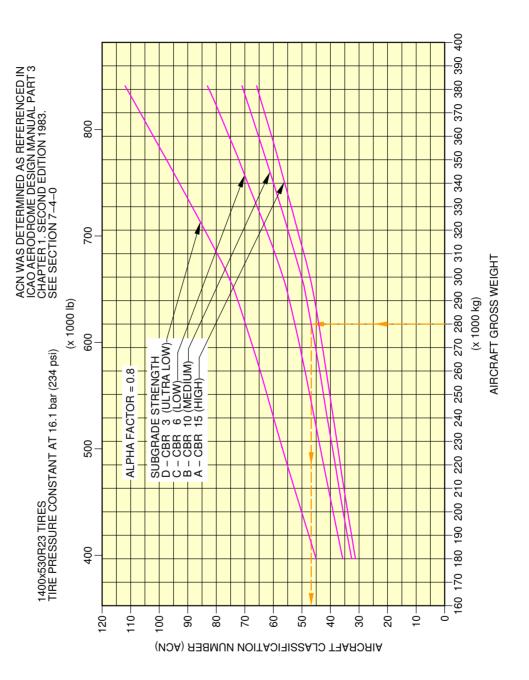


F\_AC\_070900\_1\_0200102\_01\_00

Aircraft Classification Number Rigid Pavement - WV000, MRW 366 200 kg, CG 35% (Sheet 2 of 2) FIGURE-7-9-0-991-020-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600

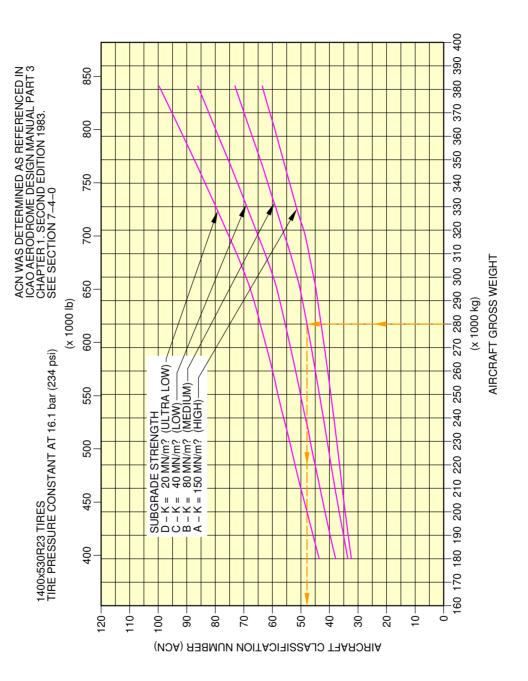


F\_AC\_070900\_1\_0210101\_01\_00

Aircraft Classification Number Flexible Pavement - WV101, MRW 381 200 kg, CG 30.2% (Sheet 1 of 2) FIGURE-7-9-0-991-021-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600



F\_AC\_070900\_1\_0210102\_01\_00

Aircraft Classification Number Rigid Pavement - WV101, MRW 381 200 kg, CG 30.2% (Sheet 2 of 2) FIGURE-7-9-0-991-021-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### SCALED DRAWINGS

### 8-0-0 SCALED DRAWINGS

### \*\*ON A/C A340-500 A340-600

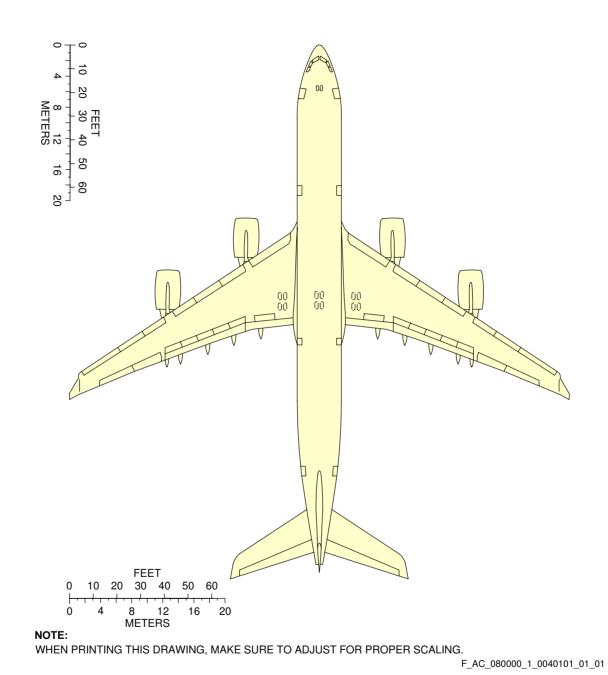
### Scaled Drawings

1. This section provides the scaled drawings.

<u>NOTE</u> : When printing this drawing, make sure to adjust for proper scaling.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

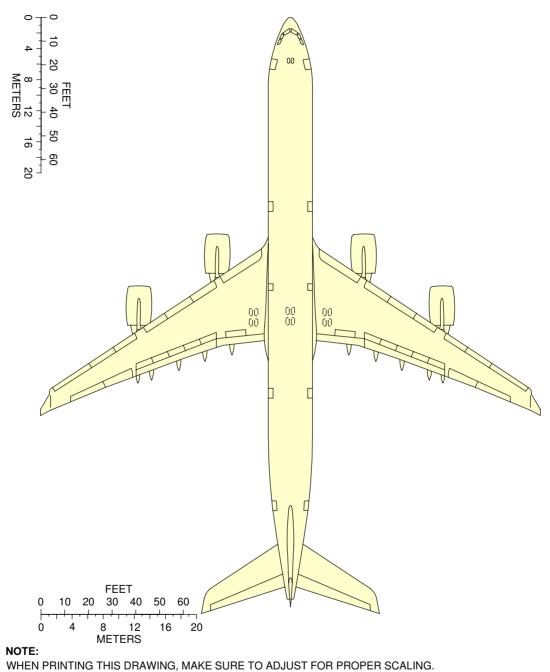
\*\*ON A/C A340-500



Scaled Drawing FIGURE-8-0-0-991-004-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600



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Scaled Drawing FIGURE-8-0-0-991-004-B01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

