A340-500/-600

AIRCRAFT CHARACTERISTICS AIRPORT AND MAINTENANCE PLANNING

AC

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Issue: Apr 01/01 Rev: Apr 01/13

HIGHLIGHTS

Revision No. 11 - Apr 01/13

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
CHAPTER 1		
Section 1-1		
Subject 1-1-0		
Purpose	R	PURPOSE CHANGED DUE TO MERGING OF THE MFP AND AC MANUALS.
Section 1-2	R	
Subject 1-2-1	N	
Glossary	N	
Subject 01-02-00	D	
CHAPTER 2	R	
Section 2-1	R	
Subject 2-1-1	N	
General Aircraft Characteristics Data	N	
Subject 02-01-00	D	
Section 2-2	R	
Subject 2-2-0	R	
General Aircraft Dimensions	R	DESCRIPTION TITLE UPDATED
FIGURE General Aircraft Dimensions	R	ILLUSTRATION REVISED
FIGURE General Aircraft Dimensions	R	ILLUSTRATION REVISED
Section 2-3		
Subject 2-3-0		
Ground Clearances	R	ADDED GROUND CLEARANCES FOR FLIGHT CONTROLS UPDATED FIGURES LAYOUT.
FIGURE Ground Clearances	R	
FIGURE Ground Clearances	N	ILLUSTRATION ADDED
FIGURE Ground Clearances - Ailerons Up	R	ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE Ground Clearances - Ailerons Down	N	ILLUSTRATION ADDED
FIGURE Ground Clearances - Spoilers Extended	N	ILLUSTRATION ADDED
FIGURE Ground Clearances - Slats Fully Extended	N	ILLUSTRATION ADDED
FIGURE Ground Clearances - Flaps Fully Extended	N	ILLUSTRATION ADDED
FIGURE Ground Clearances - Flap-Tracks Fully Extended	N	ILLUSTRATION ADDED
Section 2-4	R	
Subject 02-04-00	D	
Subject 2-4-1	R	
Interior Arrangements - Plan View	R	DESCRIPTION TITLE UPDATED
FIGURE Interior Arrangements - Plan View - Typical Configuration	R	ILLUSTRATION REVISED
FIGURE Interior Arrangements - Plan View - Typical Configuration	R	ILLUSTRATION REVISED
Section 2-5	R	
Subject 2-5-0	R	
Interior Arrangements - Cross Section	R	REVISED TITLE TO "INTERIOR ARRANGEMENTS - CROSS SECTION". DESCRIPTION TITLE UPDATED
FIGURE Interior Arrangements - Cross Section - Typical Configuration	R	ILLUSTRATION REVISED
FIGURE Interior Arrangements - Cross Section - Typical Configuration	R	ILLUSTRATION REVISED
FIGURE Interior Arrangements - Cross Section - Typical Configuration	R	ILLUSTRATION REVISED
Section 2-6	R	
Subject 02-06-00	D	
Subject 2-6-1	R	
Lower Deck Cargo Compartments	R	

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE Lower Deck Cargo Compartments - Location and Dimensions	R	
FIGURE Loading Combinations	R	ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Loading Combinations	N	ILLUSTRATION ADDED
Section 2-7		
Subject 2-7-0		
Door Clearances	N	
FIGURE Door Identification and Location - Door Identification	N	ILLUSTRATION ADDED
FIGURE Door Identification and Location - Door Identification	N	ILLUSTRATION ADDED
Section 2-8	N	
Subject 2-8-0	N	
Escape Slides	N	
FIGURE Escape Slides - Location	N	ILLUSTRATION ADDED
FIGURE Escape Slides - Location	N	ILLUSTRATION ADDED
Section 2-9	N	
Subject 2-9-0	N	
Landing Gear Maintenance Pits	N	
FIGURE Landing Gear Maintenance Pits - Maintenance Pit Envelopes	N	ILLUSTRATION ADDED
FIGURE Landing Gear Maintenance Pits - Maintenance Pit Envelopes	N	ILLUSTRATION ADDED
Landing Gear	N	
FIGURE Main Landing Gear - General	N	ILLUSTRATION ADDED
FIGURE Centerline Landing Gear - General	N	ILLUSTRATION ADDED
FIGURE Nose Landing Gear - General	N	ILLUSTRATION ADDED
Section 2-10	N	
Subject 2-10-0	N	
Exterior Lighting	N	

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE Exterior Lighting	N	ILLUSTRATION ADDED
FIGURE Exterior Lighting	N	ILLUSTRATION ADDED
Section 2-11	N	
Subject 2-11-0	N	
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FIGURE Antennas and Probes - Location	N	ILLUSTRATION ADDED
FIGURE Antennas and Probes - Location	N	ILLUSTRATION ADDED
Section 2-12	N	
Subject 2-12-0	N	
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FIGURE Engine and Nacelle - Engine Dimensions - TRENT 500	N	ILLUSTRATION ADDED
FIGURE Engine and Nacelle - Nacelle Dimensions - TRENT 500	N	ILLUSTRATION ADDED
FIGURE Engine and Nacelle - Fan Cowls - TRENT 500	N	ILLUSTRATION ADDED
FIGURE Engine and Nacelle - Thrust Reverser Cowls - TRENT 500	N	ILLUSTRATION ADDED
Subject 2-12-1	N	
Auxiliary Power Unit	N	
FIGURE Auxiliary Power Unit - Access Doors	N	ILLUSTRATION ADDED
Section 2-13	N	
Subject 2-13-0	N	
Leveling, Symmetry and Alignment	N	
FIGURE Location of Leveling Points	N	ILLUSTRATION ADDED
FIGURE Location of Leveling Points	N	ILLUSTRATION ADDED
Section 2-14	N	
Subject 2-14-0	N	
Jacking for Maintenance	N	
FIGURE Jacking for Maintenance - Jacking Points Location	N	ILLUSTRATION ADDED

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE Jacking for Maintenance - Jacking Points Location	N	ILLUSTRATION ADDED
FIGURE Jacking for Maintenance - Forward Jacking Point	N	ILLUSTRATION ADDED
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FIGURE Jacking for Maintenance - Auxiliary Jacking Point - Safety Stay	N	ILLUSTRATION ADDED
FIGURE Jacking for Maintenance - Jacking Dimensions	N	ILLUSTRATION ADDED
FIGURE Jacking for Maintenance - Jacking Dimensions	N	ILLUSTRATION ADDED
FIGURE Jacking for Maintenance - Load at the Aircraft Jacking Points	N	ILLUSTRATION ADDED
FIGURE Jacking for Maintenance - Load at the Aircraft Jacking Points	N	ILLUSTRATION ADDED
Subject 2-14-1	N	
Jacking for Wheel Change	N	
FIGURE Jacking for Wheel Change - MLG Jacking Point Heights	N	ILLUSTRATION ADDED
FIGURE Jacking for Wheel Change - Jacking of the NLG	N	ILLUSTRATION ADDED
FIGURE Jacking for Wheel Change - CLG Jacking Point Heights	N	ILLUSTRATION ADDED
FIGURE Jacking for Wheel Change - NLG Jacking Point Loads - (WV 001)	N	ILLUSTRATION ADDED
FIGURE Jacking for Wheel Change - NLG Jacking Point Loads - (WV 101)	N	ILLUSTRATION ADDED
FIGURE Jacking for Wheel Change - MLG Jacking Point Loads - (WV 001)	N	ILLUSTRATION ADDED
FIGURE Jacking for Wheel Change - MLG Jacking Point Loads - (WV 101)	N	ILLUSTRATION ADDED
FIGURE Jacking for Wheel Change - CLG Jacking Point Loads - (WV 001)	N	ILLUSTRATION ADDED

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE Jacking for Wheel Change - CLG Jacking Point Loads - (WV 101)	N	ILLUSTRATION ADDED
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FIGURE Jacking for Wheel Change - NLG Jacking Point Loads - (WV 101)	N	ILLUSTRATION ADDED
FIGURE Jacking for Wheel Change - MLG Jacking Point Loads - (WV 001)	N	ILLUSTRATION ADDED
FIGURE Jacking for Wheel Change - MLG Jacking Point Loads - (WV 101)	N	ILLUSTRATION ADDED
FIGURE Jacking for Wheel Change - CLG Jacking Point Loads - (WV 001)	N	ILLUSTRATION ADDED
FIGURE Jacking for Wheel Change - CLG Jacking Point Loads - (WV 101)	N	ILLUSTRATION ADDED
Subject 2-14-2	N	
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FIGURE Support of Aircraft - Location of Shoring Cradles	N	ILLUSTRATION ADDED
FIGURE Support of Aircraft - Location of Shoring Cradles	N	ILLUSTRATION ADDED
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Subject 4-2-0		
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FIGURE Turning Radii - (Sheet 1)	R	ILLUSTRATION REVISED
FIGURE Turning Radii - (Sheet 1)	R	ILLUSTRATION REVISED
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FIGURE Minimum Turning Radii	R	
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Subject 4-4-0		
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FIGURE Visibility from Cockpit in Static Position	R	
FIGURE Binocular Visibility Through Windows from Captain Eye Position	N	ILLUSTRATION ADDED
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Subject 4-5-3		
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FIGURE 180° Turn on a Runway	R	
Section 4-7	R	
Subject 4-7-0	R	
CHAPTER 5	R	
Section 5-1	R	
Subject 5-1-0	R	
Subject 5-1-1		
Symbols Used on Servicing Diagrams	R	ADDED "BULK TRAIN" AND DELETED "MAIN DECK CARGO LOADER".
Subject 5-1-2	R	
Typical Ramp Layout - Open Apron	R	ADDED "STAND SAFETY LINE" DEFINITION. DESCRIPTION TITLE UPDATED
FIGURE Typical Ramp Layout - Open Apron	R	ILLUSTRATION REVISED
FIGURE Typical Ramp Layout - Open Apron	R	ILLUSTRATION REVISED
Subject 5-1-3	R	

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Typical Ramp Layout - Gate	R	ADDED "STAND SAFETY LINE" DEFINITION. DESCRIPTION TITLE UPDATED
FIGURE Typical Ramp Layout - Gate	R	ILLUSTRATION REVISED
FIGURE Typical Ramp Layout - Gate	R	ILLUSTRATION REVISED
Section 5-2	R	
Subject 5-2-0	R	
Terminal Operations - Full Servicing Turn Round Time	N	
FIGURE Full Servicing Turn Round Time Chart	N	ILLUSTRATION ADDED
Terminal Operations - Full Servicing Turn Round Time	N	
FIGURE Full Servicing Turn Round Time Chart	N	ILLUSTRATION ADDED
Subject 05-02-01	D	
Section 5-3	R	
Subject 5-3-0	R	
Terminal Operations - Minimum Servicing Turn-Round Time	N	
FIGURE Minimum Servicing Turn-Round Time	N	ILLUSTRATION ADDED
Terminal Operations - Minimum Servicing Turn-Round Time	N	
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Subject 05-03-01	D	
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Ground Service Connections Layout	R	
FIGURE Ground Service Connections - Ground Service Connections Layout	R	

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE Ground Service Connections - Ground Service Connections Layout	R	
Subject 5-4-3		
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FIGURE Ground Service Connections - Green System Ground Service Panel	N	ILLUSTRATION ADDED
FIGURE Ground Service Connections - Blue System Ground Service Panel	N	ILLUSTRATION ADDED
FIGURE Ground Service Connections - Yellow System Ground Service Panel	N	ILLUSTRATION ADDED
Subject 5-4-4		
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FIGURE Ground Service Connections - Electrical Service Panel	N	ILLUSTRATION ADDED
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Subject 5-4-6		
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Subject 5-4-7		
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FIGURE Ground Service Connections - APU Oil Servicing	R	
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FIGURE Ground Service Connections - Waste Water Ground Service Panel	N	ILLUSTRATION ADDED
Section 5-6		
Subject 5-6-0		
Ground Pneumatic Power Requirements	N	
Section 5-8		
Subject 5-8-0		
Ground Towing Requirements	R	DELETED THE TEXT "REVISION C" AND "ISSUE C" FOR THE SAE ARP 1915 AND SAE AS 1614 STANDARDS. DELETED THE TEXT ABOUT SHEAR PIN ARRANGEMENT. DELETED THE ILLUSTRATIONS OF "TYPICAL TOWBAR CONFIGURATION" AND "MAXIMUM EXTENSION OF THE NLG SHOCK ABSORBER". DELETED THE TEXT "REVISION C" AND "ISSUE C" FOR THE SAE ARP 1915 AND SAE AS 1614 STANDARDS. DELETED THE TEXT ABOUT SHEAR PIN ARRANGEMENT.
Section 5-9	N	
Subject 5-9-0	N	
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Subject 7-1-0		
General Information	N	TEXT UPDATED
Section 7-2	N	
Subject 7-2-0	N	
Landing Gear Footprint	N	ILLUSTRATIONS UPDATED
FIGURE Landing Gear Footprint	N	ILLUSTRATION ADDED
FIGURE Landing Gear Footprint - Landing Gear Footprint	N	ILLUSTRATION ADDED
Section 7-3	N	
Subject 7-3-0	N	
Maximum Pavement Loads	N	ILLUSTRATIONS UPDATED
FIGURE Maximum Pavement Loads	N	ILLUSTRATION ADDED
FIGURE Maximum Pavement Loads	N	ILLUSTRATION ADDED
Section 7-4	N	
Subject 7-4-0	N	
Landing Gear Loading on Pavement	N	ILLUSTRATIONS AND EXAMPLE UPDATED.
FIGURE Landing Gear Loading on Pavement - WV000, MRW 369 200 kg	N	ILLUSTRATION ADDED
FIGURE Landing Gear Loading on Pavement - WV101, MRW 381 200 kg	N	ILLUSTRATION ADDED
FIGURE Landing Gear Loading on Pavement - WV000, MRW 366 200 kg	N	ILLUSTRATION ADDED
FIGURE Landing Gear Loading on Pavement - WV101, MRW 381 200 kg	N	ILLUSTRATION ADDED
Section 7-5	N	
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Flexible Pavement Requirements - U.S. Army Corps of Engineers Design Method	N	ILLUSTRATIONS AND EXAMPLE UPDATED.
FIGURE Flexible Pavement Requirements - WV000, MRW 369 200 kg, CG 36.5 %	N	ILLUSTRATION ADDED

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FIGURE Flexible Pavement Requirements - WV000, MRW 366 200 kg, CG 35 %	N	ILLUSTRATION ADDED
FIGURE Flexible Pavement Requirements - WV101, MRW 381 200 kg, CG 30.2 %	N	ILLUSTRATION ADDED
Section 7-6	N	
Subject 7-6-0	N	
Flexible Pavement Requirements - LCN Conversion	N	TEXT, ILLUSTRATIONS AND EXAMPLE UPDATED.
FIGURE Flexible Pavement Requirements - LCN table	N	ILLUSTRATION ADDED
FIGURE Flexible Pavement Requirements - LCN - WV000, MRW 369 200 kg, CG 36.5 %	N	ILLUSTRATION ADDED
FIGURE Flexible Pavement Requirements - LCN - WV101, MRW 381 200 kg, CG 34.7 %	N	ILLUSTRATION ADDED
FIGURE Flexible Pavement Requirements - LCN table	N	ILLUSTRATION ADDED
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FIGURE Flexible Pavement Requirements - LCN - WV101, MRW 381 200 kg, CG 30.2 %	N	ILLUSTRATION ADDED
Section 7-7	N	
Subject 7-7-0	N	
Rigid Pavement Requirements - Portland Cement Association Design Method	N	TEXT, ILLUSTRATIONS AND EXAMPLE UPDATED.
FIGURE Rigid Pavement Requirements - WV000, MRW 369 200 kg, CG 36.5 %	N	ILLUSTRATION ADDED
FIGURE Rigid Pavement Requirements - WV101, MRW 381 200 kg, CG 34.7 %	N	ILLUSTRATION ADDED

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FIGURE Rigid Pavement Requirements - WV000, MRW 366 200 kg, CG 35 %	N	ILLUSTRATION ADDED
FIGURE Rigid Pavement Requirements - WV101, 381 200 kg, CG 30.2 %	N	ILLUSTRATION ADDED
Section 7-8	R	
Subject 7-8-0	N	
Rigid Pavement Requirements - LCN Conversion	N	TEXT, ILLUSTRATIONS AND EXAMPLE UPDATED.
FIGURE Rigid Pavement Requirements - LCN table	N	ILLUSTRATION ADDED
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FIGURE Radius of Relative Stiffness (L)	N	ILLUSTRATION ADDED
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FIGURE Rigid Pavement Requirements - LCN - WV101, MRW 381 200 kg, CG 30.2 %	N	ILLUSTRATION ADDED
FIGURE Radius of Relative Stiffness (Effect E and μ ON "L" values)	N	ILLUSTRATION ADDED
Subject 07-08-01	D	
Subject 07-08-03	D	
Subject 07-08-04	D	
Section 7-9	N	
Subject 7-9-0	N	
ACN/PCN Reporting System - Flexible and Rigid Pavements	N	TEXT, ILLUSTRATIONS AND EXAMPLE UPDATED.

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE Aircraft Classification Number - ACN Table	N	ILLUSTRATION ADDED
FIGURE Aircraft Classification Number - Flexible Pavement - WV000, MRW 369 200 kg, CG 36.5 %	N	ILLUSTRATION ADDED
FIGURE Aircraft Classification Number - Flexible Pavement - WV101, MRW 381 200 kg, CG 34.7 %	N	ILLUSTRATION ADDED
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FIGURE Aircraft Classification Number - Flexible Pavement - WV000, MRW 366 200 kg, CG 35 %	N	ILLUSTRATION ADDED
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FIGURE Scaled Drawing	N	ILLUSTRATION ADDED
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FIGURE Highly Flammable and Hazardous Materials and Components	N	ILLUSTRATION ADDED
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LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE Wheel/Brake Overheat - Wheel Safety Area	N	ILLUSTRATION ADDED
FIGURE Composite Materials Location	N	ILLUSTRATION ADDED
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FIGURE Emergency Evacuation Devices	N	ILLUSTRATION ADDED
FIGURE Pax/Crew Doors and Emergency Exits	N	ILLUSTRATION ADDED
FIGURE FWD and AFT Lower Deck Cargo Doors	N	ILLUSTRATION ADDED
FIGURE Control Panels	N	ILLUSTRATION ADDED
FIGURE APU Compartment Access	N	ILLUSTRATION ADDED
FIGURE Ground Clearances	N	ILLUSTRATION ADDED
FIGURE Structural Break-in Points	N	ILLUSTRATION ADDED
Aircraft Rescue and Fire Fighting	N	
FIGURE Front Page	N	ILLUSTRATION ADDED
FIGURE Highly Flammable and Hazardous Materials and Components	N	ILLUSTRATION ADDED
FIGURE Crew Rest Compartments Location	N	ILLUSTRATION ADDED
FIGURE Wheel/Brake Overheat - Wheel Safety Area	N	ILLUSTRATION ADDED
FIGURE Composite Materials Location	N	ILLUSTRATION ADDED
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FIGURE Emergency Evacuation Devices	N	ILLUSTRATION ADDED
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FIGURE FWD and AFT Lower Deck Cargo Doors	N	ILLUSTRATION ADDED
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FIGURE Structural Break-in Points	N	ILLUSTRATION ADDED

LIST OF EFFECTIVE CONTENT

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General Aircraft Dimensions	R	Apr 01/13
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FIGURE General Aircraft Dimensions	R	Apr 01/13
Subject 2-3-0		
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FIGURE Ground Clearances - Flaps Fully Extended	N	Apr 01/13
FIGURE Ground Clearances - Flap-Tracks Fully Extended	N	Apr 01/13
Subject 2-4-1		
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FIGURE Interior Arrangements - Plan View - Typical Configuration	R	Apr 01/13

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SCOPE

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

Purpose

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 revision is now a merging of the Maintenance Facility Planning (MFP) document and the Airplane Characteristics for Airport Planning (AC). This document has been renamed Aircraft Characteristics - Airport and Maintenance Planning (AC) to reflect this change.
   Additionally, a chapter 10 "Aircraft Rescue and Fire Fighting" has been added to the AC. This chapter contains the illustrations of the Aircraft Rescue and Fire fighting Charts poster and replaces the PDF document that was available for download.

   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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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
CKPT	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

MAC	Mean Aerodynamic Chord
MAX	Maximum
MD	Main Deck
MIN	Minimum
MLG	Main Landing Gear
MLW	Maximum Design Landing Weight
MRW	Maximum Design Ramp Weight
MTOW	Maximum Design Take-Off Weight
MTW	Maximum Design Taxi Weight
MZFW	Maximum Design Zero Fuel Weight
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

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 DESCRIPTION

2-1-1 General Aircraft Characteristics Data

**ON A/C A340-500WV0xx A340-500WV1xx A340-600WV0xx A340-600WV1xx

General Aircraft Characteristics Data

**ON A/C A340-600WV0xx

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 (density = 0.785 kg/l)	195 010 l (51 516 US gal)	
	153 082 kg (337 488 lb)	

**ON A/C A340-600WV1xx

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

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

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

(1) Without forward ACT
(2) With forward ACT

**ON A/C A340-600WV0xx A340-600WV1xx

3. 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^3 (46 086 ft^3)
Passenger Compartment Volume	557 m^3 (19 670 ft^3)
Cockpit Volume	12 m^3 (424 ft^3)
Usable Volume, FWD CC (Based on LD3)	104 m^3 (3 672 ft^3)
Usable Volume, AFT CC (Based on LD3)	78 m^3 (2 754 ft^3)
Usable Volume, Bulk CC	19.7 m^3 (695 ft^3)
Water Volume, FWD CC	143 m^3 (5 050 ft^3)
Water Volume, AFT CC	102.3 m^3 (3 612 ft^3)
Water Volume, Bulk CC	22.7 m^3 (802 ft^3)

**ON A/C A340-500WV0xx

4. 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 l (56 746 US gal)	215 108 l * - 223 078 l ** (56 826 US gal * - 58 931 US gal **)		214 066 l * - 222 036 l ** (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 **)		168 041 kg * - 174 298 kg ** (370 467 lb * - 384 261 lb **)	

**ON A/C A340-500WV1xx

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

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 (MTOW)	380 000 kg (837 756 lb)	372 000 kg (820 119 lb)	372 000 kg (820 119 lb)
Maximum Landing Weight (MLW)	246 000 kg (542 337 lb)	243 000 kg (535 723 lb)	246 000 kg (542 337 lb)
Maximum Zero Fuel Weight (MZFW)	232 000 kg (511 472 lb)	230 000 kg (507 063 lb)	232 000 kg (511 472 lb)

Aircraft Characteristics			
	WV101	WV102	WV103
Usable Fuel Capacity (density = 0.785 kg/l)	214 066 l * - 222 036 l ** (56 550 US gal * - 58 656 US gal **)	216 622 l * - 223 210 l ** (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

****ON A/C A340-500WV0xx A340-500WV1xx**

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

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

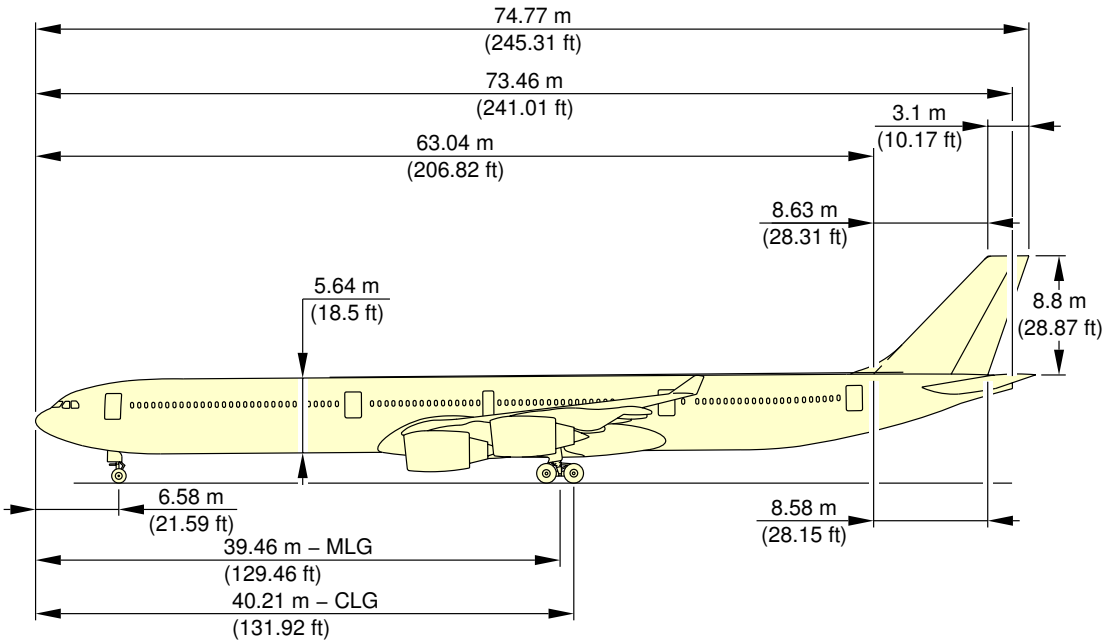
2-2-0 General Aircraft Dimensions

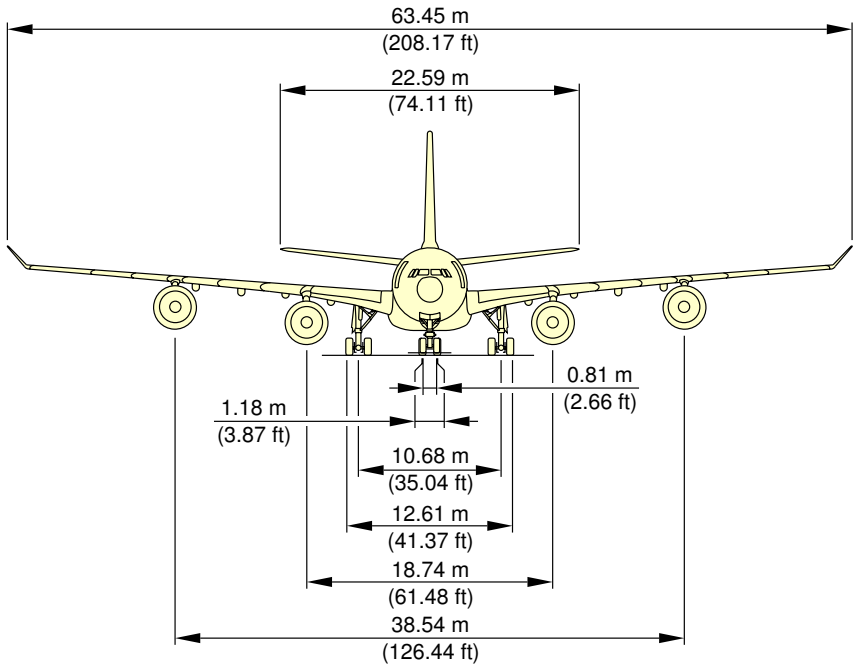
**ON A/C A340-500 A340-600

General Aircraft Dimensions

1. This section provides General Aircraft Dimensions.

**ON A/C A340-600





NOTE:
RELATED TO AIRCRAFT ATTITUDE AND WEIGHT.

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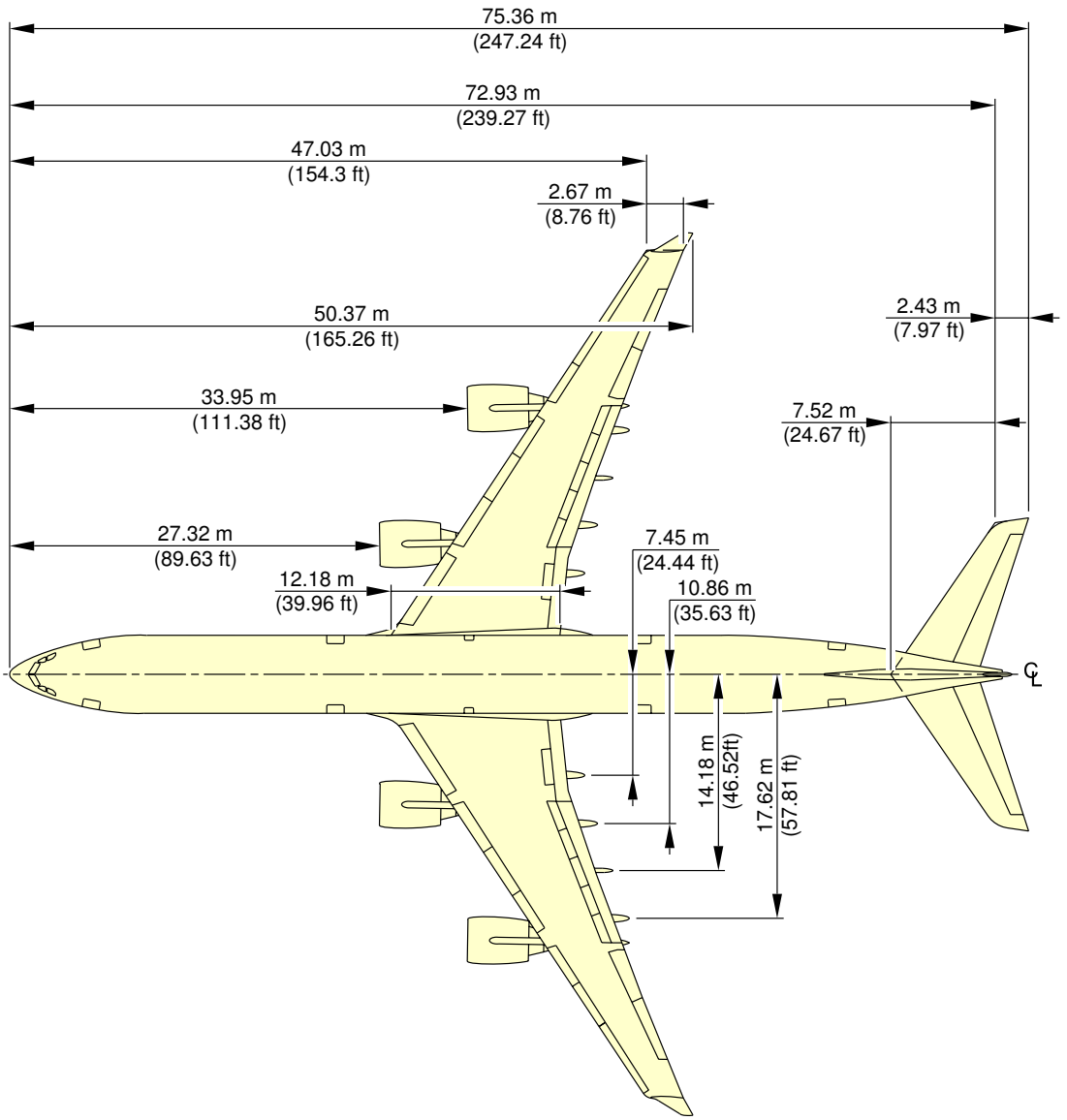
General Aircraft Dimensions
(Sheet 1 of 2)
FIGURE-2-2-0-991-009-A01

**ON A/C A340-600



NOTE:
RELATED TO AIRCRAFT ATTITUDE AND WEIGHT.

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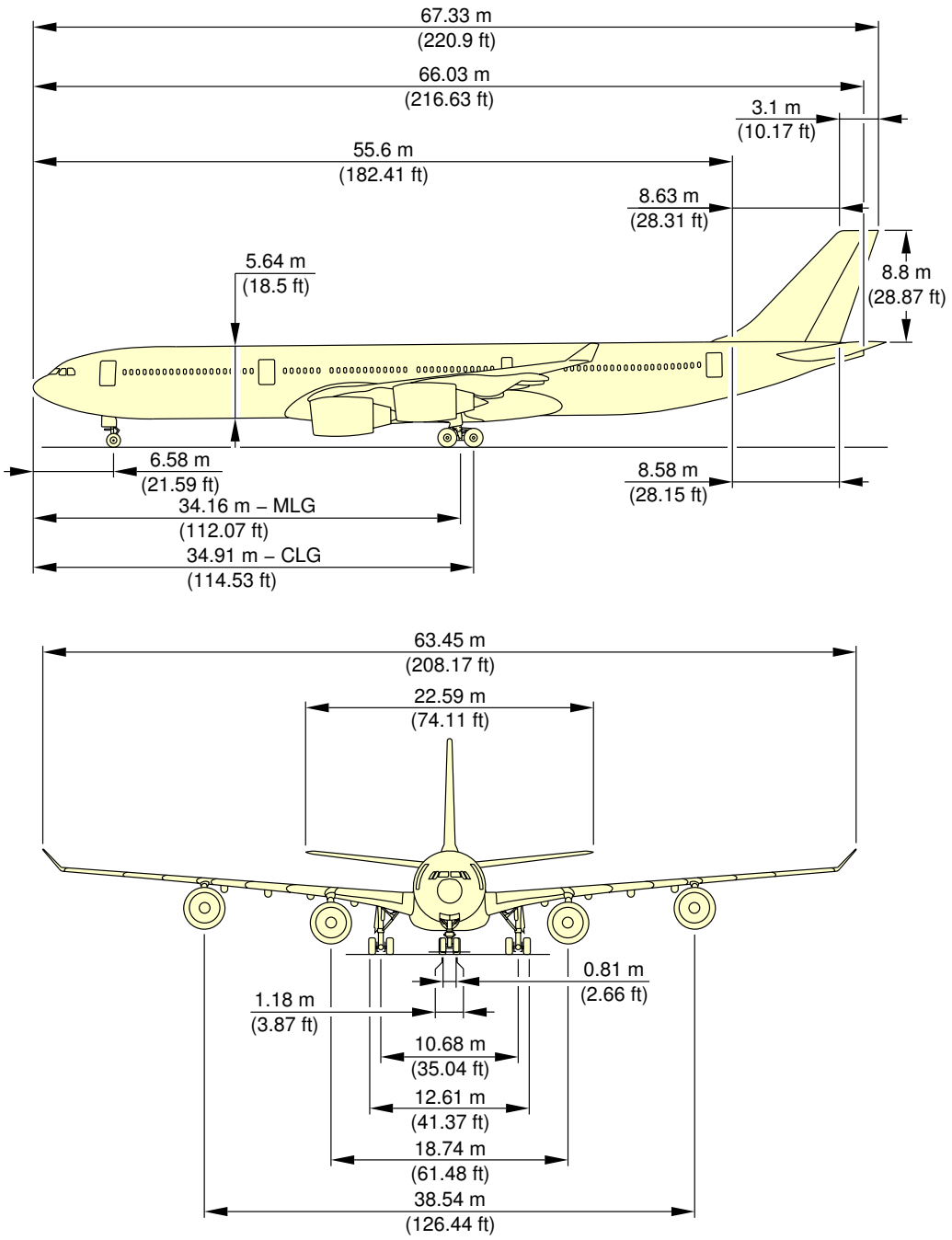
General Aircraft Dimensions
(Sheet 2 of 2)
FIGURE-2-2-0-991-009-A01

**ON A/C A340-500



NOTE:
RELATED TO AIRCRAFT ATTITUDE AND WEIGHT.

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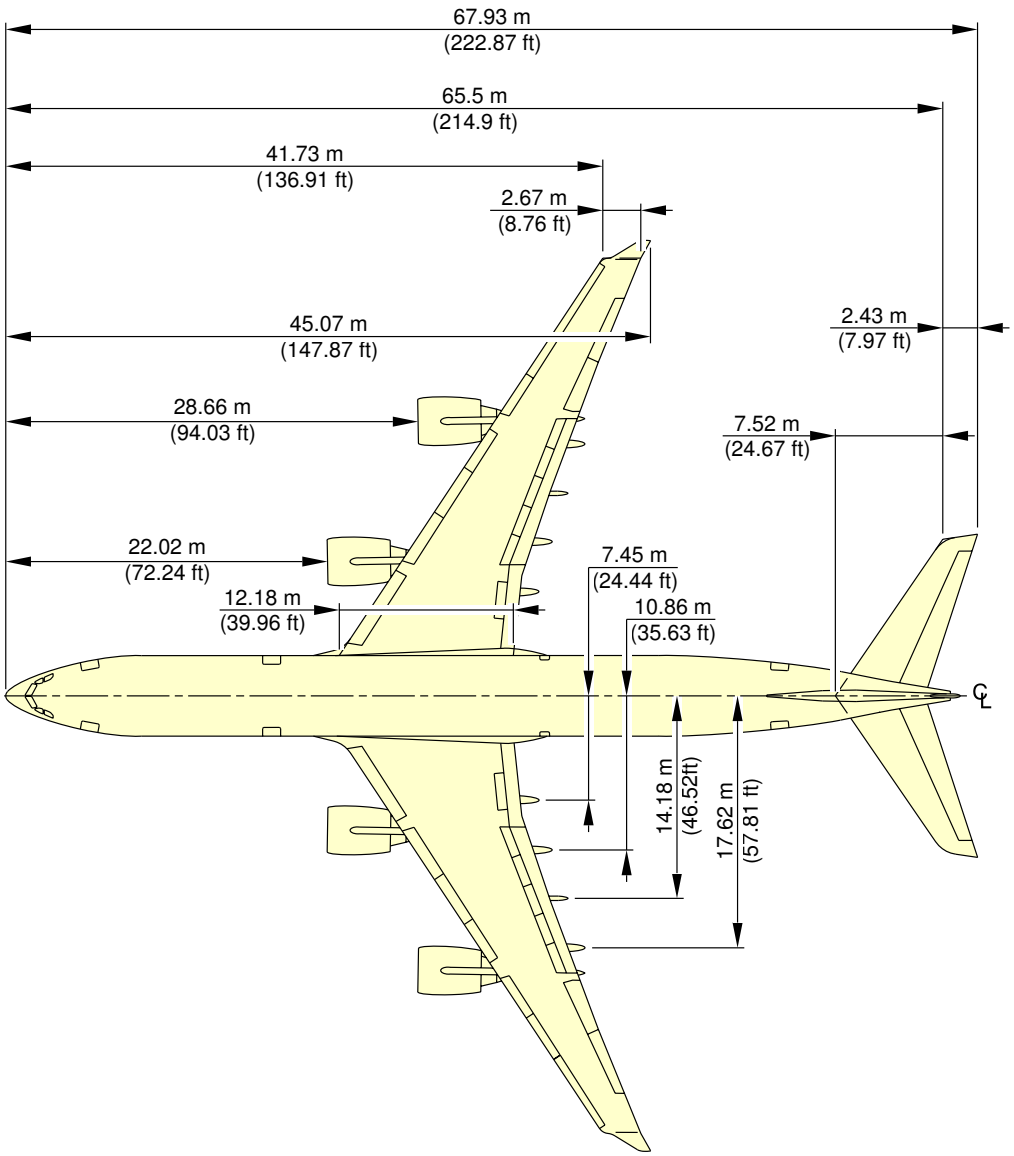
General Aircraft Dimensions
(Sheet 1 of 2)
FIGURE-2-2-0-991-010-A01

**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

2-3-0 Ground Clearances

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

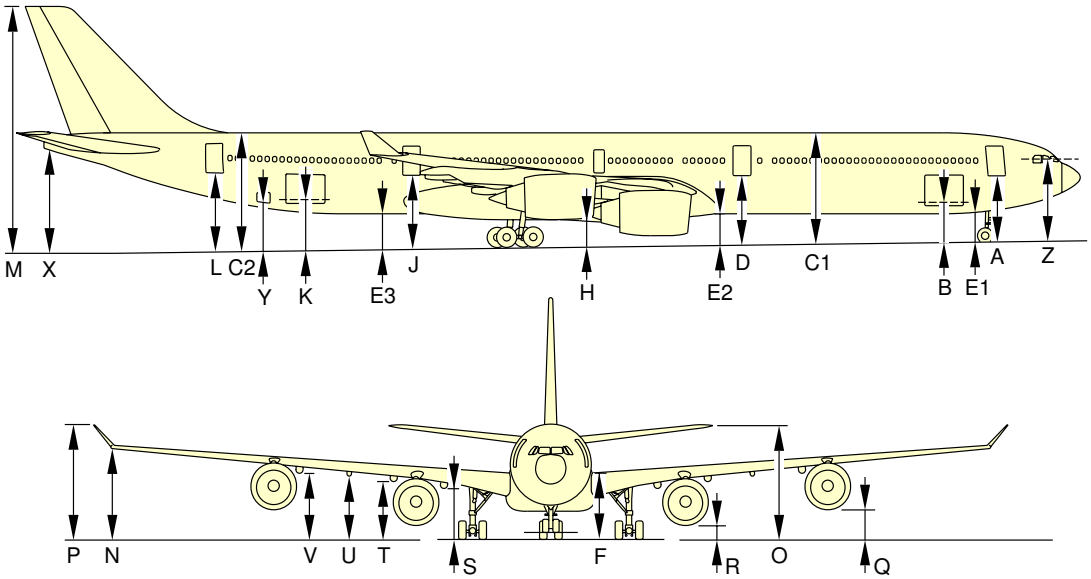
Ground Clearances

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

   The dimensions are given for:
   - A light weight for an A/C in maintenance configuration with a mid CG,
   - The MRW for the lightest weight variant with a FWD CG and a AFT CG,
   - The MRW for the heaviest weight variant with a FWD CG and a AFT CG,
   - Aircraft on jacks, FDL at 7.2 m (23.62 ft).

   NOTE : Passenger and cargo door clearances are measured from the center of the door sill and from floor level.