### AIRCRAFT RESCUE AND FIRE FIGHTING

### 10-0-0 AIRCRAFT RESCUE AND FIRE FIGHTING

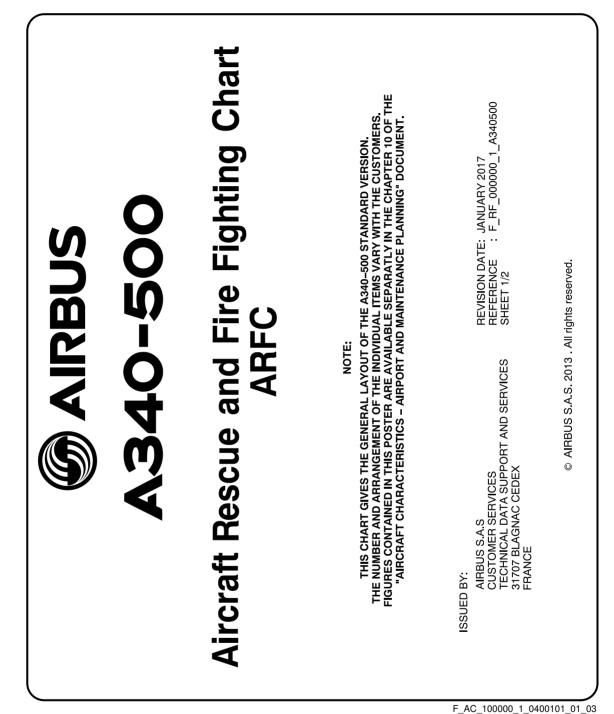
### \*\*ON A/C A340-500

### Aircraft Rescue and Fire Fighting

Aircraft Rescue and Fire Fighting Charts
 This sections provides data related to aircraft rescue and fire fighting.
 The figures contained in this section are the figures that are in the Aircraft Rescue and Fire Fighting Charts poster available for download on AIRBUSWorld and the Airbus website.

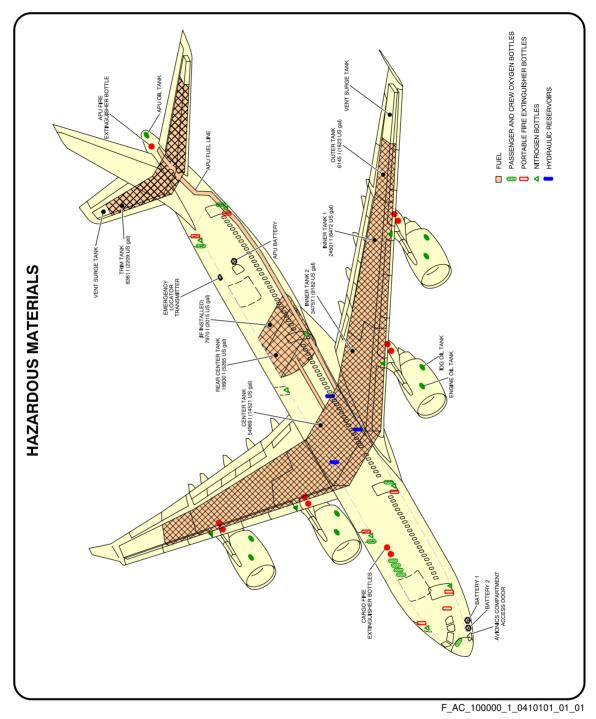
AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



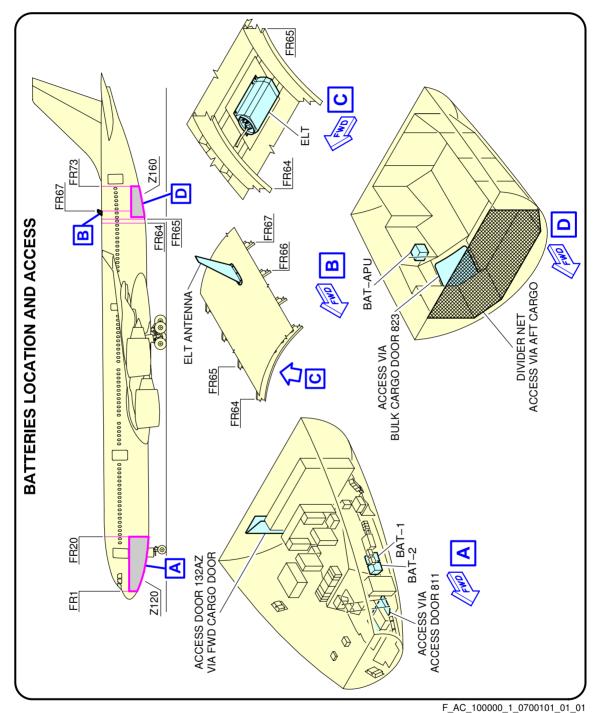
Front Page FIGURE-10-0-0-991-040-A01

### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING



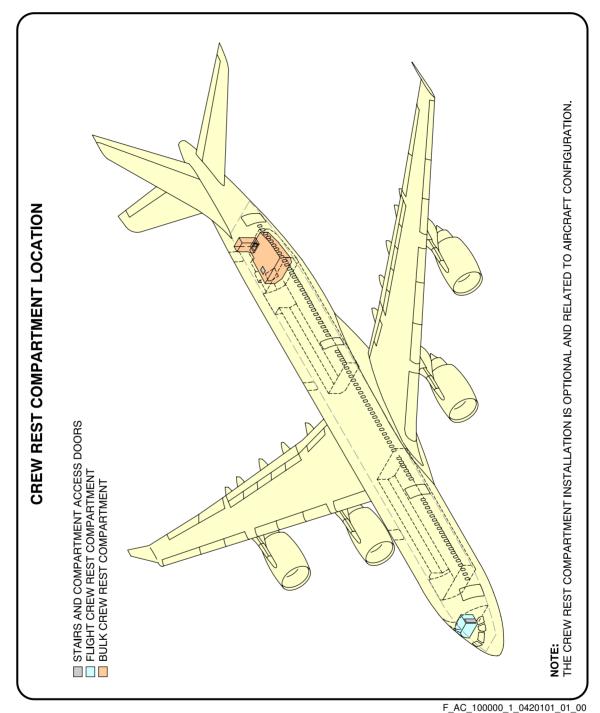
Highly Flammable and Hazardous Materials and Components FIGURE-10-0-0-991-041-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING



Batteries Location and Access FIGURE-10-0-0-991-070-A01

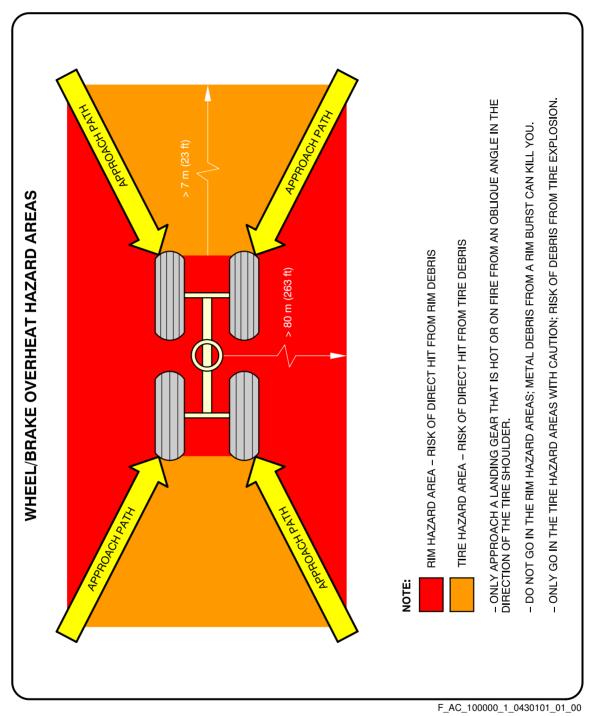
### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING



Crew Rest Compartments Location FIGURE-10-0-0-991-042-A01

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



Wheel/Brake Overheat Wheel Safety Area (Sheet 1 of 2) FIGURE-10-0-0-991-043-A01

### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500

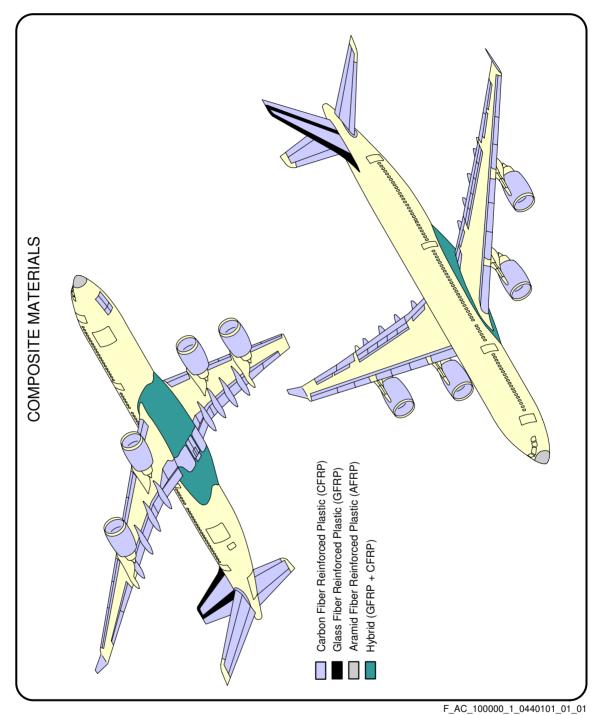
BRAKE OVERHEAT AND LANDING GEAR FIRE
WARNING: BE VERY CAREFUL WHEN THERE IS A BRAKE OVERHEAT AND/OR LANDING GEAR FIRE. THERE IS A RISK OF TIRE EXPLOSION AND/OR WHEEL RIM BURST THAT CAN CAUSE DEATH OR INJURY. MAKE SURE THAT YOU OBEY THE SAFETY PRECAUTIONS THAT FOLLOW.
THE PROCEDURES THAT FOLLOW GIVE RECOMMENDATIONS AND SAFETY PRECAUTIONS FOR THE COOLING OF VERY HOT BRAKES AFTER ABNORMAL OPERATIONS SUCH AS A REJECTED TAKE-OFF OR OVERWEIGHT LANDING. FOR THE COOLING OF BRAKES AFTER NORMAL TAXI-IN, REFER TO YOUR COMPANY PROCEDURES.
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NOTE: AT HIGH TEMPERATURES (>800°C), THERE IS A RISK OF WARPING OF THE LANDING GEAR STRUTS AND AXLES.
2 – APPROACH THE LANDING GEAR WITH EXTREME CAUTION AND FROM AN OBLIQUE ANGLE IN THE DIRECTION OF THE TIRE SHOULDER. DO NOT GO INTO THE RIM HAZARD AREA AND ONLY GO IN THE TIRE HAZARD AREA WITH CAUTION. (REF FIG. WHEEL/BRAKE OVERHEAT HAZARD AREAS). IF POSSIBLE, STAY IN A VEHICLE.
3 - LOOK AT THE CONDITION OF THE TIRES: IF THE TIRES ARE STILL INFLATED (FUSE PLUGS NOT MELTED), THERE IS A RISK OF TIRE EXPLOSION AND RIM BURST. DO NOT USE COOLING FANS BECAUSE THEY CAN PREVENT OPERATION OF THE FUSE PLUGS.
4 - USE WATER MIST TO DECREASE THE TEMPERATURE OF THE COMPLETE WHEEL AND BRAKE ASSEMBLY. USE A TECHNIQUE THAT PREVENTS SUDDEN COOLING. SUDDEN COOLING CAN CAUSE WHEEL CRACKS OR RIM BURST. DO NOT APPLY WATER, FOAM OR CO2. THESE COOLING AGENTS (AND ESPECIALLY CO2, WHICH HAS A VERY STRONG COOLING EFFECT) CAN CAUSE THERMAL SHOCKS AND BURST OF HOT PARTS.
LANDING GEAR FIRE:
CAUTION: AIRBUS RECOMMENDS THAT YOU DO NOT USE DRY POWDERS OR DRY CHEMICALS ON HOT BRAKES OR TO EXTINGUISH LANDING GEAR FIRES. THESE AGENTS CAN CHANGE INTO SOLID OR ENAMELED DEPOSITS. THEY CAN DECREASE THE SPEED OF HEAT DISSIPATION WITH A POSSIBLE RISK OF PERMANENT STRUCTURAL DAMAGE TO THE BRAKES, WHEELS OR WHEEL AXLES.
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B) USE LARGE AMOUNTS OF WATER, WATER MIST; IF THE FUEL TANKS ARE AT RISK, USE FOAM. USE A TECHNIQUE THAT PREVENTS SUDDEN COOLING. SUDDEN COOLING CAN CAUSE WHEEL CRACKS OR RIM BURST.
C) DO NOT USE FANS OR BLOWERS.