**ON A/C A340-600



A/C CONFIGURATION	176 000 kg MID CG		MRW FWD CG		MRW AFT CG		AIRCRAFT ON JACKS	
	m	ft	m	ft	m	ft	m	ft
A	4.78	15.67	4.60	15.08	4.73	15.53	7.03	23.07
B	2.88	9.46	2.70	8.86	2.82	9.27	5.09	16.71
C1	7.99	26.22	7.81	25.61	7.87	25.83	10.02	32.87
C2	8.47	27.77	8.27	27.12	8.19	26.86	10.02	32.87
D	5	16.41	4.82	15.81	4.88	16.03	7.03	23.07
E1	2.17	7.12	1.99	6.53	2.11	6.93	4.38	14.37
E2	2.35	7.71	2.17	7.11	2.23	7.33	4.38	14.37
E3	2.66	8.72	2.47	8.09	2.44	7.99	4.38	14.37
F	4.64	15.23	4.45	14.61	4.48	14.70	6.54	21.47
H	1.85	6.07	1.66	5.46	1.70	5.57	3.78	12.40
J	5.31	17.42	5.12	16.79	5.09	16.69	7.03	23.07
K	3.50	11.49	3.31	10.84	3.25	10.66	5.14	16.86
L	5.69	18.68	5.50	18.03	5.42	17.77	7.25	23.78
M	17.93	58.84	17.73	58.17	17.60	57.74	19.32	63.39
N	6.15	20.18	5.96	19.55	5.93	19.46	7.88	25.87
O	8.60	28.21	8.39	27.54	8.26	27.10	9.98	32.74
P	7.76	25.45	7.56	24.81	7.53	24.70	9.46	31.04
Q	1.75	5.75	1.56	5.12	1.58	5.18	3.62	11.89
R	0.71	2.32	0.52	1.71	0.56	1.85	2.66	8.73
S	3.84	12.60	3.65	11.97	3.65	11.97	5.65	18.54
T	4.31	14.16	4.12	13.53	4.13	13.54	6.14	20.15
U	4.36	14.30	4.17	13.67	4.17	13.69	6.18	20.29
V	4.77	15.65	4.58	15.01	4.56	14.97	6.54	21.44
X	7.25	23.78	7.04	23.11	6.92	22.71	8.66	28.41
Y	3.59	11.79	3.40	11.14	3.33	10.92	5.19	17.03
Z	5.90	19.35	5.72	18.77	5.87	19.27	8.20	26.90

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

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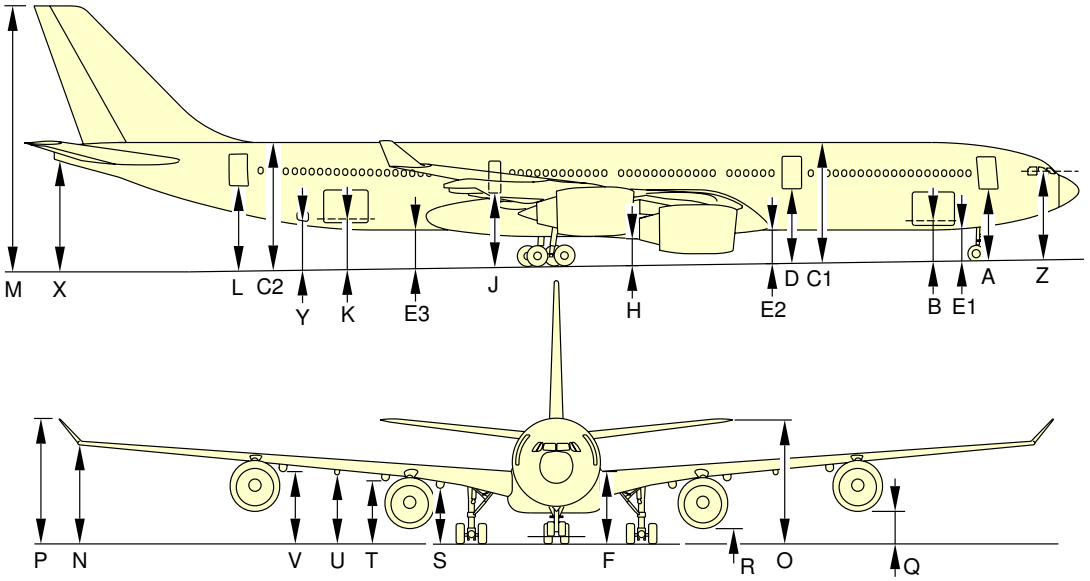
Ground Clearances
FIGURE-2-3-0-991-012-A01

**ON A/C A340-500



A/C CONFIGURATION	171 000 kg MID CG		MRW FWD CG		MRW AFT CG		AIRCRAFT ON JACKS	
	m	ft	m	ft	m	ft	m	ft
A	4.76	15.61	4.53	14.85	4.63	15.18	7.03	23.07
B	2.88	9.44	2.65	8.70	2.74	8.98	5.09	16.71
C1	7.95	26.08	7.74	25.38	7.79	25.54	10.02	32.87
C2	8.52	27.95	8.35	27.40	8.26	27.09	10.02	32.87
D	4.96	16.28	4.75	15.58	4.80	15.74	7.03	23.07
E1	2.16	7.10	1.94	6.36	2.03	6.64	4.38	14.37
E2	2.31	7.58	2.10	6.88	2.15	7.04	4.38	14.37
E3	2.29	7.51	2.10	6.89	2.07	6.79	4.05	13.30
F	4.64	15.22	4.44	14.56	4.45	14.59	6.54	21.47
H	1.84	6.03	1.63	5.36	1.65	5.42	3.78	12.40
J	5.27	17.28	5.08	16.66	5.05	16.57	7.03	23.07
K	3.53	11.59	3.36	11.01	3.29	10.79	5.14	16.86
L	5.75	18.86	5.58	18.31	5.49	18	7.25	23.78
M	17.53	57.51	17.38	57.01	17.23	56.53	18.82	61.75
N	6.19	20.31	6.01	19.70	5.96	19.56	7.88	25.87
O	8.68	28.47	8.53	27.97	8.38	27.48	9.96	32.68
P	7.81	25.61	7.62	25.01	7.57	24.83	9.46	31.04
Q	1.75	5.75	1.56	5.10	1.55	5.10	3.62	11.89
R	0.69	2.25	0.48	1.58	0.51	1.66	2.66	8.73
S	3.86	12.66	3.67	12.03	3.65	11.96	5.65	18.54
T	4.33	14.20	4.13	13.57	4.12	13.52	6.14	20.15
U	4.37	14.35	4.18	13.71	4.16	13.66	6.18	20.29
V	4.80	15.74	4.61	15.13	4.58	15.01	6.54	21.44
X	7.34	24.08	7.18	23.57	7.05	23.12	8.66	28.41
Y	3.63	11.92	3.46	11.35	3.38	11.09	5.19	17.03
Z	5.87	19.25	5.63	18.48	5.75	18.86	8.20	26.90

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

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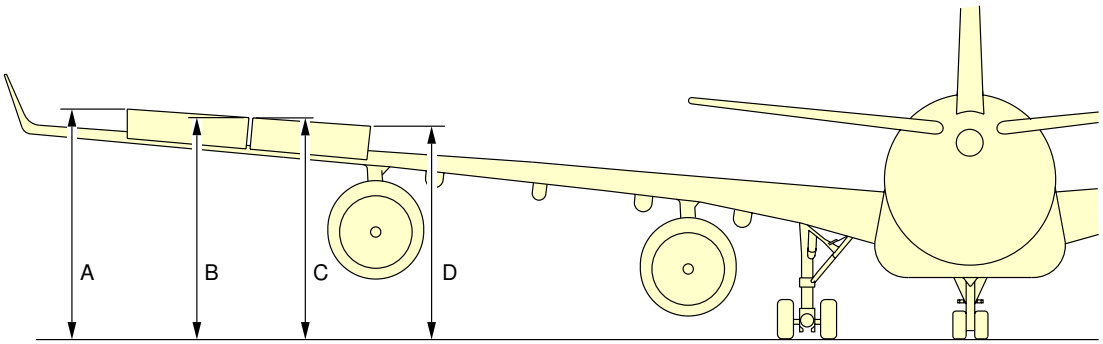
Ground Clearances
FIGURE-2-3-0-991-012-B01

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



	A/C IN MAINTENANCE CONFIGURATION MID CG		MRW FWD CG		MRW AFT CG	
	m	ft	m	ft	m	ft
A	6.40	21.01	6.21	20.37	6.18	20.28
B	6.21	20.38	6.02	19.75	6.00	19.67
C	6.29	20.63	6.09	19.99	6.07	19.92
D	6.20	20.33	6.00	19.70	5.99	19.64

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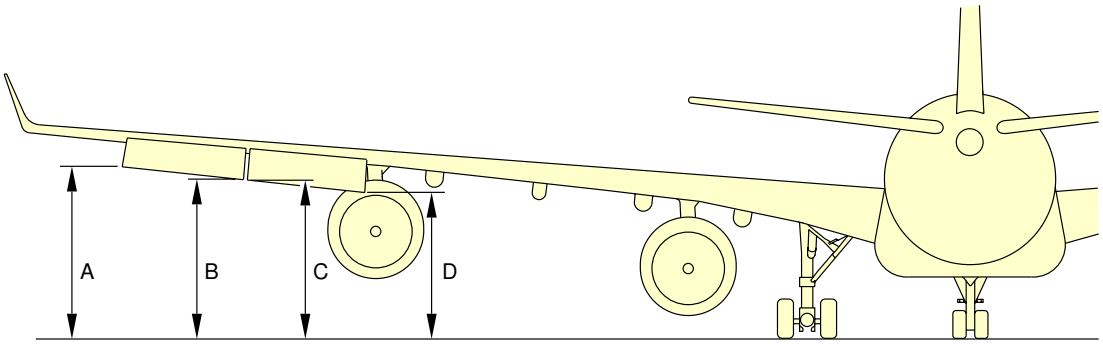
Ground Clearances
Ailerons Up
FIGURE-2-3-0-991-013-A01

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



	A/C IN MAINTENANCE CONFIGURATION MID CG		MRW FWD CG		MRW AFT CG	
	m	ft	m	ft	m	ft
A	5.91	19.38	5.71	18.74	5.68	18.65
B	5.53	18.16	5.34	17.53	5.32	17.45
C	5.60	18.38	5.41	17.74	5.39	17.67
D	5.26	17.24	5.06	16.61	5.05	16.56

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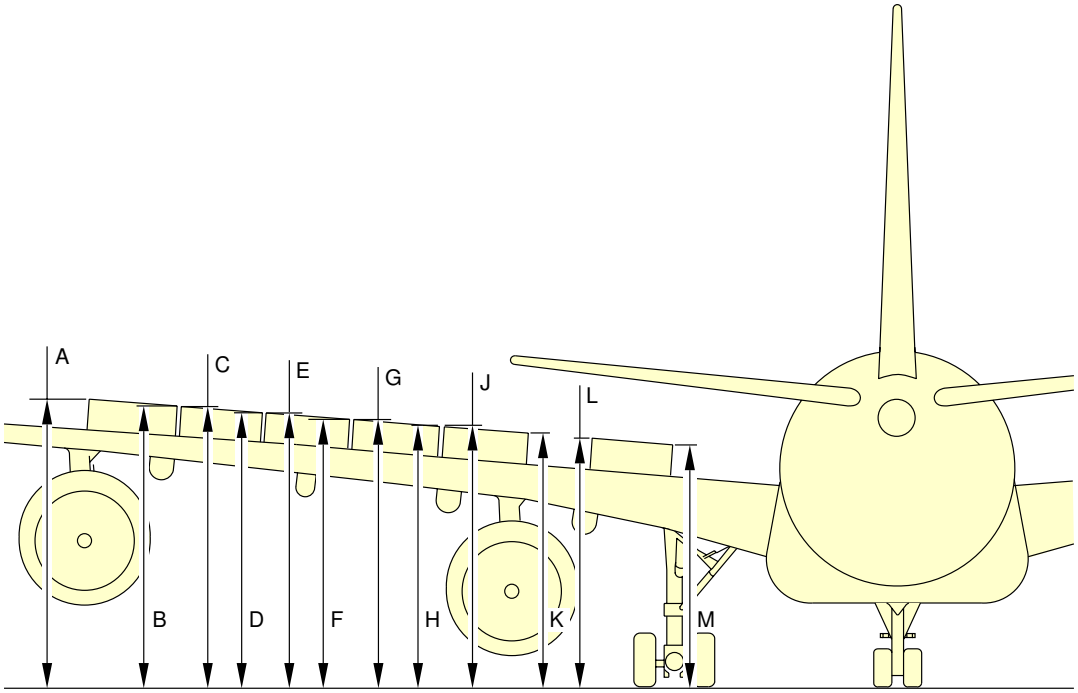
Ground Clearances
Ailerons Down
FIGURE-2-3-0-991-024-A01

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

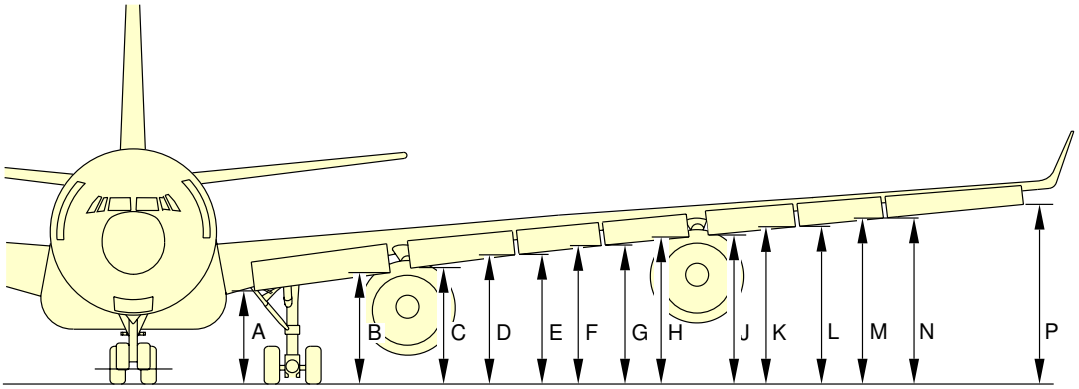


	A/C IN MAINTENANCE CONFIGURATION MID CG		MRW FWD CG		MRW AFT CG	
	m	ft	m	ft	m	ft
A	6.35	20.84	6.16	20.21	6.15	20.17
B	6.27	20.56	6.07	19.93	6.06	19.90
C	6.27	20.56	6.07	19.93	6.06	19.90
D	6.16	20.20	5.97	19.57	5.96	19.55
E	6.16	20.20	5.97	19.57	5.96	19.55
F	6.03	19.79	5.84	19.17	5.84	19.16
G	6.03	19.79	5.84	19.16	5.84	19.15
H	5.87	19.26	5.68	18.63	5.68	18.63
J	5.89	19.33	5.70	18.70	5.70	18.70
K	5.75	18.88	5.56	18.25	5.57	18.26
L	5.29	17.36	5.10	16.74	5.10	16.75
M	4.78	15.67	4.58	15.04	4.59	15.05

F_AC_020300_1_0250101_01_00

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

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



	A/C IN MAINTENANCE CONFIGURATION MID CG		MRW FWD CG		MRW AFT CG	
	m	ft	m	ft	m	ft
A	3.58	11.74	3.37	11.06	3.40	11.15
B	4.31	14.14	4.11	13.47	4.12	13.53
C	4.34	14.25	4.14	13.58	4.15	13.63
D	4.66	15.29	4.46	14.64	4.46	14.64
E	4.66	15.29	4.46	14.64	4.46	14.64
F	4.91	16.12	4.72	15.47	4.71	15.46
G	4.91	16.12	4.72	15.47	4.71	15.46
H	5.14	16.85	4.94	16.21	4.93	16.17
J	5.22	17.12	5.02	16.48	5.01	16.44
K	5.41	17.75	5.22	17.12	5.20	17.05
L	5.41	17.75	5.22	17.12	5.20	17.05
M	5.61	18.39	5.42	17.78	5.39	17.68
N	5.61	18.39	5.42	17.78	5.39	17.68
P	5.91	19.39	5.73	18.79	5.68	18.65

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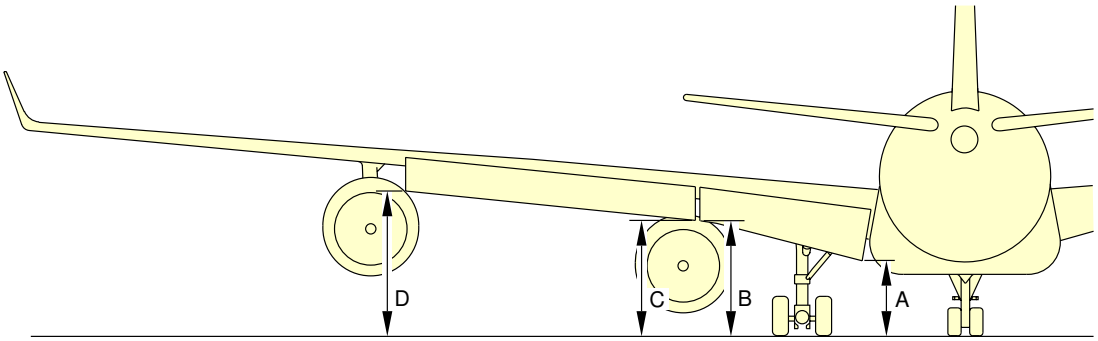
Ground Clearances
Slats Fully Extended
FIGURE-2-3-0-991-026-A01

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

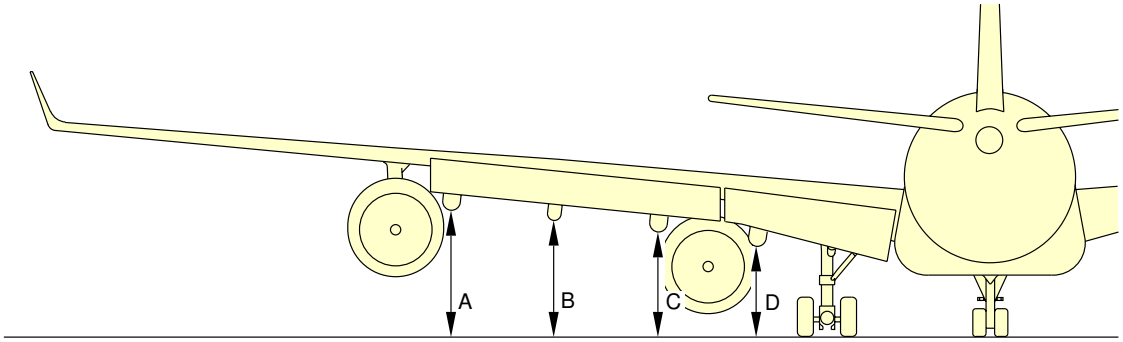


	A/C IN MAINTENANCE CONFIGURATION MID CG		MRW FWD CG		MRW AFT CG	
	m	ft	m	ft	m	ft
A	2.76	9.06	2.57	8.43	2.57	8.43
B	3.96	12.99	3.77	12.36	3.76	12.35
C	3.95	12.95	3.76	12.32	3.75	12.31
D	4.82	15.80	4.62	15.17	4.61	15.11

F_AC_020300_1_0270101_01_00

Ground Clearances
Flaps Fully Extended
FIGURE-2-3-0-991-027-A01

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



	A/C IN MAINTENANCE CONFIGURATION MID CG		MRW FWD CG		MRW AFT CG	
	m	ft	m	ft	m	ft
A	3.72	12.21	3.53	11.58	3.51	11.52
B	3.46	11.34	3.27	10.71	3.25	10.67
C	3.25	10.66	3.06	10.03	3.05	10.00
D	2.78	9.12	2.59	8.50	2.58	8.47

F_AC_020300_1_0280101_01_00

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

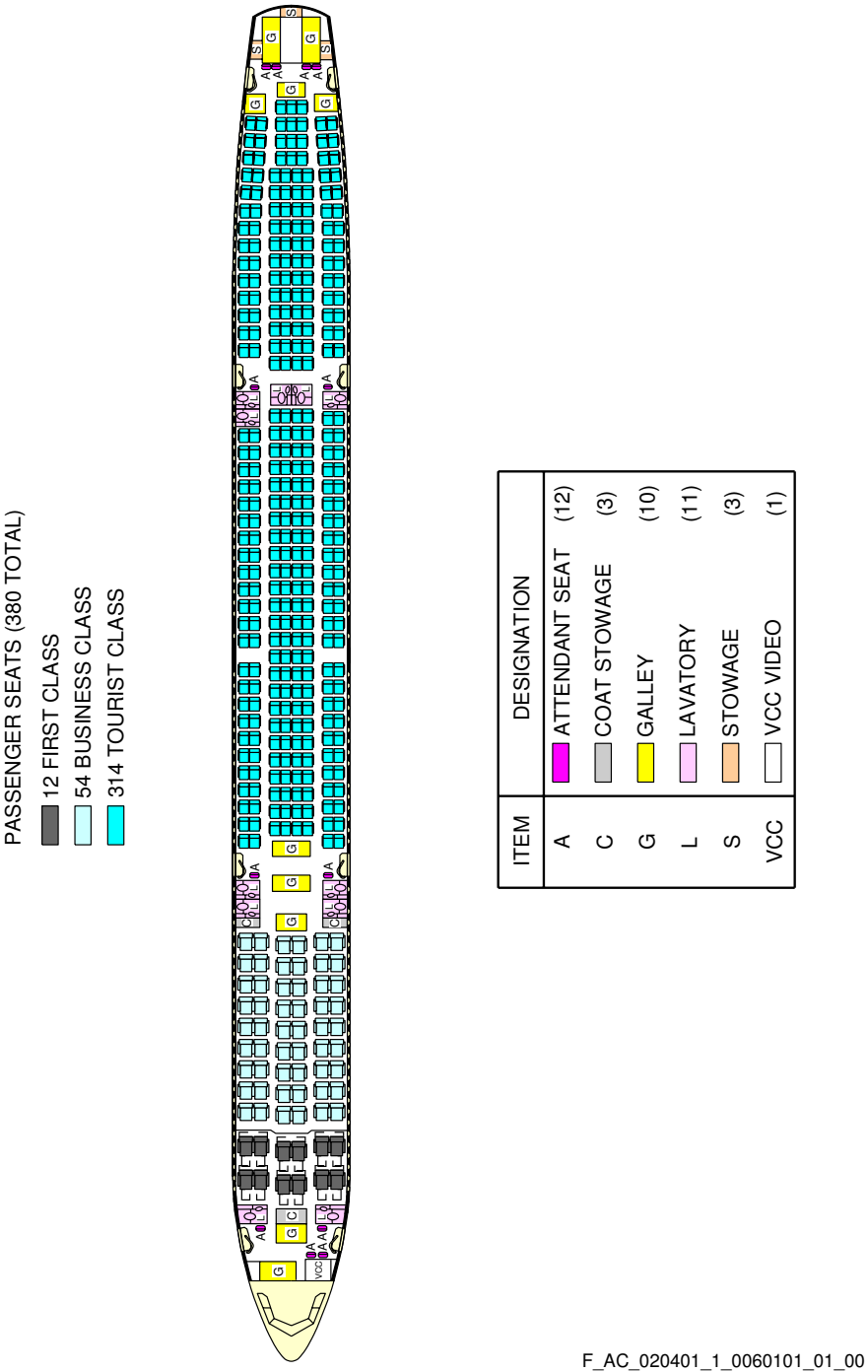
2-4-1 Interior Arrangements - Plan View

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

Interior Arrangements - Plan View

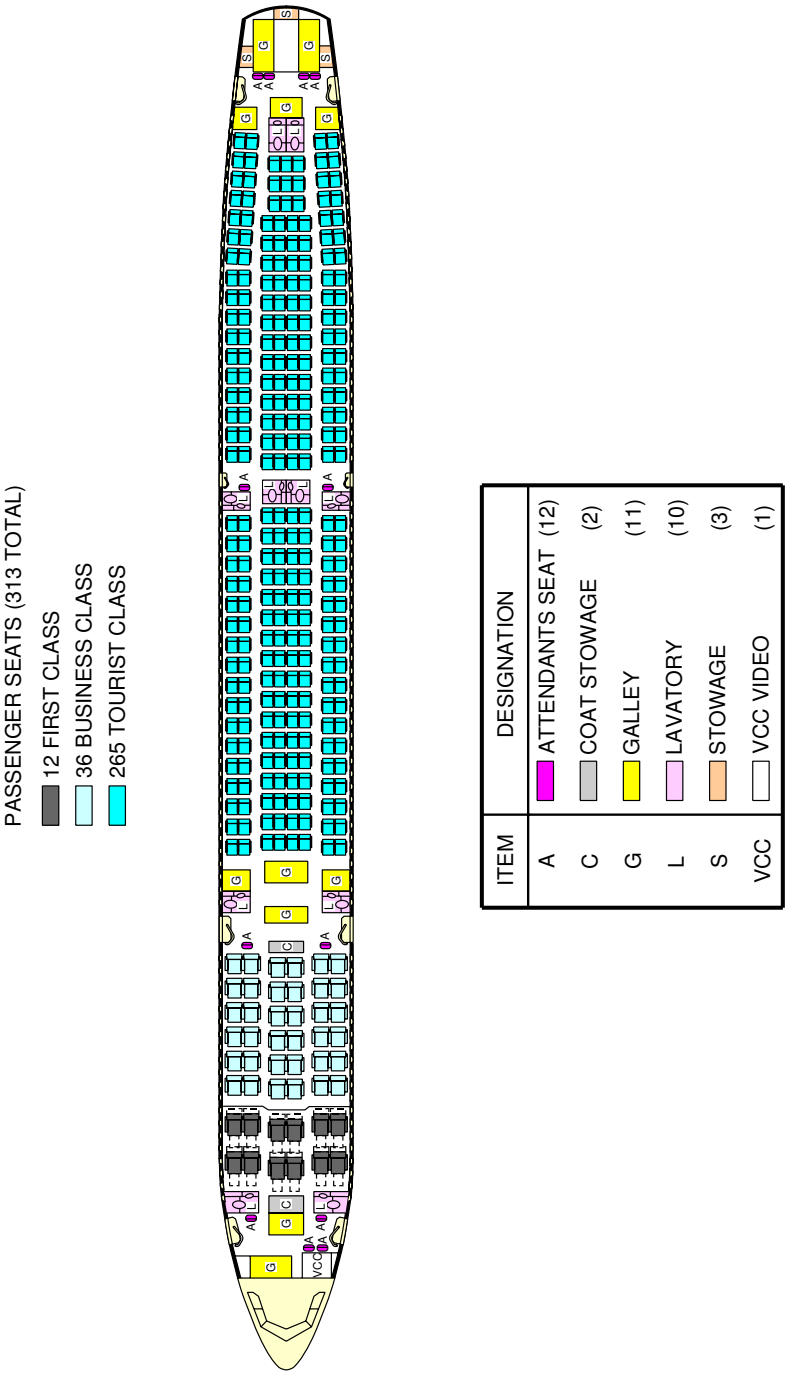
1. This section gives the typical configuration for A340-500 and A340-600.

**ON A/C A340-600



Interior Arrangements - Plan View
Typical Configuration
FIGURE-2-4-1-991-006-A01

**ON A/C A340-500



F_AC_020401_1_0070101_01_00

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

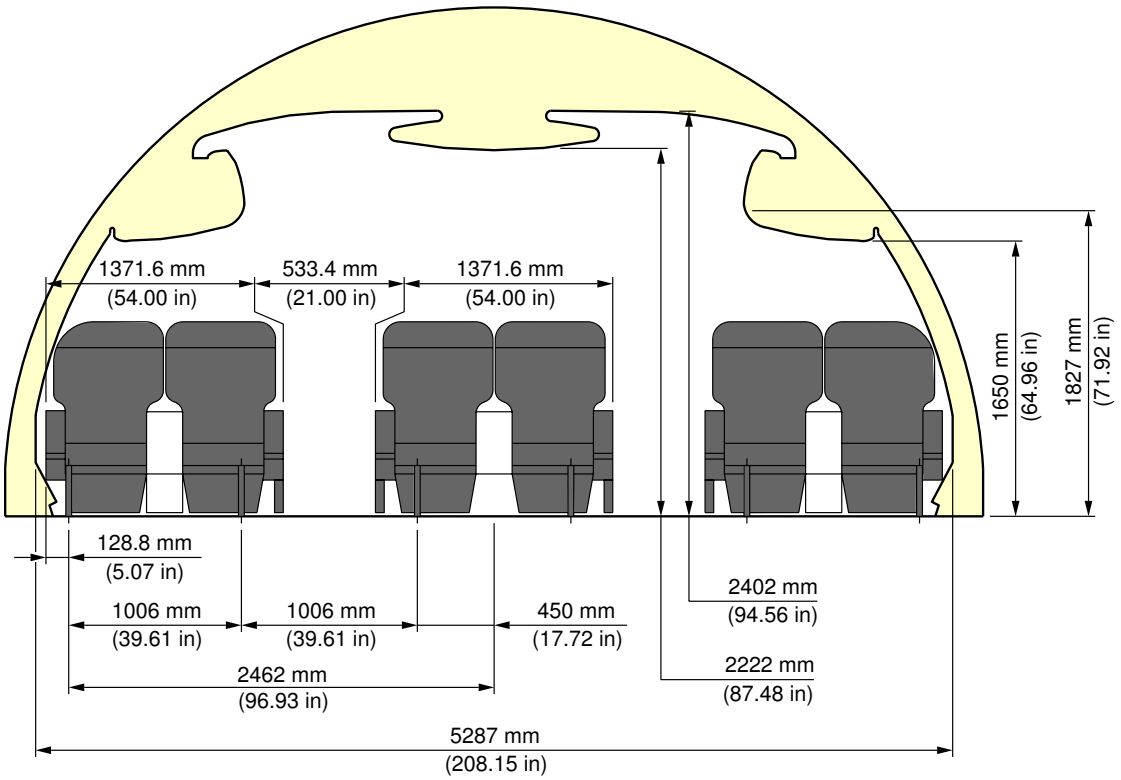
2-5-0 Interior Arrangements - Cross Section

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

Interior Arrangements - Cross Section

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

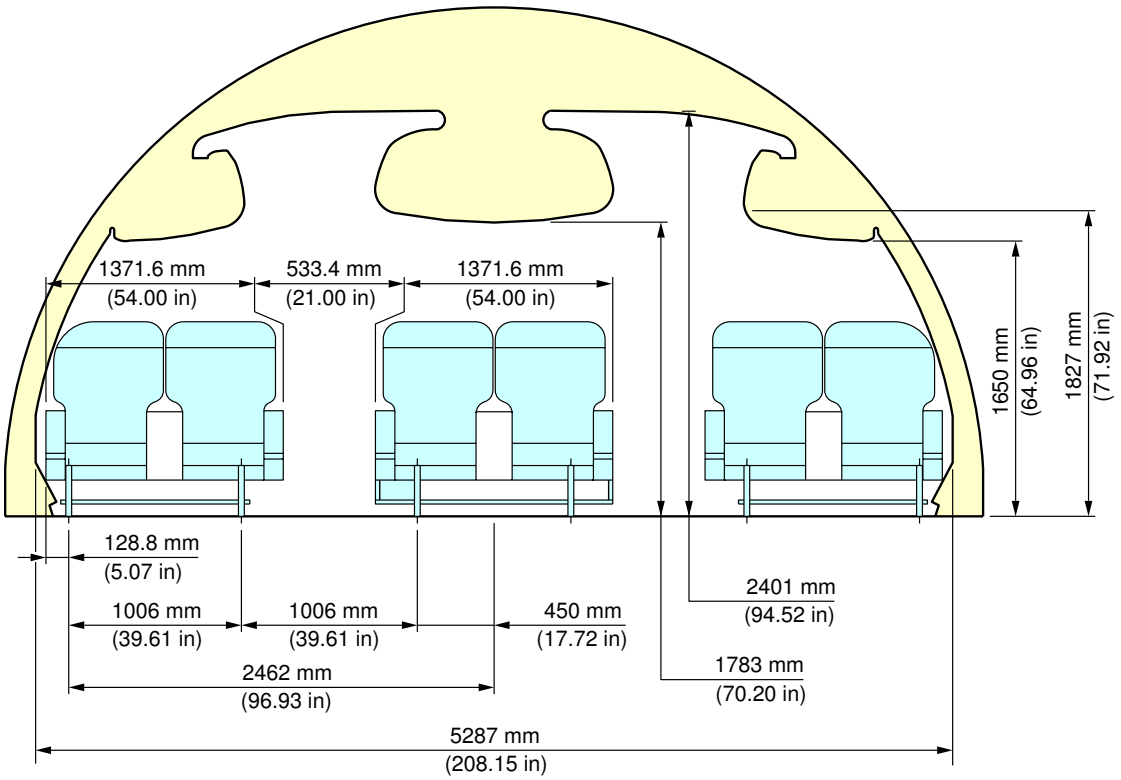
**ON A/C A340-500 A340-600



F_AC_020500_1_0030101_01_00

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

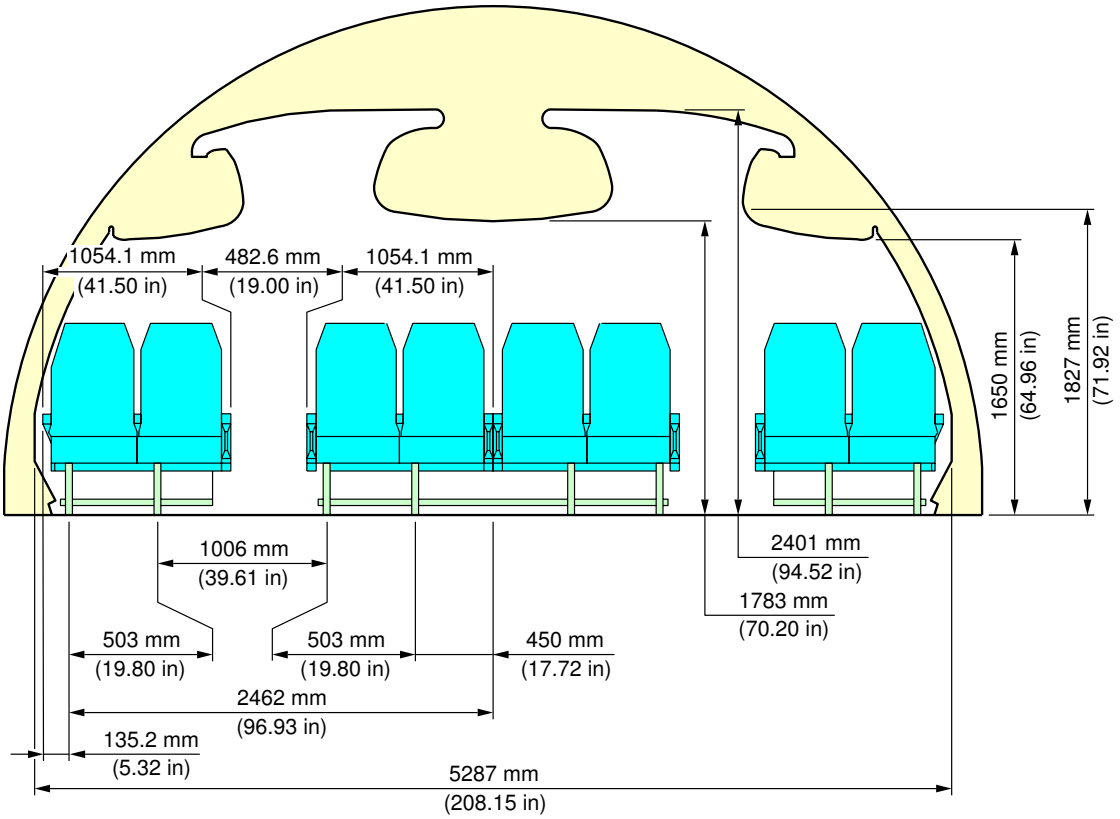
**ON A/C A340-500 A340-600



F_AC_020500_1_0040101_01_00

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

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



F_AC_020500_1_0050101_01_00

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

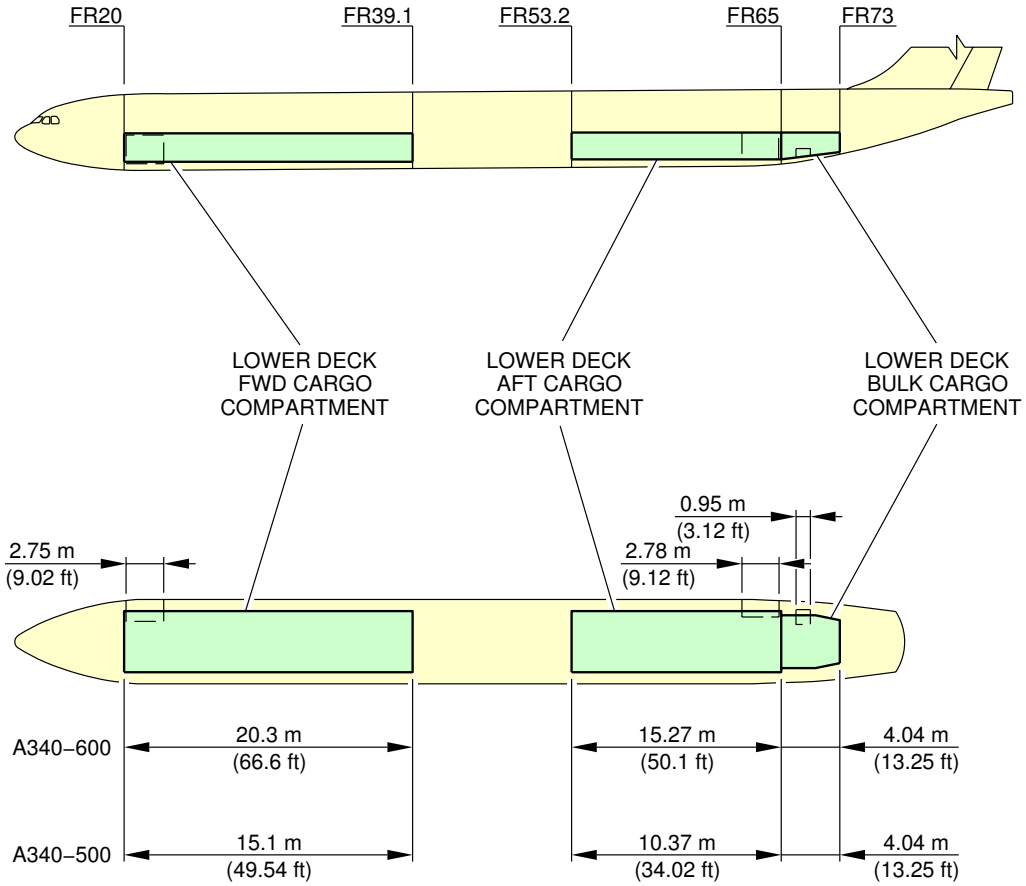
2-6-1 Lower Deck Cargo Compartments

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

Lower Deck Cargo Compartments

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

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



NOTE:
APPROXIMATE DIMENSIONS DEPENDING ON AIRCRAFT CONFIGURATION.

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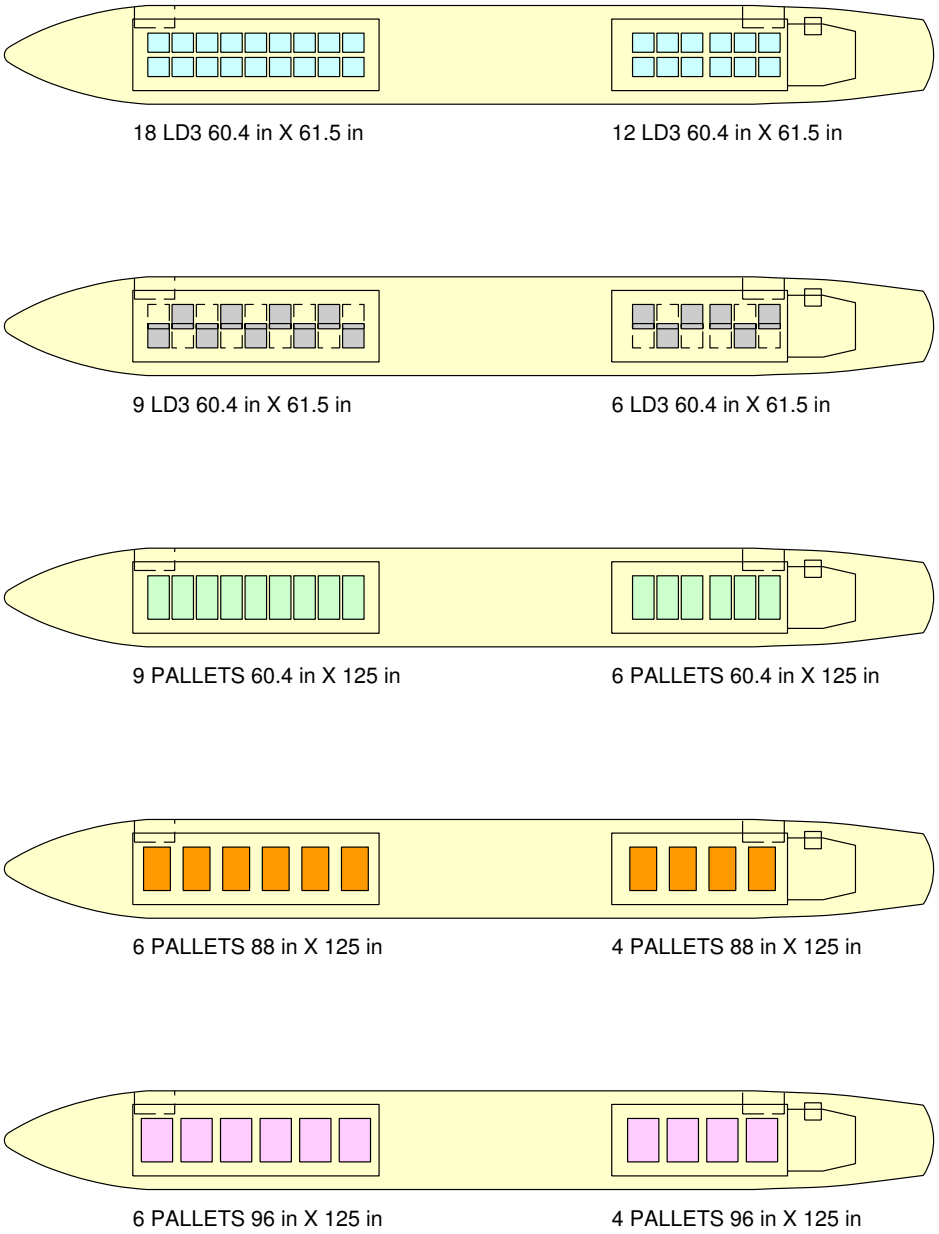
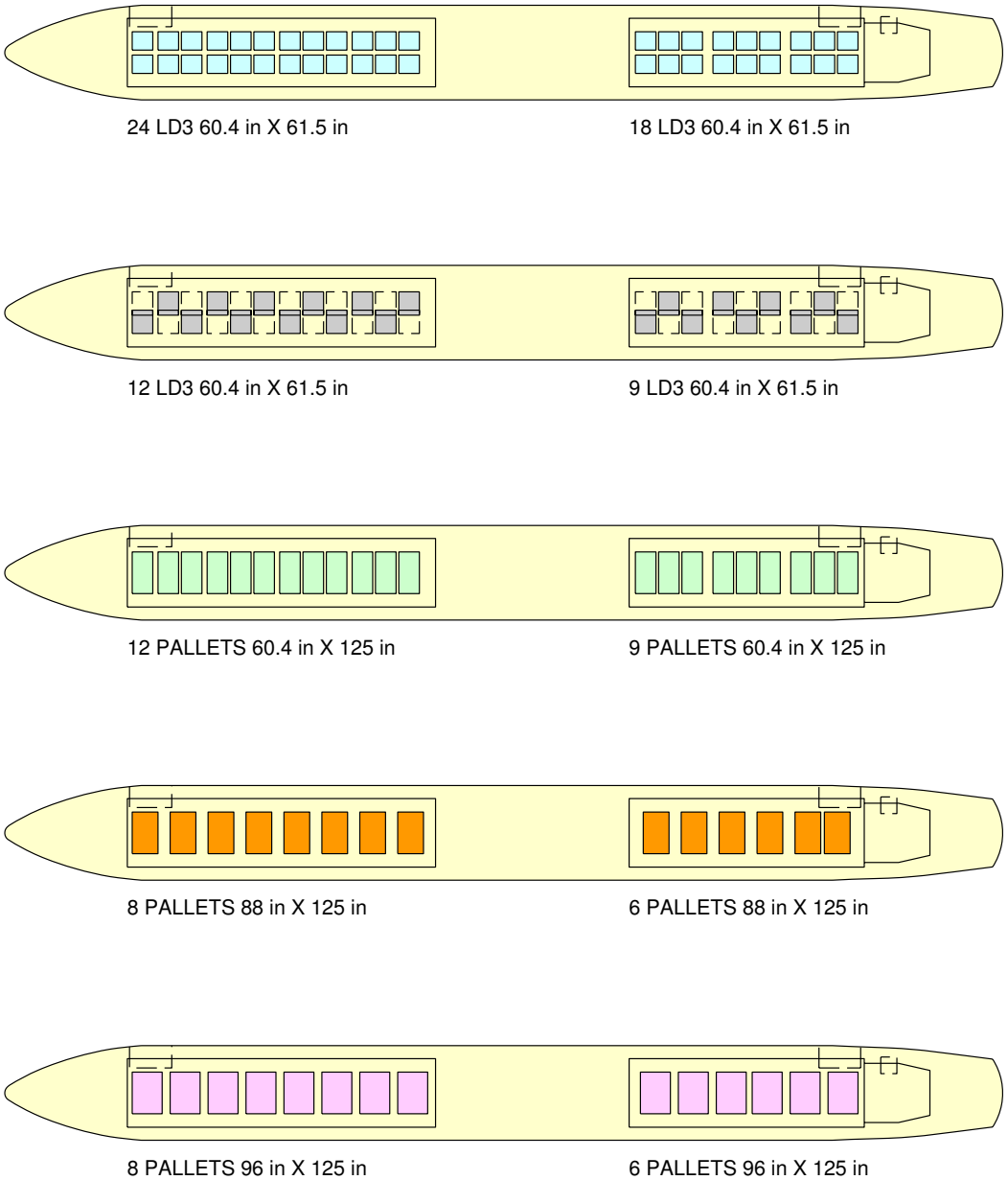
Lower Deck Cargo Compartments
Location and Dimensions
FIGURE-2-6-1-991-007-A01

**ON A/C A340-500



Loading Combinations
FIGURE-2-6-1-991-008-A01

**ON A/C A340-600



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Loading Combinations
FIGURE-2-6-1-991-008-B01

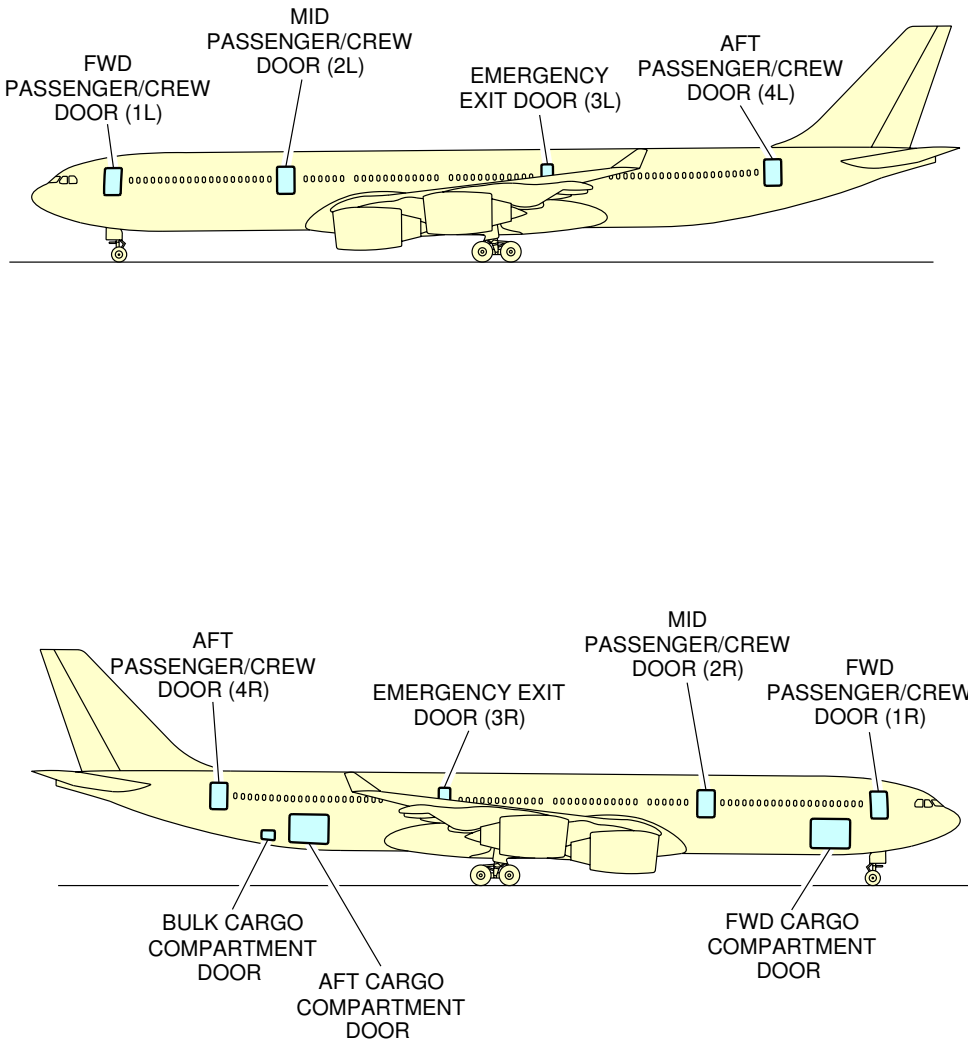
2-7-0 Door Clearances

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

Door Clearances

1. This section gives door identification and location.

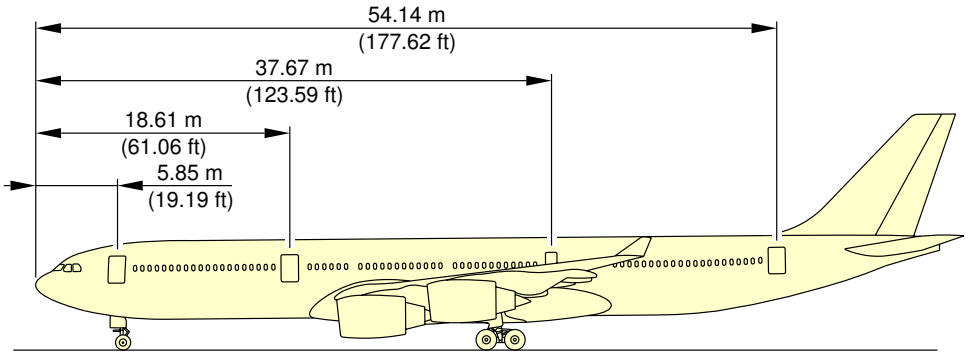
**ON A/C A340-500

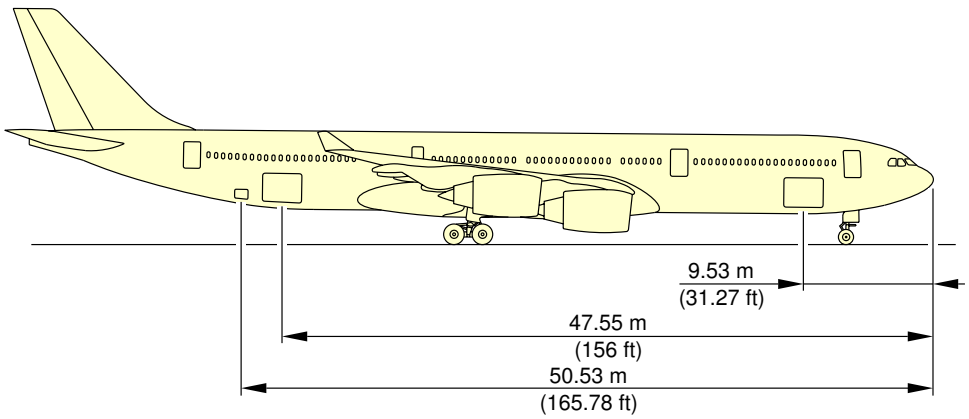


F_AC_020700_1_0100101_01_00

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

**ON A/C A340-500

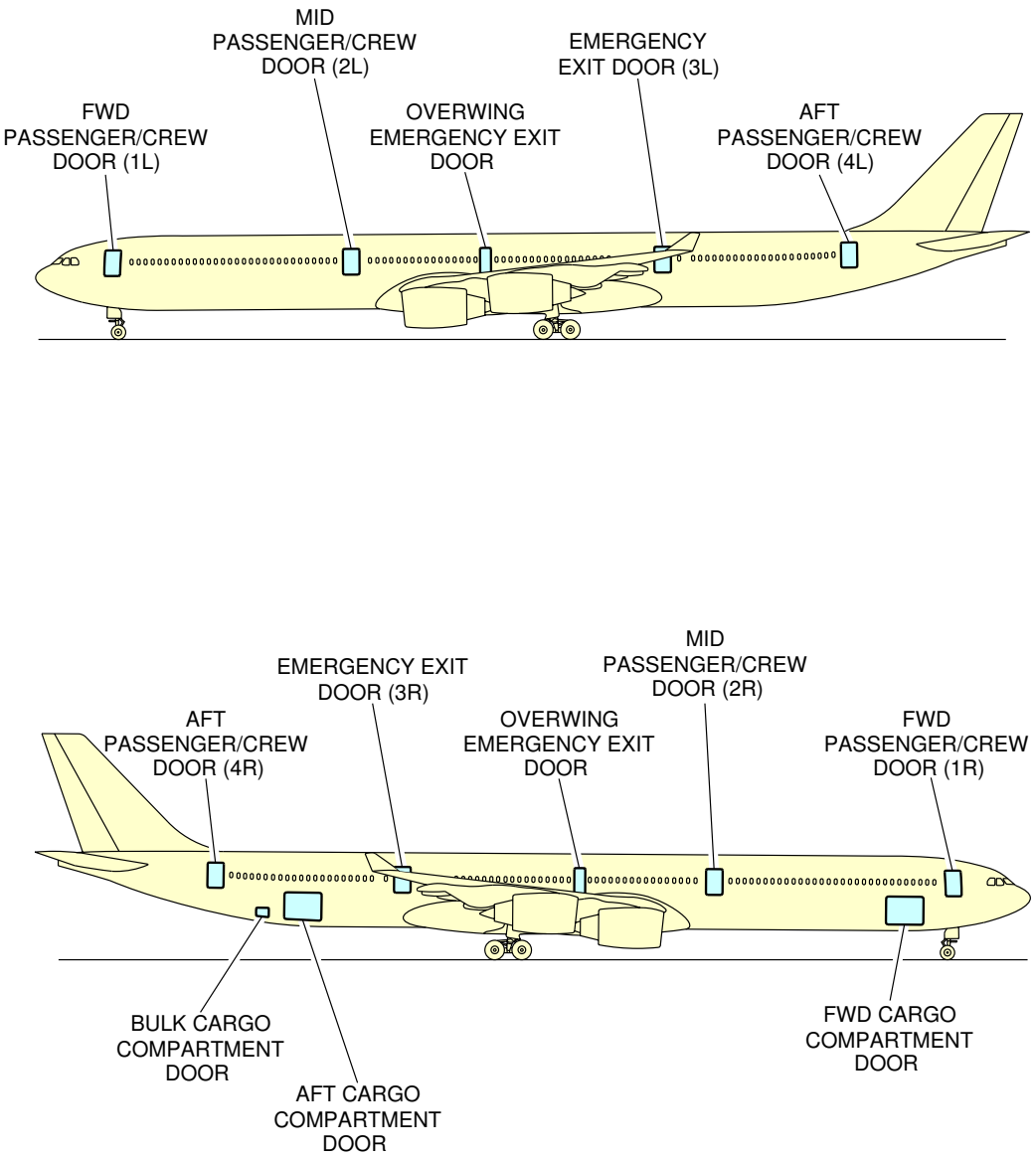




F_AC_020700_1_0100102_01_00

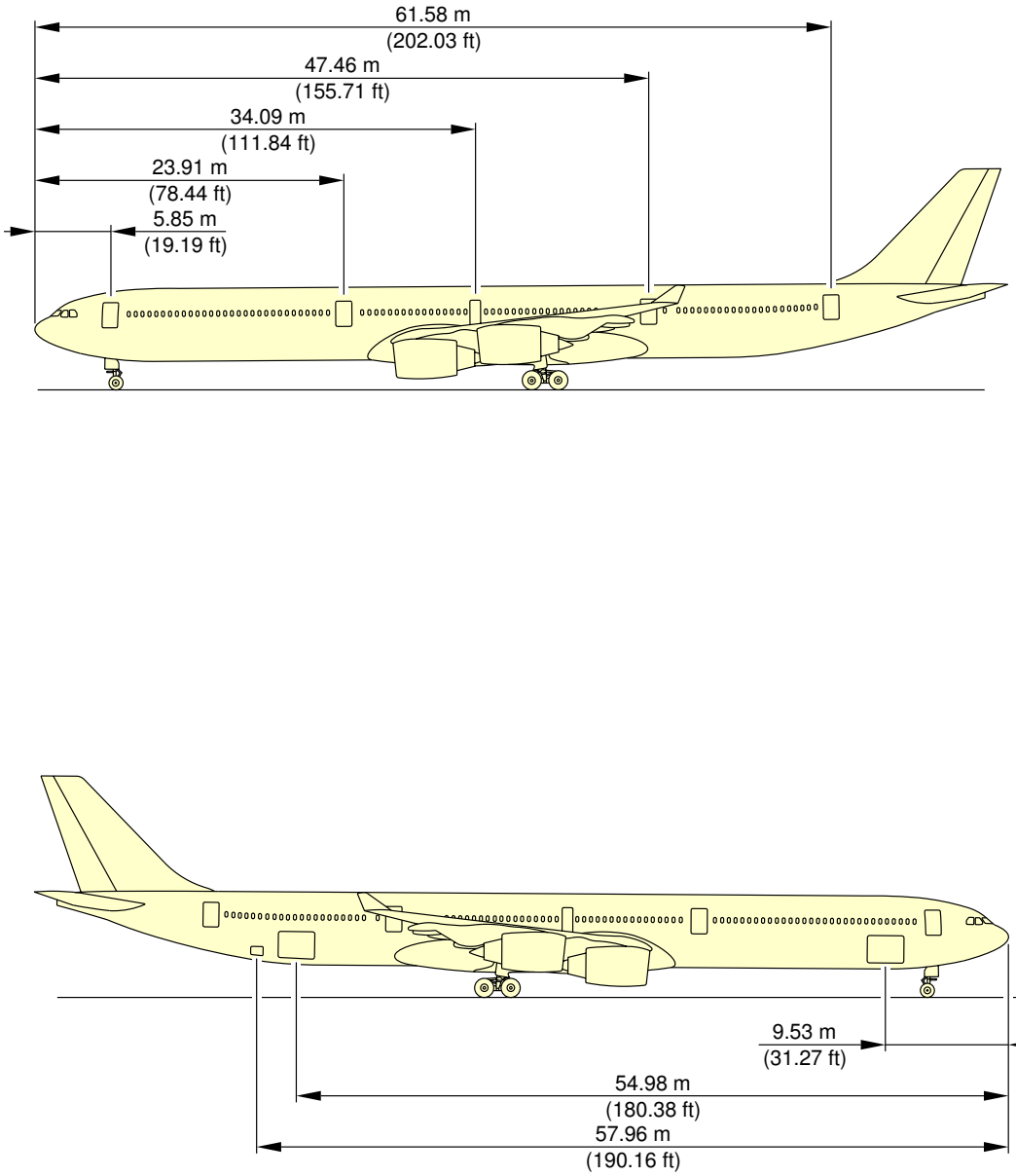
Door Identification and Location
Door Location (Sheet 2 of 2)
FIGURE-2-7-0-991-010-A01

**ON A/C A340-600



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

**ON A/C A340-600



F_AC_020700_1_0100202_01_00

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

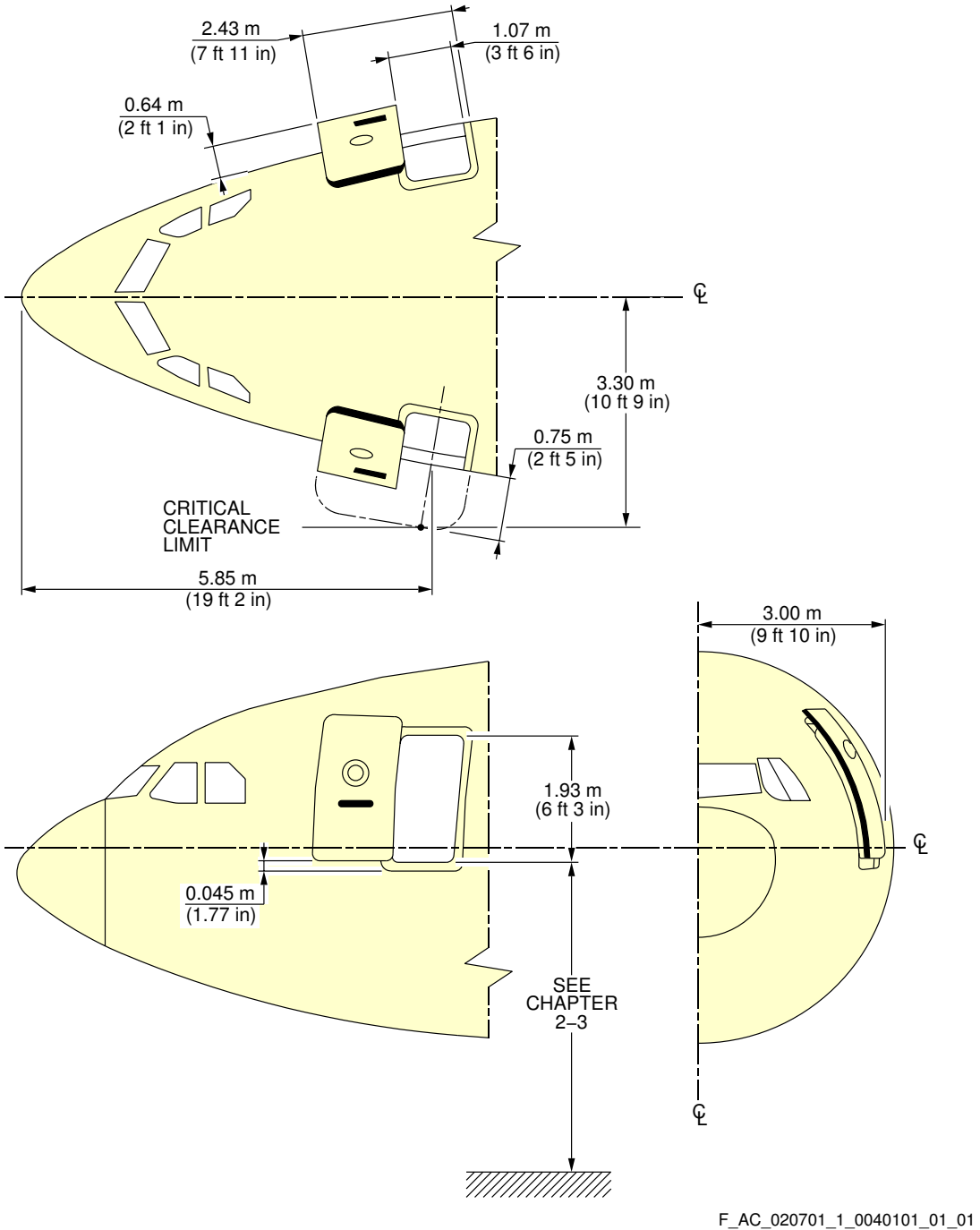
2-7-1 Forward Passenger / Crew Doors

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

Forward Passenger / Crew Door

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

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



Forward Passenger / Crew Doors
FIGURE-2-7-1-991-004-A01

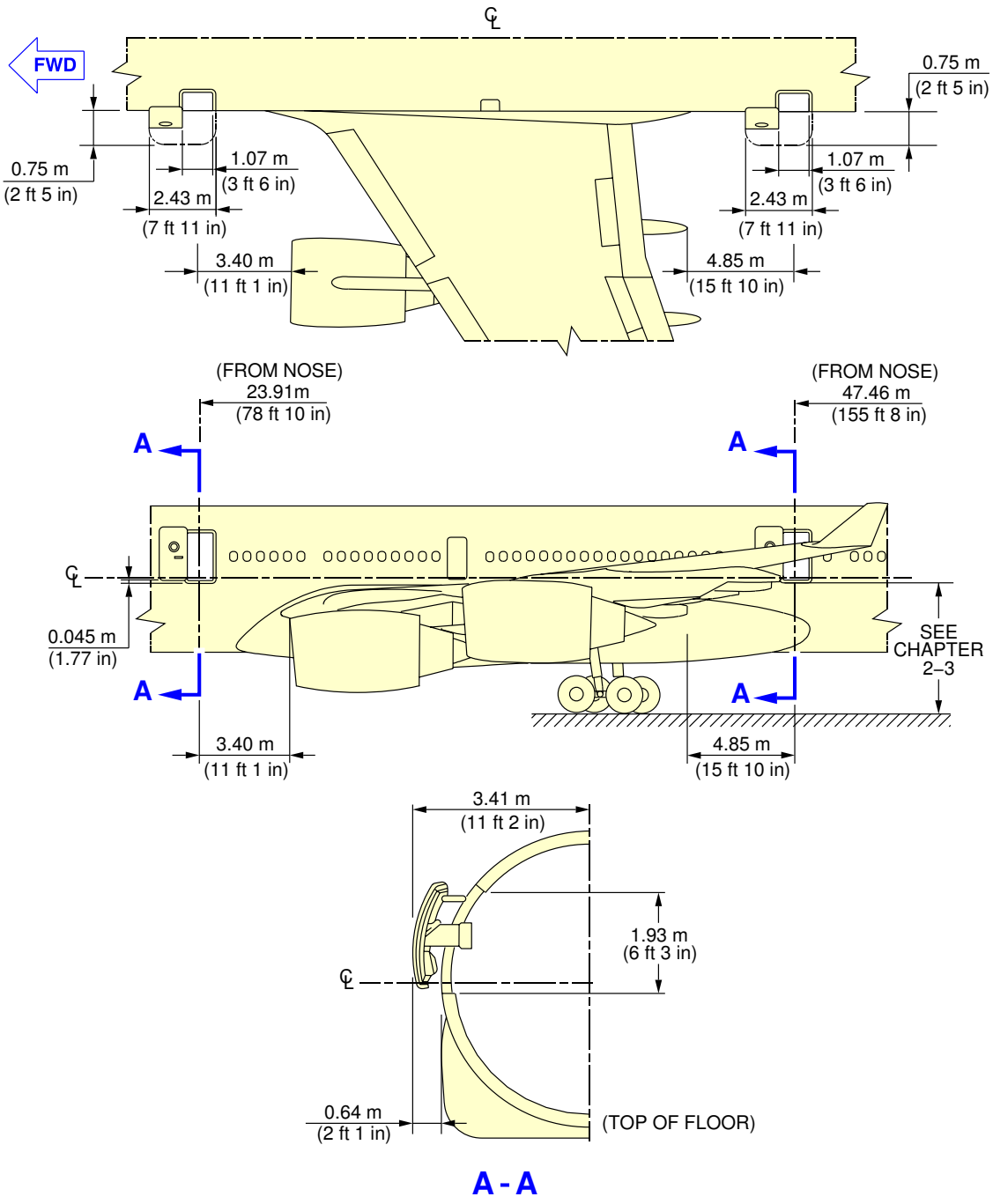
2-7-2 Mid Passenger / Crew Doors

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

Mid Passenger / Crew Door

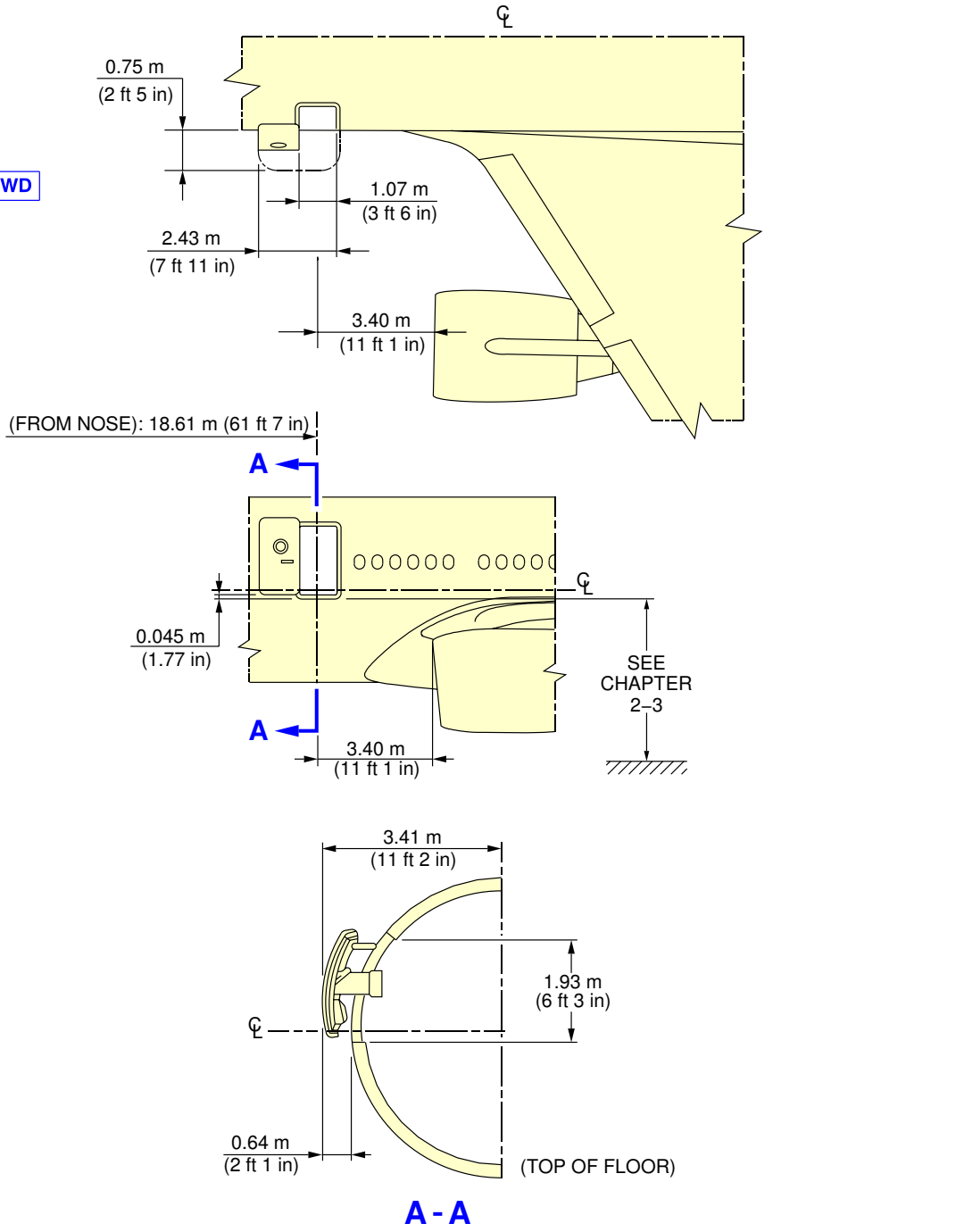
1. This section gives mid passenger / crew doors clearances.

**ON A/C A340-600



Mid Passenger / Crew Door
FIGURE-2-7-2-991-003-A01

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



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Mid Passenger / Crew Door
FIGURE-2-7-2-991-004-A01

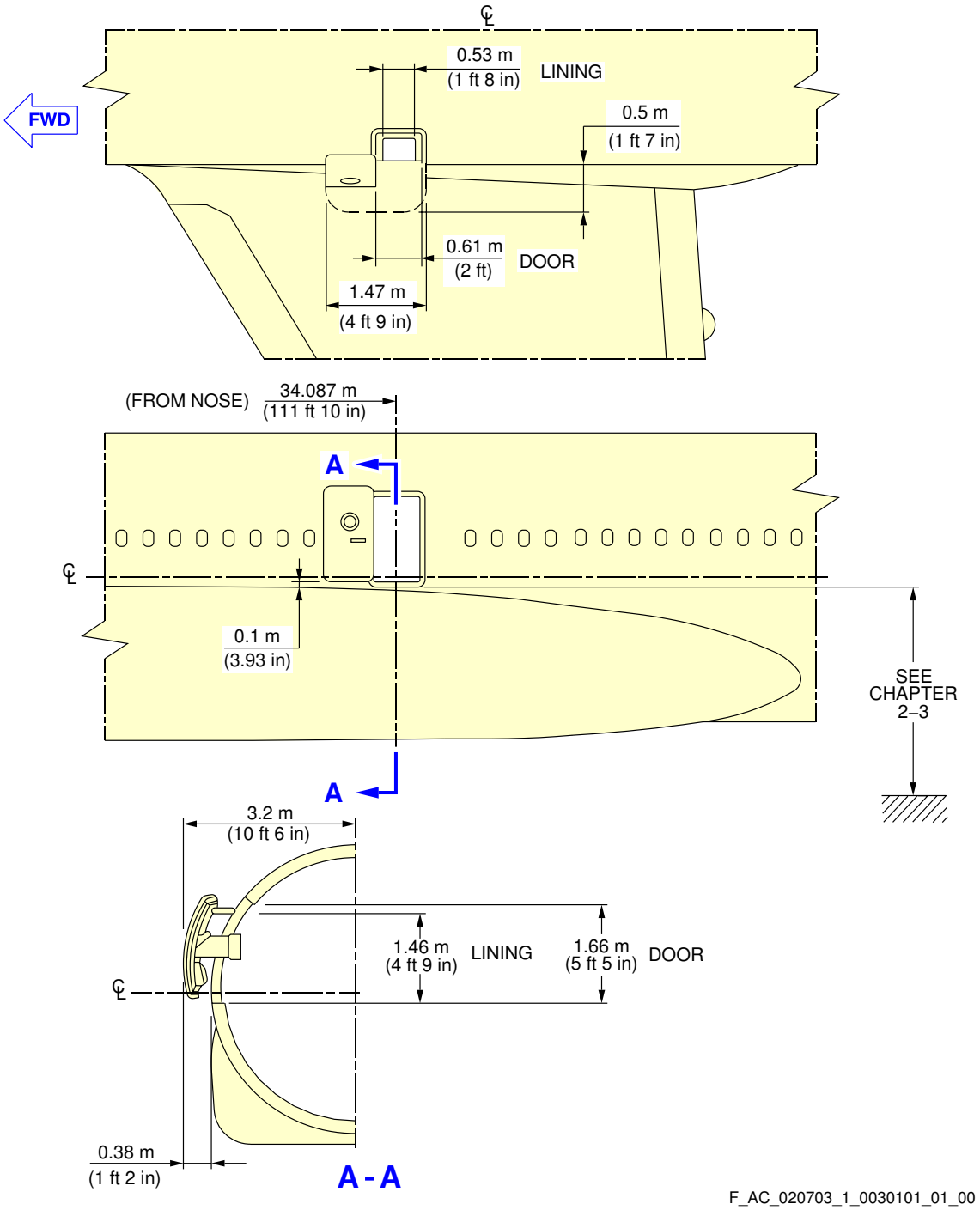
2-7-3 Emergency Exits

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

Emergency Exits

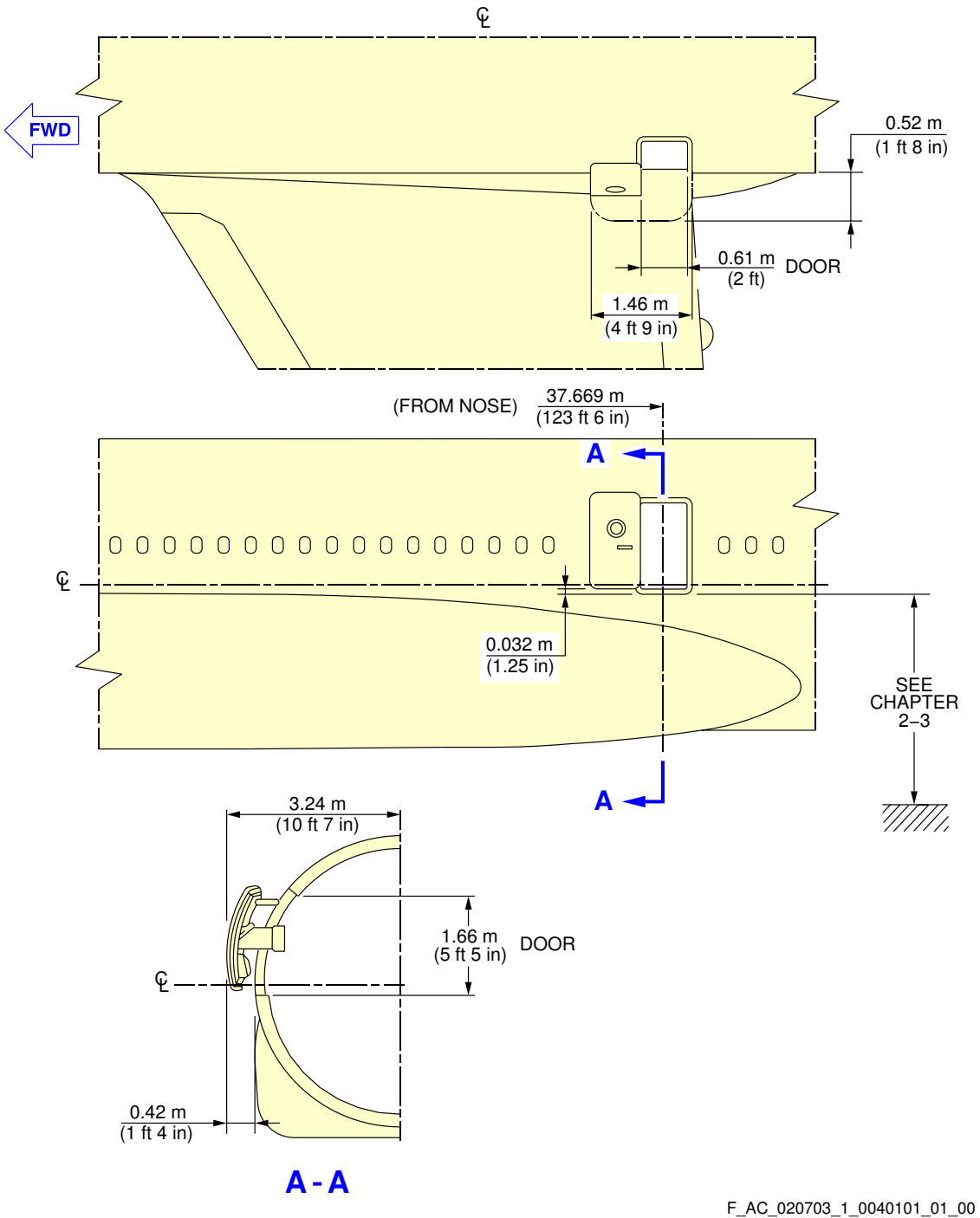
1. This section gives emergency exits doors clearances.

**ON A/C A340-600



Emergency Exits
FIGURE-2-7-3-991-003-A01

**ON A/C A340-500



Emergency Exits
FIGURE-2-7-3-991-004-A01

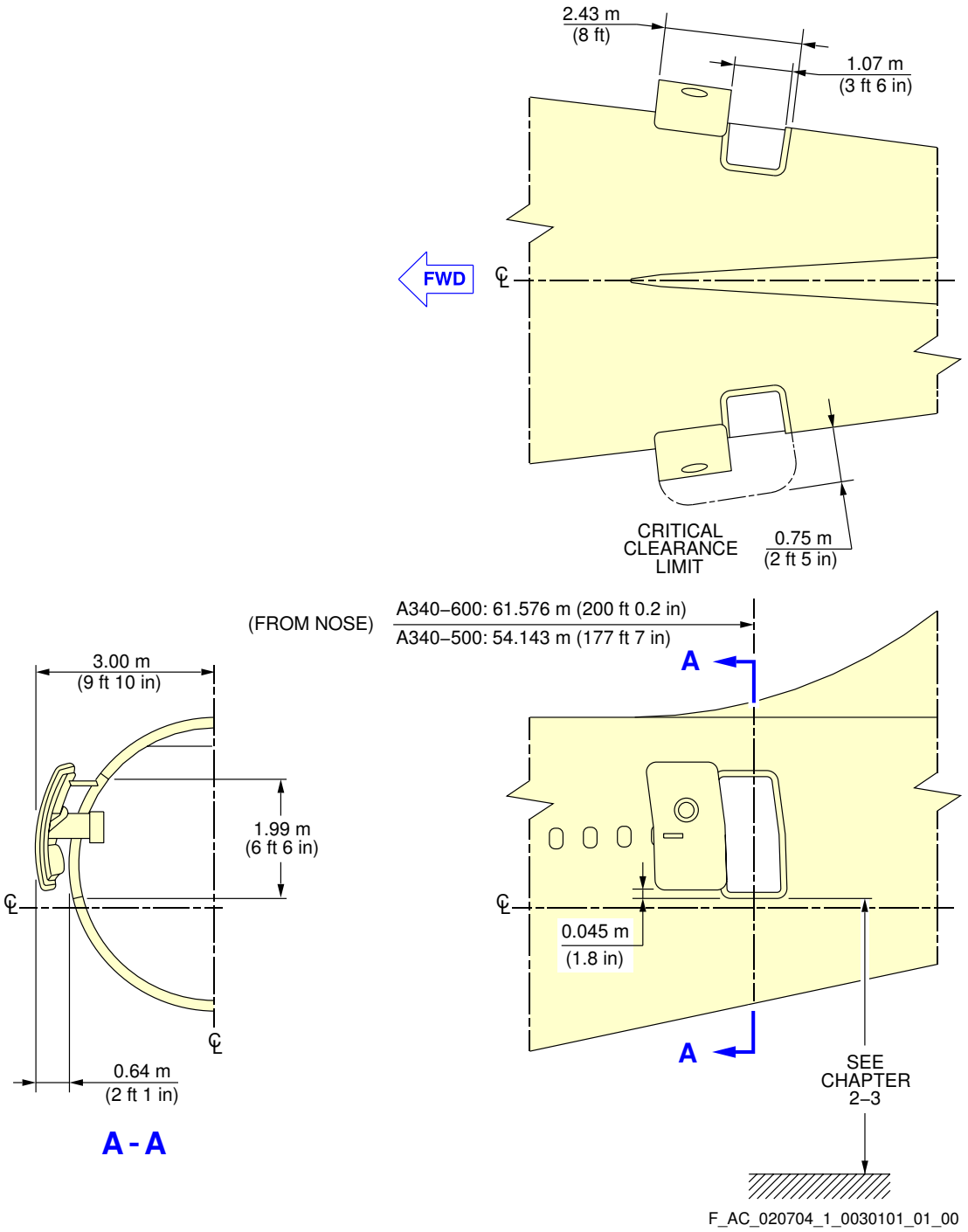
2-7-4 Aft Passenger / Crew Doors

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

Aft Passenger / Crew Doors

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

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



Aft Passenger / Crew Doors
FIGURE-2-7-4-991-003-A01

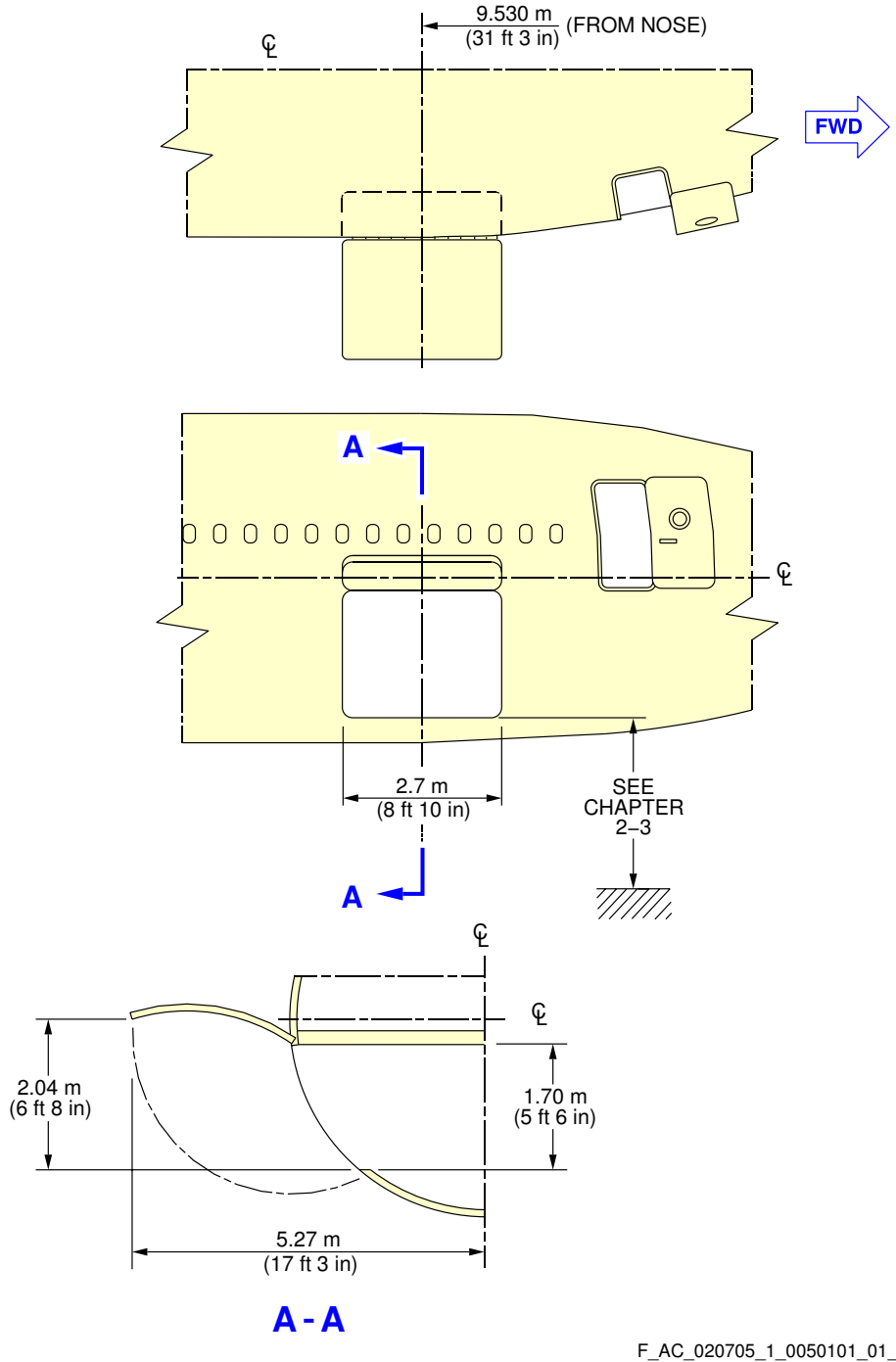
2-7-5 Forward Cargo Compartment Doors

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

Forward Cargo Compartment Doors

1. This section gives forward cargo compartment doors clearances.

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



Forward Cargo Compartment Doors
FIGURE-2-7-5-991-005-A01

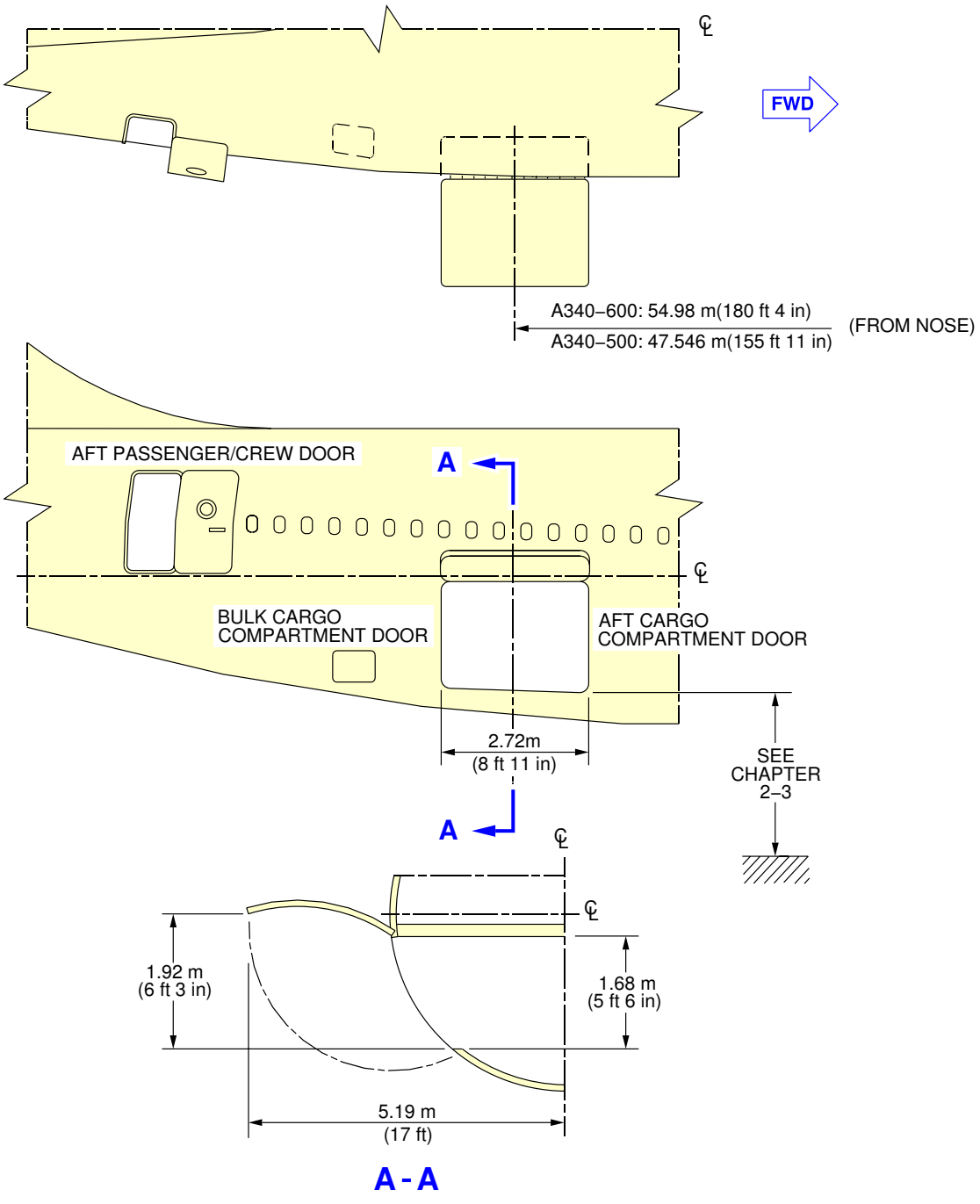
2-7-6 Aft Cargo Compartment Doors

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

Aft Cargo Compartment Doors

1. This section gives Aft cargo compartment doors clearances.

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



Aft Cargo Compartment Doors
FIGURE-2-7-6-991-005-A01

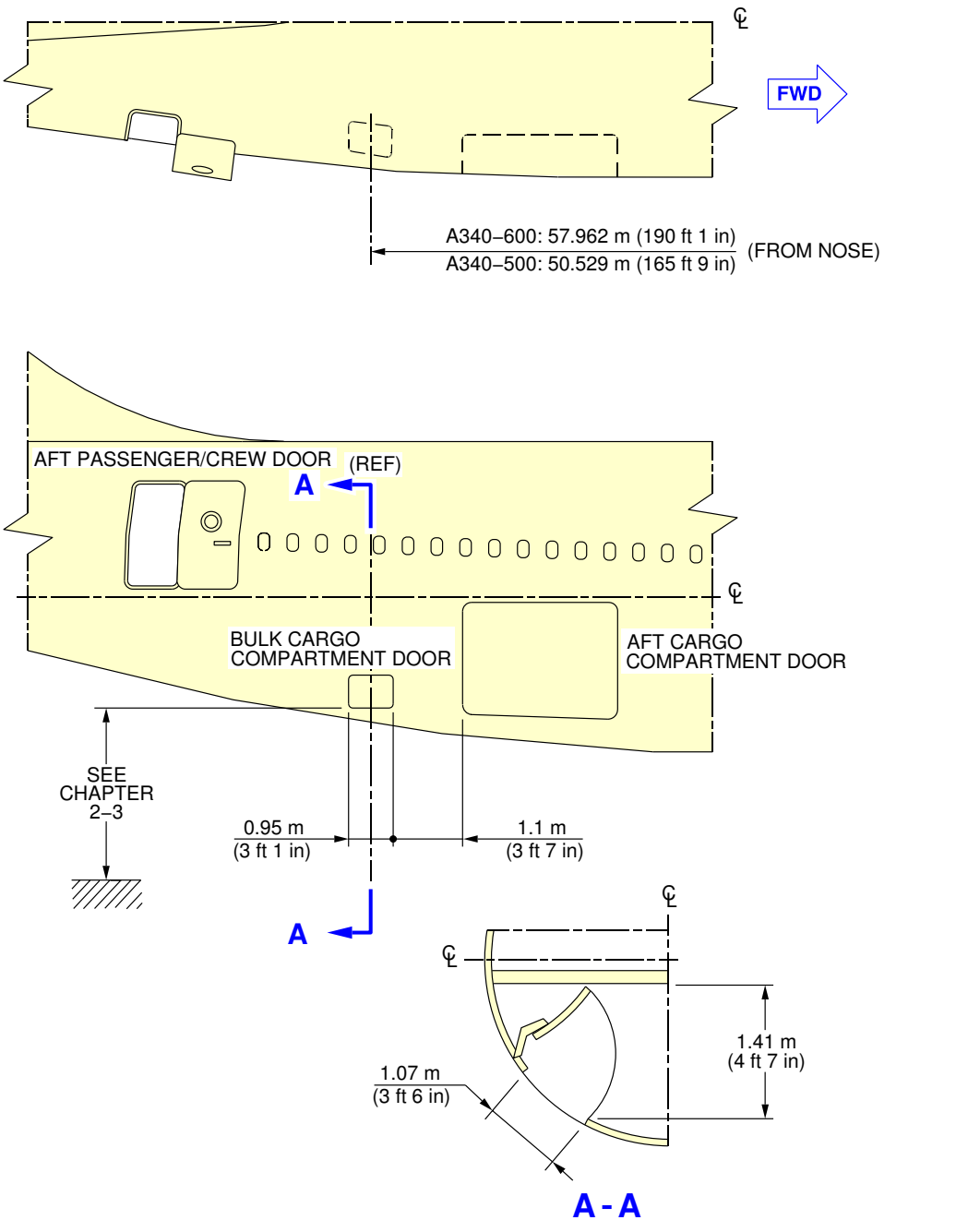
2-7-7 Bulk Cargo Compartment Doors

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

Bulk Cargo Compartment Doors

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

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



Bulk Cargo Compartment Doors
FIGURE-2-7-7-991-004-A01

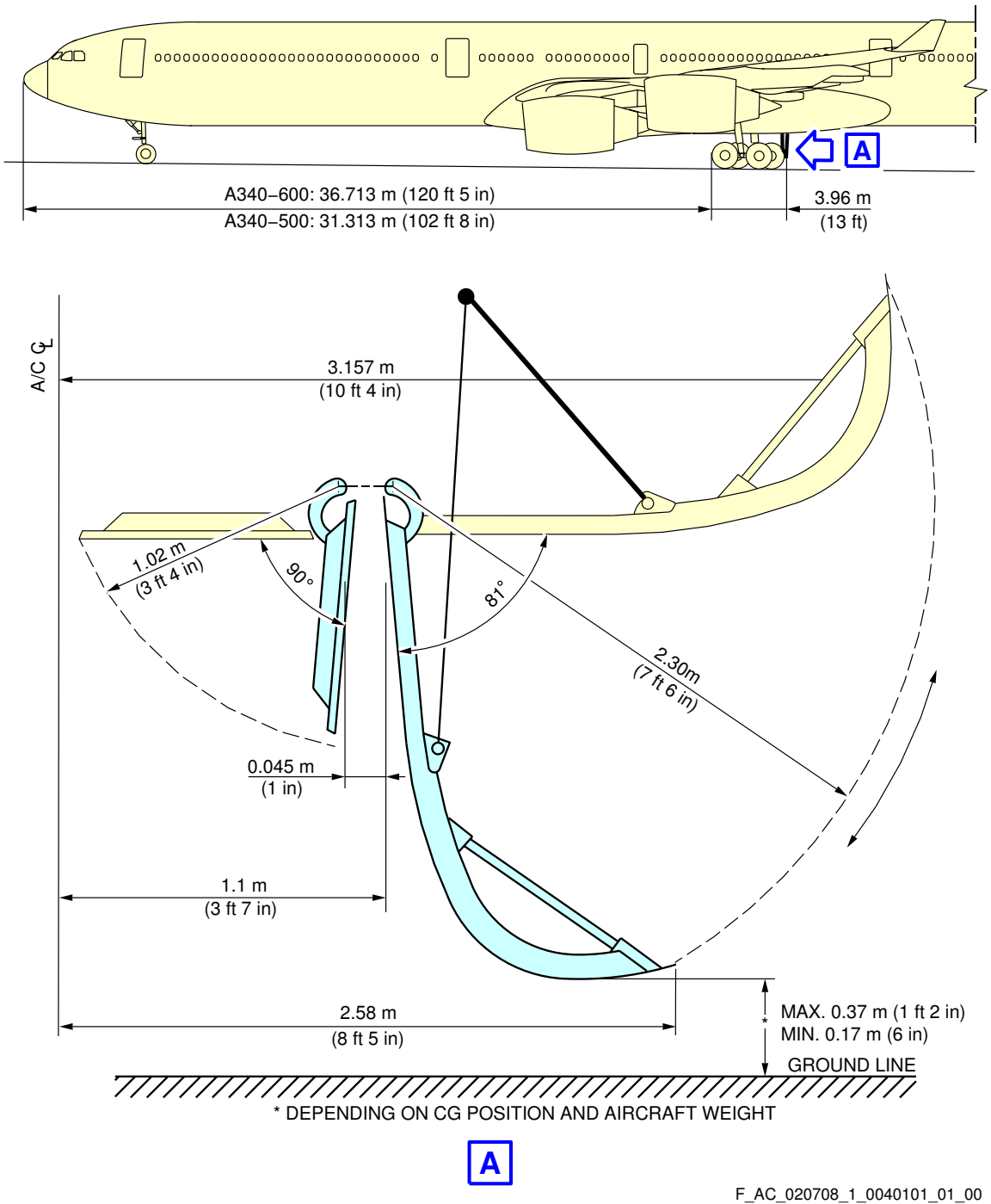
2-7-8 Main and Center Landing Gear Doors

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

Main Landing Gear Doors

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

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



Main and Center Landing Gear Doors
FIGURE-2-7-8-991-004-A01

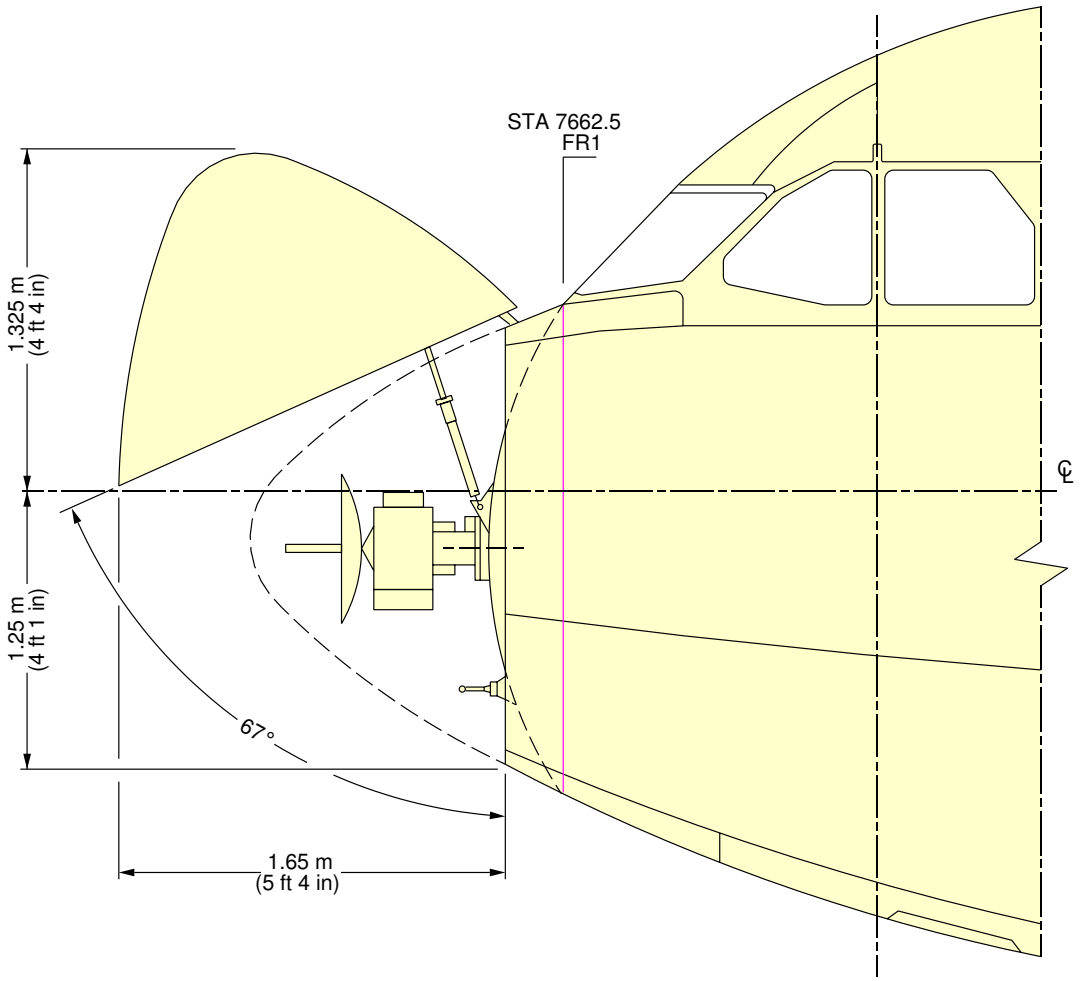
2-7-9 Radome

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

Radome

1. This section gives the radome clearances.

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



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Radome
FIGURE-2-7-9-991-001-A01