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Wheel/Brake Overheat Recommendations (Sheet 2 of 2) FIGURE-10-0-0-991-043-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

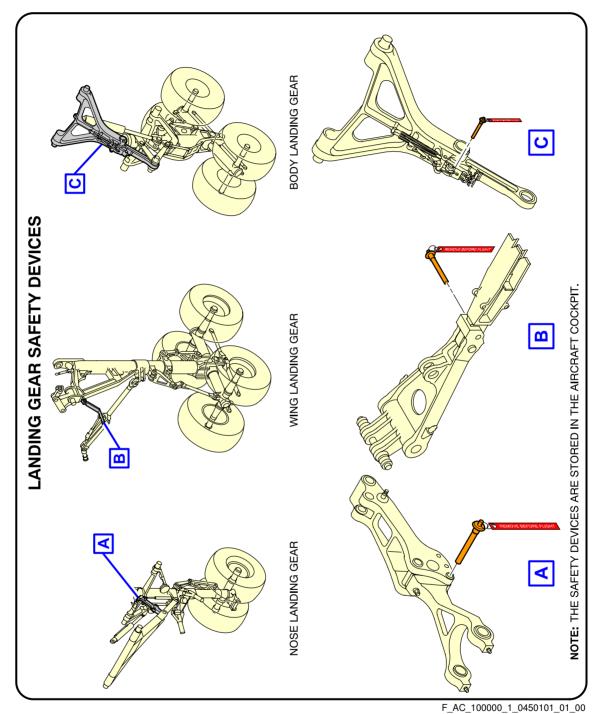
\*\*ON A/C A340-500



Composite Materials Location FIGURE-10-0-0-991-044-A01

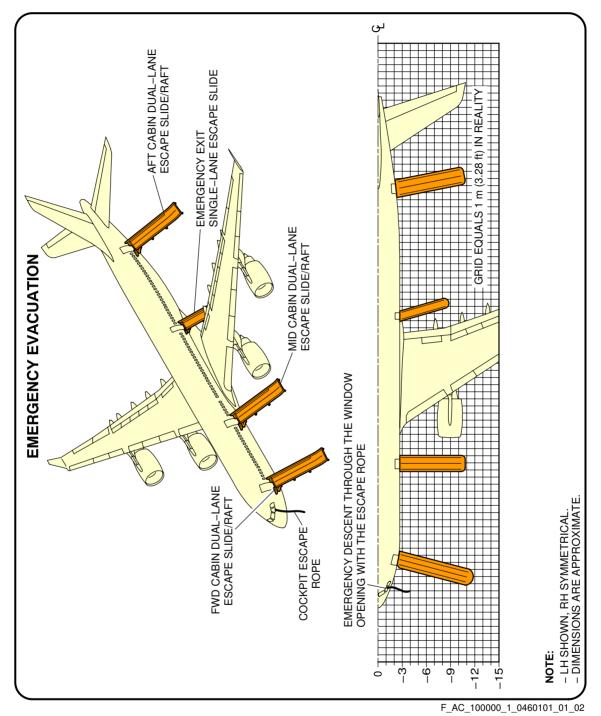
### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



Ground Lock Safety Devices FIGURE-10-0-0-991-045-A01

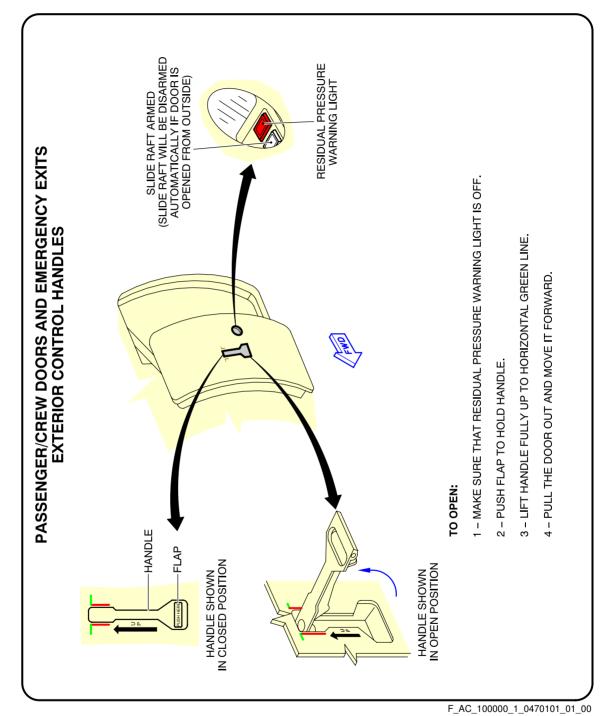
### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING