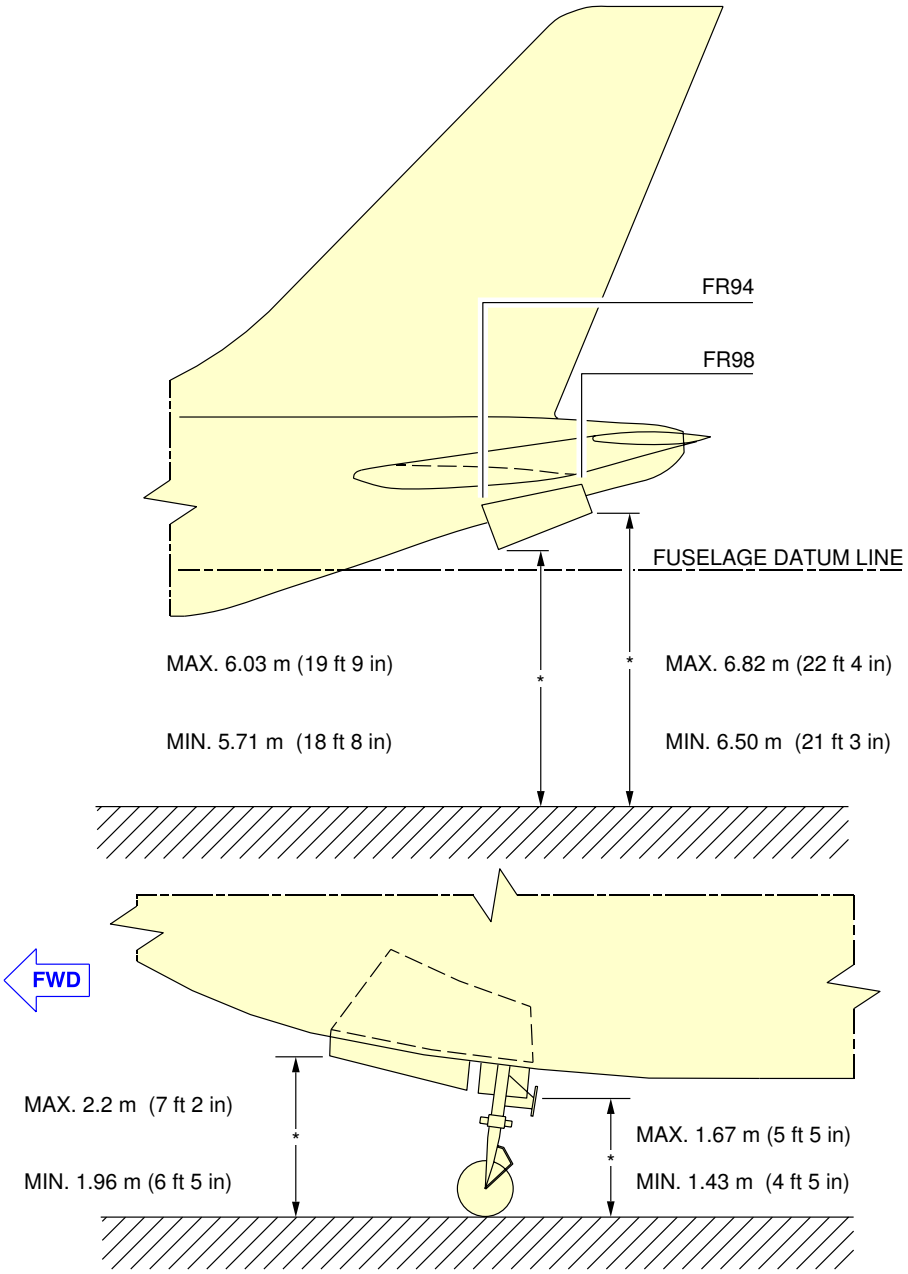
2-7-10 APU and Nose Landing Gear Doors

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

APU and Nose Landing Gear Doors

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

**ON A/C A340-600

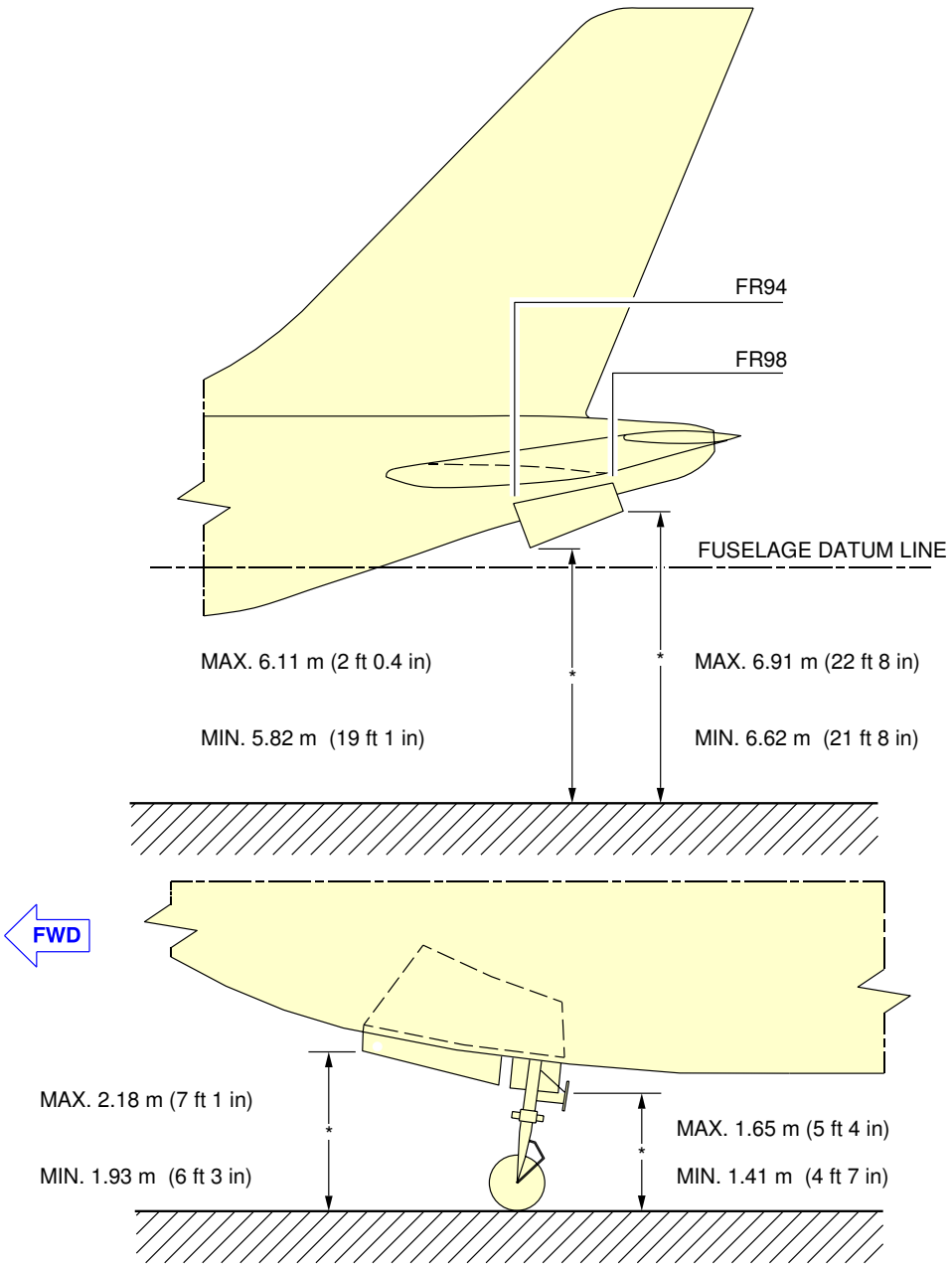


* DEPENDING ON CG POSITION AND AIRCRAFT WEIGHT

F_AC_020710_1_0050101_01_00

APU and Nose Landing Gear Doors
FIGURE-2-7-10-991-005-A01

**ON A/C A340-500



* DEPENDING ON CG POSITION AND AIRCRAFT WEIGHT

F_AC_020710_1_0060101_01_00

APU and Nose Landing Gear Doors
FIGURE-2-7-10-991-006-A01

2-8-0 Escape Slides

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

Escape Slides

1. General
   This section gives 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-raft 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:

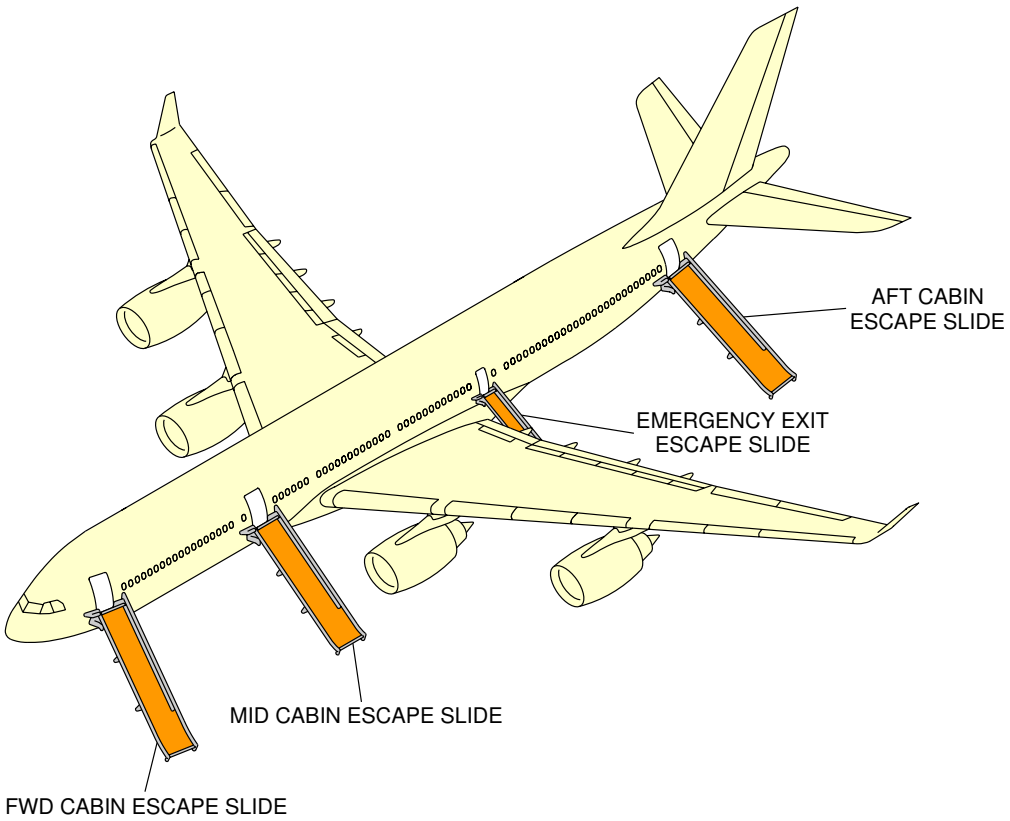
   A. Door Escape Facility
      - One dual lane escape slide-raft at each passenger/crew door (total six)
      - One single lane escape slide-raft at each emergency exit door (total two).

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

   B. Off-Wing Escape Facility
      - One single lane escape slide-raft 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.

**ON A/C A340-500



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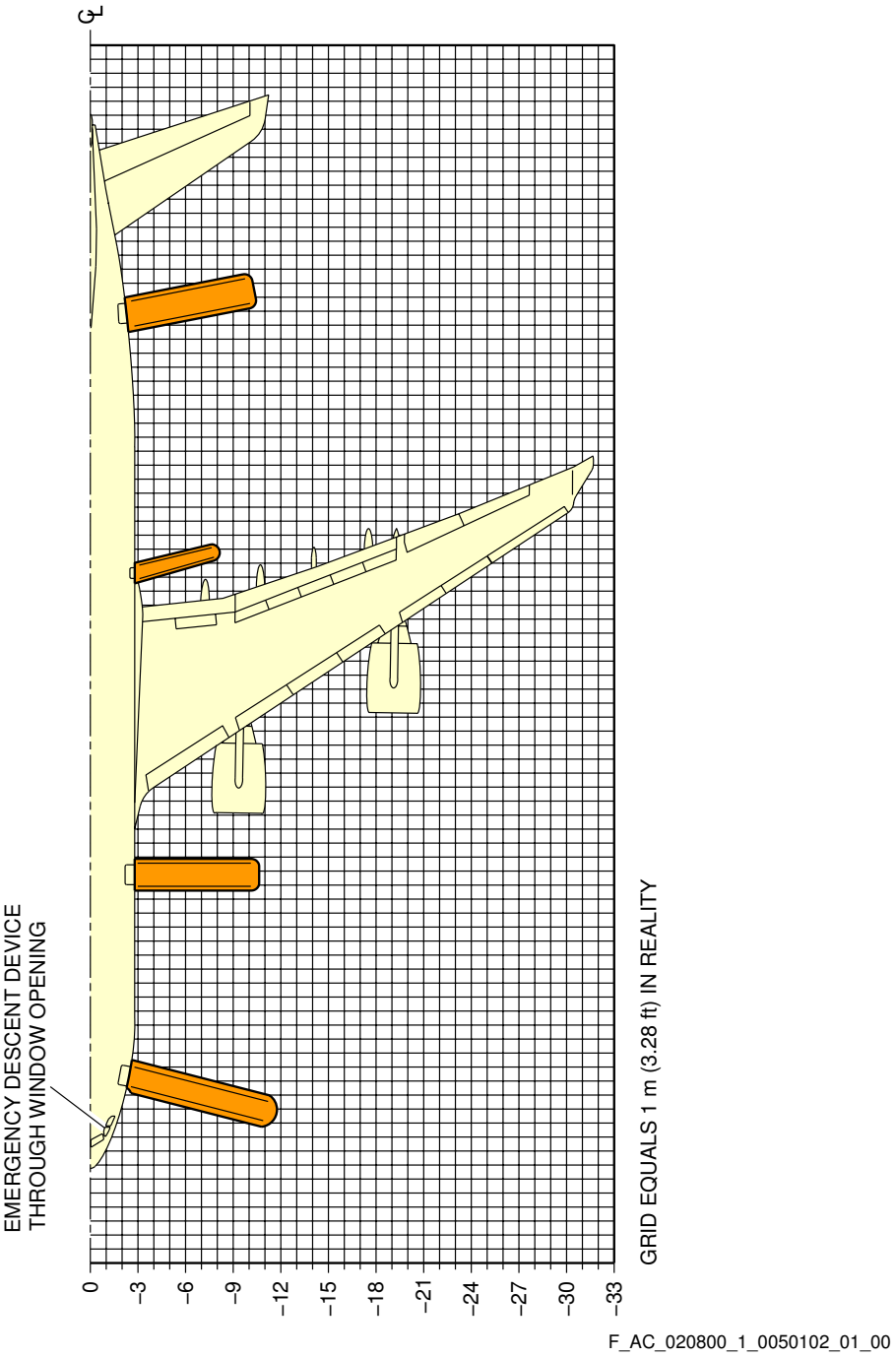
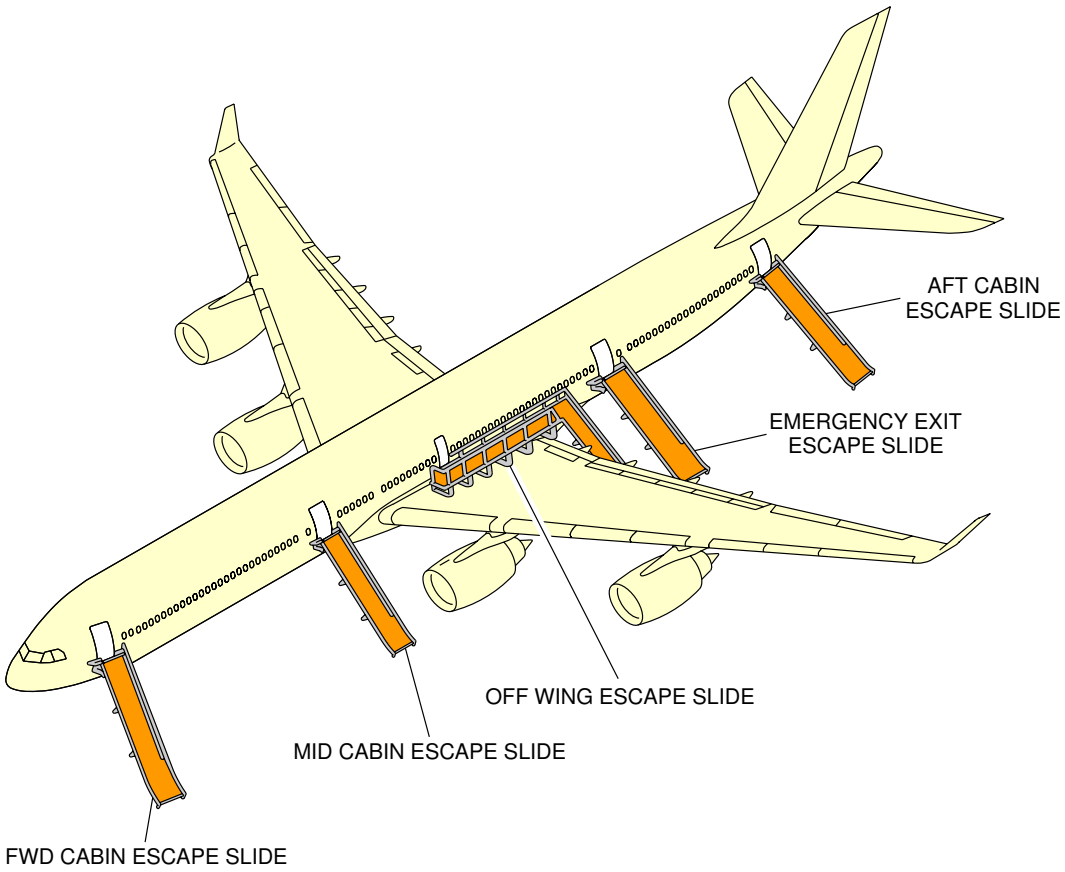
Escape Slides
Location (Sheet 1 of 2)
FIGURE-2-8-0-991-005-A01

**ON A/C A340-500



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

**ON A/C A340-600



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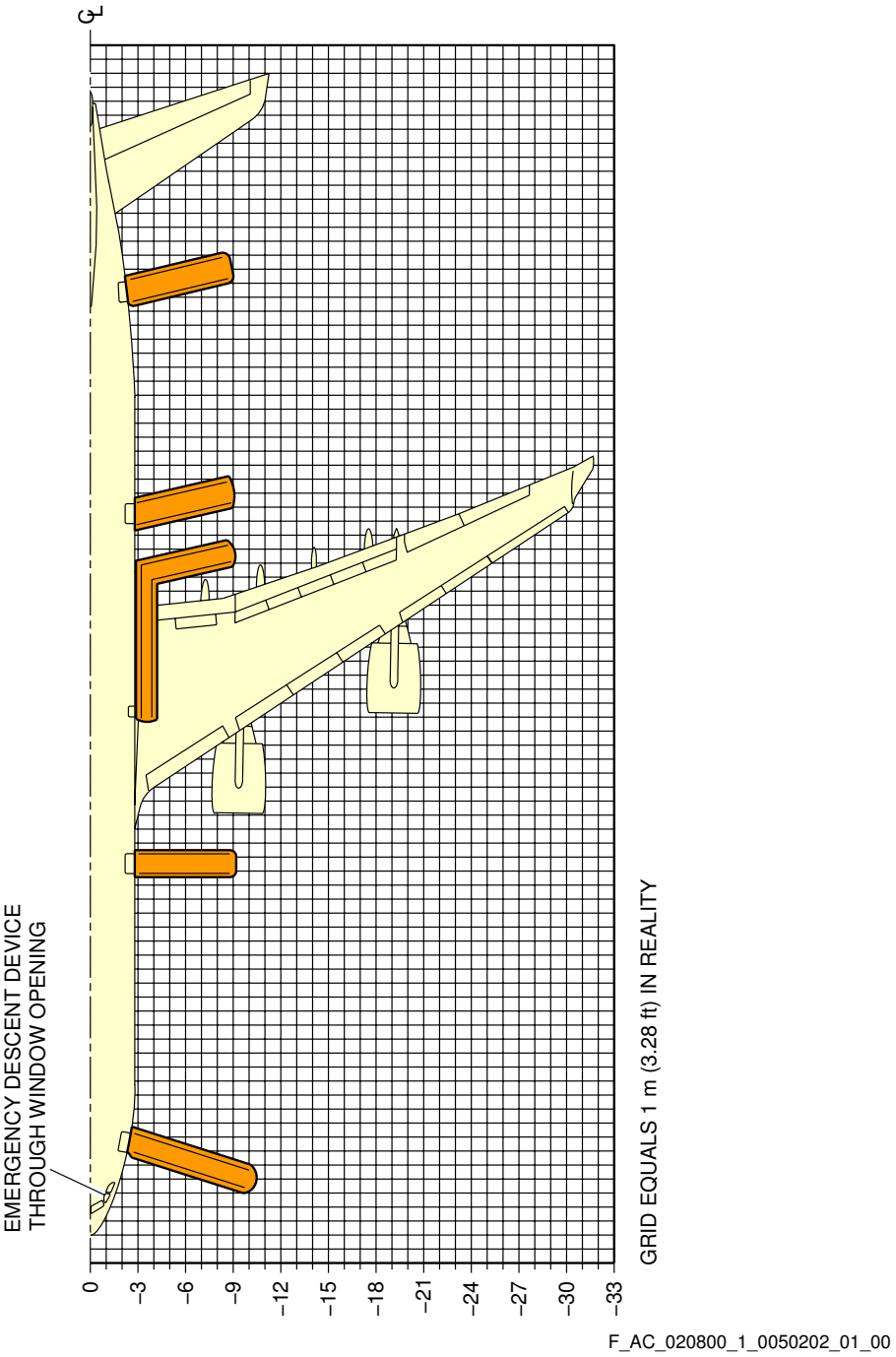
Escape Slides
Location (Sheet 1 of 2)
FIGURE-2-8-0-991-005-B01

**ON A/C A340-600



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

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.

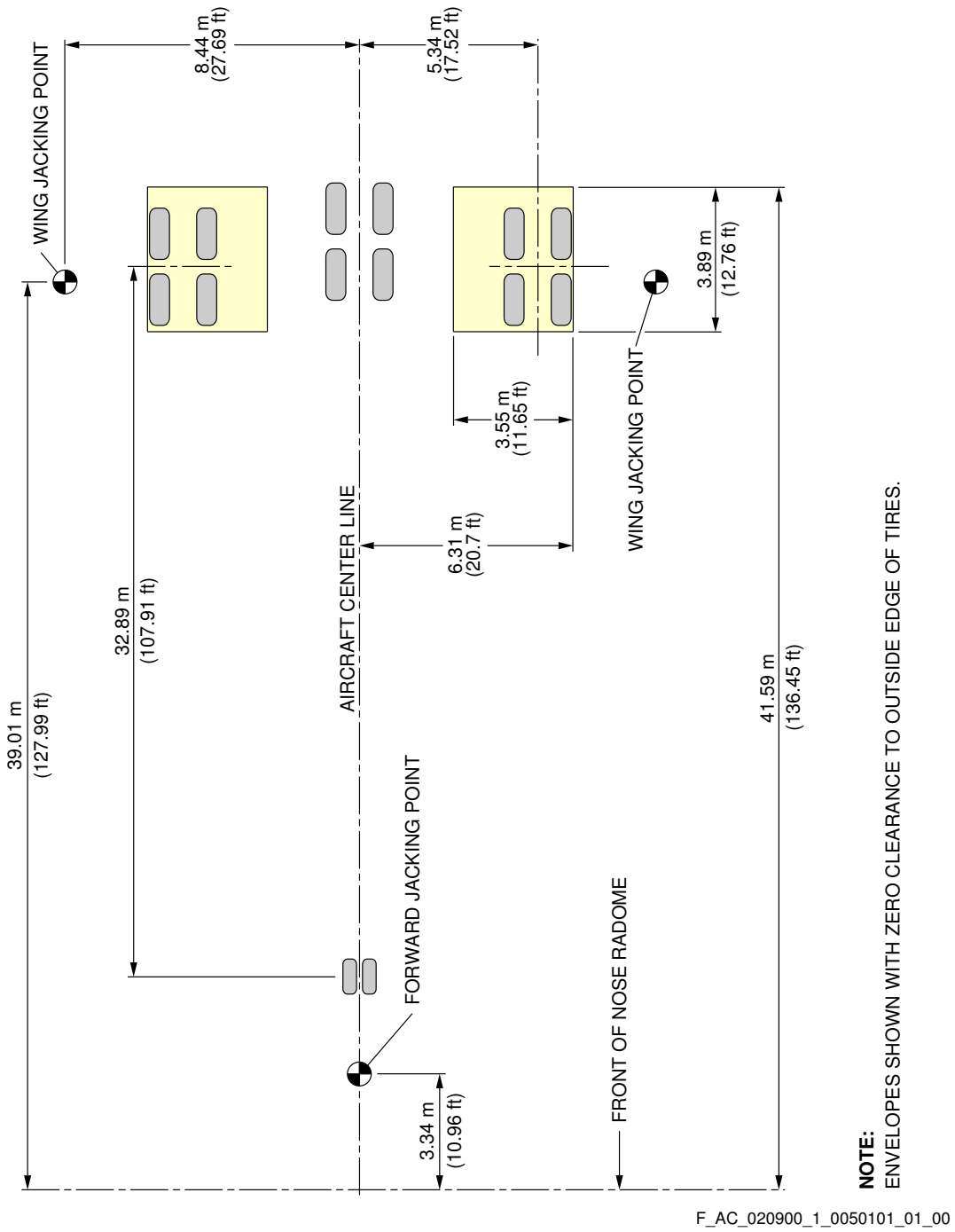
A. Elevators

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

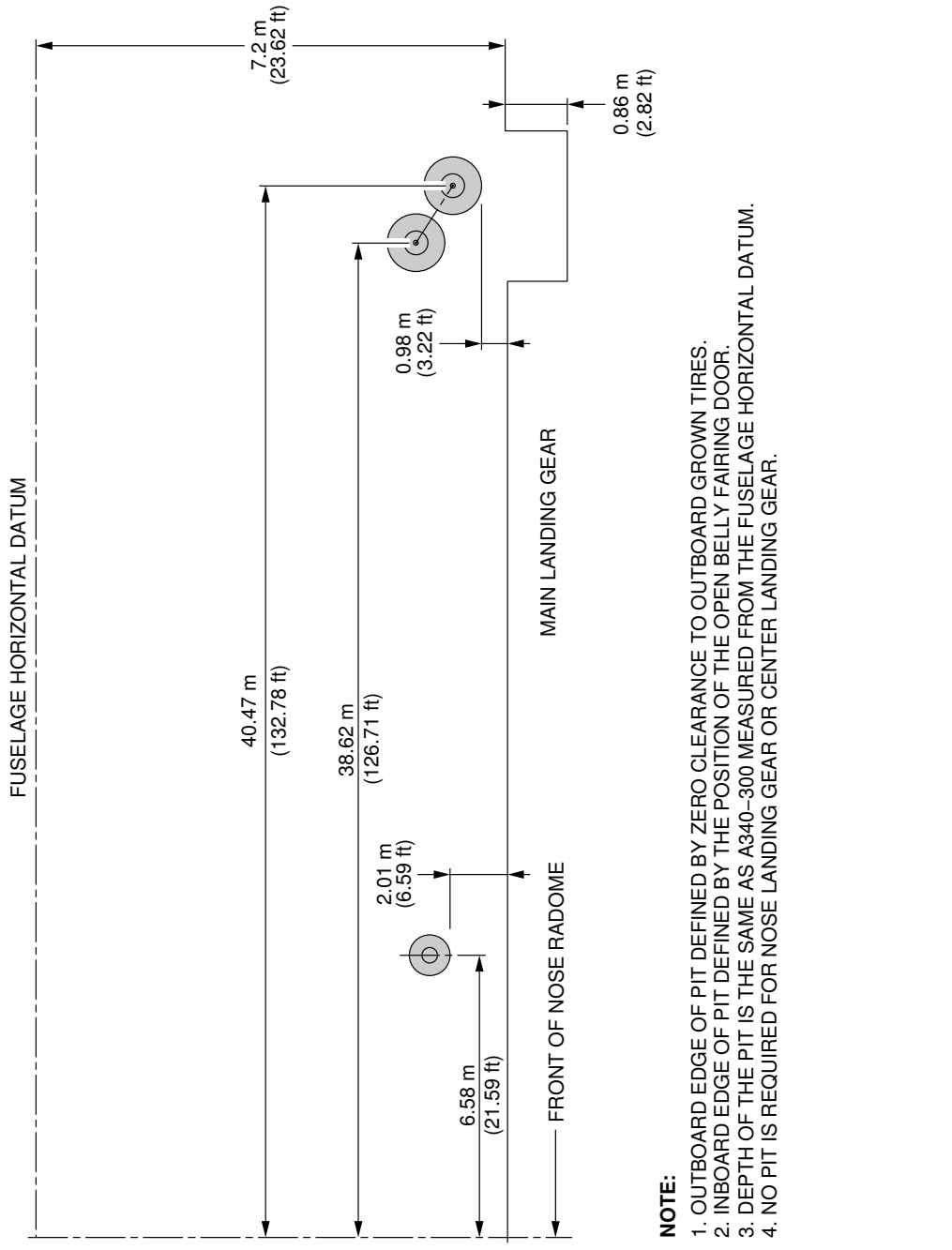
The aircraft must be in position over the pits to put the gear on the elevators. Jacks must be installed and engaged with all the jacking points (Ref. Section 2-14 for Jacking).
Jacks must support the total aircraft weight, i.e. when the landing gears do not touch the elevators on retraction/extension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

**ON A/C A340-600



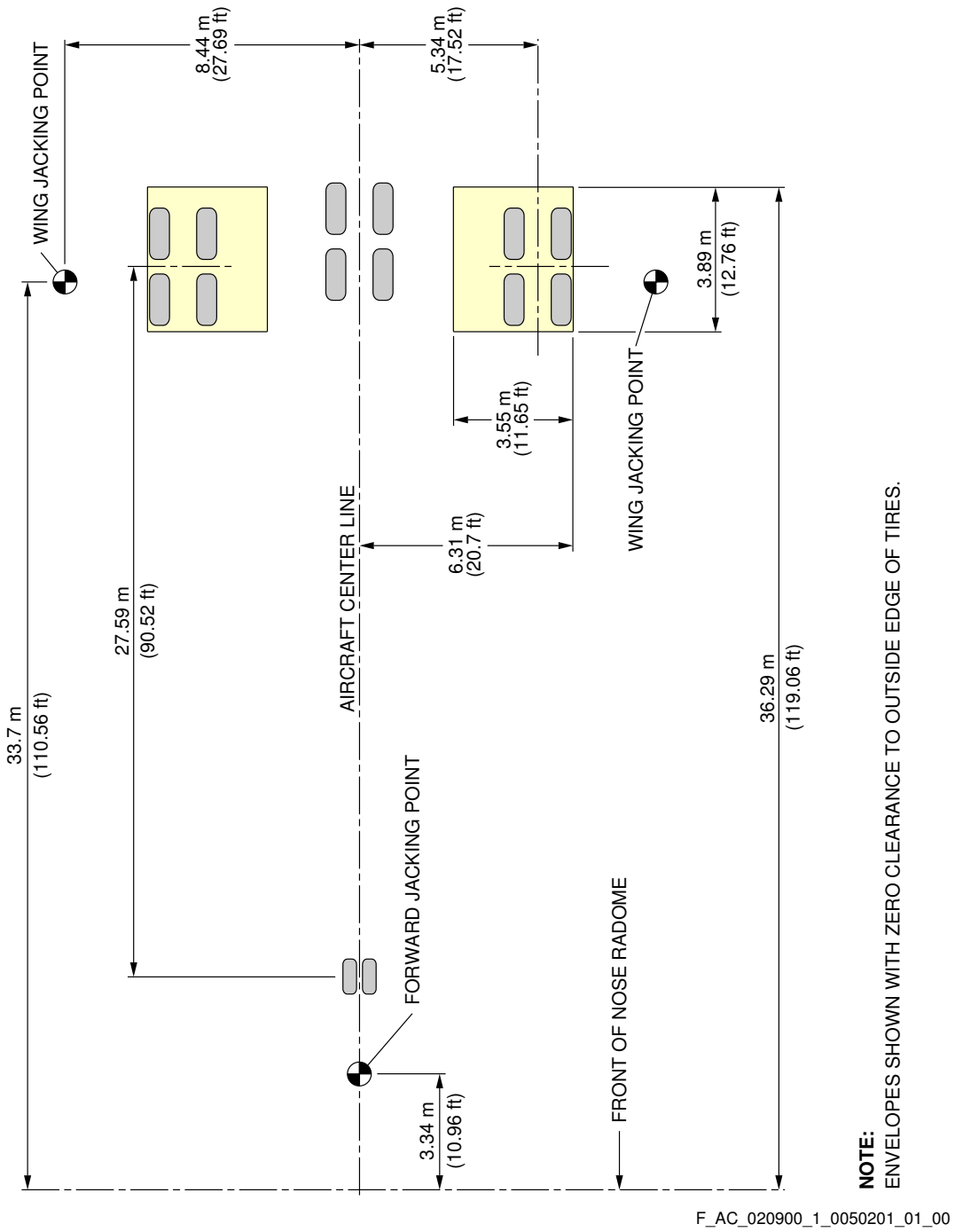
Landing Gear Maintenance Pits
Maintenance Pit Envelopes (Sheet 1 of 2)
FIGURE-2-9-0-991-005-A01

**ON A/C A340-600



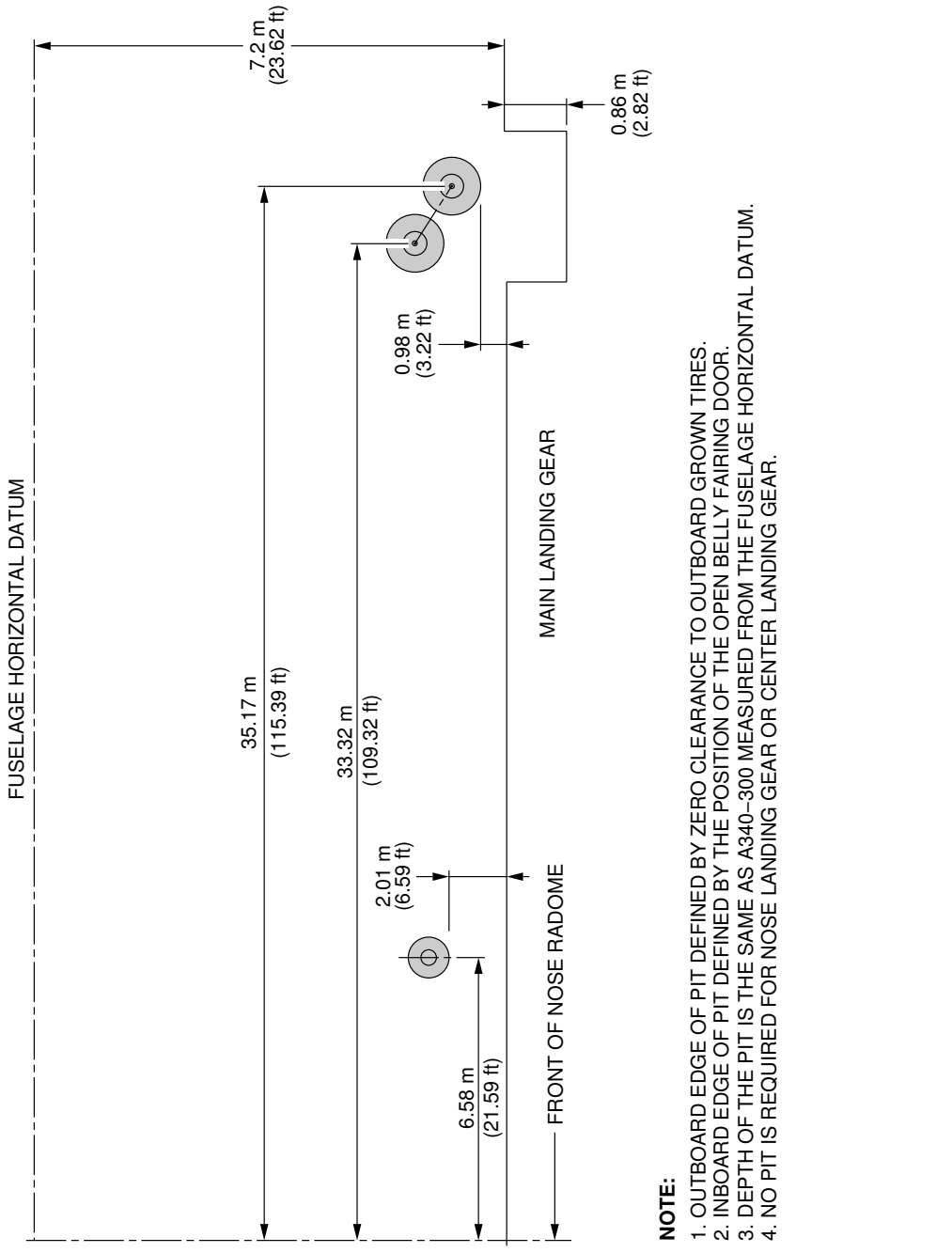
Landing Gear Maintenance Pits
Maintenance Pit Envelopes (Sheet 2 of 2)
FIGURE-2-9-0-991-005-A01

**ON A/C A340-500



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

**ON A/C A340-500



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

**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 7-2-0.

2. Main Landing Gear and Doors

Each main landing gear 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:

- 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

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. 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 AMM 12-14-32.

7. Landing Gear Control

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 gear and doors are operated by the Green hydraulic system.

In abnormal operation, the landing gears can be extended by the operation of the 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.

8. 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.

9. Tire Pressure Indicating System (TPIS)

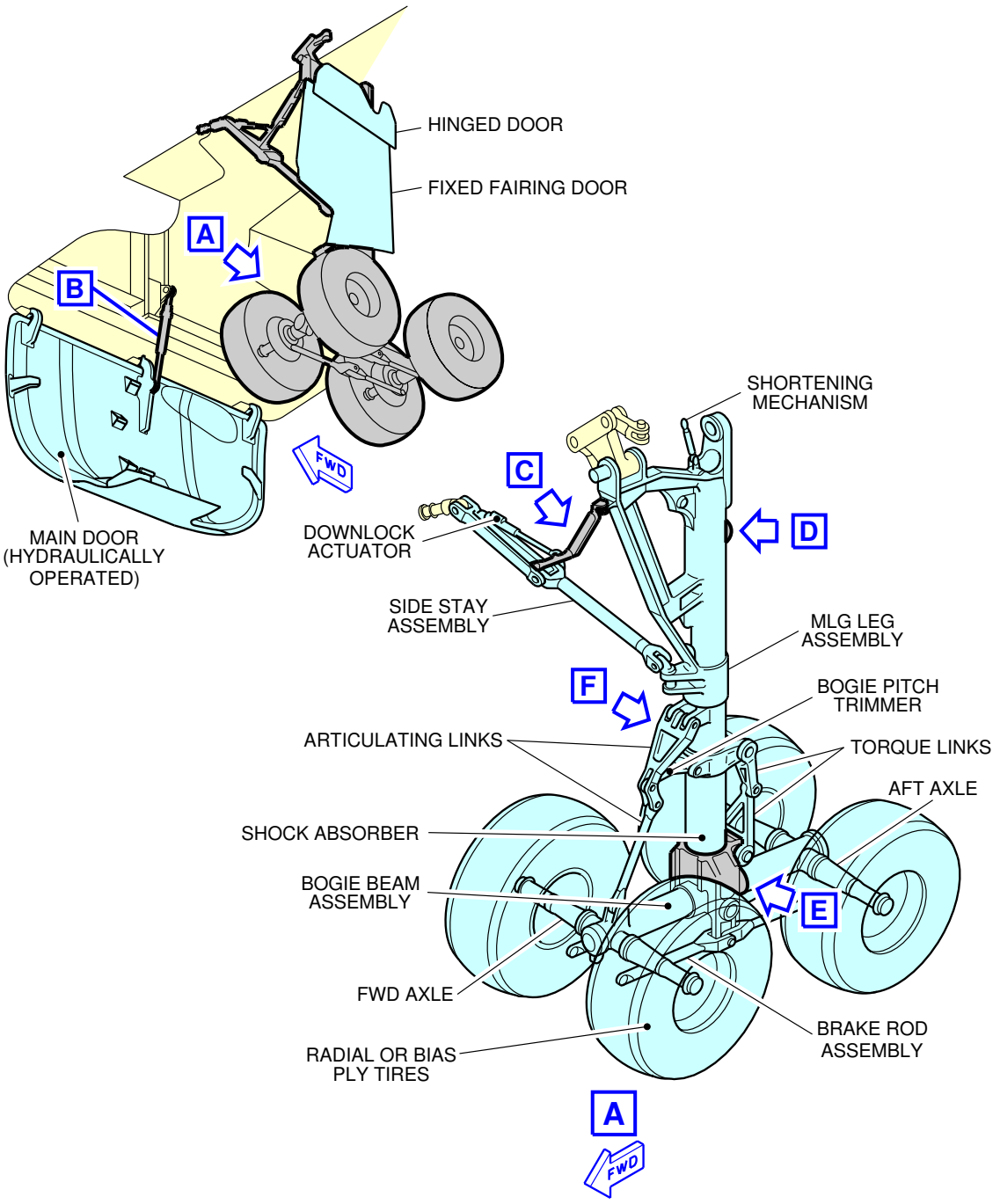
   The TPIS automatically monitors the tire pressures and shows these values on Test Equipment (BITE) and also supplies other data and warnings on the WHEEL page of the System Display (SD).

10. 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.

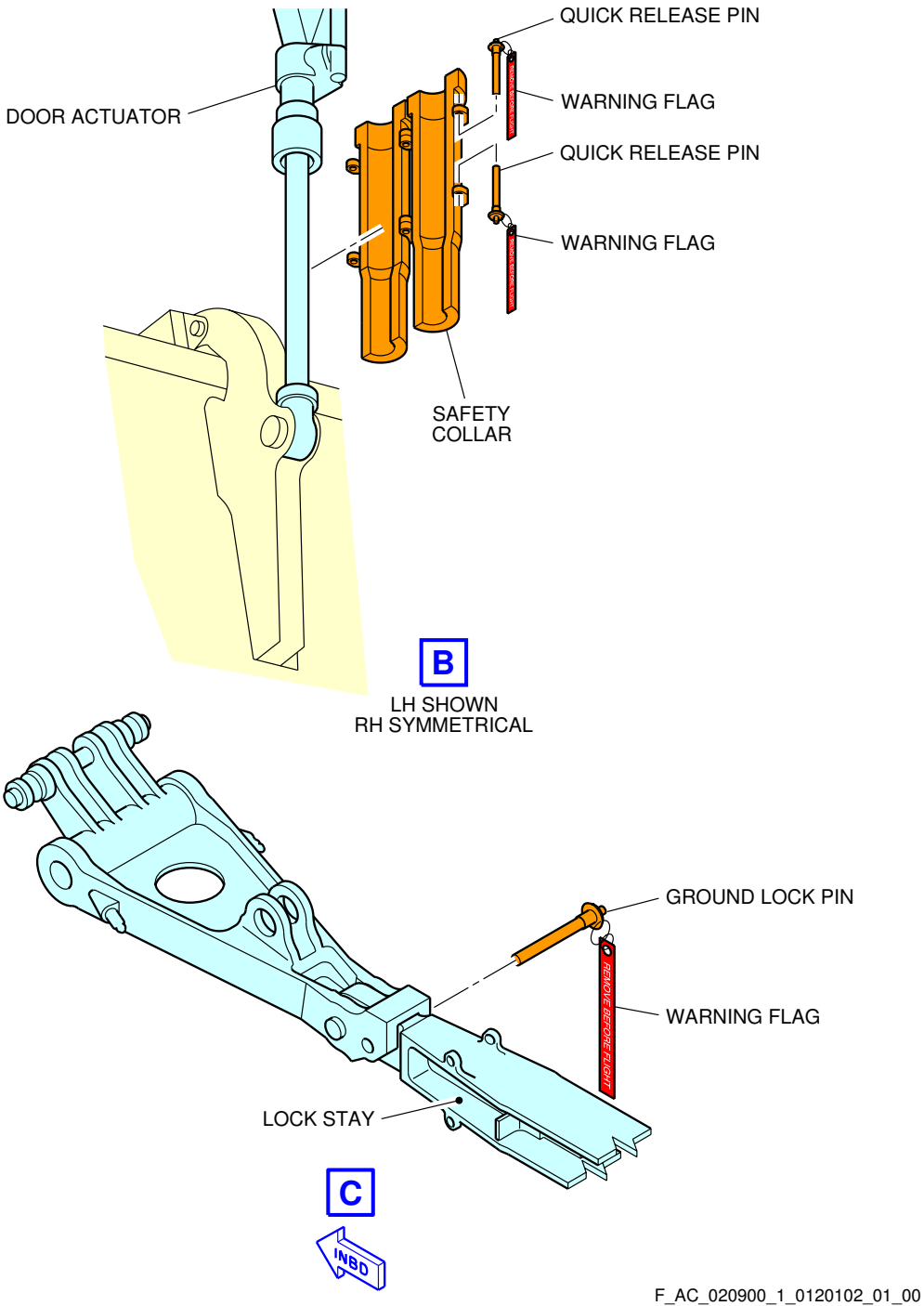
    The BITE for the following systems is described in these chapters:
    - The Brakes and Steering AMM 32-46-00
    - The TPIS AMM 32-49-00
    - The Landing GearAMM 32-69-00.

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



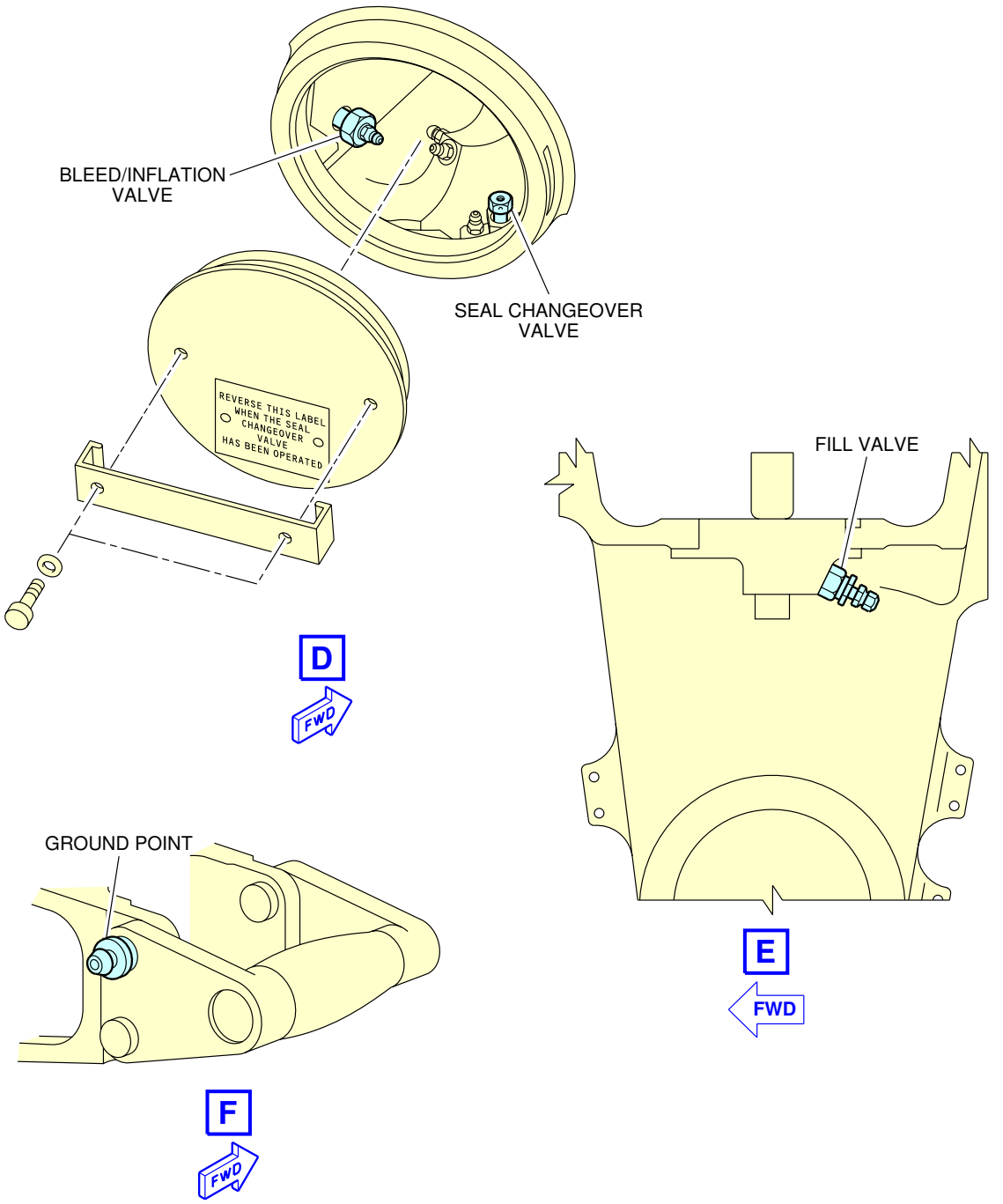
Main Landing Gear
General (Sheet 1 of 3)
FIGURE-2-9-0-991-012-A01

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



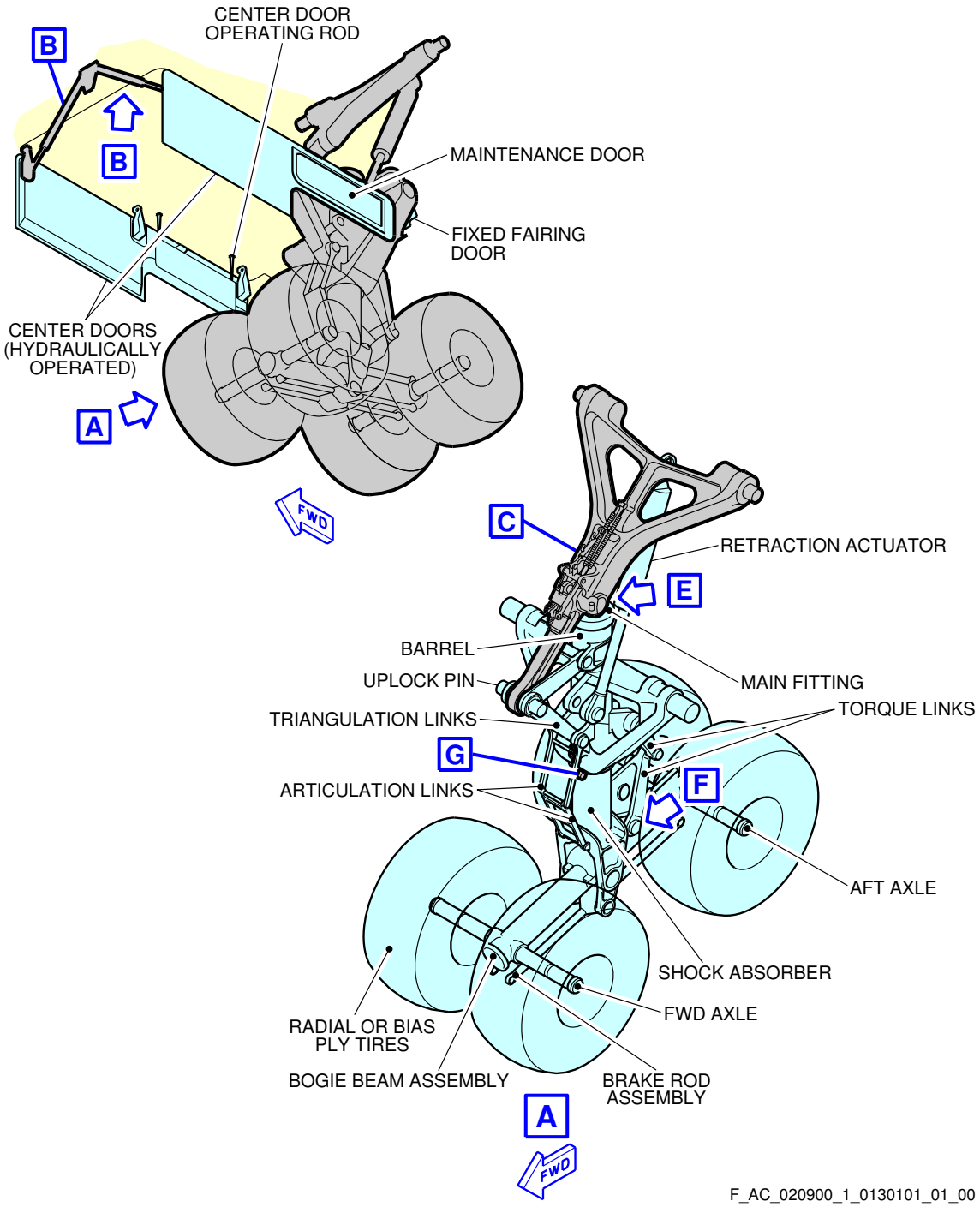
Main Landing Gear
Safety Devices (Sheet 2 of 3)
FIGURE-2-9-0-991-012-A01

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



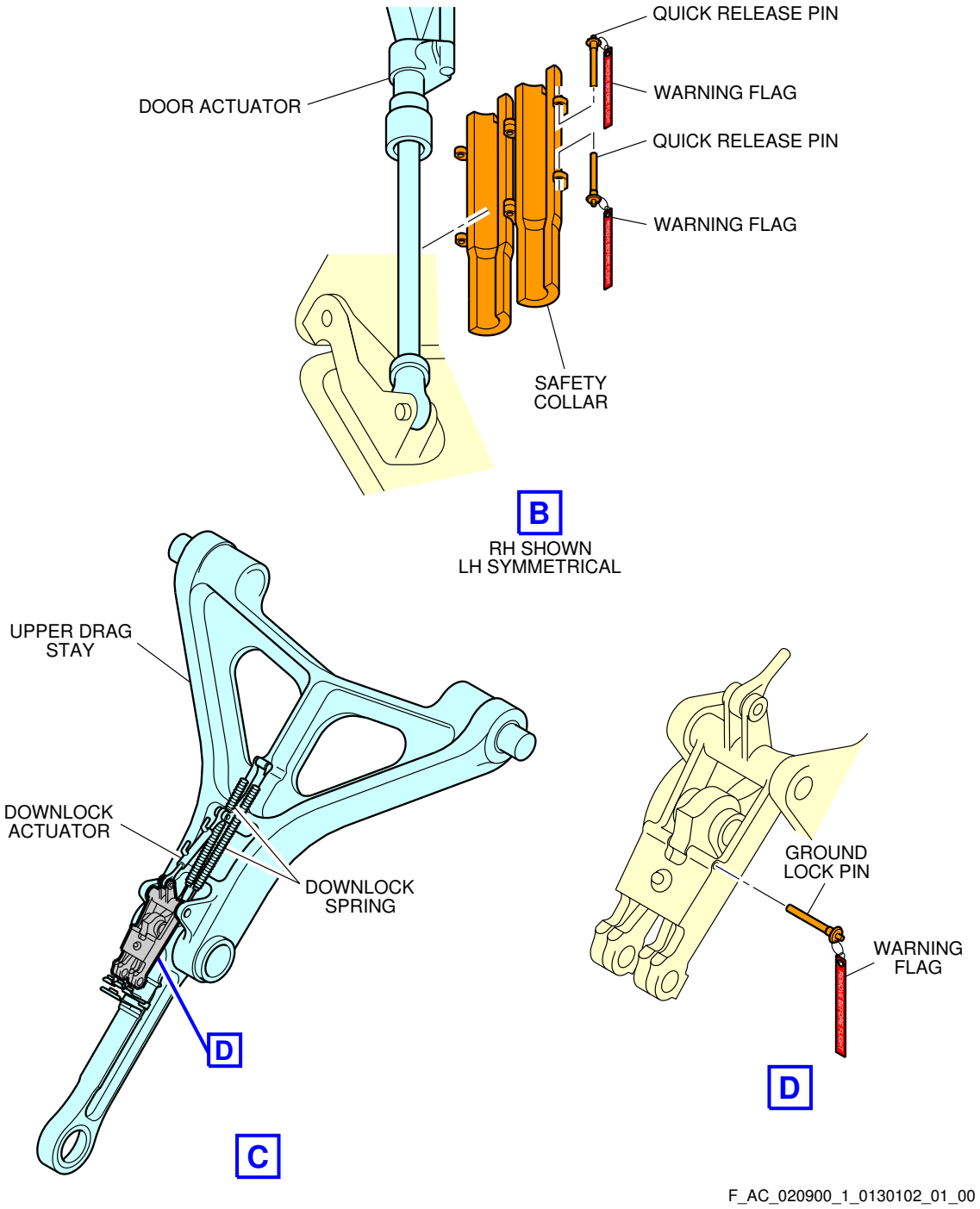
Main Landing Gear
Servicing (Sheet 3 of 3)
FIGURE-2-9-0-991-012-A01

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



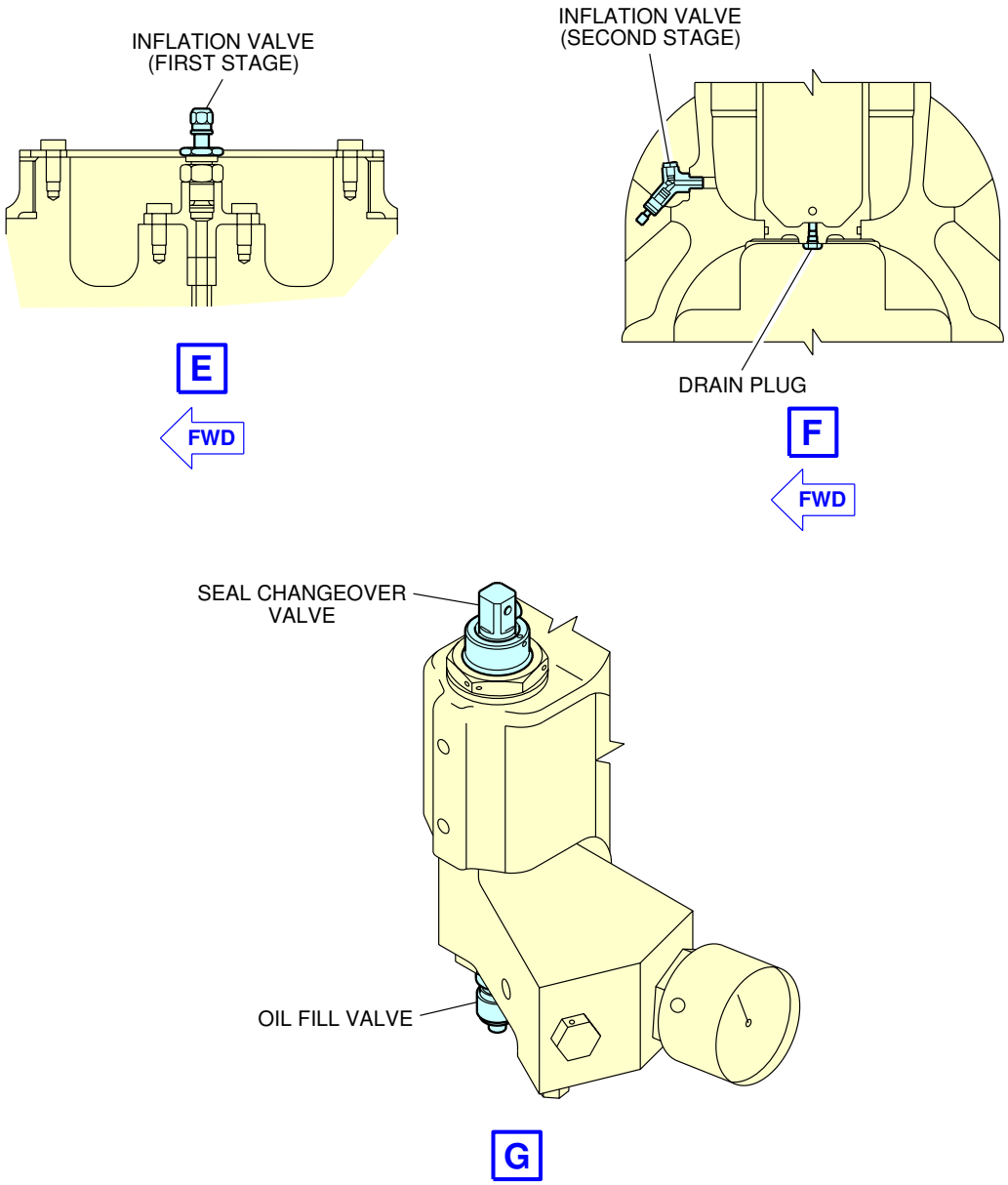
Centerline Landing Gear
General (Sheet 1 of 3)
FIGURE-2-9-0-991-013-A01

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



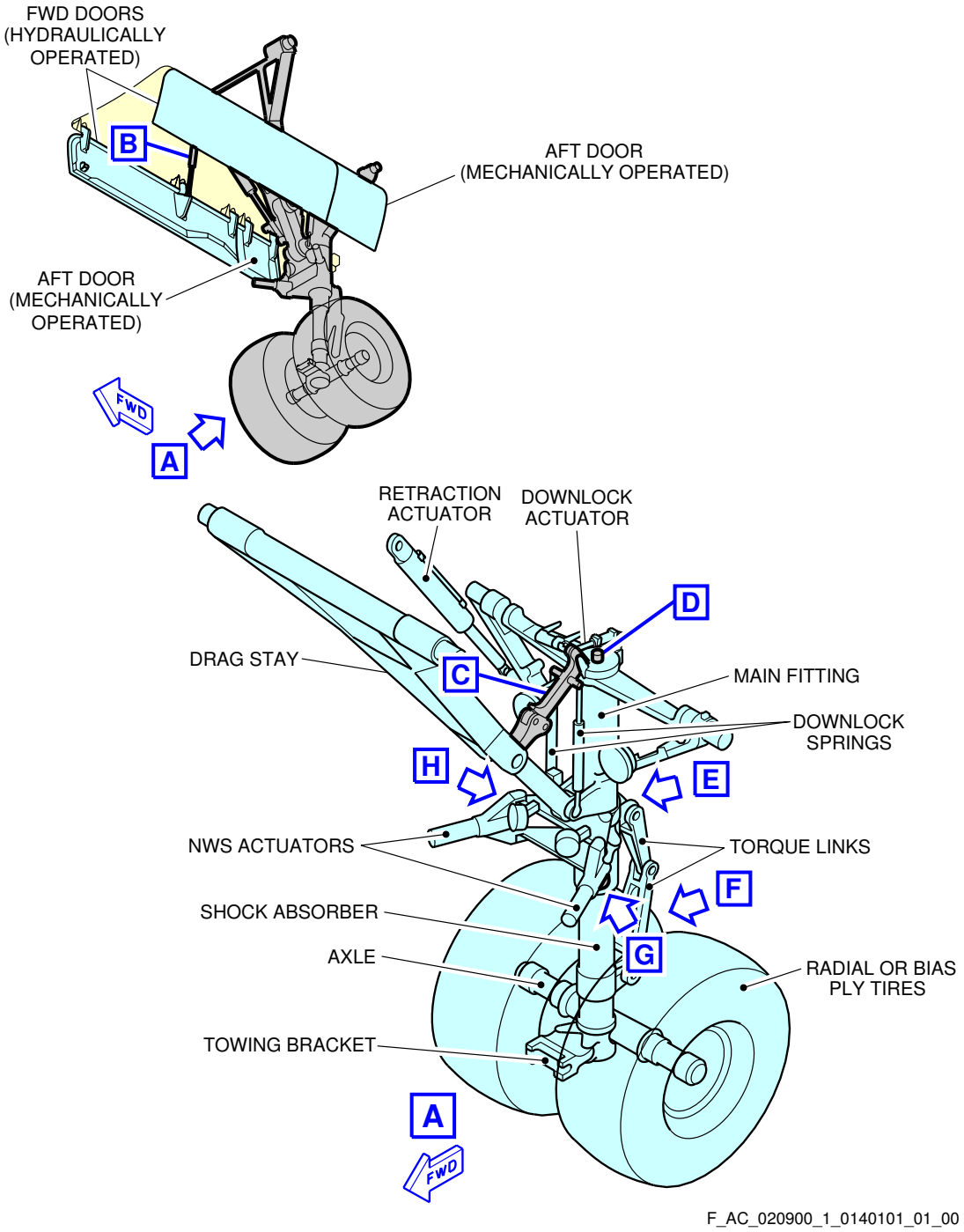
Centerline Landing Gear
Safety Devices (Sheet 2 of 3)
FIGURE-2-9-0-991-013-A01

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



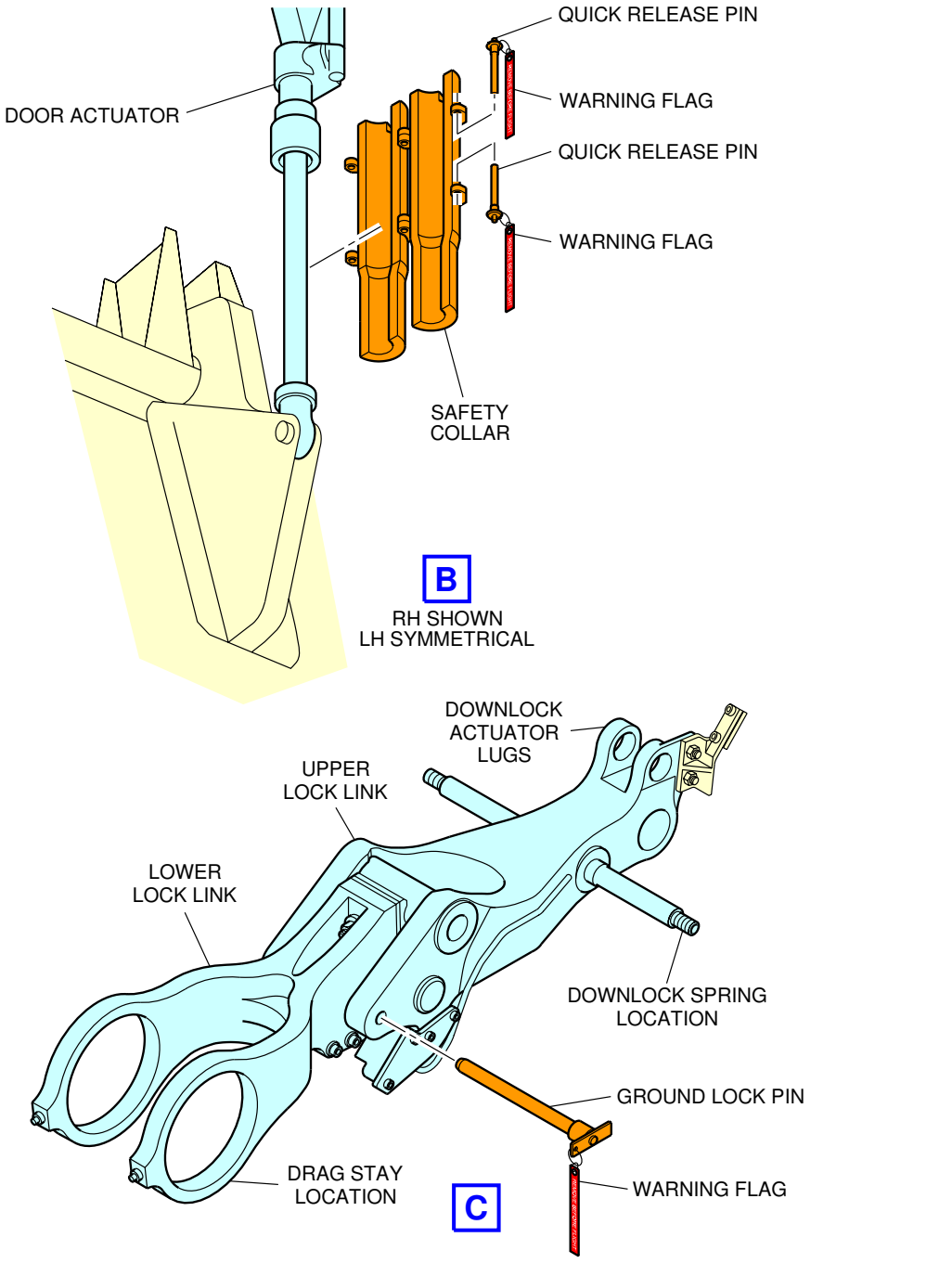
Centerline Landing Gear
Servicing (Sheet 3 of 3)
FIGURE-2-9-0-991-013-A01

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



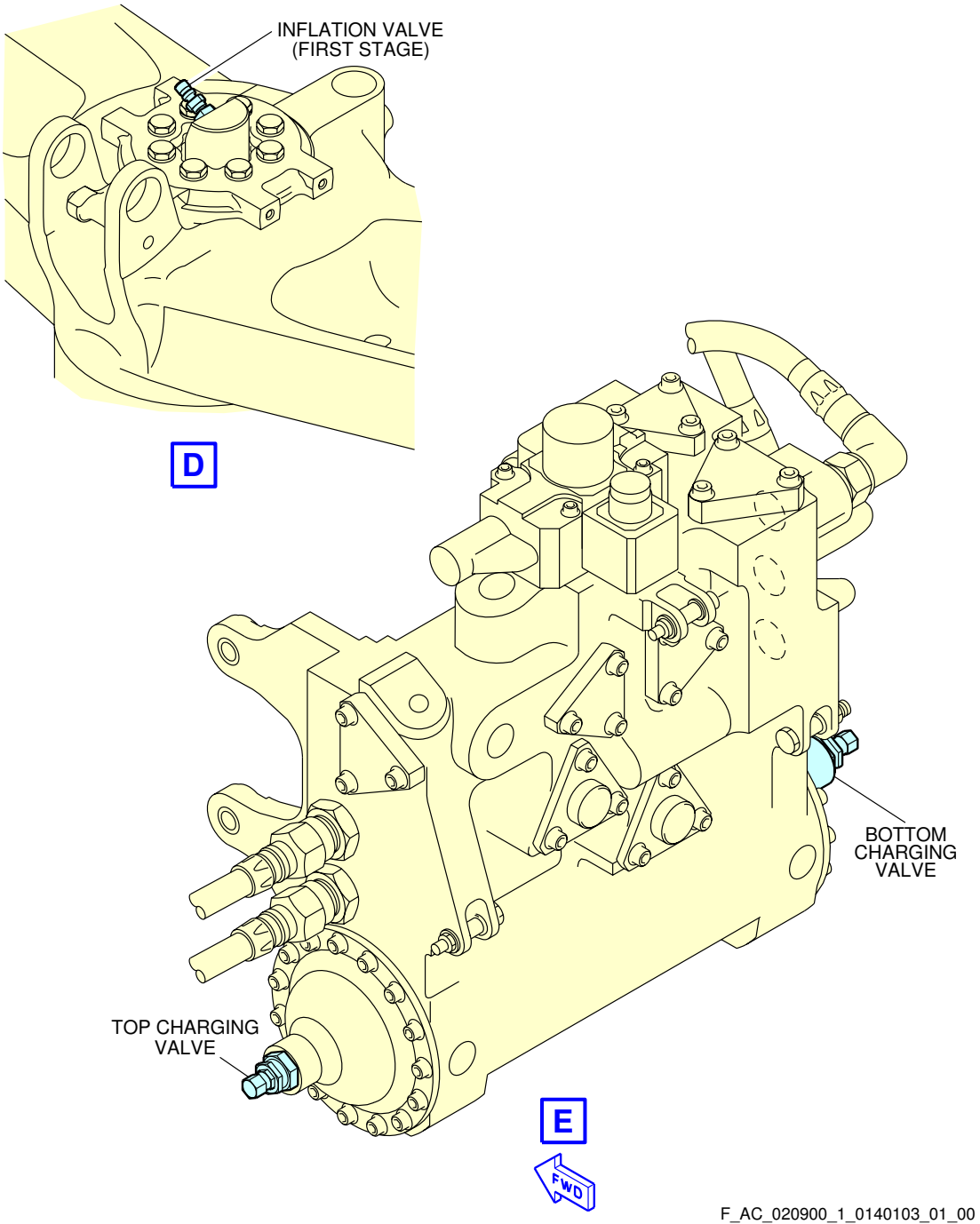
Nose Landing Gear
General (Sheet 1 of 4)
FIGURE-2-9-0-991-014-A01

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



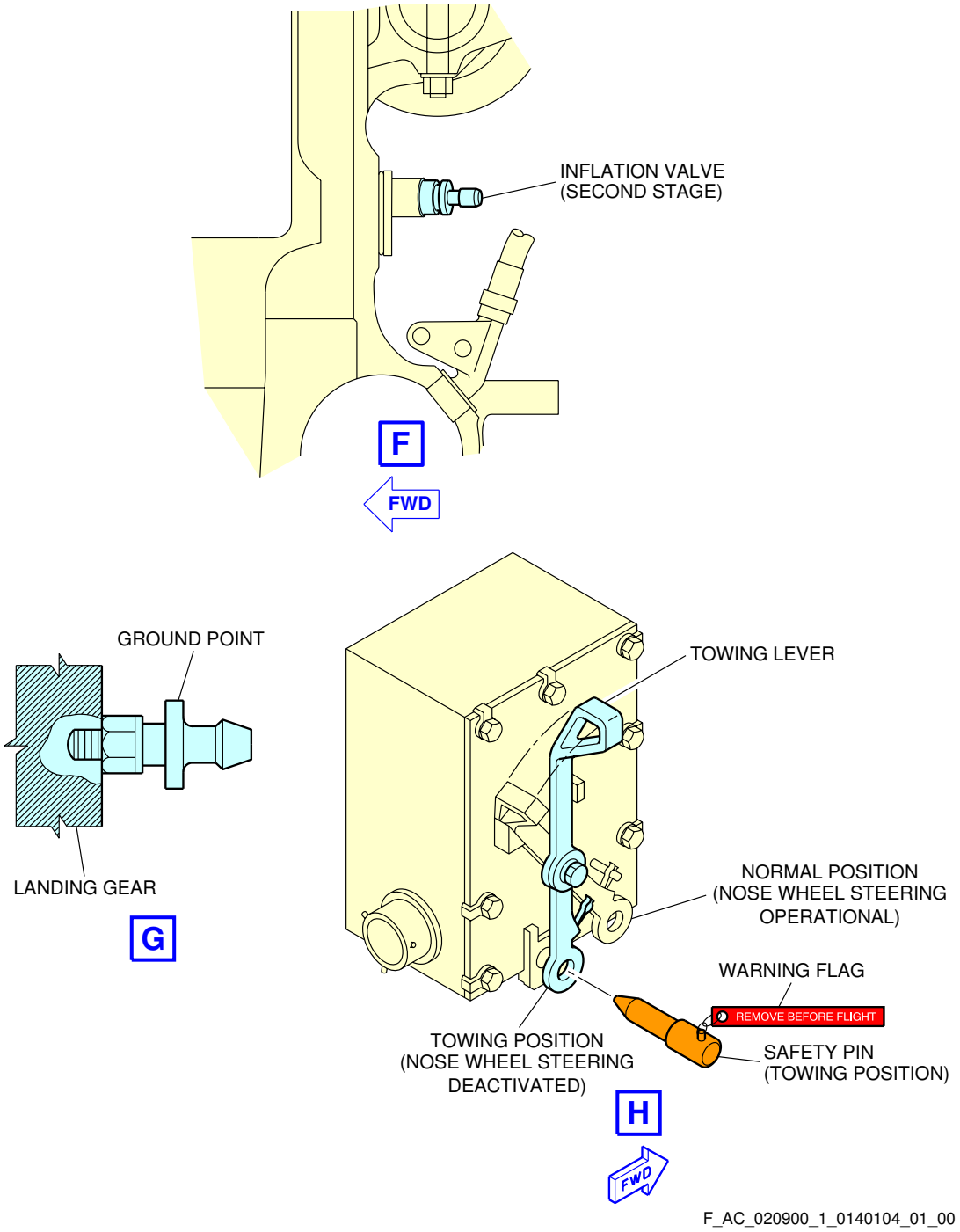
Nose Landing Gear
Safety Devices (Sheet 2 of 4)
FIGURE-2-9-0-991-014-A01

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



Nose Landing Gear
Servicing (Sheet 3 of 4)
FIGURE-2-9-0-991-014-A01

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



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

2-10-0 Exterior Lighting

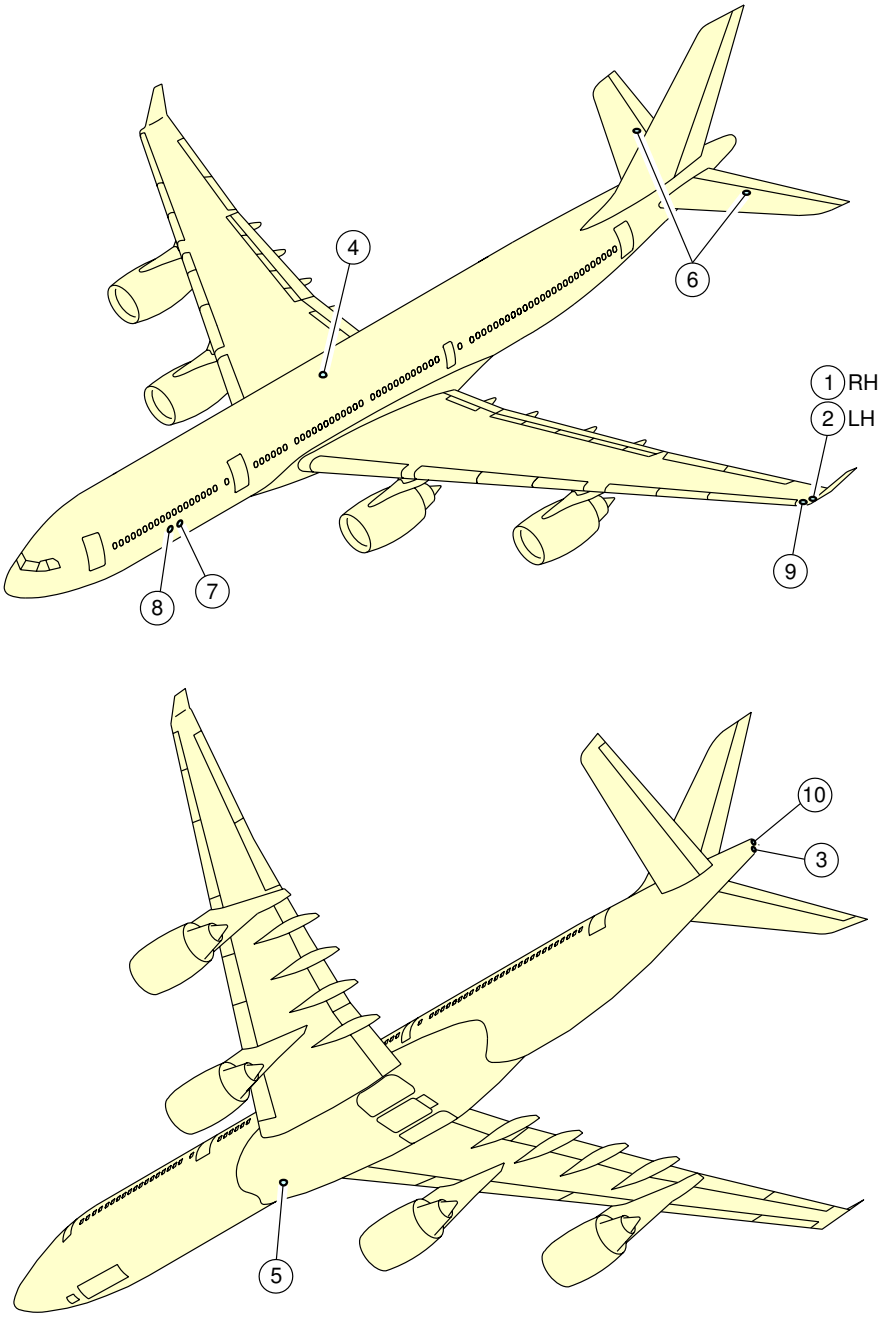
**ON A/C A340-500 A340-600

Exterior Lighting

1. General
   This section gives the location of the aircraft exterior lighting.

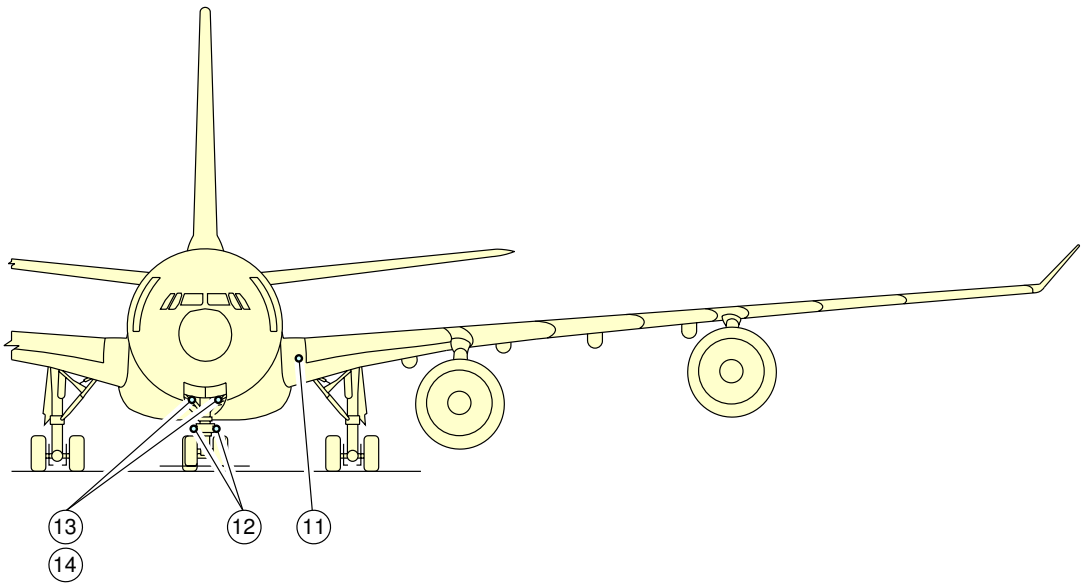
EXTERIOR LIGHTING	
ITEM	DESCRIPTION
1	RIGHT NAVIGATION LIGHT (GREEN)
2	LEFT NAVIGATION LIGHT (RED)
3	TAIL NAVIGATION LIGHT (WHITE)
4	UPPER ANTI-COLLISION LIGHT/BEACON (RED)
5	LOWER ANTI-COLLISION LIGHT/BEACON (RED)
6	LOGO LIGHTS
7	ENGINE SCAN LIGHTS
8	WING SCAN LIGHTS
9	WING STROBE LIGHT (HIGH INTENSITY, 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

**ON A/C A340-500



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

**ON A/C A340-500



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

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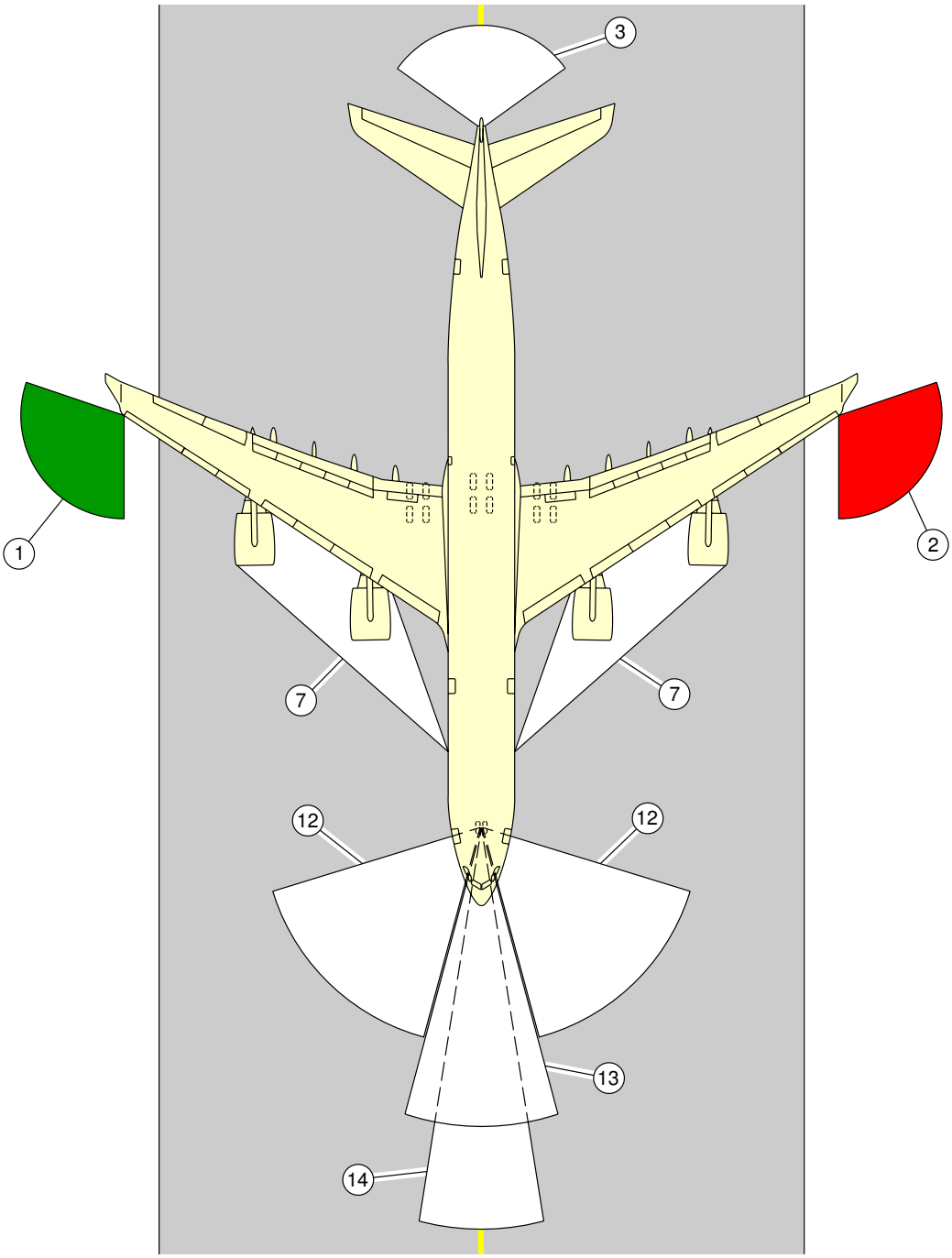
Exterior Lighting
(Sheet 2 of 5)
FIGURE-2-10-0-991-006-A01

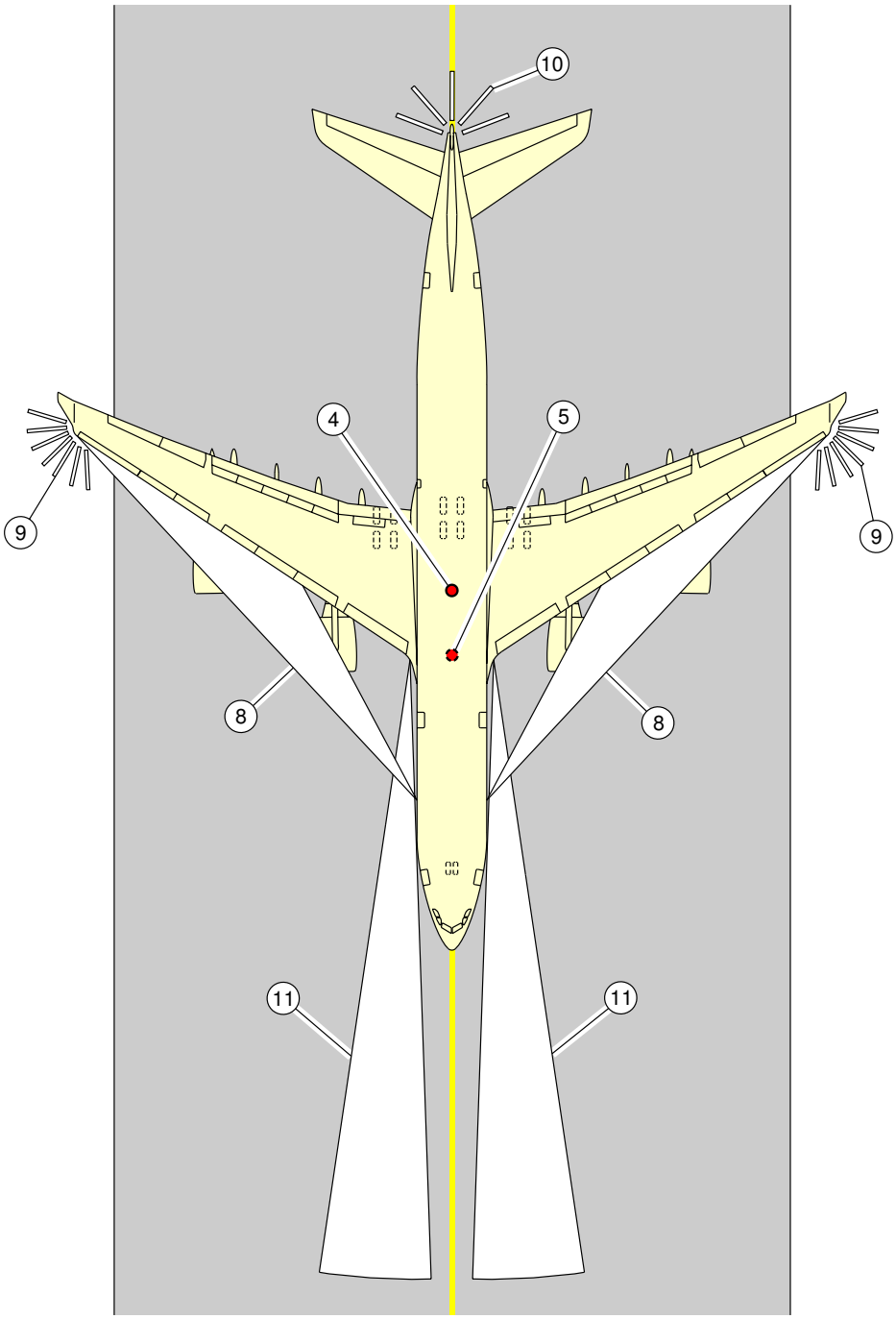
**ON A/C A340-500



F_AC_021000_1_0060103_01_00

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

**ON A/C A340-500



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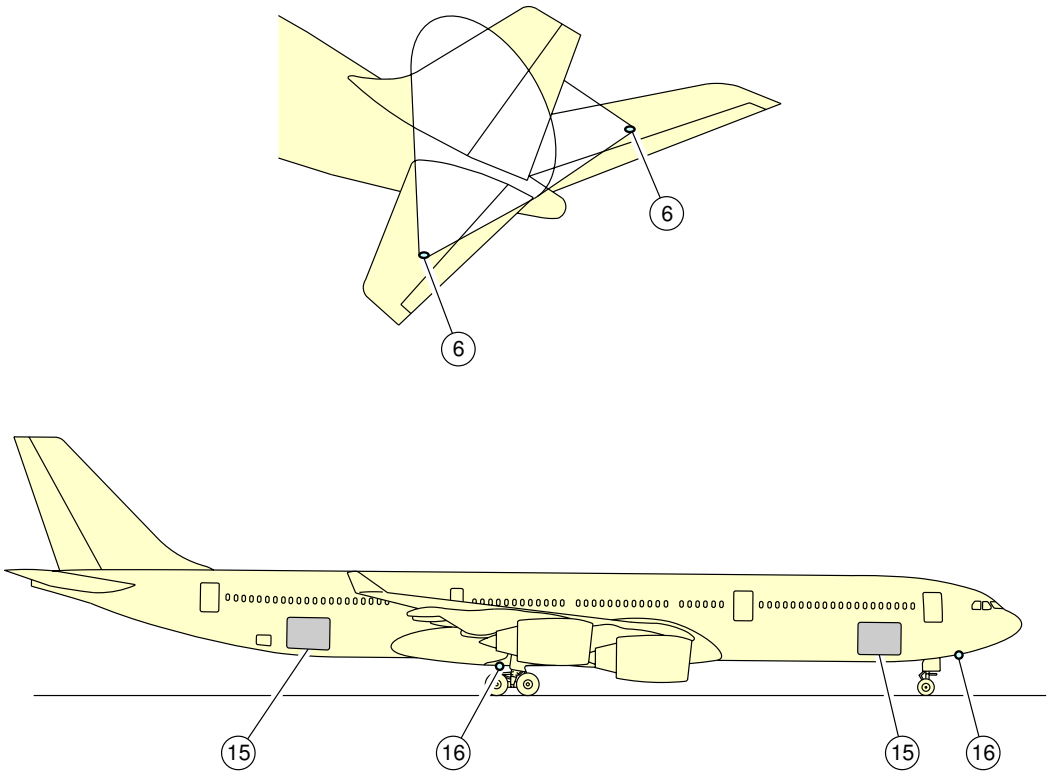
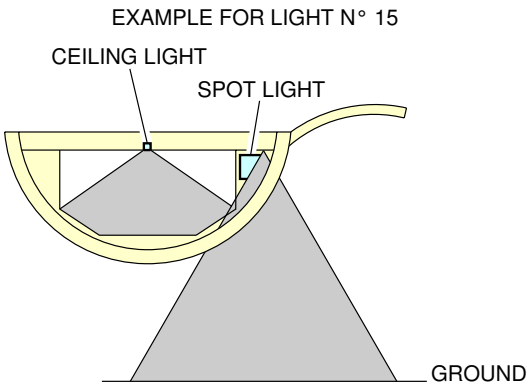
Exterior Lighting
(Sheet 4 of 5)
FIGURE-2-10-0-991-006-A01

**ON A/C A340-500





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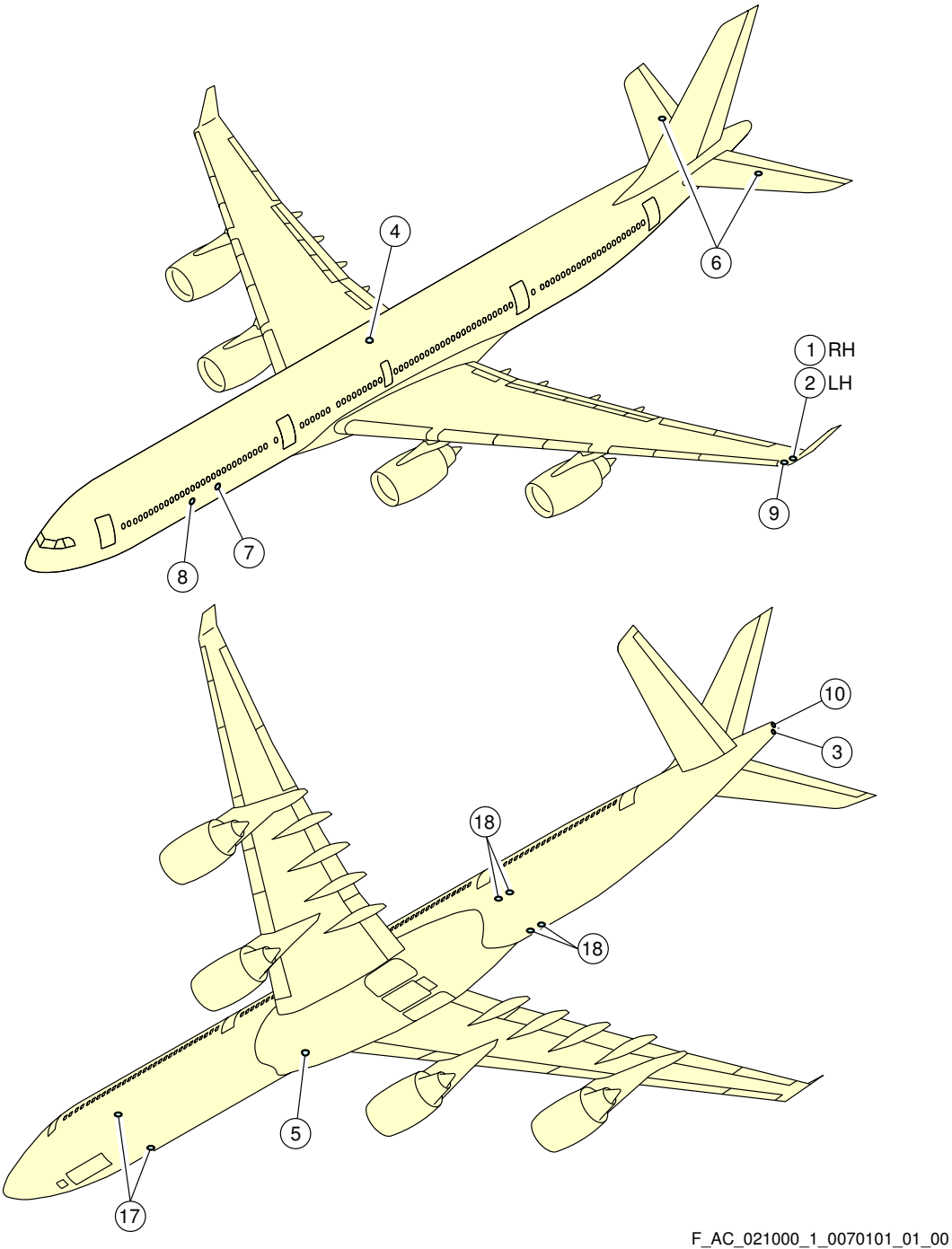
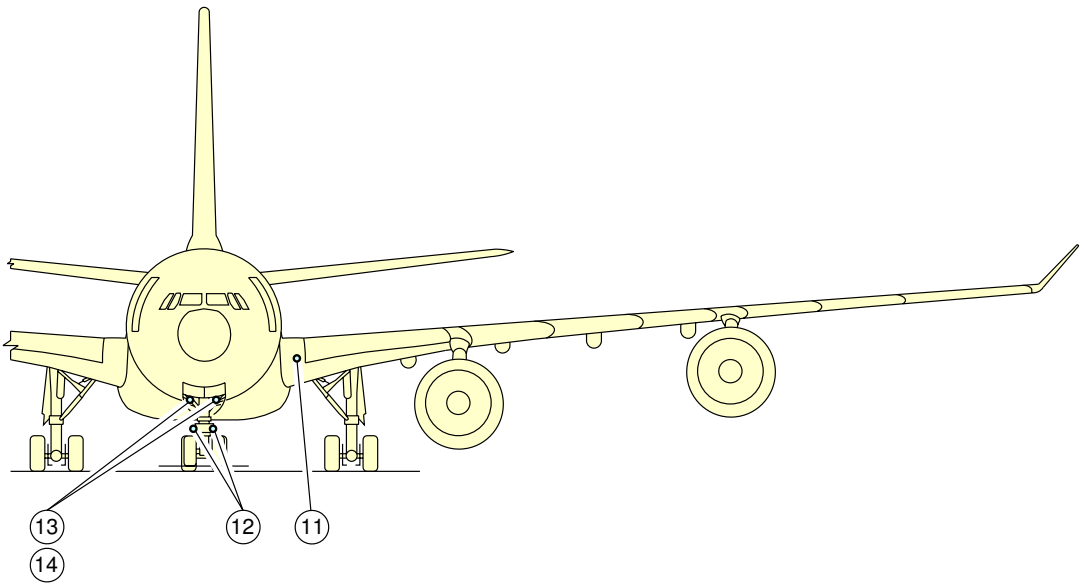
Exterior Lighting
(Sheet 5 of 5)
FIGURE-2-10-0-991-006-A01

**ON A/C A340-600



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

**ON A/C A340-600

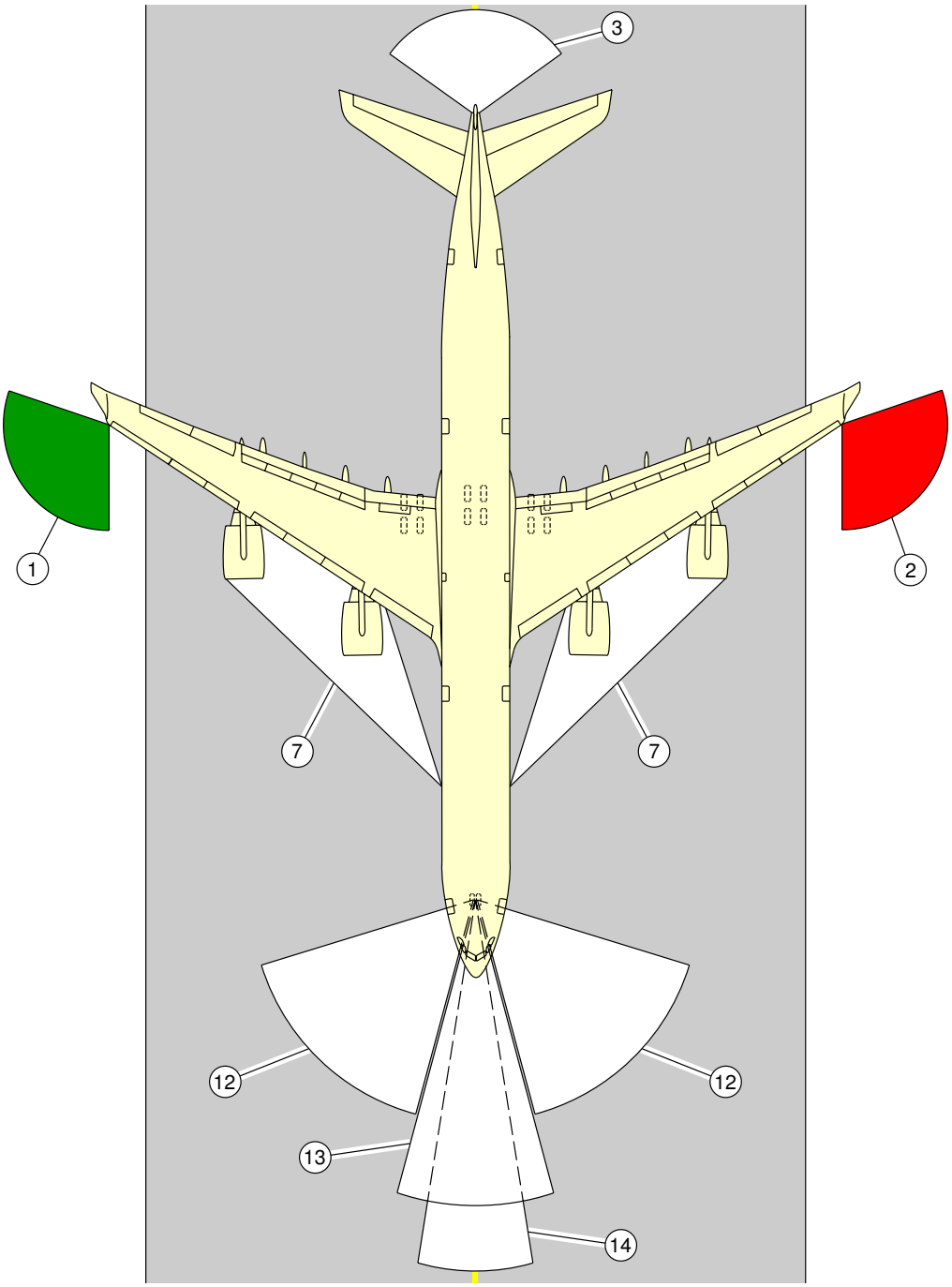


NOTE:
LIGHTS 13 AND 14 ARE THE SAME, BUT THEY OPERATE WITH DIFFERENT POWER SETTINGS.