Emergency Evacuation Devices FIGURE-10-0-0-991-046-A01

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

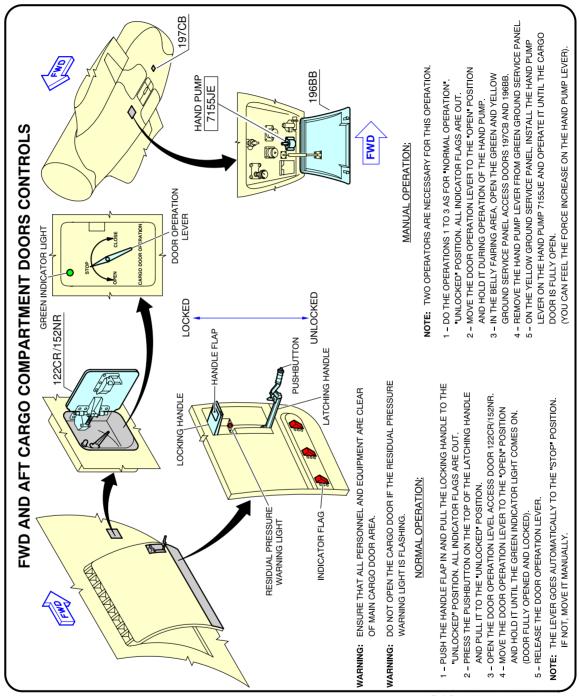
\*\*ON A/C A340-500



Pax/Crew Doors and Emergency Exits FIGURE-10-0-0-991-047-A01

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500

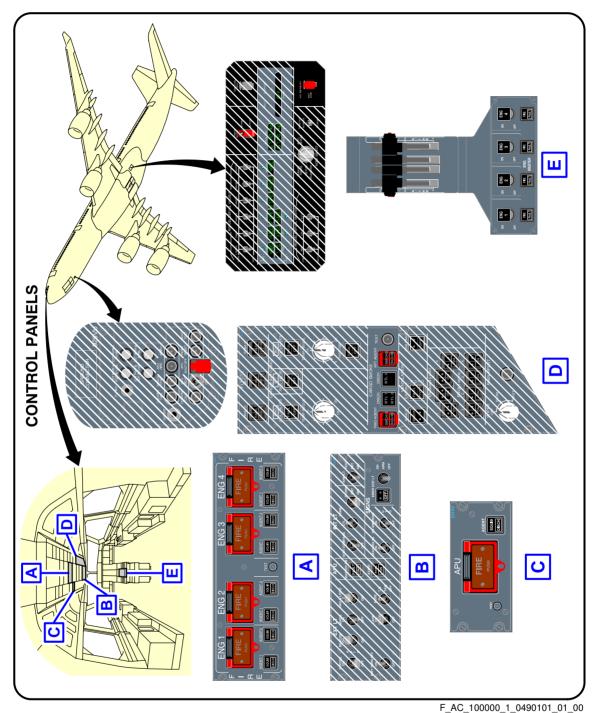


FWD and AFT Lower Deck Cargo Doors FIGURE-10-0-0-991-048-A01

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

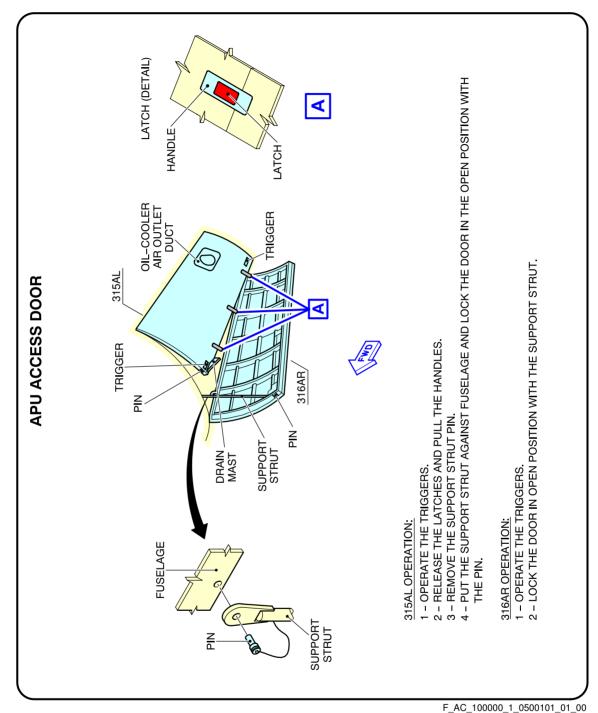
\*\*ON A/C A340-500



Control Panels FIGURE-10-0-0-991-049-A01

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

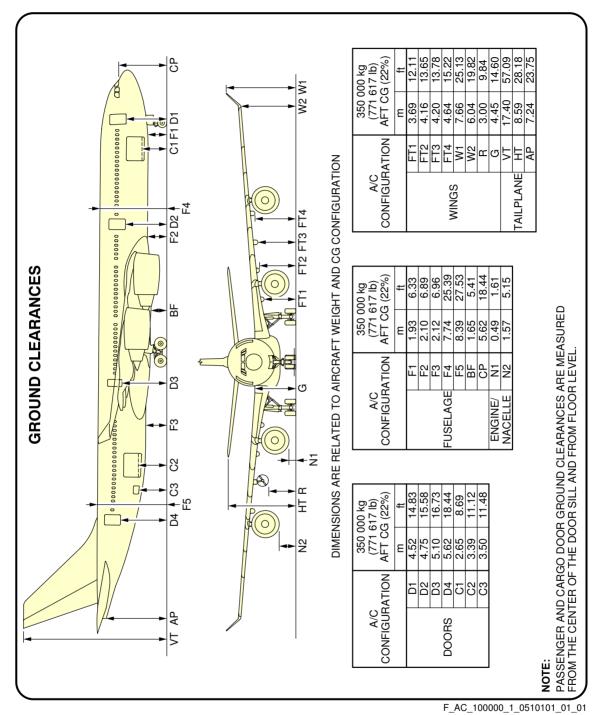
\*\*ON A/C A340-500



APU Compartment Access FIGURE-10-0-0-991-050-A01

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

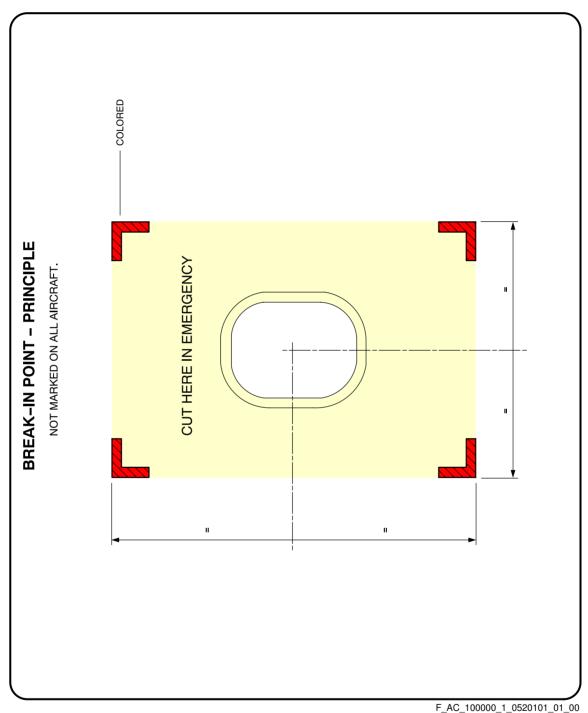
#### \*\*ON A/C A340-500



Ground Clearances FIGURE-10-0-0-991-051-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-500



Structural Break-in Points FIGURE-10-0-0-991-052-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

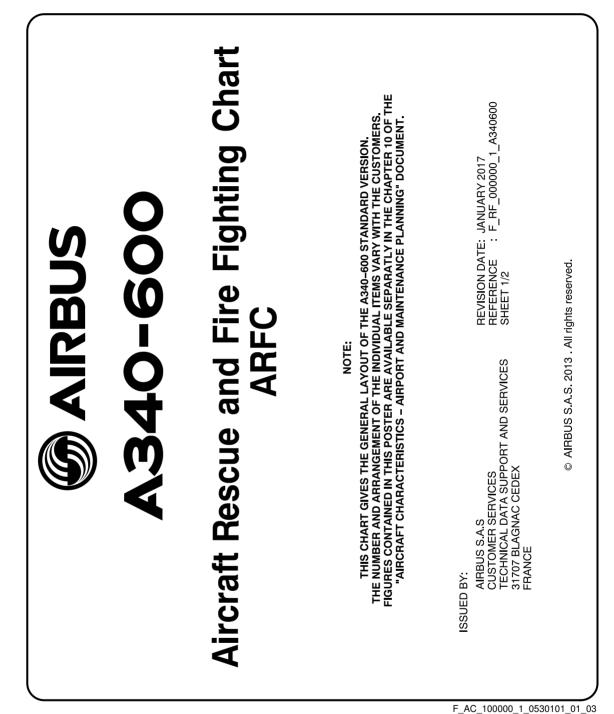
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Aircraft Rescue and Fire Fighting

Aircraft Rescue and Fire Fighting Charts
 This sections provides data related to aircraft rescue and fire fighting.
 The figures contained in this section are the figures that are in the Aircraft Rescue and Fire Fighting Charts poster available for download on AIRBUSWorld and the Airbus website.