F_AC_021000_1_0070102_01_00

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

**ON A/C A340-600



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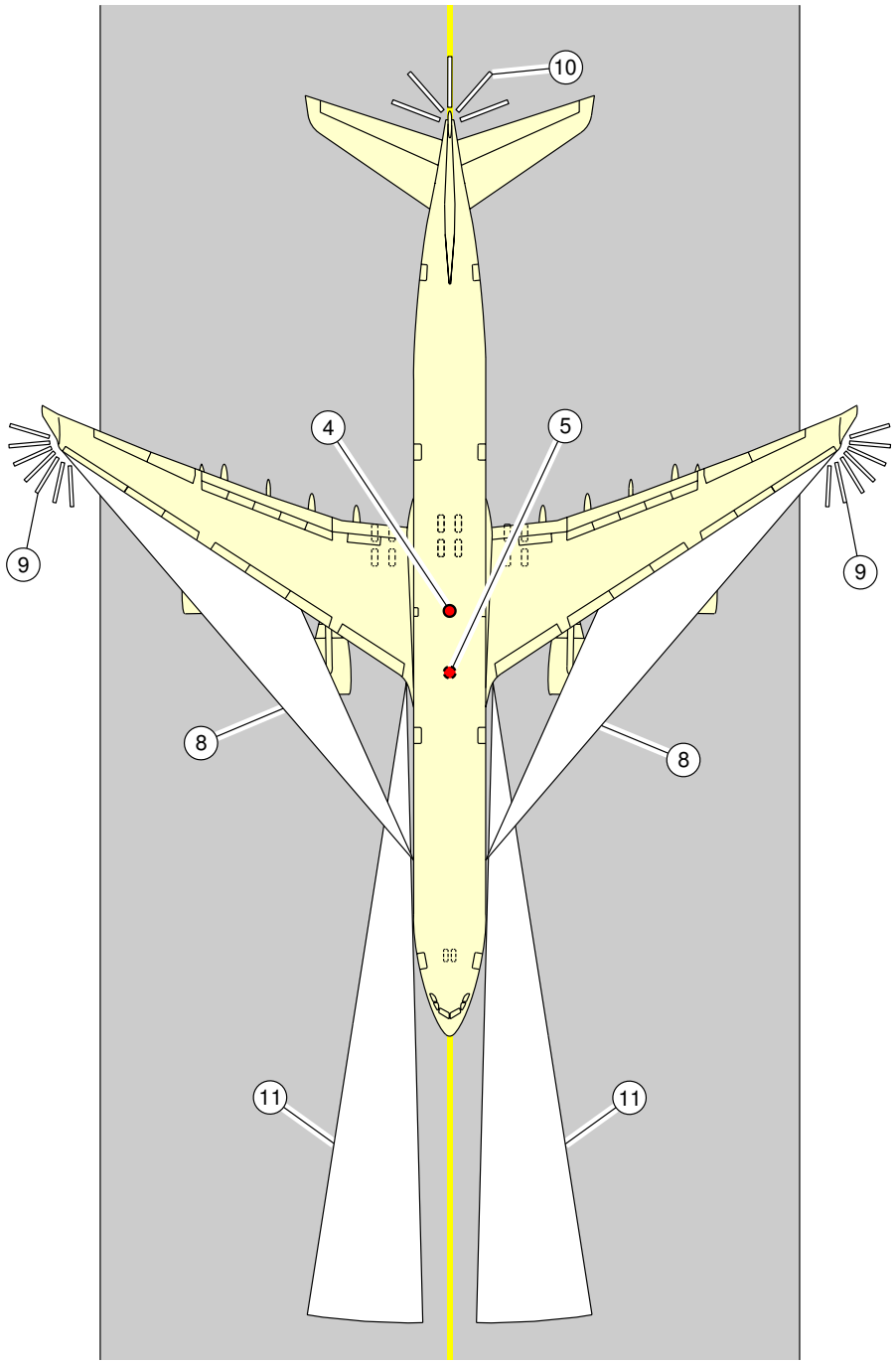
Exterior Lighting
(Sheet 3 of 6)
FIGURE-2-10-0-991-007-A01

**ON A/C A340-600



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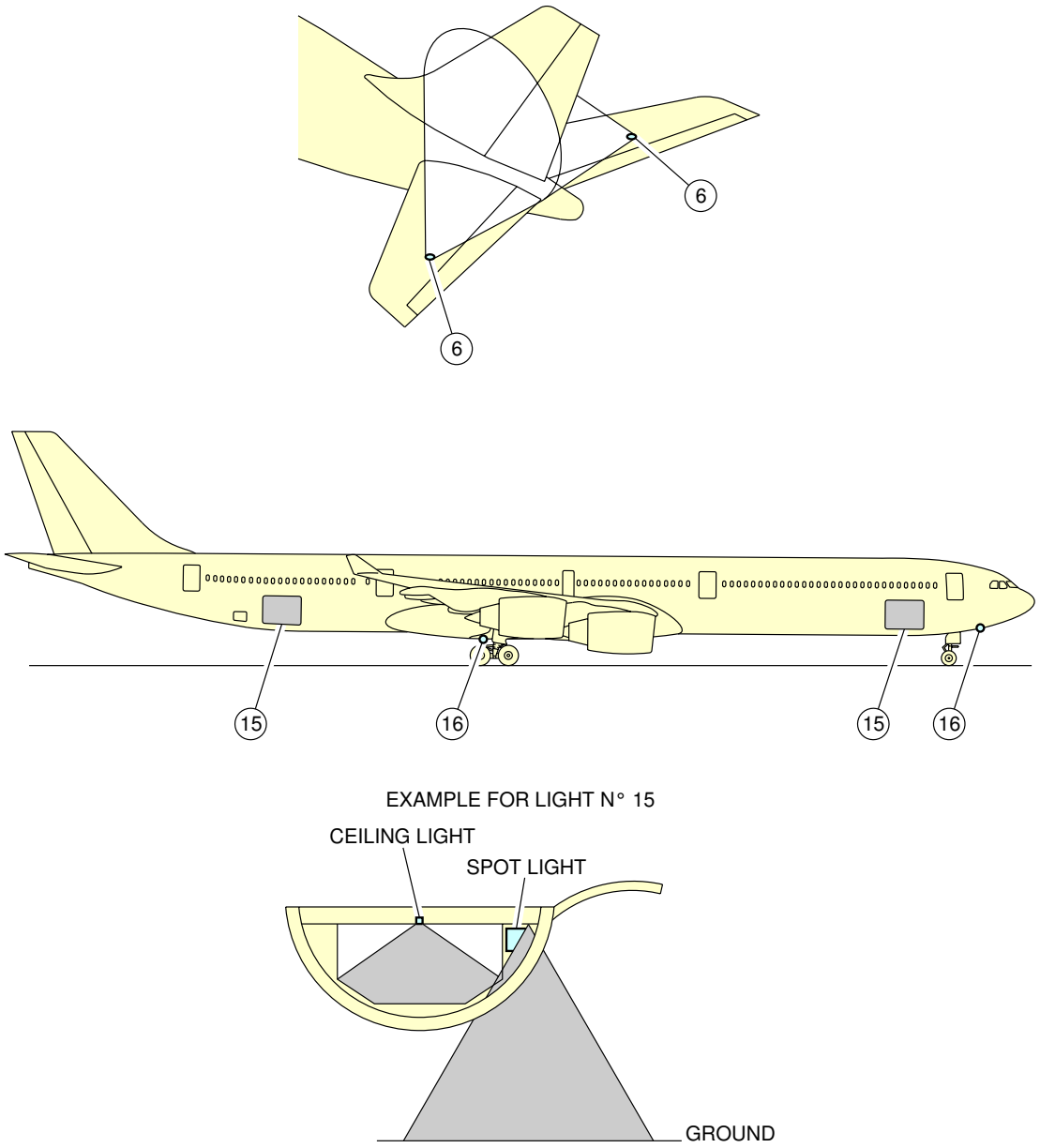
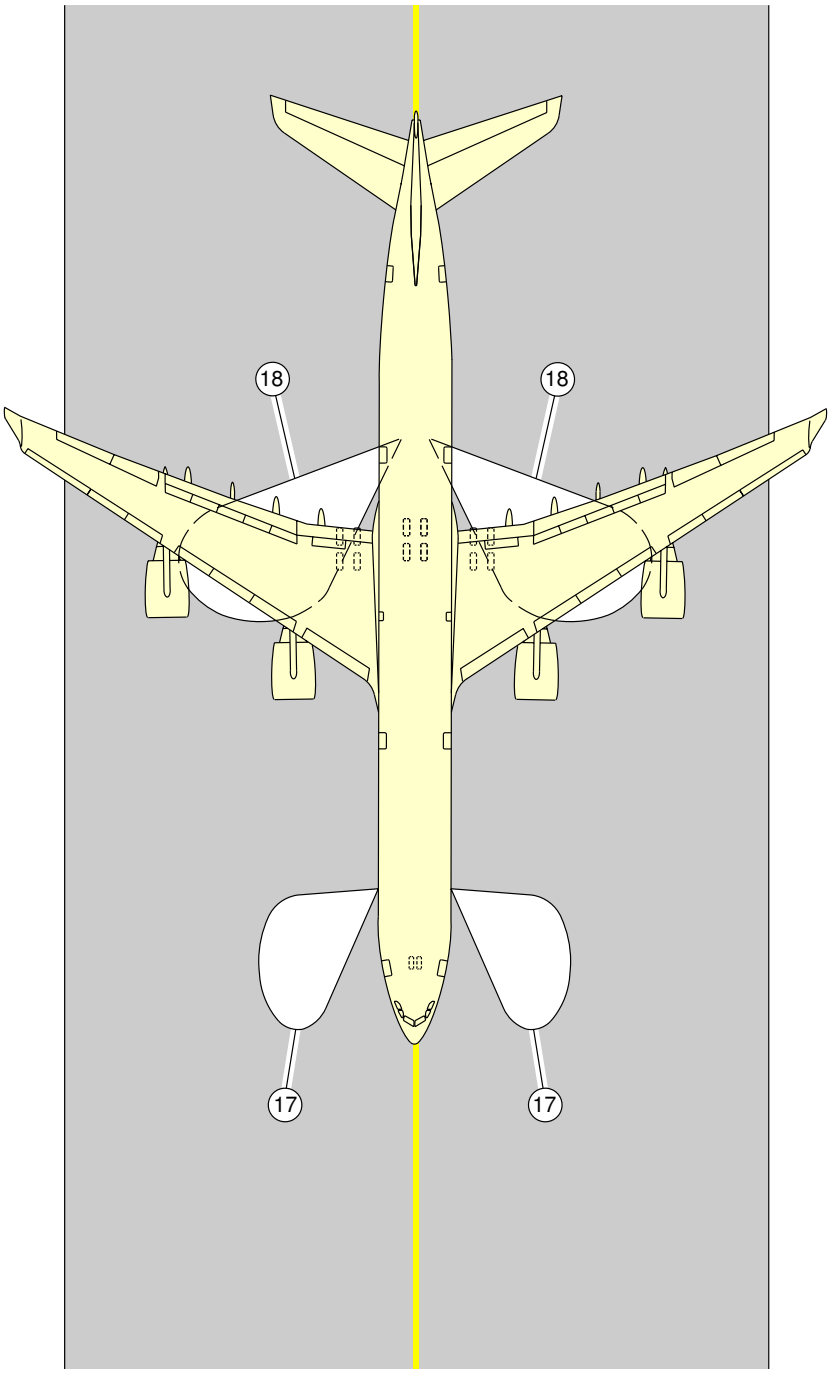
Exterior Lighting
(Sheet 4 of 6)
FIGURE-2-10-0-991-007-A01

**ON A/C A340-600



Exterior Lighting
(Sheet 5 of 6)
FIGURE-2-10-0-991-007-A01

**ON A/C A340-600



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

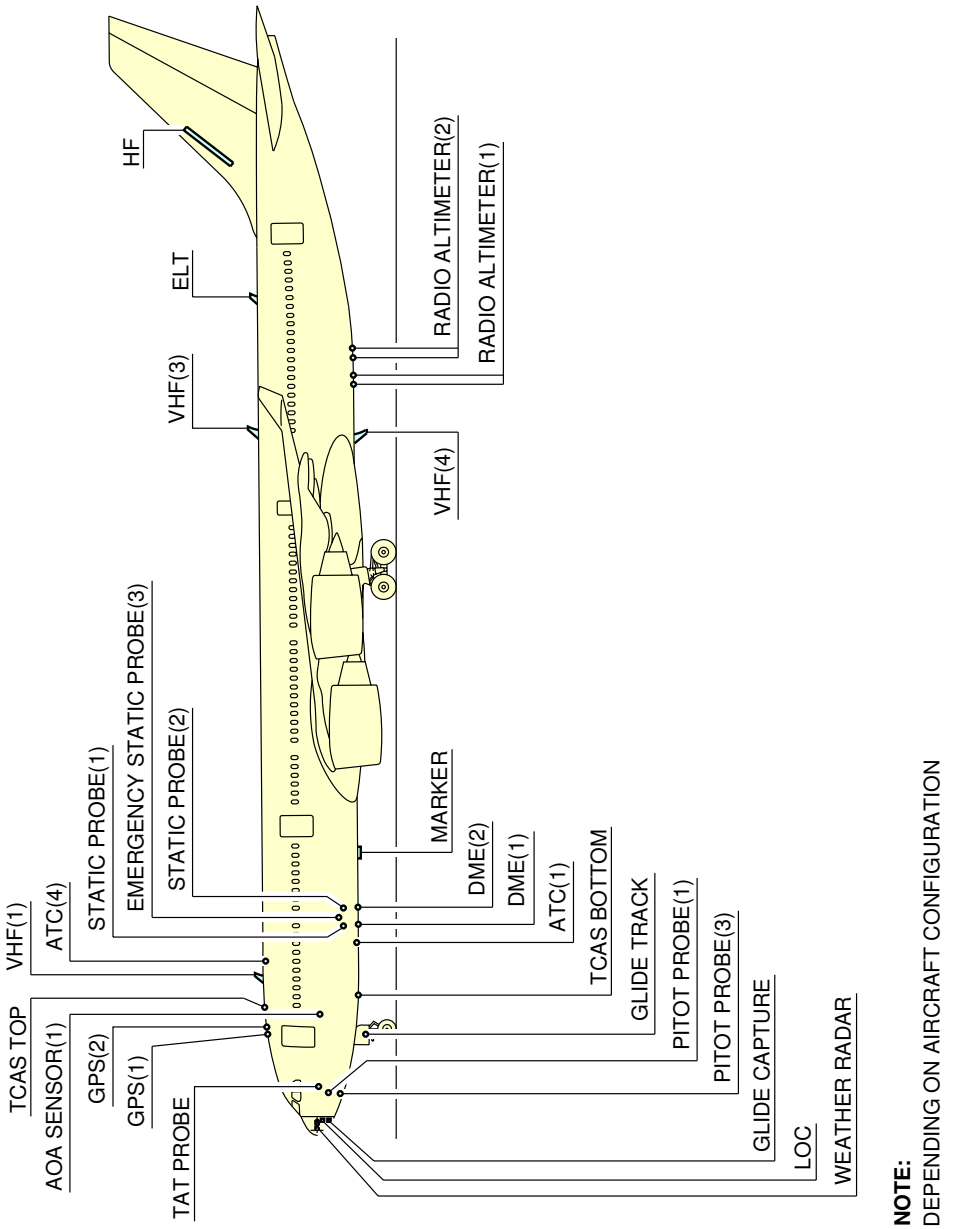
2-11-0 Antennas and Probes Location

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

Antennas and Probes Location

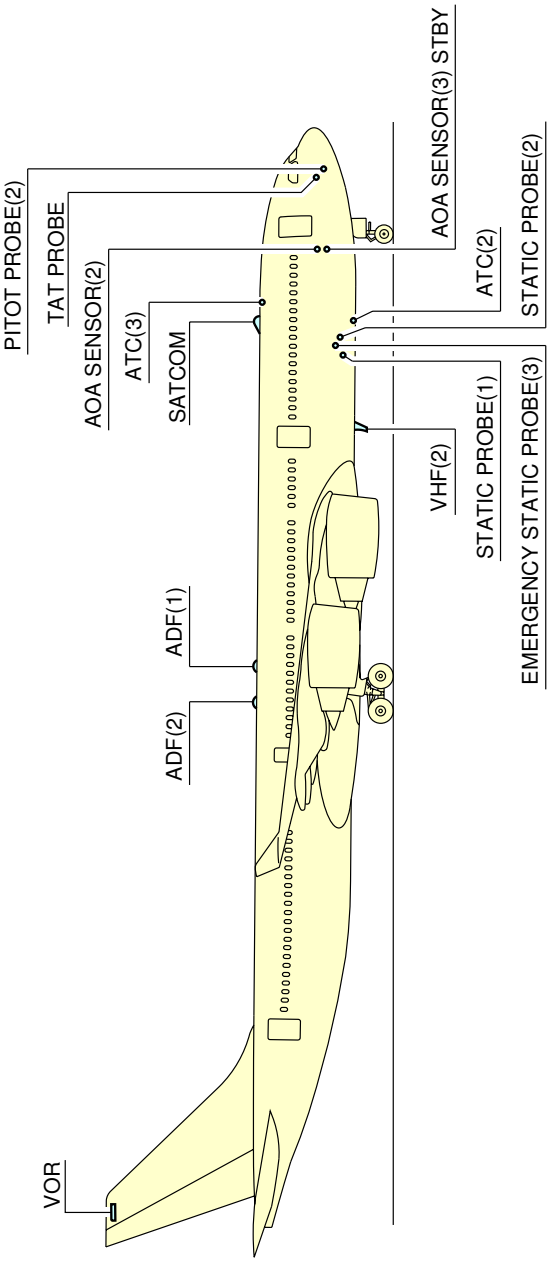
1. This section gives the location of antennas and probes.

**ON A/C A340-500



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

**ON A/C A340-500

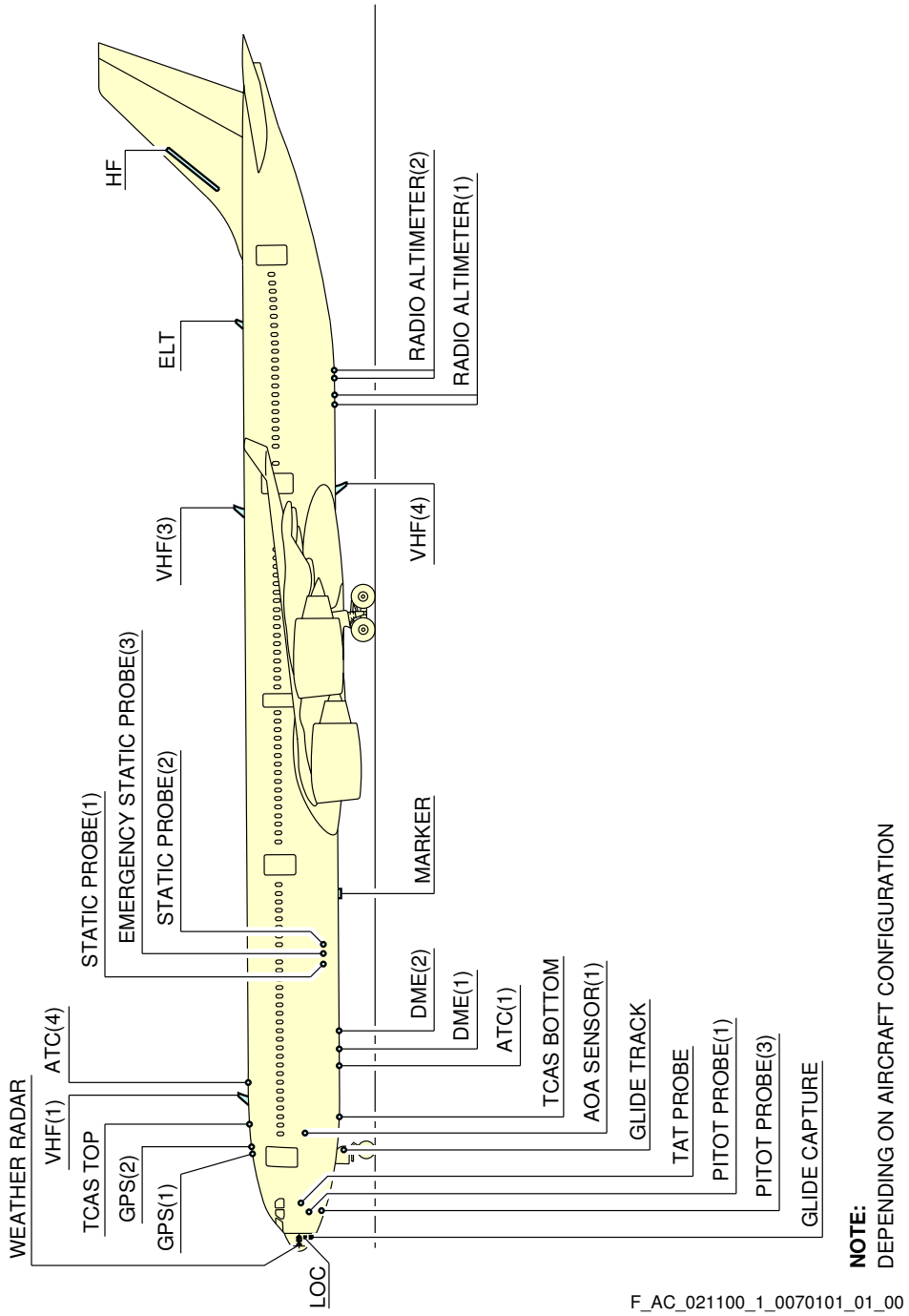


NOTE:
DEPENDING ON AIRCRAFT CONFIGURATION

F_AC_021100_1_0060102_01_00

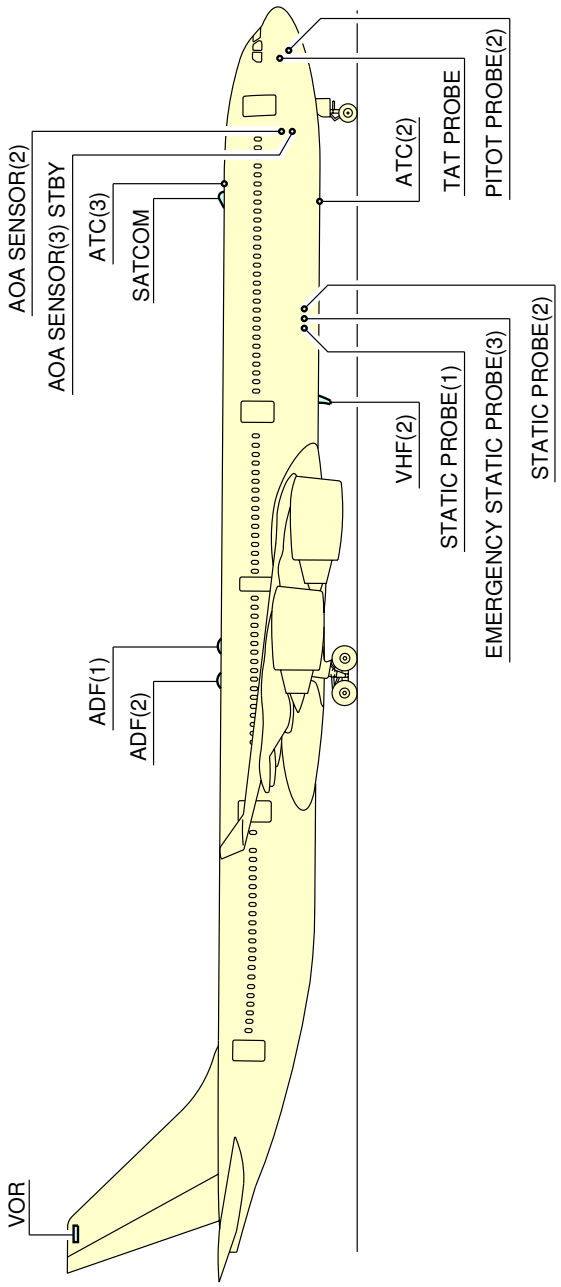
Antennas and Probes
Location (Sheet 2 of 2)
FIGURE-2-11-0-991-006-A01

**ON A/C A340-600



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

**ON A/C A340-600



NOTE:
DEPENDING ON AIRCRAFT CONFIGURATION

F_AC_021100_1_0070102_01_00

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

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.

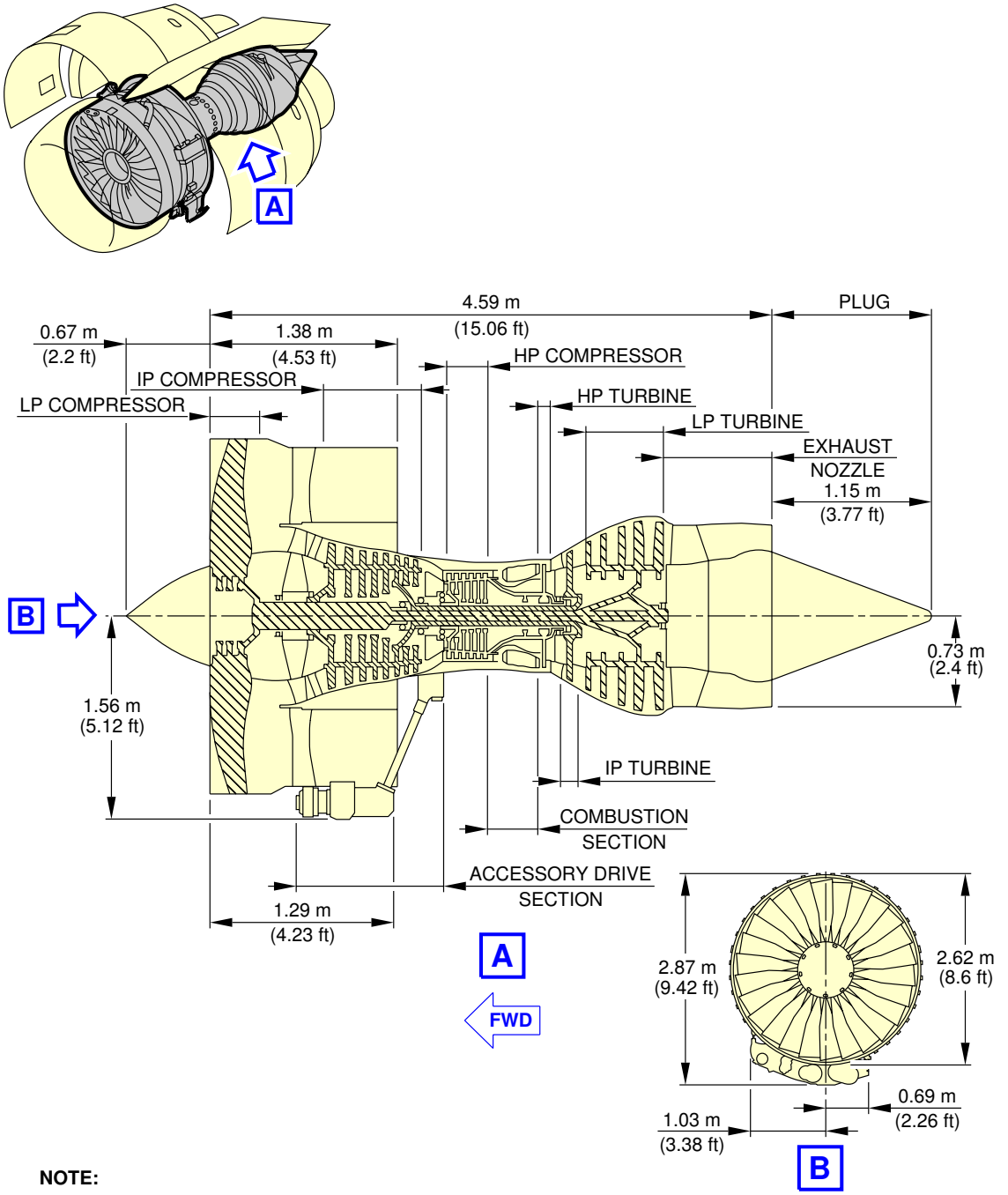
(3) Thrust Reverser

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.

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



NOTE:
APPROXIMATE DIMENSIONS

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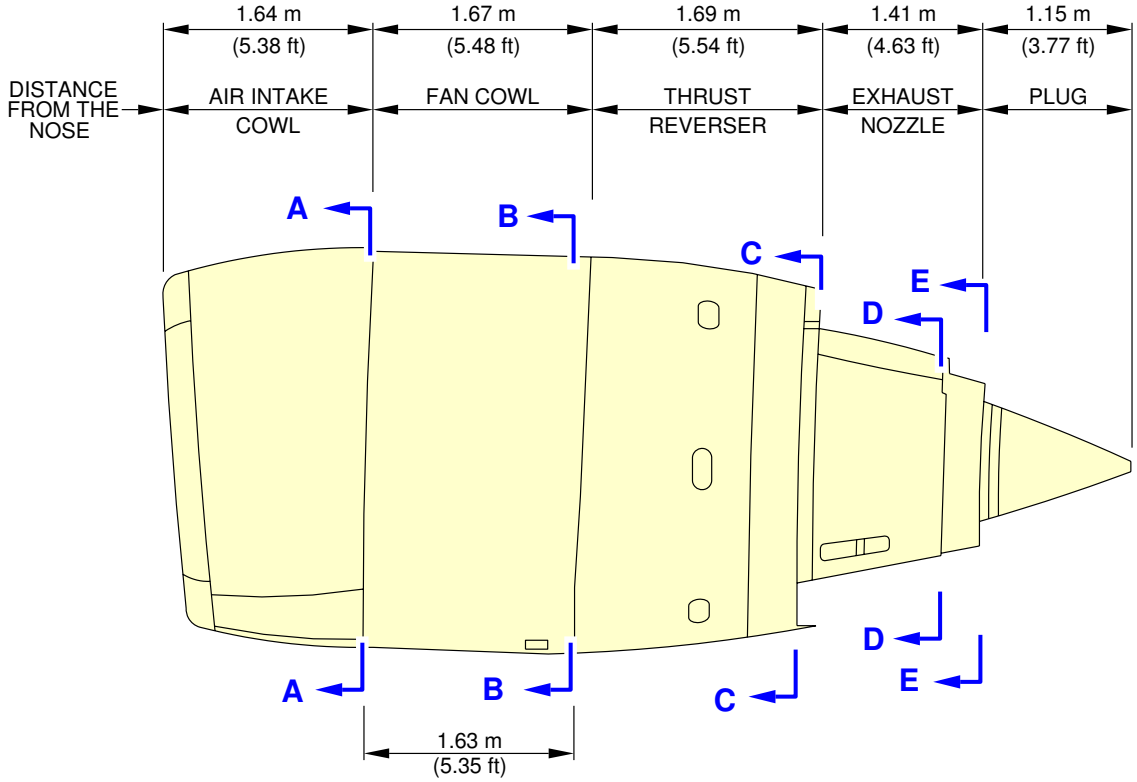
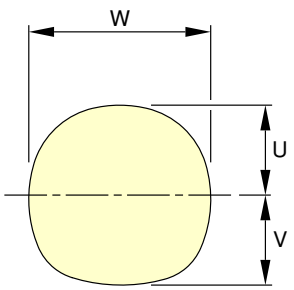
Engine and Nacelle
Engine Dimensions - TRENT 500
FIGURE-2-12-0-991-021-A01

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



DISTANCE FROM THE NOSE	A340–600	A340–500
INBOARD ENGINE	27.32 m (89.63 ft)	22.02 m (72.24 ft)
OUTBOARD ENGINE	33.95 m (111.38 ft)	28.66 m (94.03 ft)

	W	U	V
A–A	3.14 m (10.3 ft)	1.49 m (4.89 ft)	1.63 m (5.35 ft)
B–B	3.14 m (10.3 ft)	1.49 m (4.89 ft)	1.63 m (5.35 ft)
C–C	2.69 m (8.83 ft)	1.34 m (4.4 ft)	1.34 m (4.4 ft)
D–D	1.51 m (4.95 ft)	0.78 m (2.56 ft)	0.75 m (2.46 ft)
E–E	1.35 m (4.43 ft)	0.67 m (2.2 ft)	0.67 m (2.2 ft)

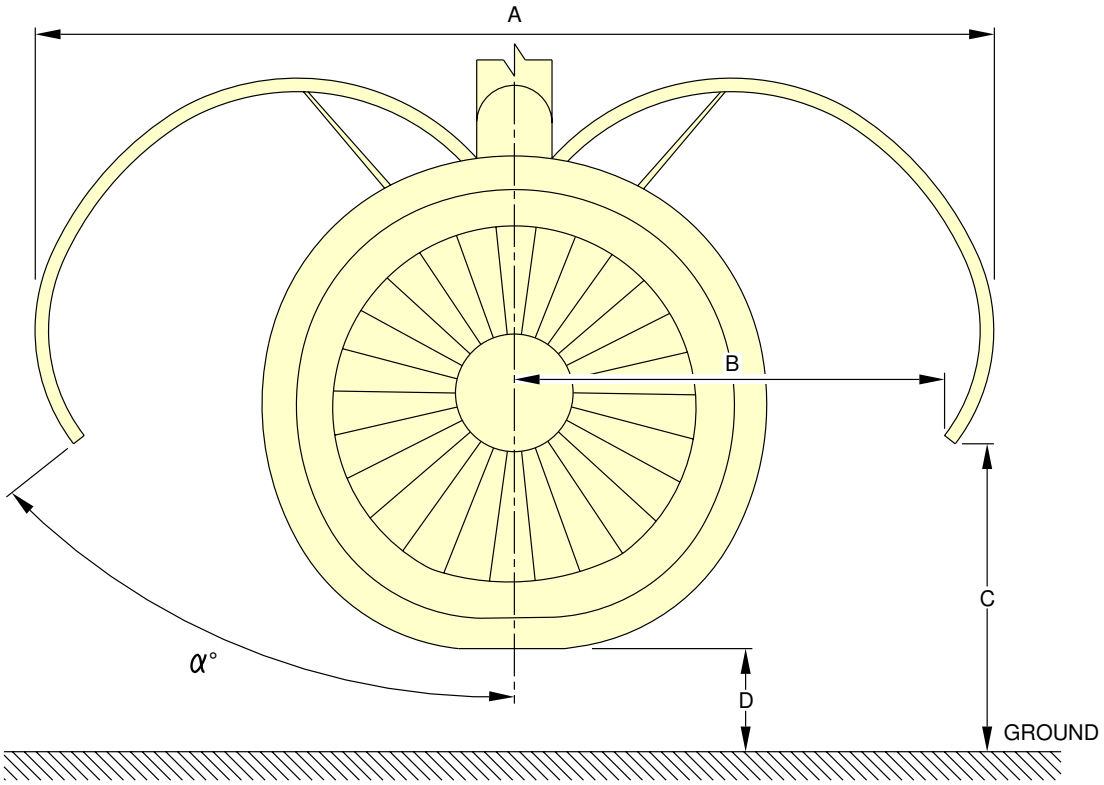


NOTE:
APPROXIMATE DIMENSIONS

F_AC_021200_1_0220101_01_00

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

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



A/C CONFIGURATION	α°	DIM."C"		DIM."D"	
		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 (2.33 ft)	1.75 m (5.74 ft)
	55°	2.03 m (6.66 ft)	3.07 m (10.07 ft)		
MTW	38°	1.17 m (3.84 ft)	2.21 m (7.25 ft)	0.52 m (1.71 ft)	1.56 m (5.12 ft)
	55°	1.84 m (6.04 ft)	2.88 m (9.45 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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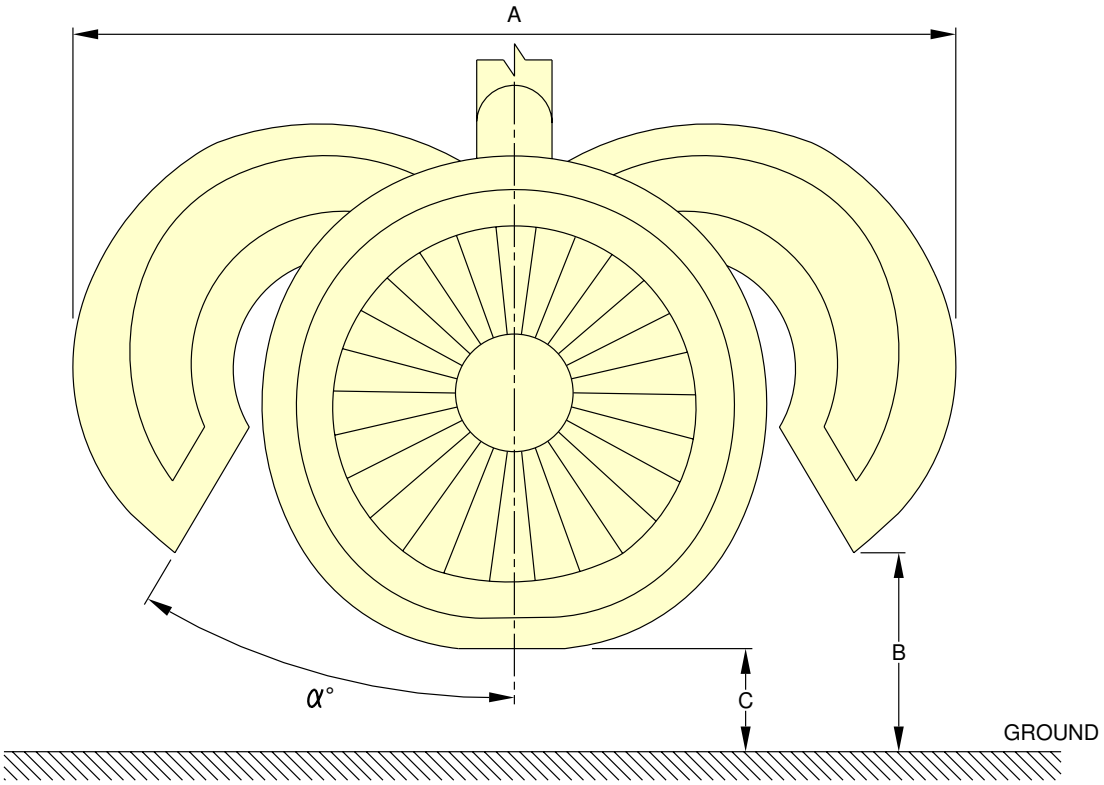
Engine and Nacelle
Fan Cowls - TRENT 500
FIGURE-2-12-0-991-023-A01

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



A/C CONFIGURATION	α°	DIM."B"		DIM."C"	
		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 (2.33 ft)	1.75 m (5.74 ft)
	45°	1.4 m (4.59 ft)	2.44 m (8.01 ft)		
MTW	33°	0.85 m (2.79 ft)	1.89 m (6.2 ft)	0.52 m (1.71 ft)	1.56 m (5.12 ft)
	45°	1.21 m (3.97 ft)	2.25 m (7.38 ft)		

α°	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

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).

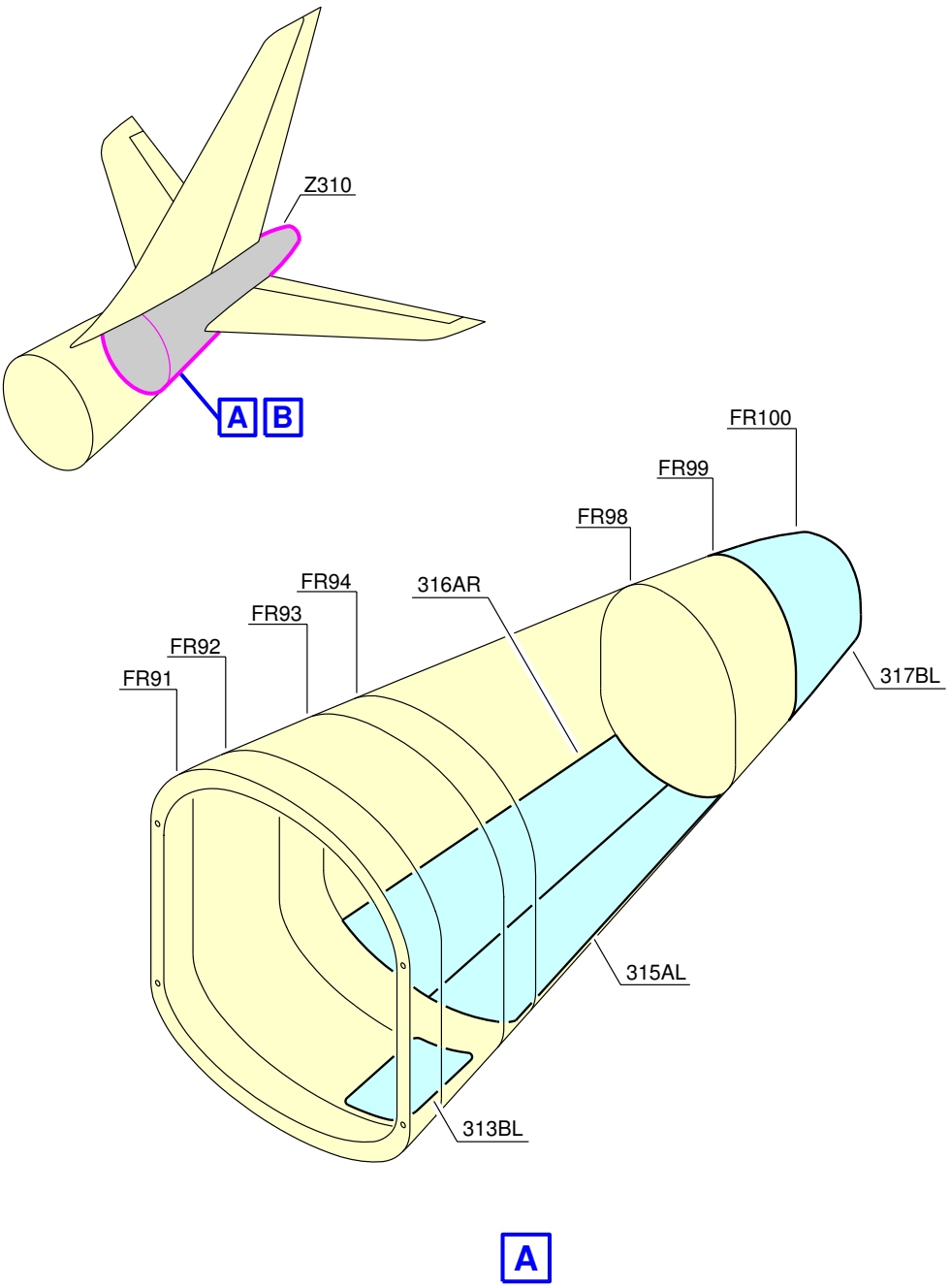
The power section has a two-stage centrifugal compressor, a reverse-flow annular combustion chamber and a three-stage axial turbine. The power section directly operates the one-stage centrifugal load-compressor which supplies the bleed-air to the pneumatic system. The inlet guide vanes as part of the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

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.