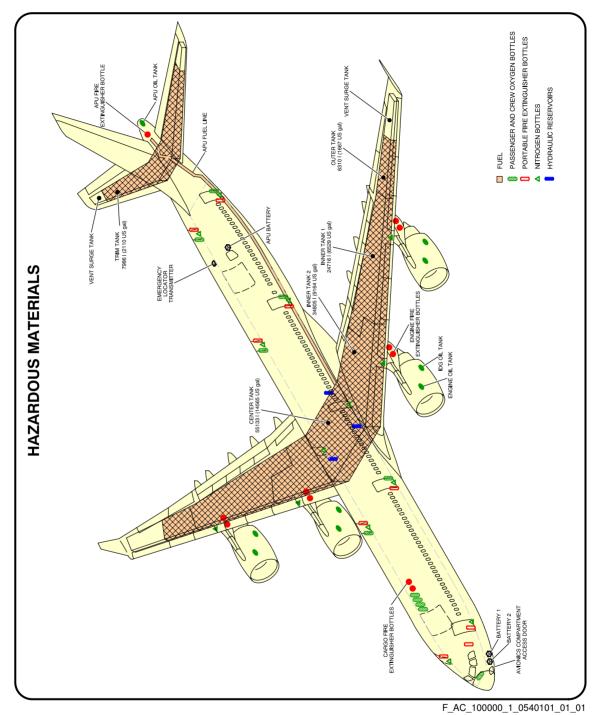
AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600



Front Page FIGURE-10-0-0-991-053-A01

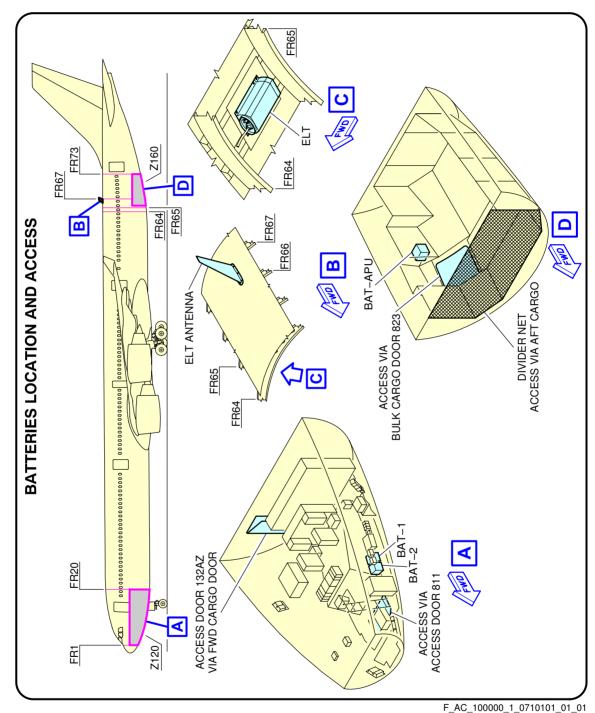
#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING



Highly Flammable and Hazardous Materials and Components FIGURE-10-0-0-991-054-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

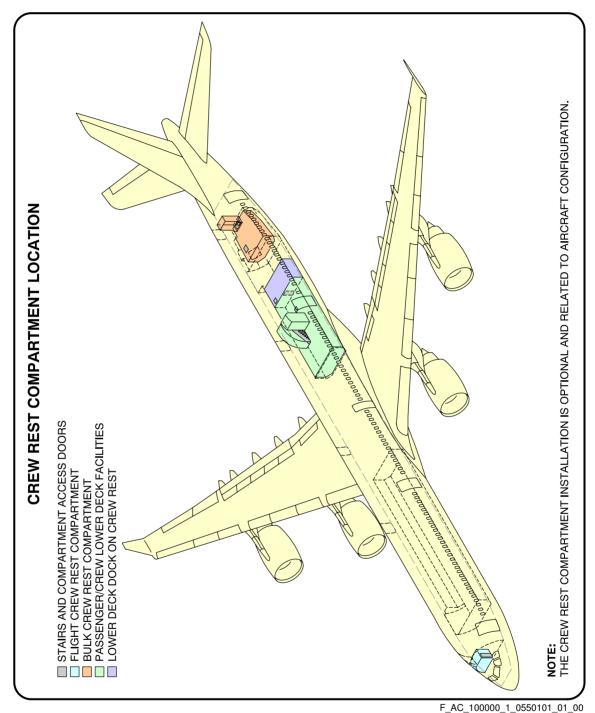
\*\*ON A/C A340-600



Batteries Location and Access FIGURE-10-0-0-991-071-A01

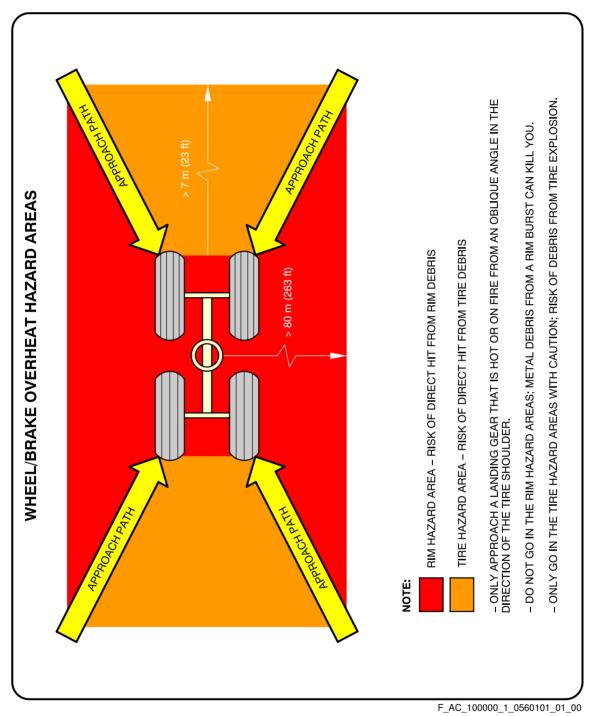
#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600



Crew Rest Compartments Location FIGURE-10-0-0-991-055-A01

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING



Wheel/Brake Overheat Wheel Safety Area (Sheet 1 of 2) FIGURE-10-0-0-991-056-A01

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

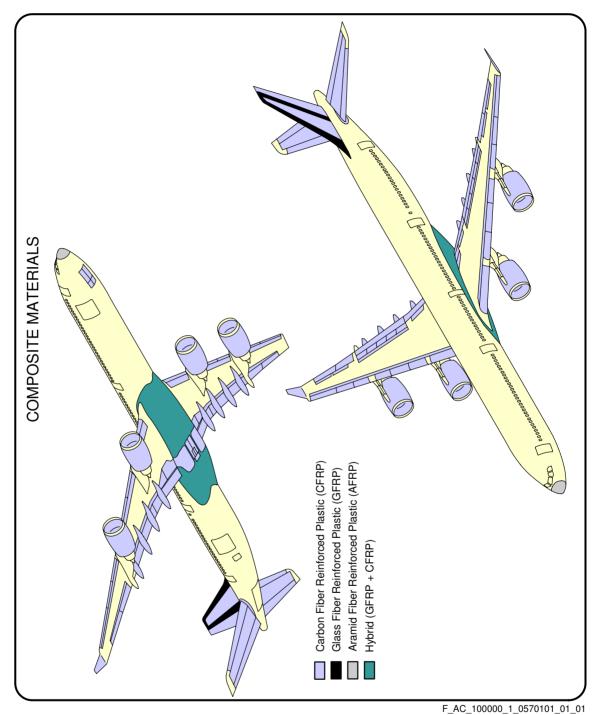
\*\*ON A/C A340-600

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Wheel/Brake Overheat Recommendations (Sheet 2 of 2) FIGURE-10-0-0-991-056-A01

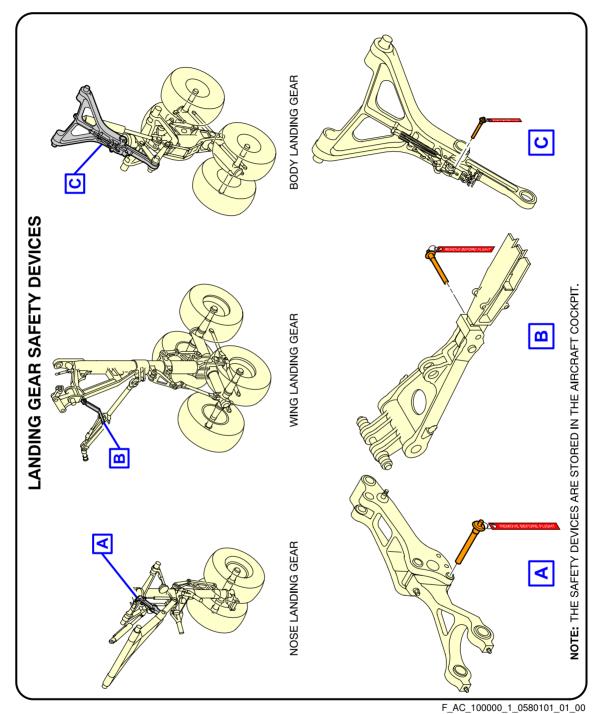
AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING



Composite Materials Location FIGURE-10-0-0-991-057-A01

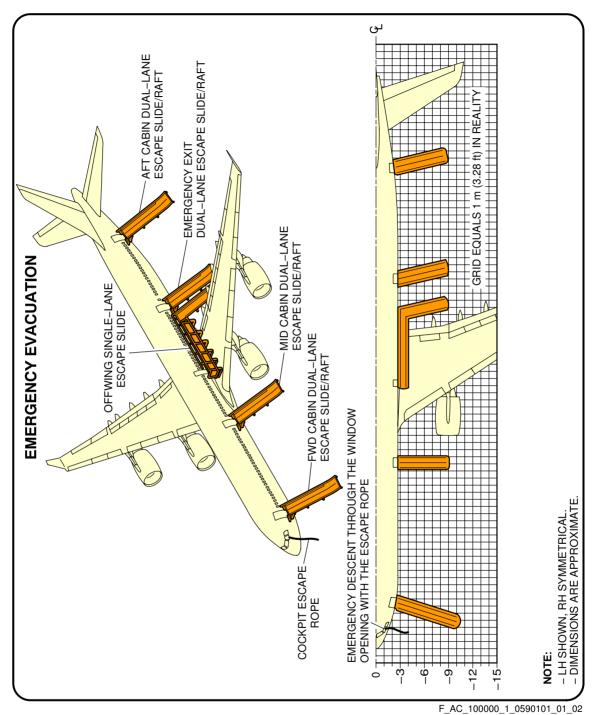
#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600



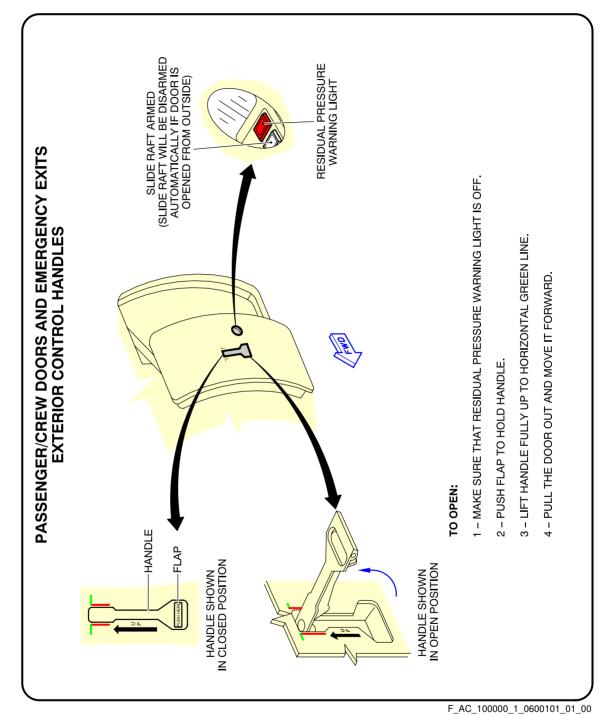
Ground Lock Safety Devices FIGURE-10-0-0-991-058-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING



Emergency Evacuation Devices FIGURE-10-0-0-991-059-A01

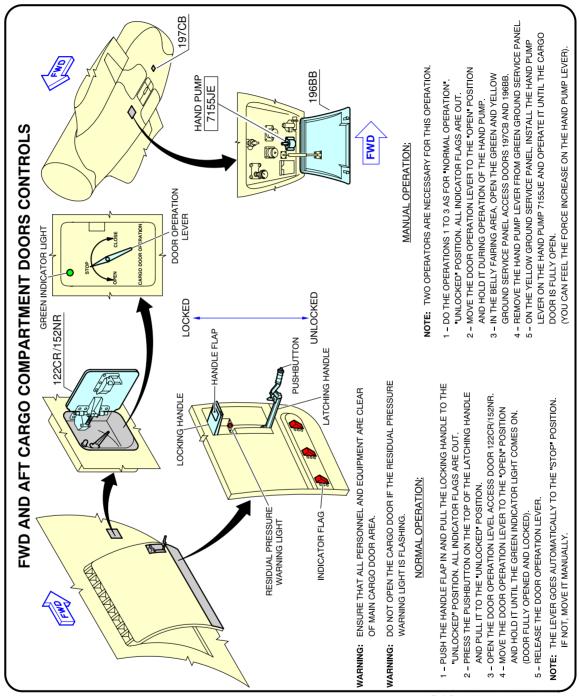
#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING