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



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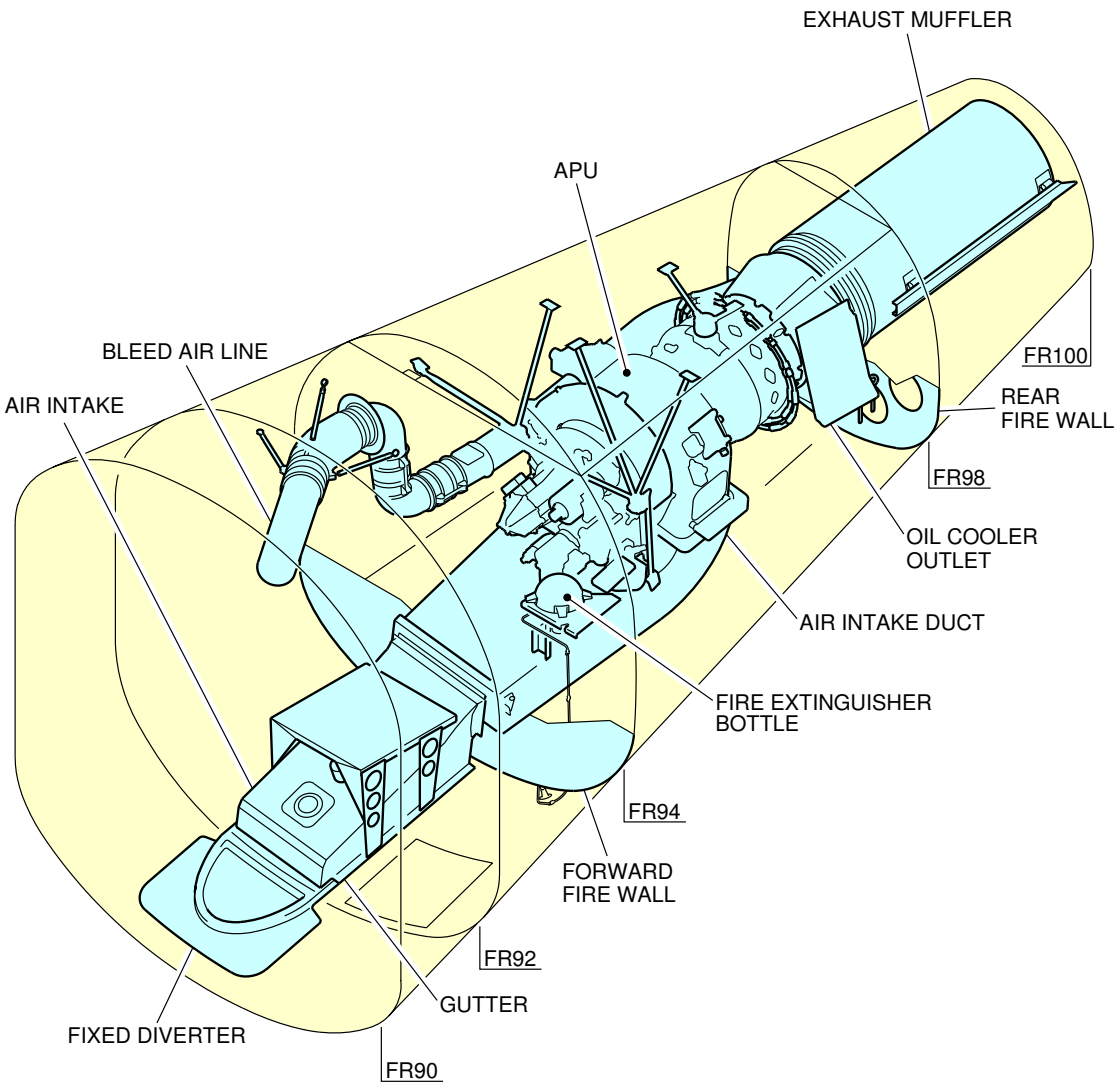
Auxiliary Power Unit
Access Doors (Sheet 1 of 2)
FIGURE-2-12-1-991-002-B01

**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

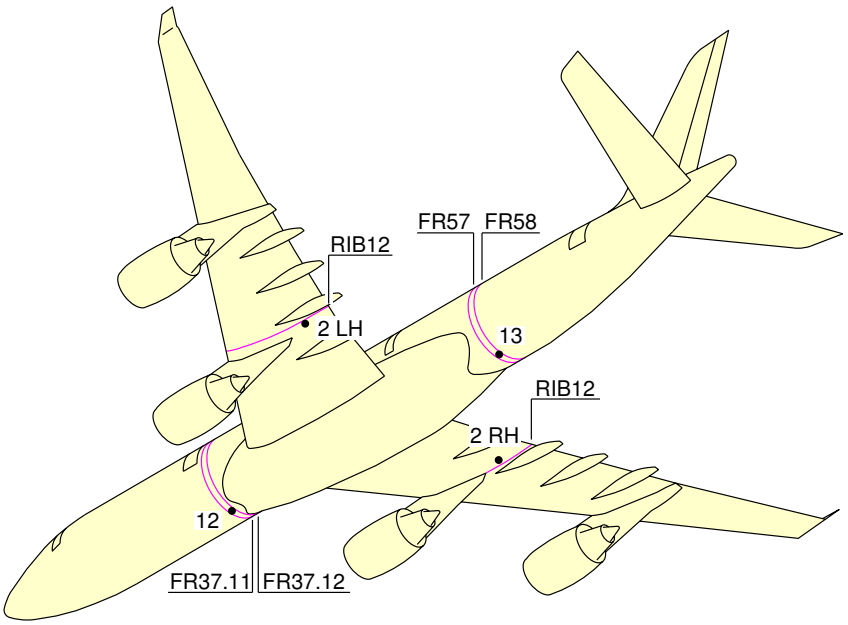
2-13-0 Levelling, symmetry and Alignment

**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.

**ON A/C A340-500



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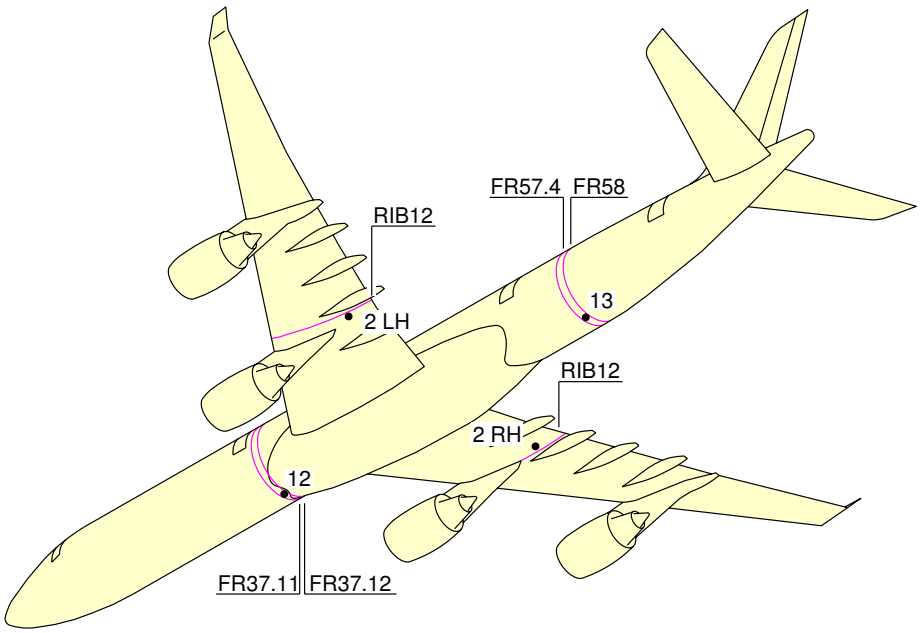
Location of Leveling Points
FIGURE-2-13-0-991-006-A01

**ON A/C A340-600



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

2-14-0 Jacking for Maintenance

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

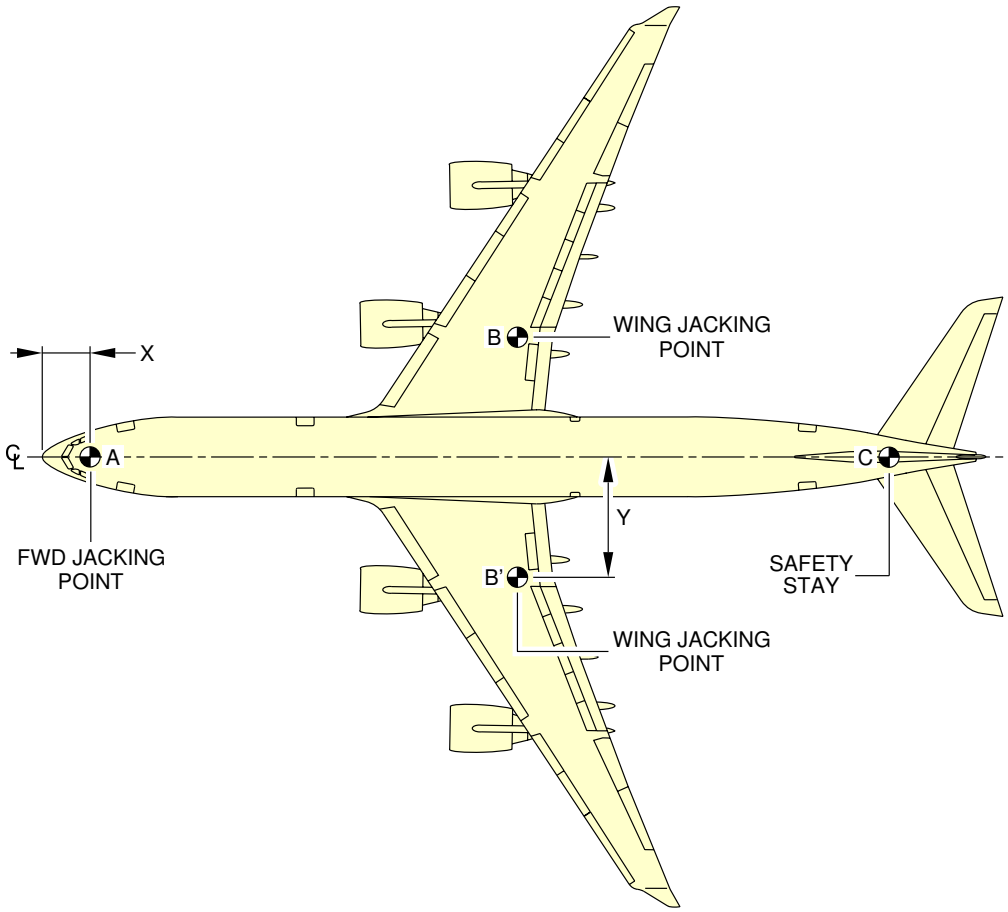
Jacking for Maintenance

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. Fig. Jacking Point Location) 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.

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.

**ON A/C A340-500



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

NOTE:
SAFETY STAY IS NOT USED FOR JACKING.

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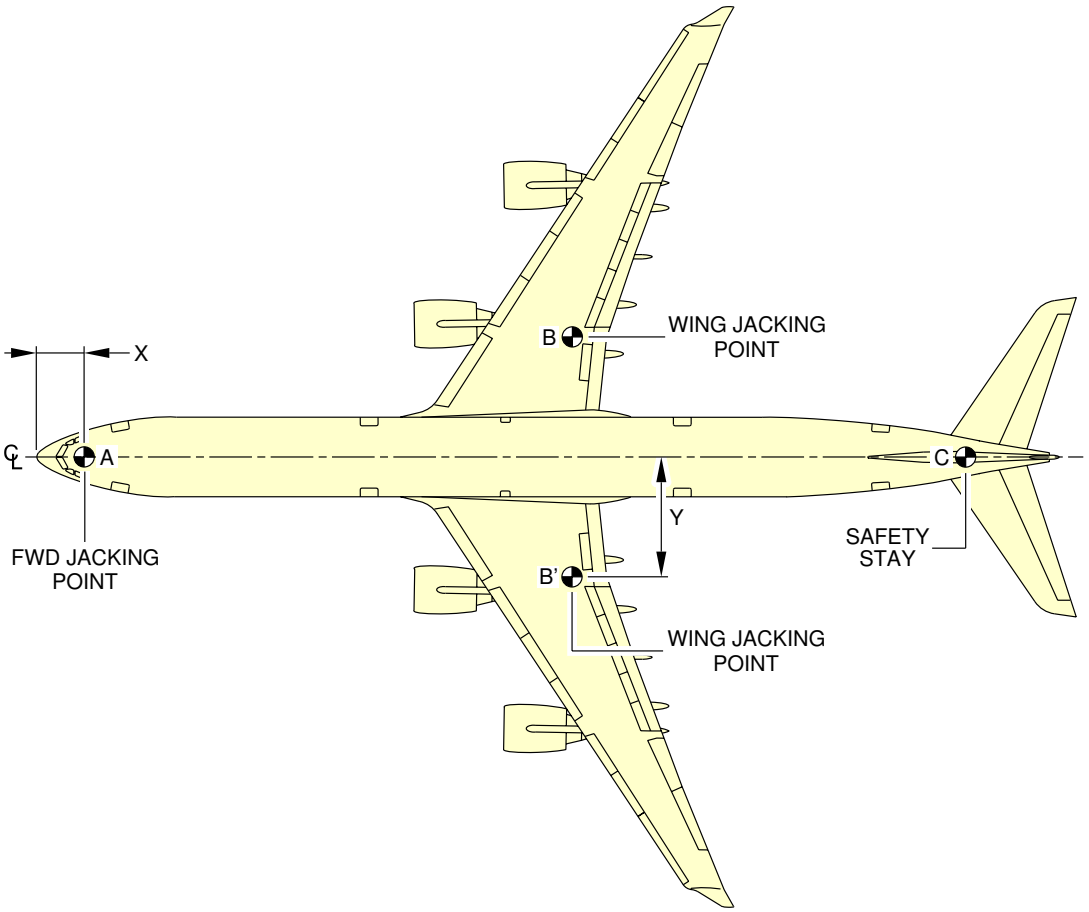
Jacking for Maintenance
Jacking Points Location
FIGURE-2-14-0-991-015-A01

**ON A/C A340-600



		X		Y		MAXIMUM LOAD ELIGIBLE
		m	ft	m	ft	daN
FORWARD FUSELAGE JACKING POINT	A	3.34	10.96	0	0	17 971
WING JACKING POINT	B	39.01	127.99	8.44	27.69	96 105
	B'	39.01	127.99	–8.44	–27.69	96 105
SAFETY STAY	C	67.48	221.39	0	0	4 805

NOTE:
SAFETY STAY IS NOT USED FOR JACKING.

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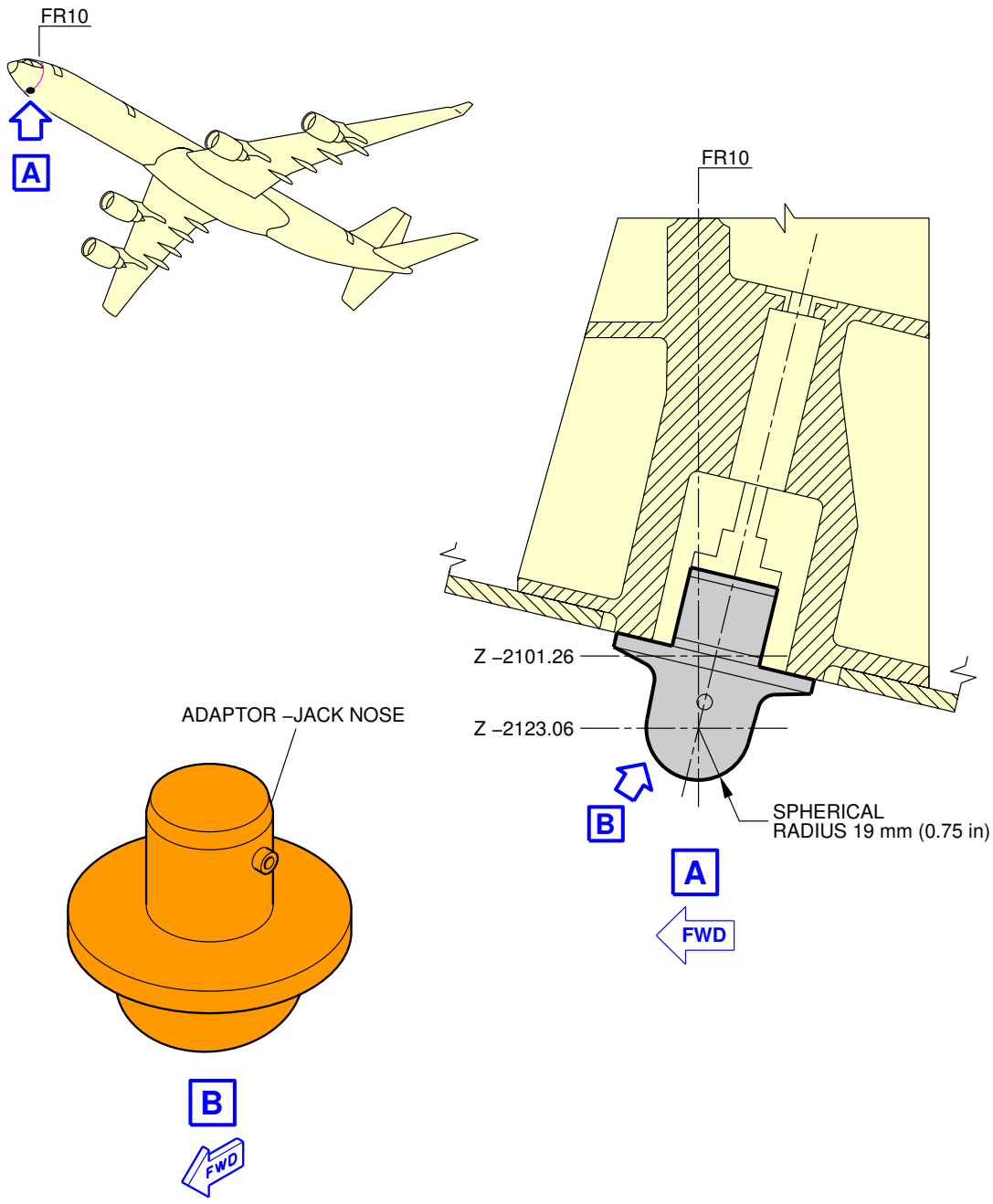
Jacking for Maintenance
Jacking Points Location
FIGURE-2-14-0-991-015-B01

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



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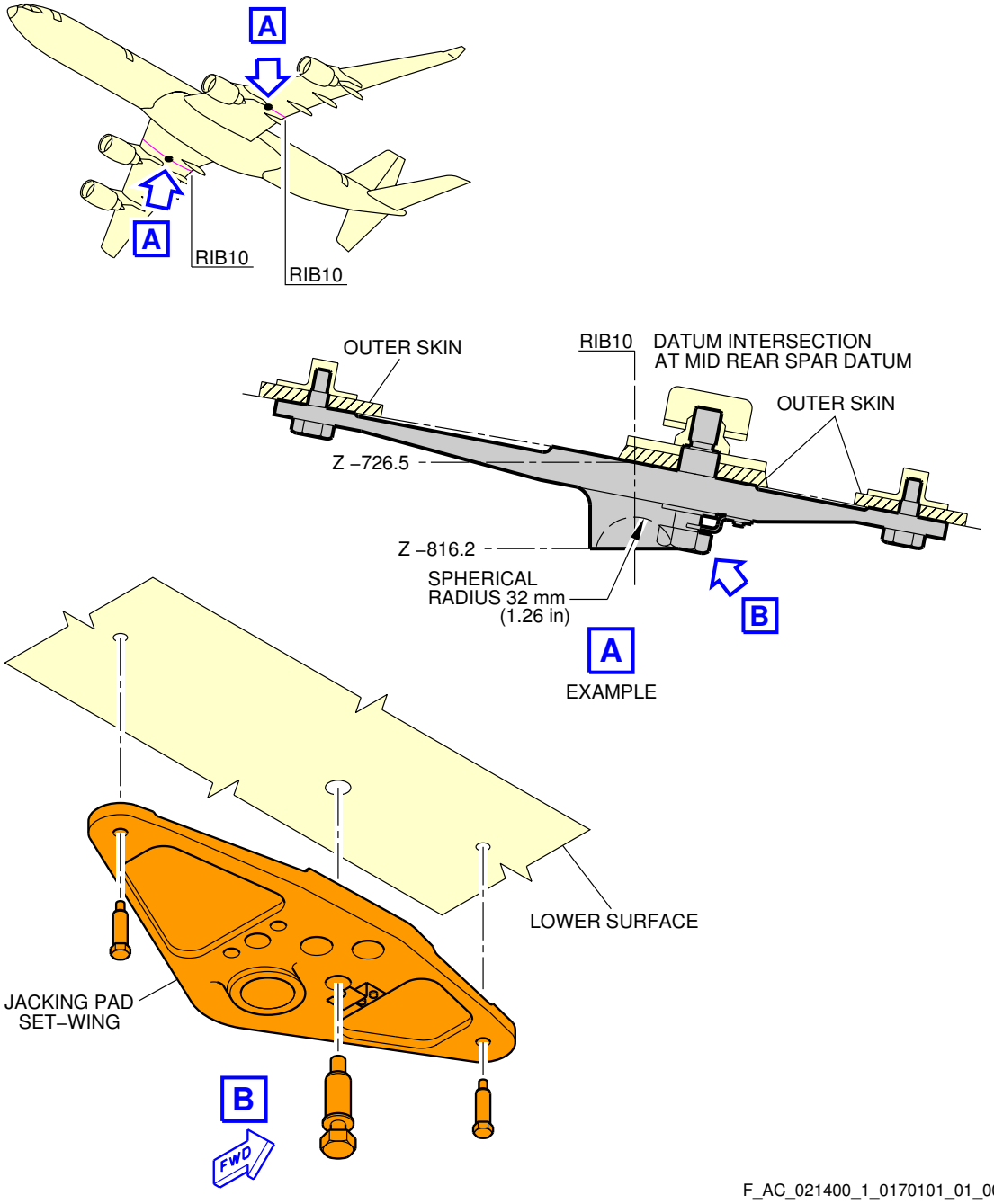
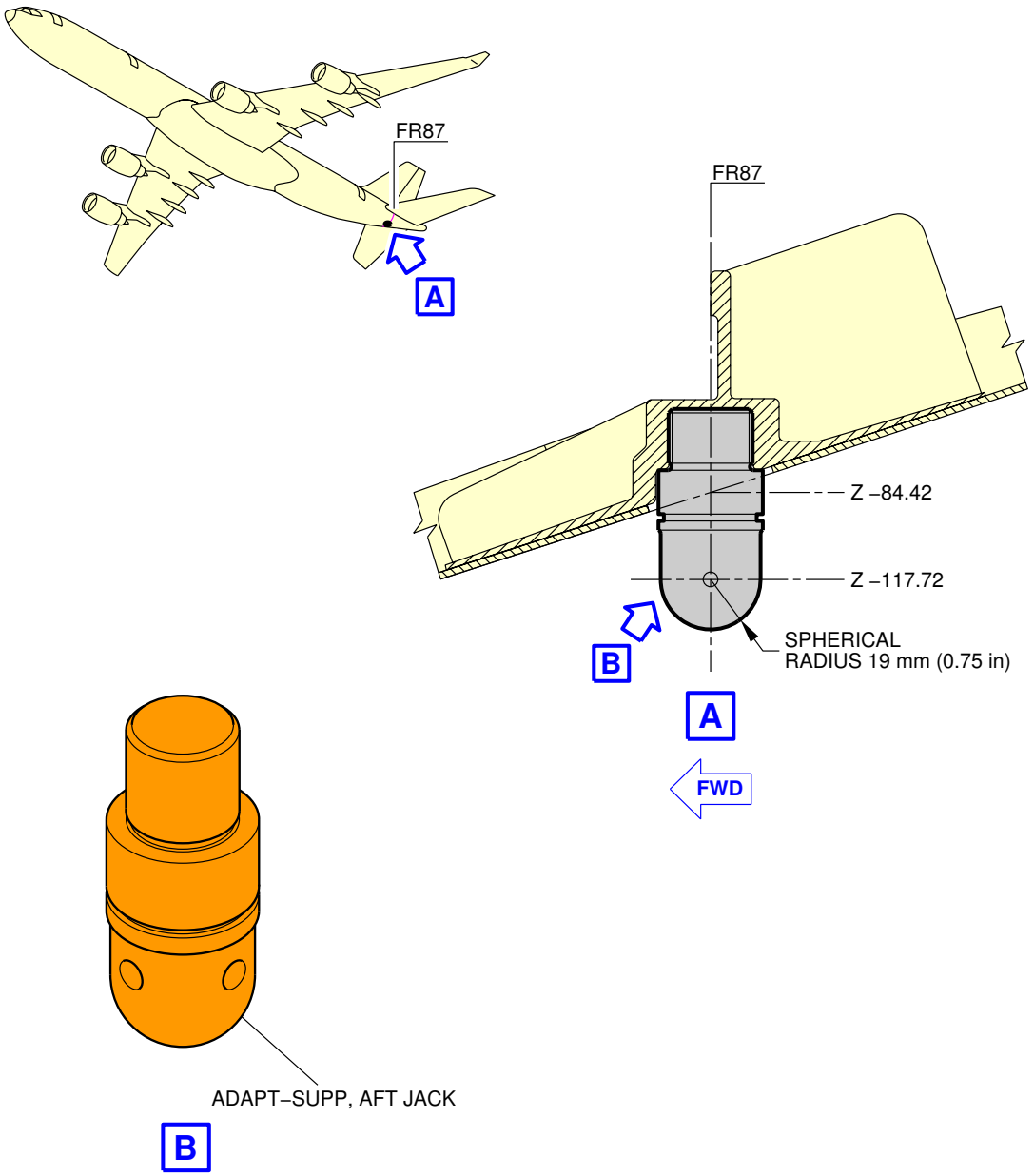
Jacking for Maintenance
Forward Jacking Point
FIGURE-2-14-0-991-016-A01

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



Jacking for Maintenance
Wing Jacking Points
FIGURE-2-14-0-991-017-A01

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



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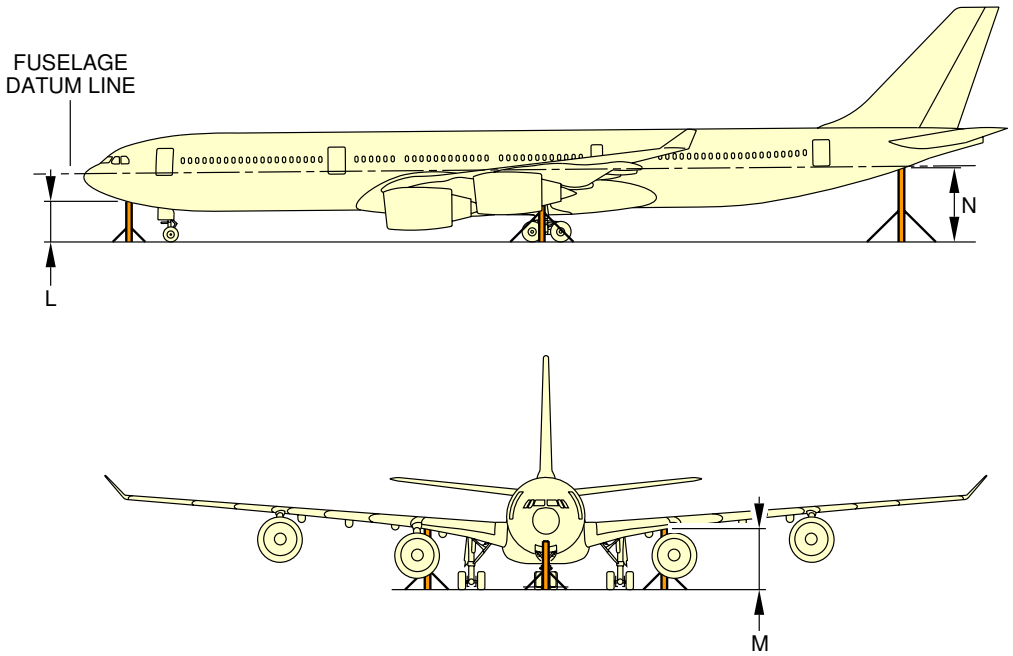
Jacking for Maintenance
Auxiliary Jacking Point - Safety Stay
FIGURE-2-14-0-991-018-A01

**ON A/C A340-500



	L	M	N
AIRCRAFT ON WHEELS WITH STANDARD TIRES, MAX. JACK WEIGHT 200 000 kg (440 924 lb)	2.74 m (8.99 ft)	4.56 m (14.96 ft)	5.6 m (18.37 ft)
AIRCRAFT ON WHEELS WITH STANDARD TIRES, OEW 175 377 kg (386 640 lb)	2.74 m (8.99 ft)	4.56 m (14.96 ft)	5.6 m (18.37 ft)
AIRCRAFT ON WHEELS, SHOCK ABSORBERS DEFLATED AND FLAT TIRES	2.22 m (7.28 ft)	4.01 m (13.16 ft)	5.04 m (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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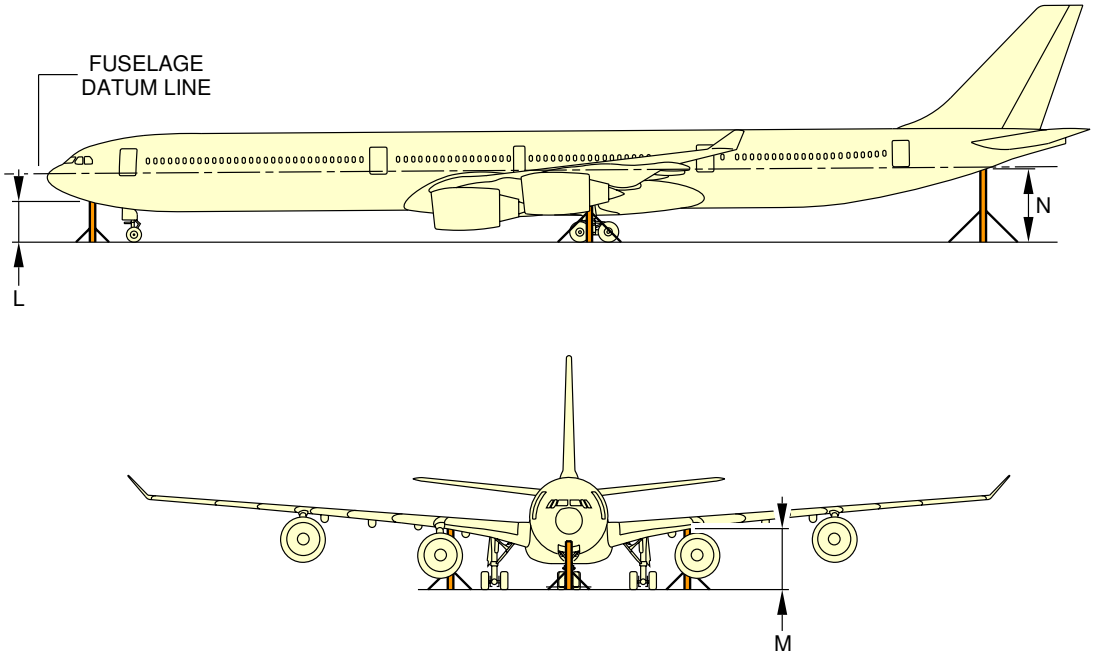
Jacking for Maintenance
Jacking Dimensions
FIGURE-2-14-0-991-019-A01

**ON A/C A340-600



	L	M	N
AIRCRAFT ON WHEELS WITH STANDARD TIRES, MAX. JACK WEIGHT 200 000 kg (440 924 lb)	2.75 m (9.02 ft)	4.56 m (14.96 ft)	5.57 m (18.27 ft)
AIRCRAFT ON WHEELS WITH STANDARD TIRES, OEW 181 606 kg (400 373 lb)	2.75 m (9.02 ft)	4.56 m (14.96 ft)	5.46 m (17.91 ft)
AIRCRAFT ON WHEELS, SHOCK ABSORBERS DEFLATED AND FLAT TIRES	2.22 m (7.28 ft)	4.01 m (13.16 ft)	5 m (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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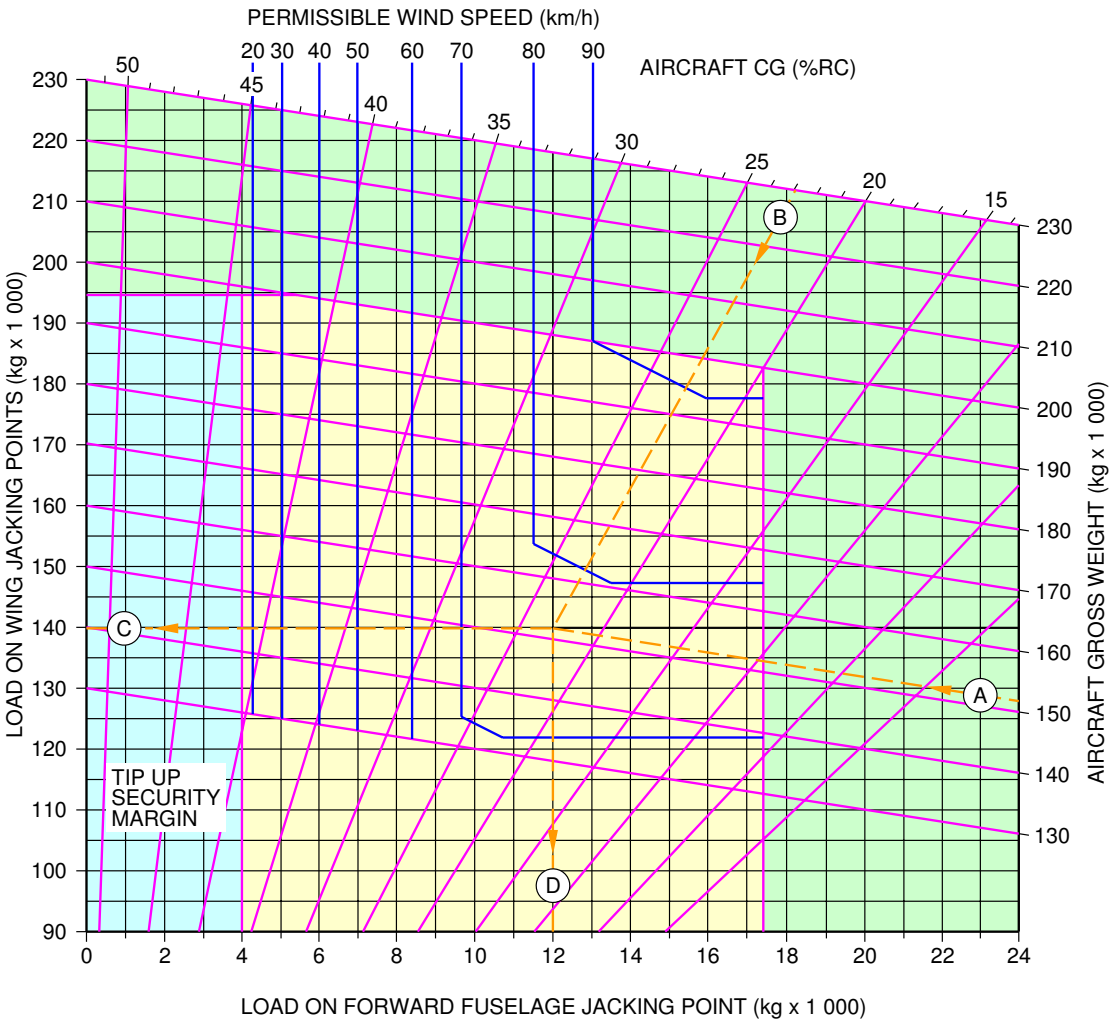
Jacking for Maintenance
Jacking Dimensions
FIGURE-2-14-0-991-019-B01

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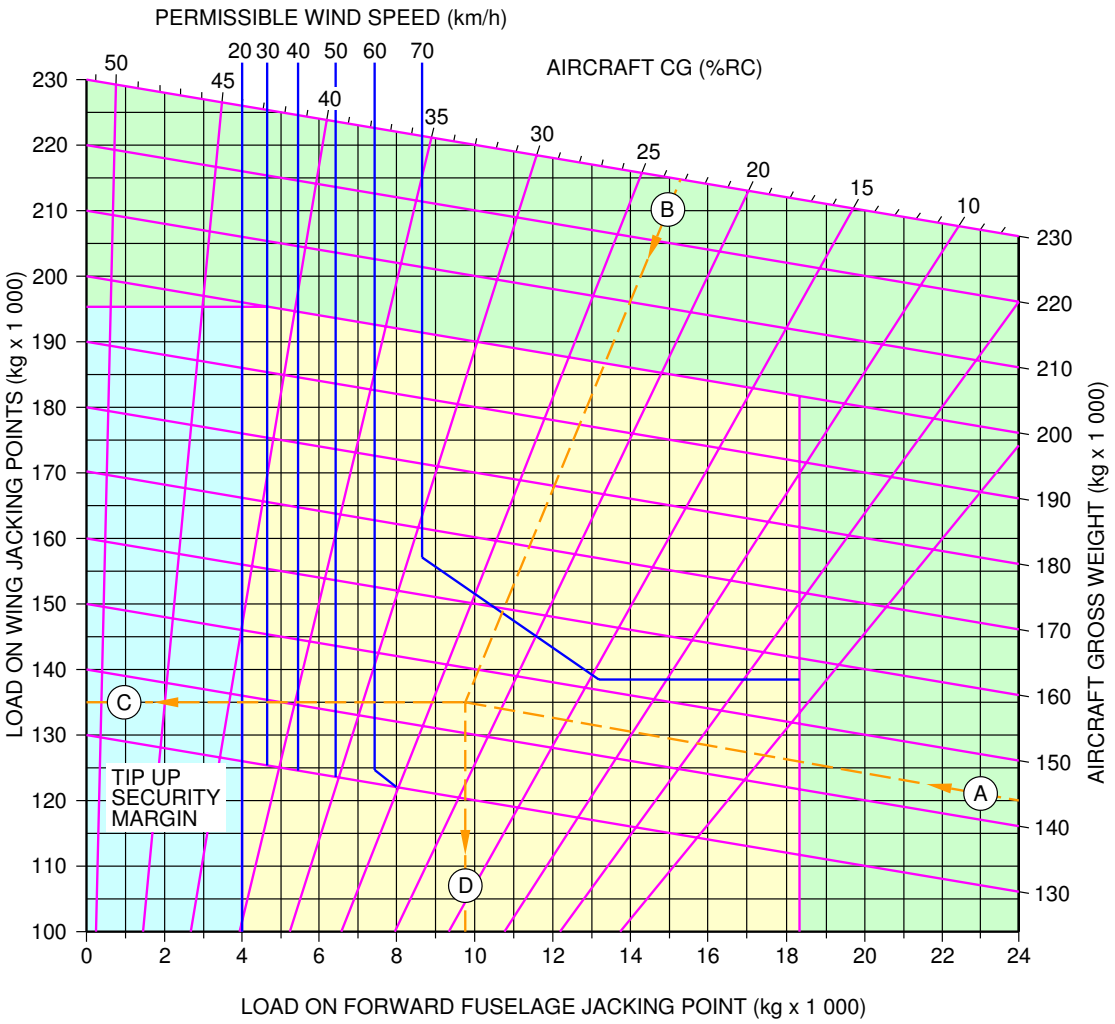
Jacking for Maintenance
Load at the Aircraft Jacking Points
FIGURE-2-14-0-991-020-A01

**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

2-14-1 Jacking for Wheel Change

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

Jacking for Wheel Change

1. General
   To replace either the wheel or brake unit assemblies on any of the landing gears, it is necessary to lift the landing gear with a jack.
   The landing gear can be lifted by a pillar jack or with a cantilever jack.
   The possible damage conditions than can be found on the landing gear wheel units are shown in Figures "MLG Jacking Point Heights", "NLG Jacking Point Heights" and "CLG Jacking Point Heights".

   NOTE : You can lift the aircraft at the Maximum Take-Off Weight (MTOW).

2. Main Landing Gear (MLG)
   To lift the MLG bogie with jacks, a dome shaped adapter (diameter 38 mm (1.5 in)) is installed below the FWD and AFT ends of each bogie beam. Each pair of wheels and brake units can be replaced on the end of the bogie that is lifted.
   Both FWD and AFT ends of the bogie beam can be lifted together, but the bogie beam must be kept level during the lift to prevent damage.
   The MLG has a pitch trimmer installed. If an MLG has all four tires deflated or shredded, replace the wheel assemblies in this sequence:
   - Replace the wheel assemblies on the AFT axle,
   - Replace the wheel assemblies on the FWD axle.

   If the FWD axle is lifted first the pitch trimmer contacts the outstop. Further jacking will cause the whole bogie to be lifted.
   Important dimensions on heights of the MLG when lifted are shown in Figure "MLG Jacking Point Heights".
   The maximum height of the bogie beam when lifted must not exceed 650 mm (25.6 in).
   The reaction loads at each jack position are shown in Figures "MLG Jacking Point Loads".

   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.

3. Nose Landing Gear
   To lift the NLG axle with a jack, a dome shaped adapter (diameter 38 mm (1.5 in)) is installed between the wheels.
   Important dimensions on heights of the NLG when lifted are shown in Figure "NLG Jacking Point Heights".
   The reaction loads at the jack position are shown in Figures "NLG Jacking Point Loads".

   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.

4. Center Landing Gear

To lift the CLG with jacks, a dome shaped adapter (diameter 38 mm (1.5 in)) is installed between the wheels. Each pair of wheels can be replaced on the end of the bogie beam that is lifted.

Both FWD and AFT ends of the bogie beam can be lifted together, but the bogie beam must be kept level during the lift to prevent damage.

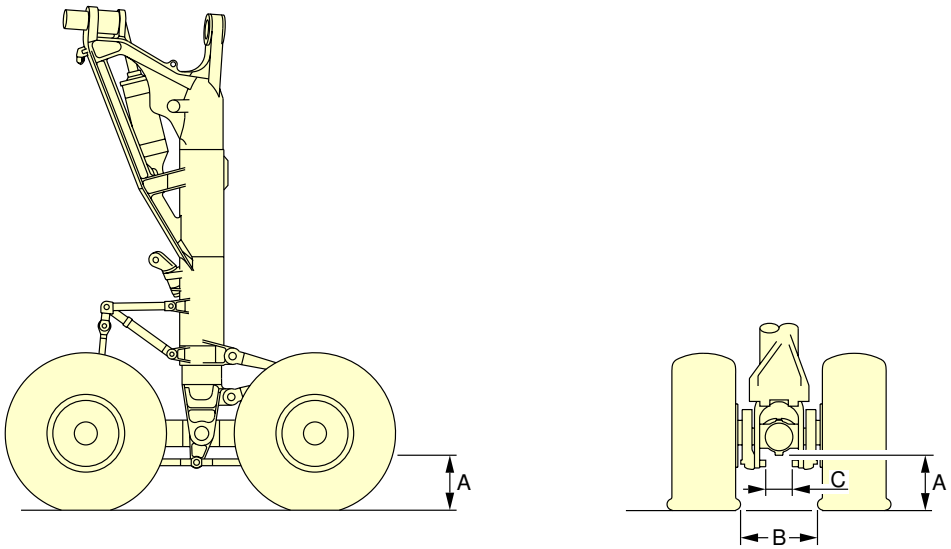
Important dimensions on heights of the CLG when lifted are shown in Figure "CLG Jacking Point Heights".

The maximum height of the bogie beam when lifted must not exceed 650 mm (25.6 in).

The reaction loads at the jack position are shown in Figures "CLG Jacking Point Loads".

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.