Pax/Crew Doors and Emergency Exits FIGURE-10-0-0-991-060-A01

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600

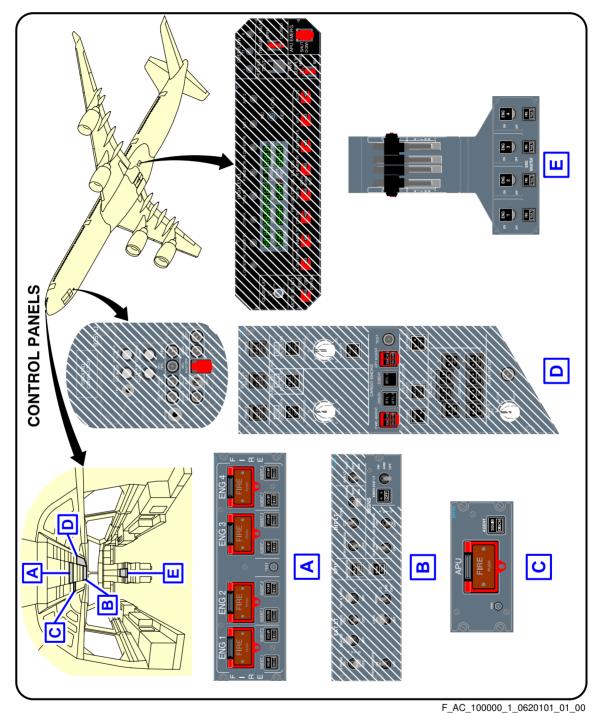


FWD and AFT Lower Deck Cargo Doors FIGURE-10-0-0-991-061-A01

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AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

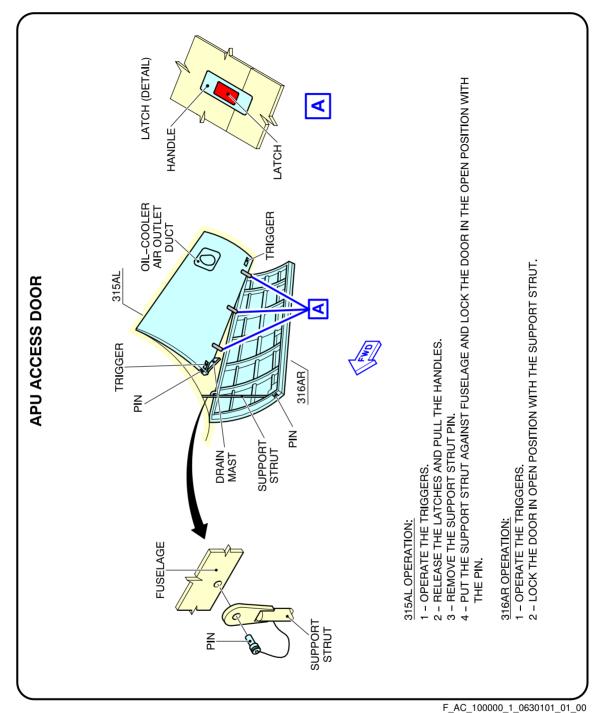
\*\*ON A/C A340-600



Control Panels FIGURE-10-0-0-991-062-A01

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

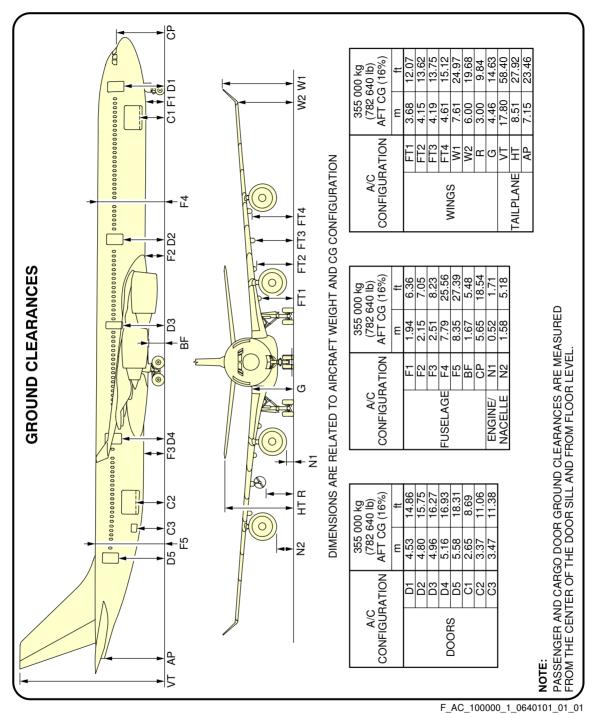
\*\*ON A/C A340-600



APU Compartment Access FIGURE-10-0-0-991-063-A01

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

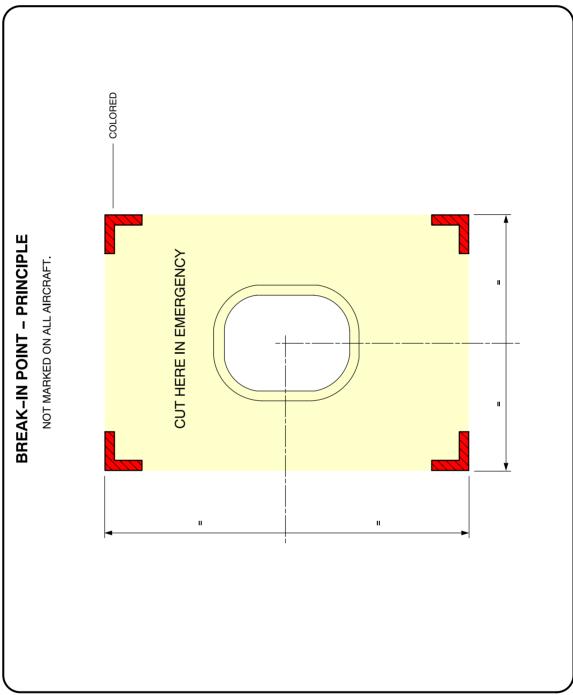
\*\*ON A/C A340-600



Ground Clearances FIGURE-10-0-0-991-064-A01

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A340-600



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Structural Break-in Points FIGURE-10-0-0-991-065-A01