**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.

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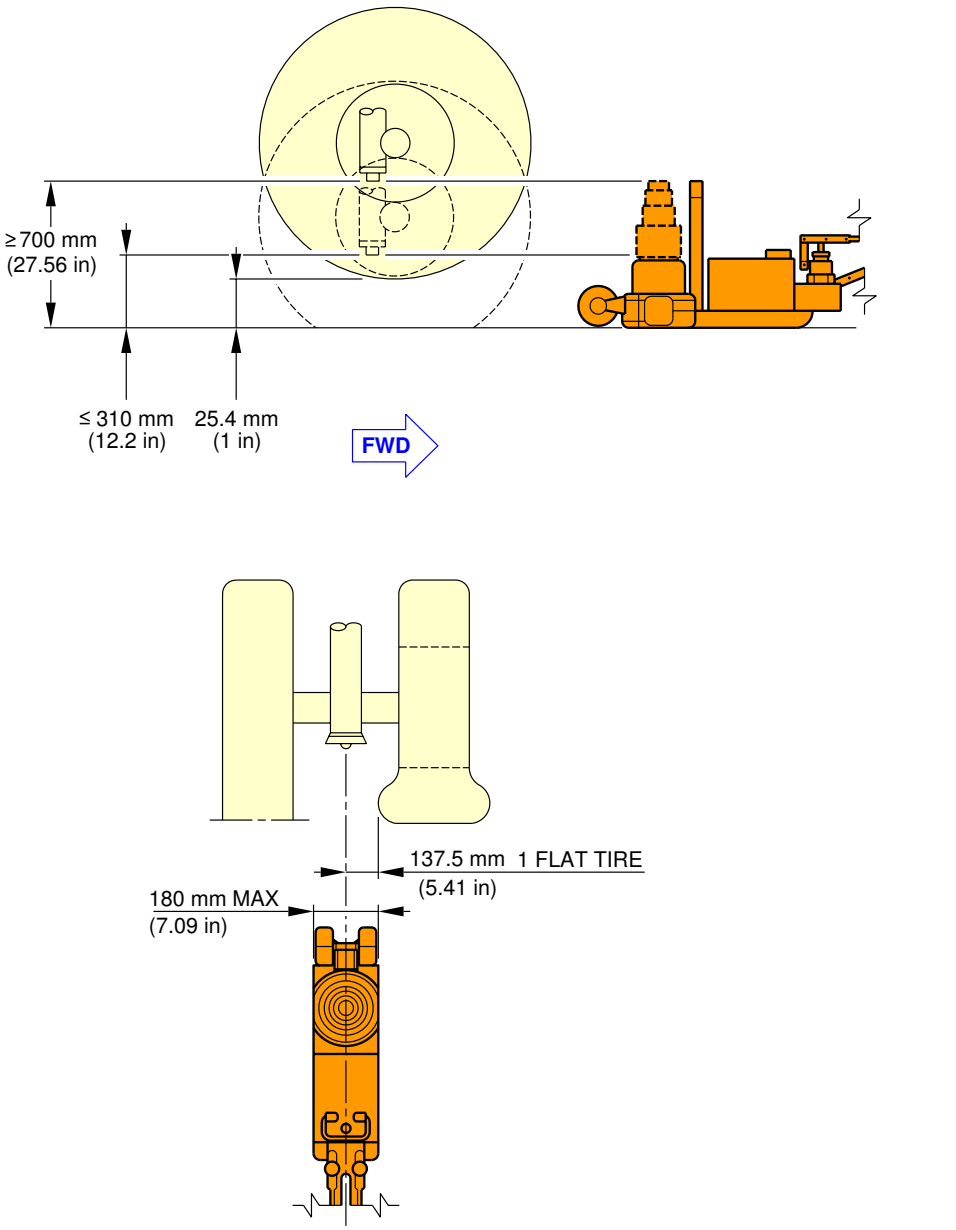
Jacking for Wheel Change
MLG Jacking Point Heights
FIGURE-2-14-1-991-011-A01

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



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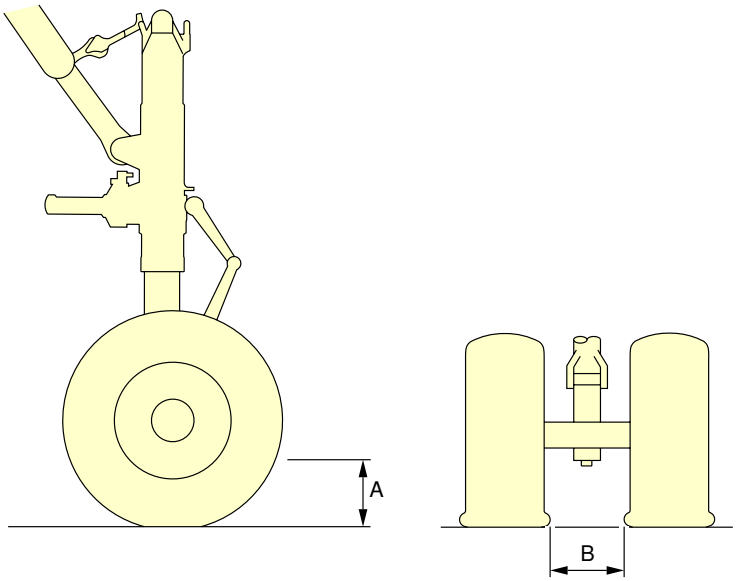
Jacking for Wheel Change
Jacking of the NLG (Sheet 1 of 2)
FIGURE-2-14-1-991-012-A01

**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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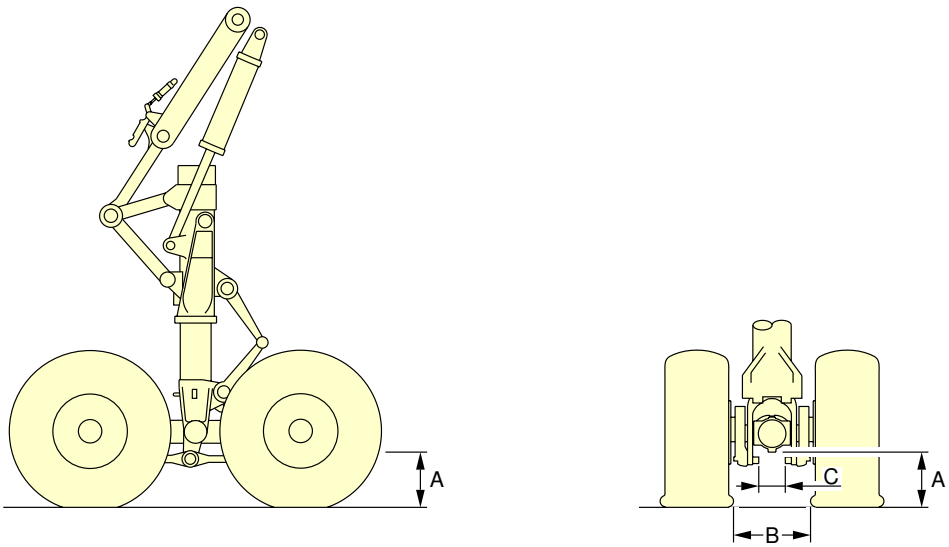
Jacking for Wheel Change
NLG Jacking Point Heights (Sheet 2 of 2)
FIGURE-2-14-1-991-012-A01

**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.

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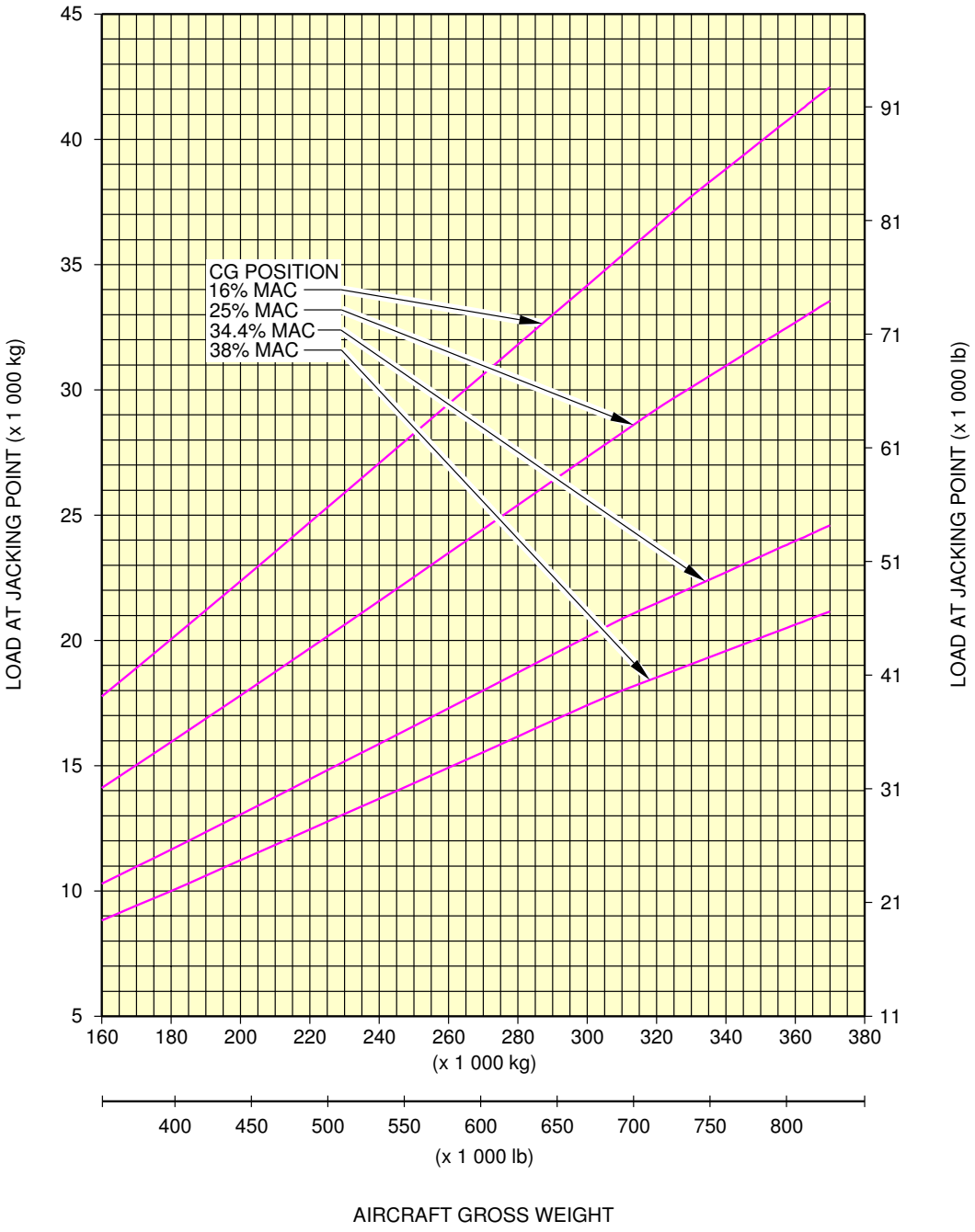
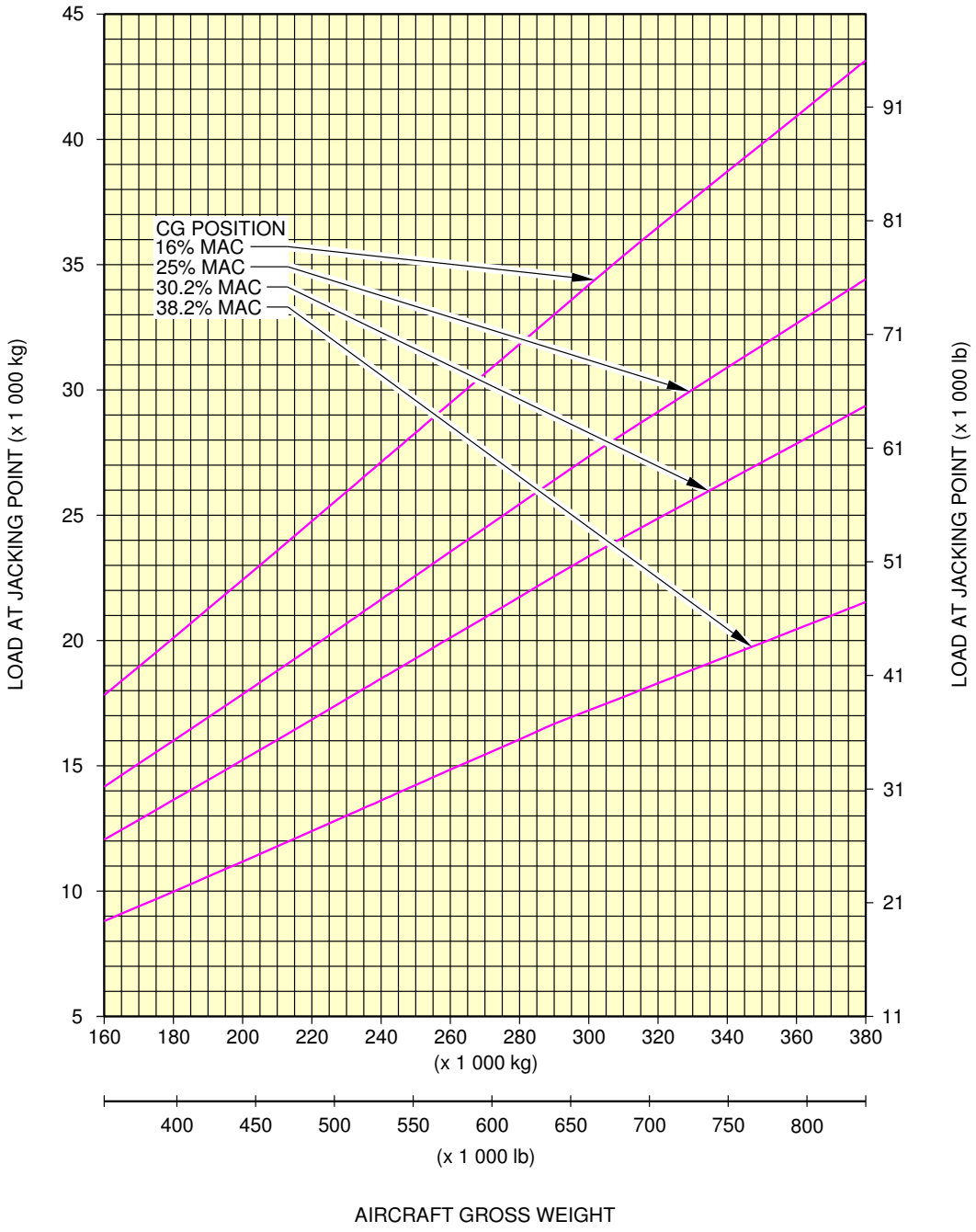
Jacking for Wheel Change
CLG Jacking Point Heights
FIGURE-2-14-1-991-013-A01

**ON A/C A340-600



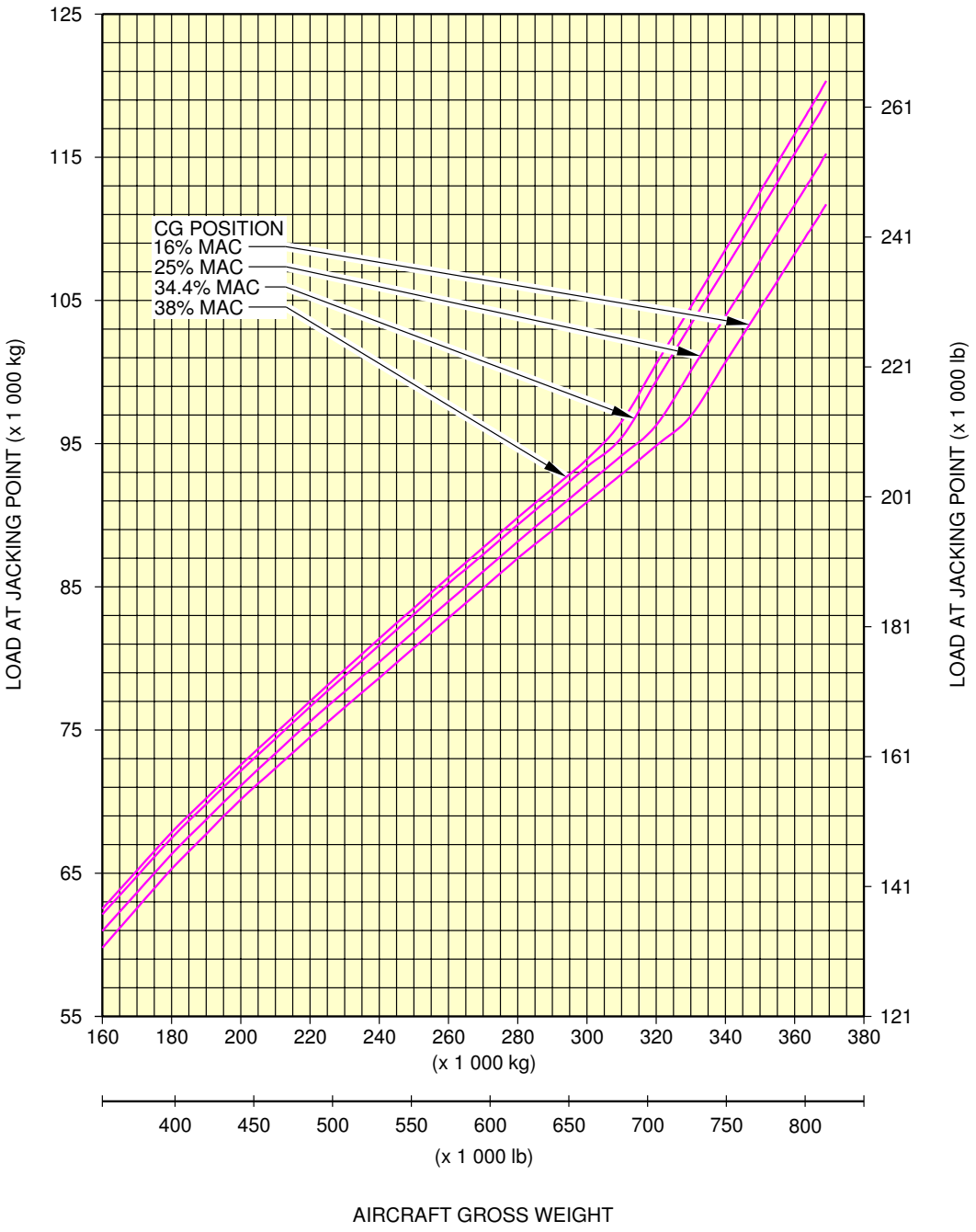
Jacking for Wheel Change
NLG Jacking Point Loads - (WV 001)
FIGURE-2-14-1-991-014-A01

**ON A/C A340-600



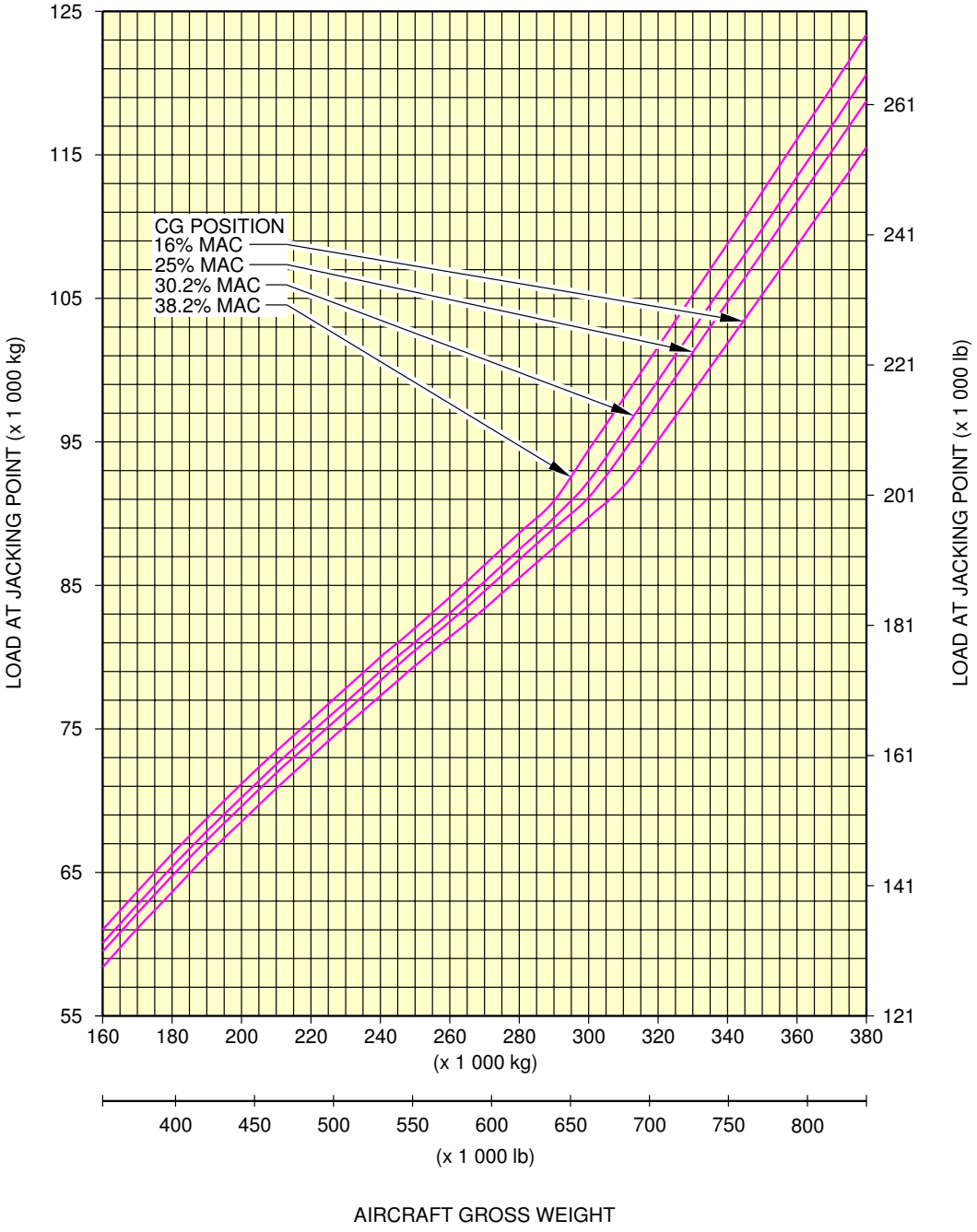
Jacking for Wheel Change
NLG Jacking Point Loads - (WV 101)
FIGURE-2-14-1-991-015-A01

**ON A/C A340-600



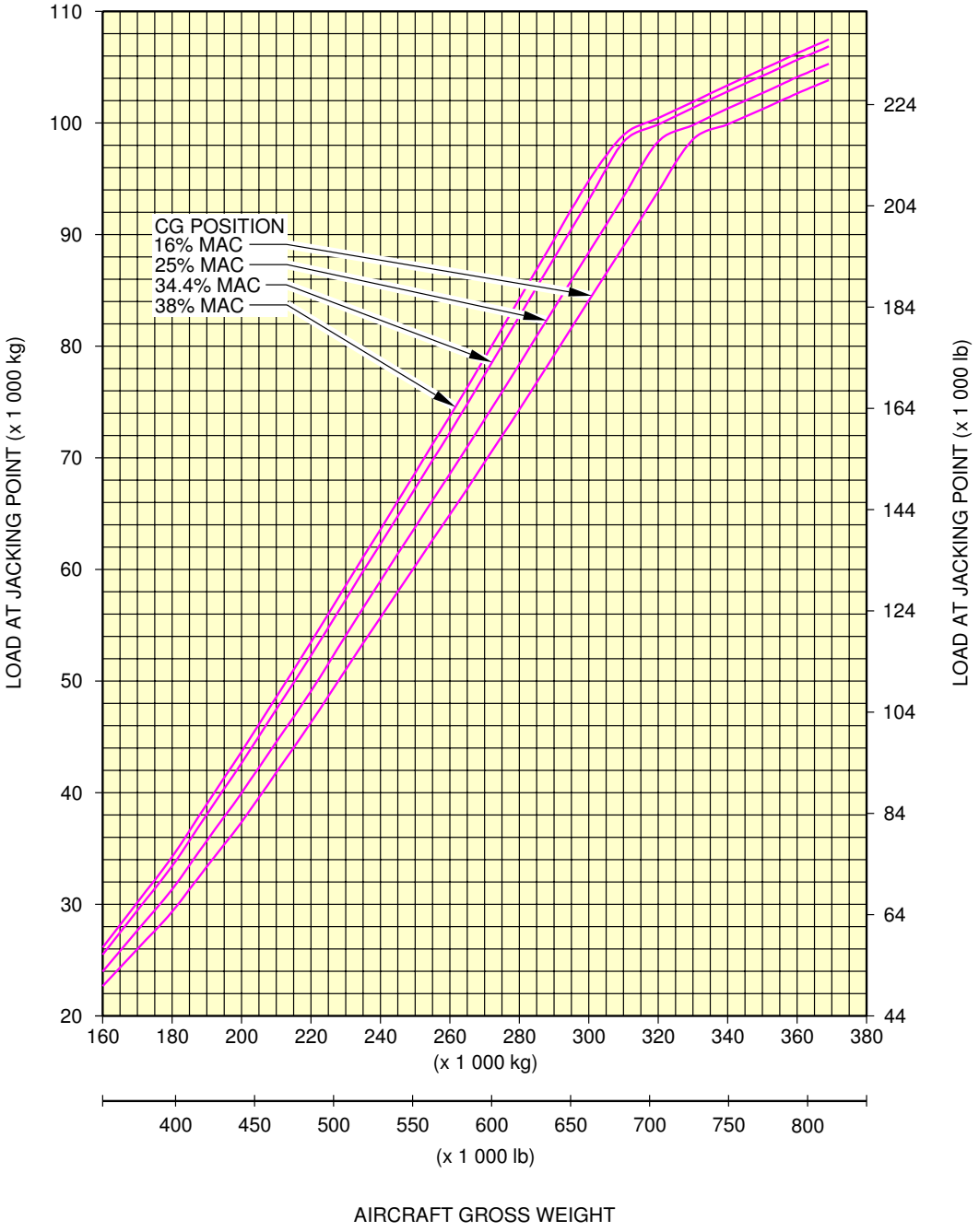
Jacking for Wheel Change
MLG Jacking Point Loads - (WV 001)
FIGURE-2-14-1-991-016-A01

**ON A/C A340-600



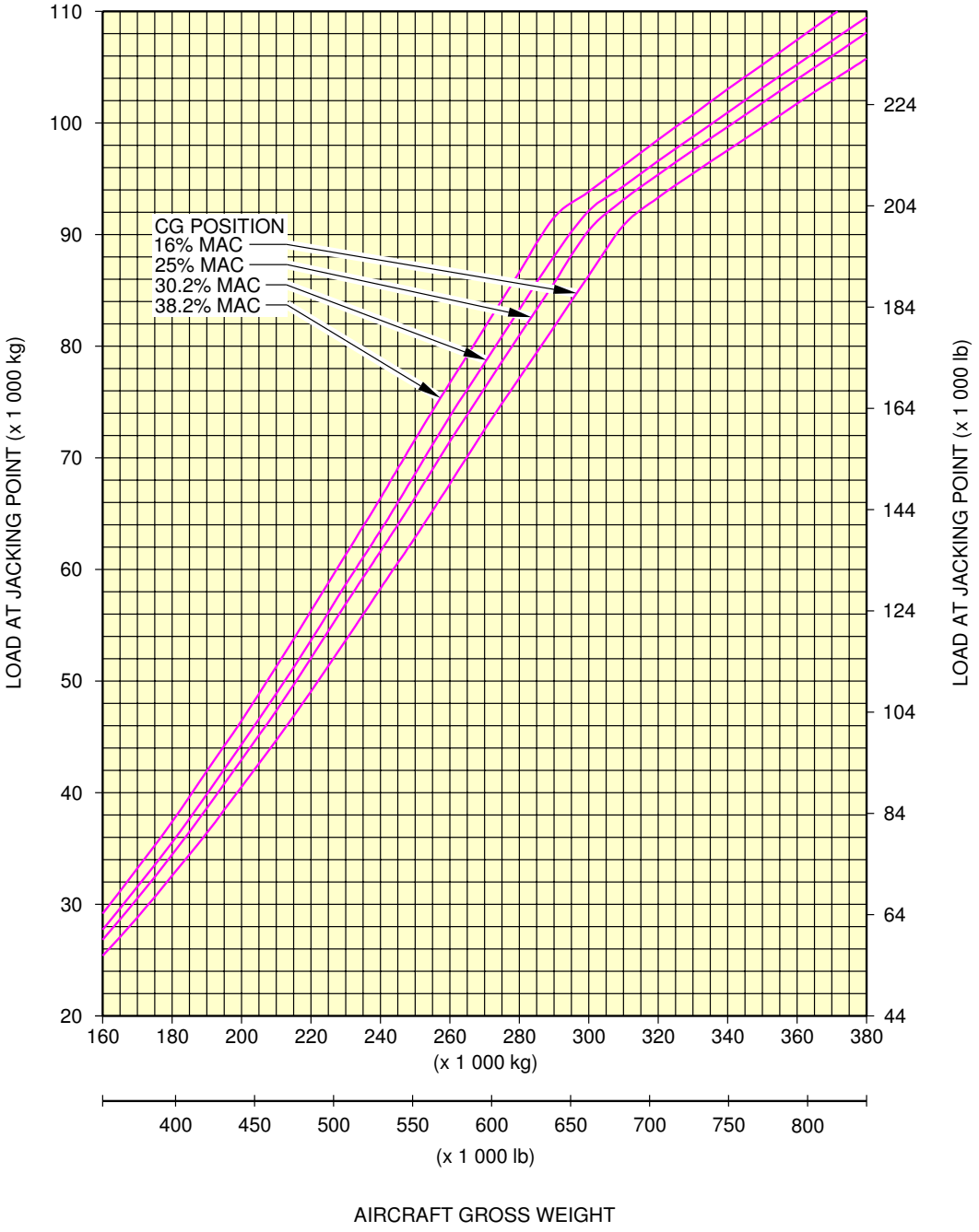
Jacking for Wheel Change
MLG Jacking Point Loads - (WV 101)
FIGURE-2-14-1-991-017-A01

**ON A/C A340-600



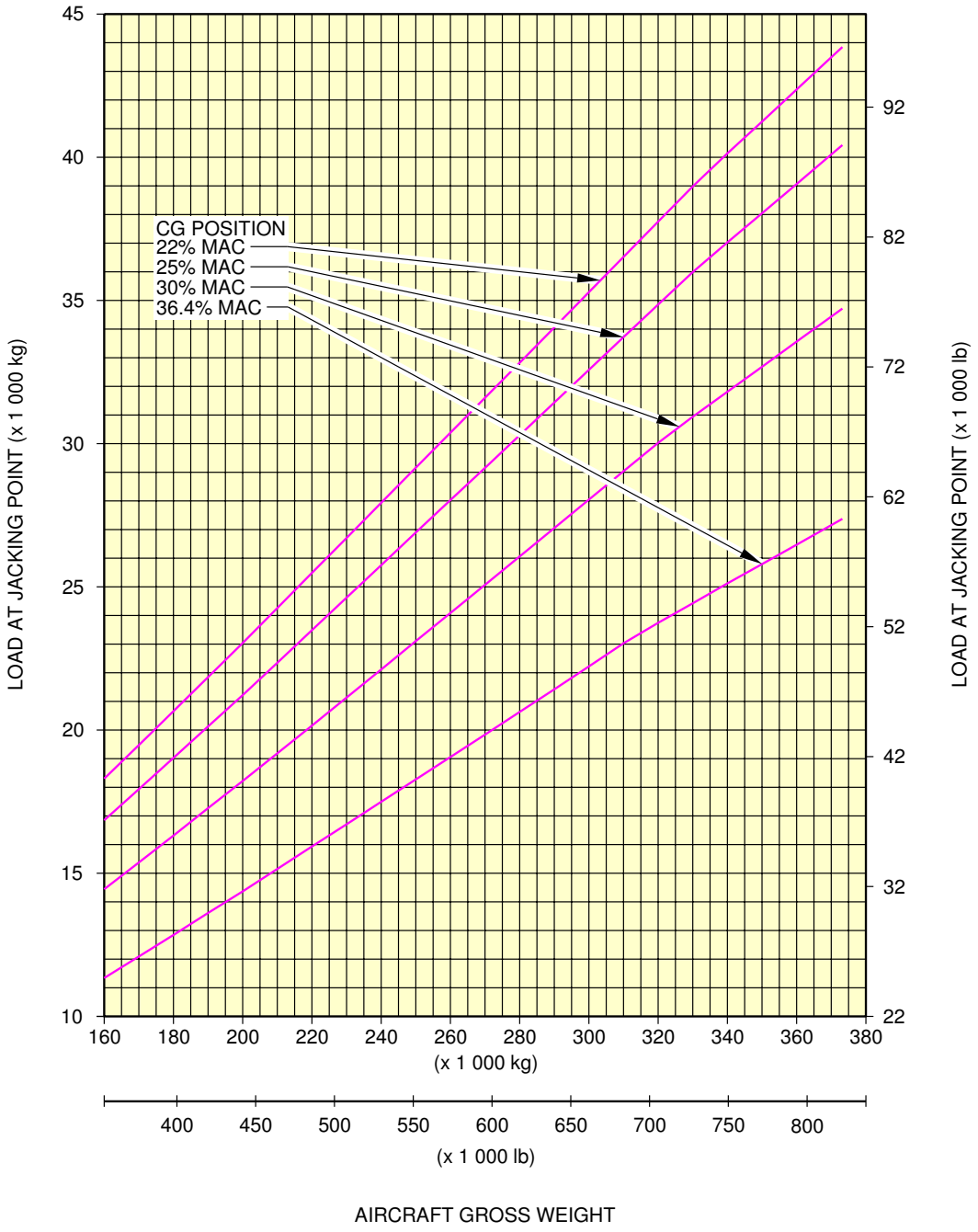
Jacking for Wheel Change
CLG Jacking Point Loads - (WV 001)
FIGURE-2-14-1-991-018-A01

**ON A/C A340-600



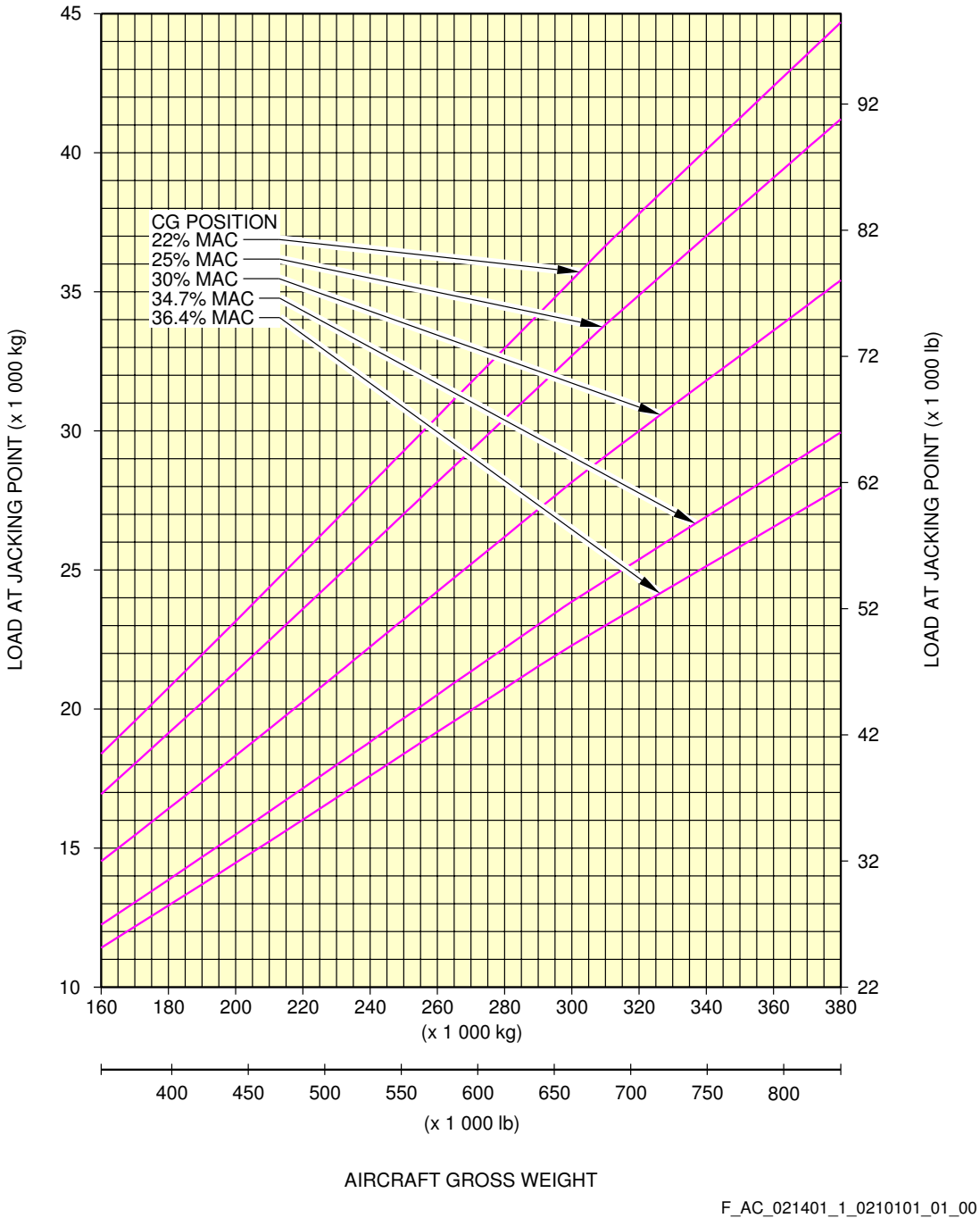
Jacking for Wheel Change
CLG Jacking Point Loads - (WV 101)
FIGURE-2-14-1-991-019-A01

**ON A/C A340-500



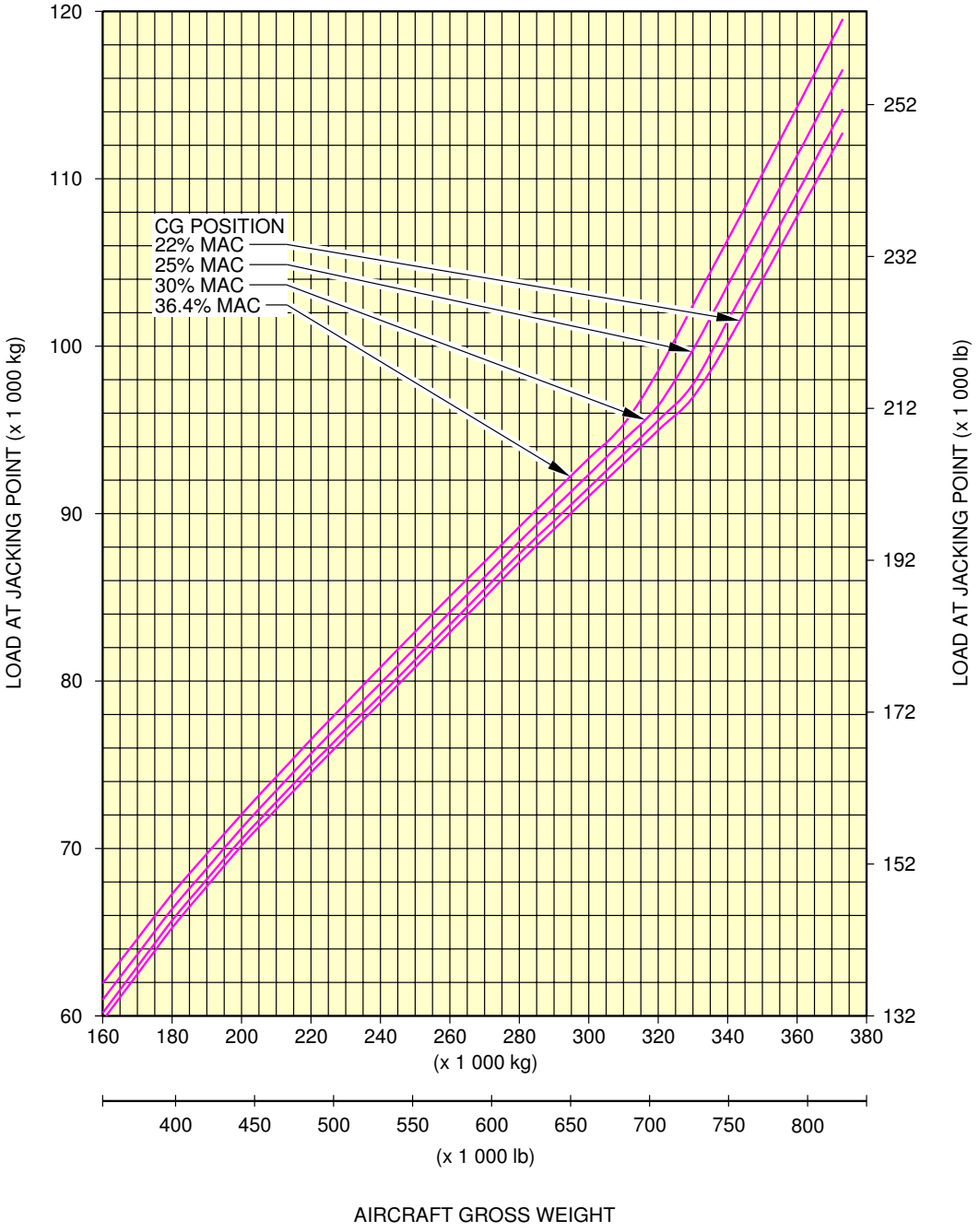
Jacking for Wheel Change
NLG Jacking Point Loads - (WV 001)
FIGURE-2-14-1-991-020-A01

**ON A/C A340-500



Jacking for Wheel Change
NLG Jacking Point Loads - (WV 101)
FIGURE-2-14-1-991-021-A01

**ON A/C A340-500



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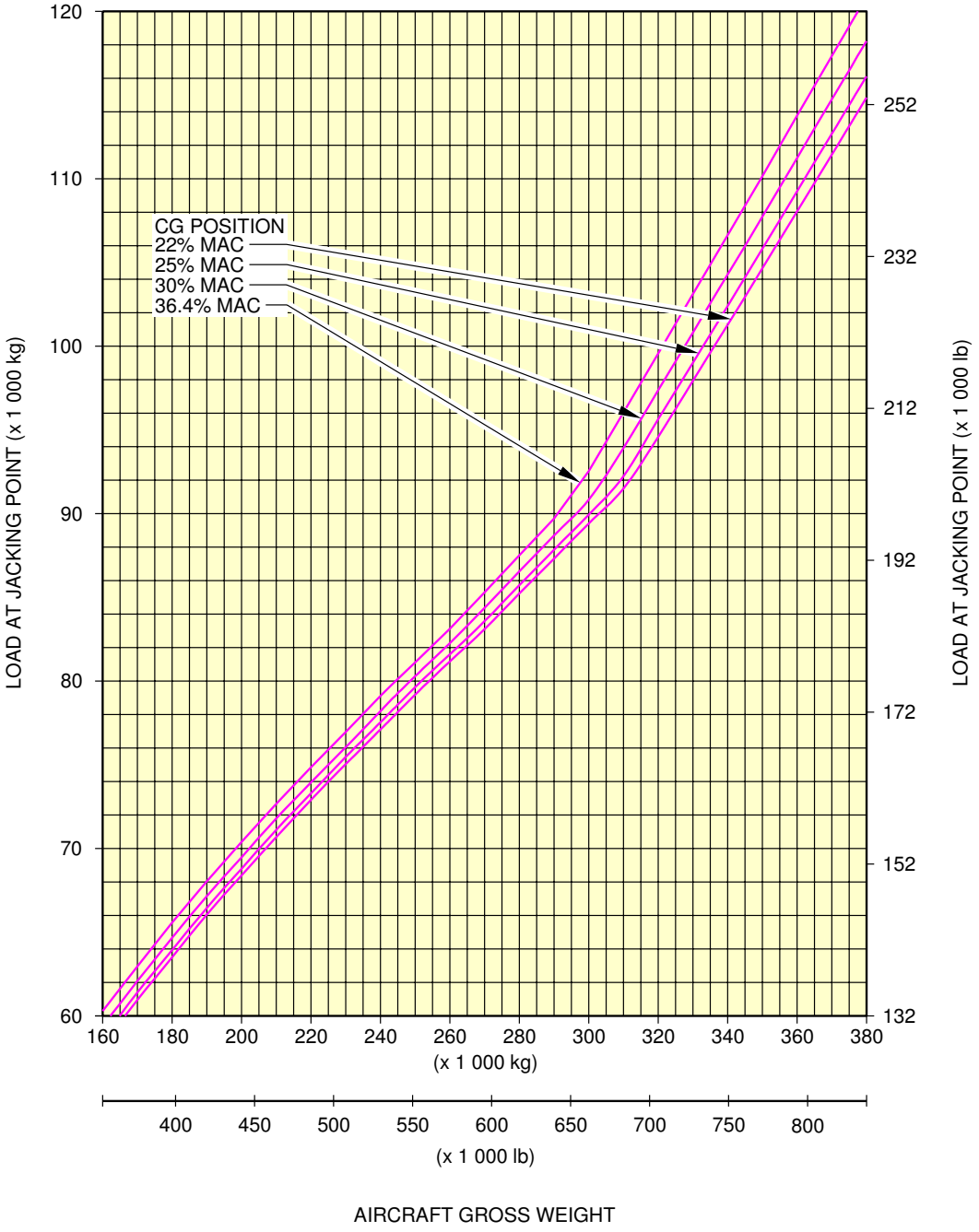
Jacking for Wheel Change
MLG Jacking Point Loads - (WV 001)
FIGURE-2-14-1-991-022-A01

**ON A/C A340-500



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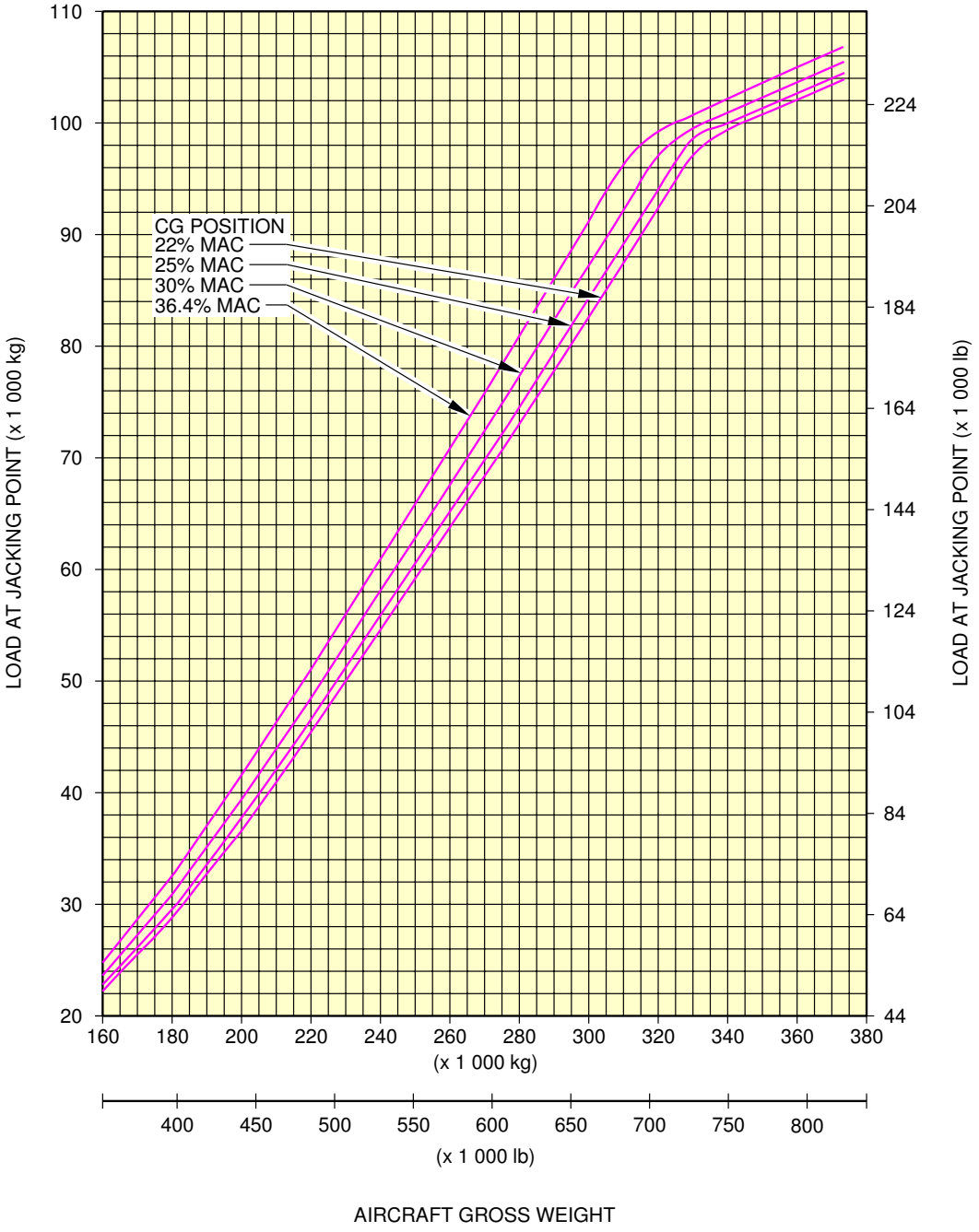
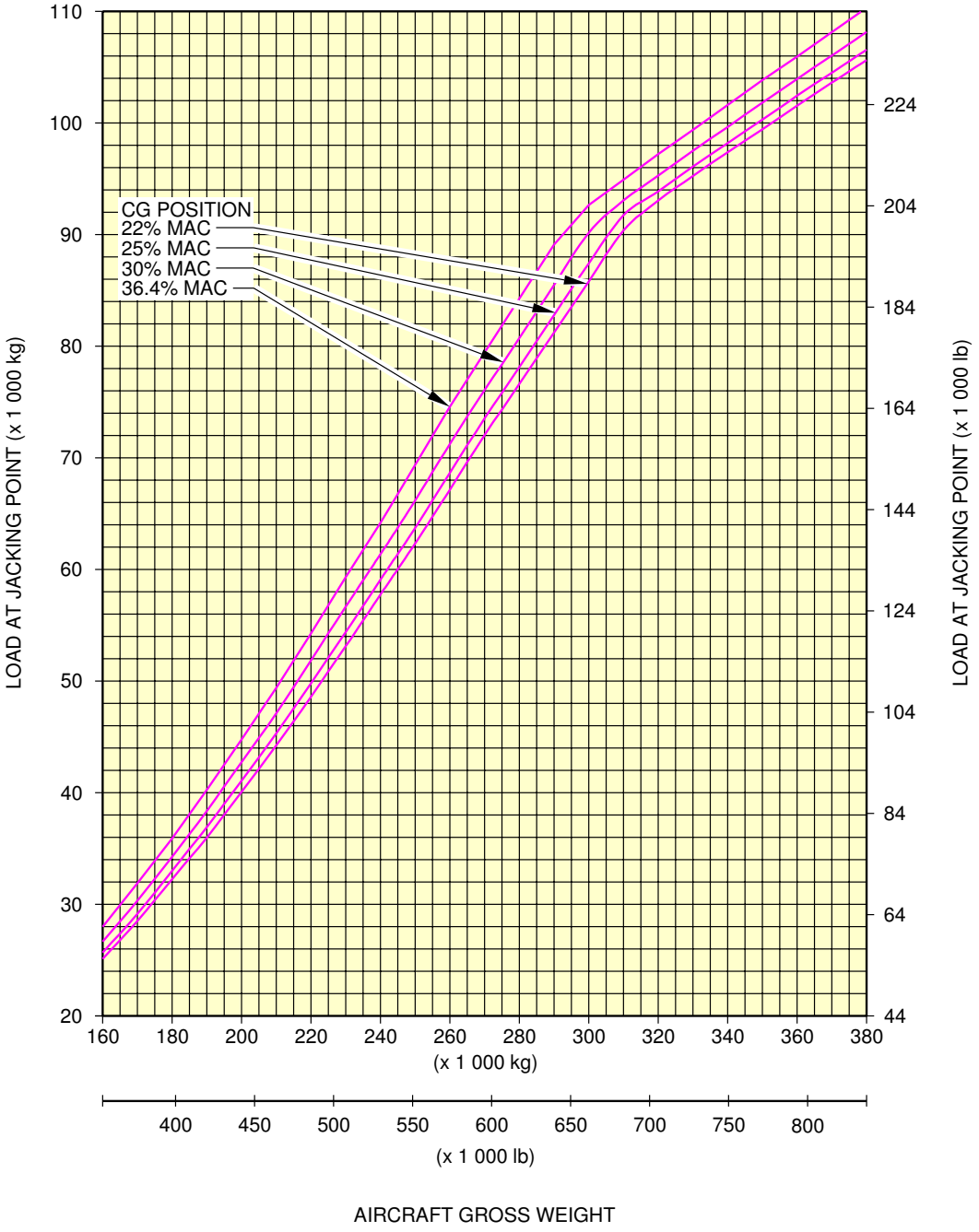
Jacking for Wheel Change
MLG Jacking Point Loads - (WV 101)
FIGURE-2-14-1-991-023-A01

**ON A/C A340-500



Jacking for Wheel Change
CLG Jacking Point Loads - (WV 001)
FIGURE-2-14-1-991-024-A01

**ON A/C A340-500



Jacking for Wheel Change
CLG Jacking Point Loads - (WV 101)
FIGURE-2-14-1-991-025-A01

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.

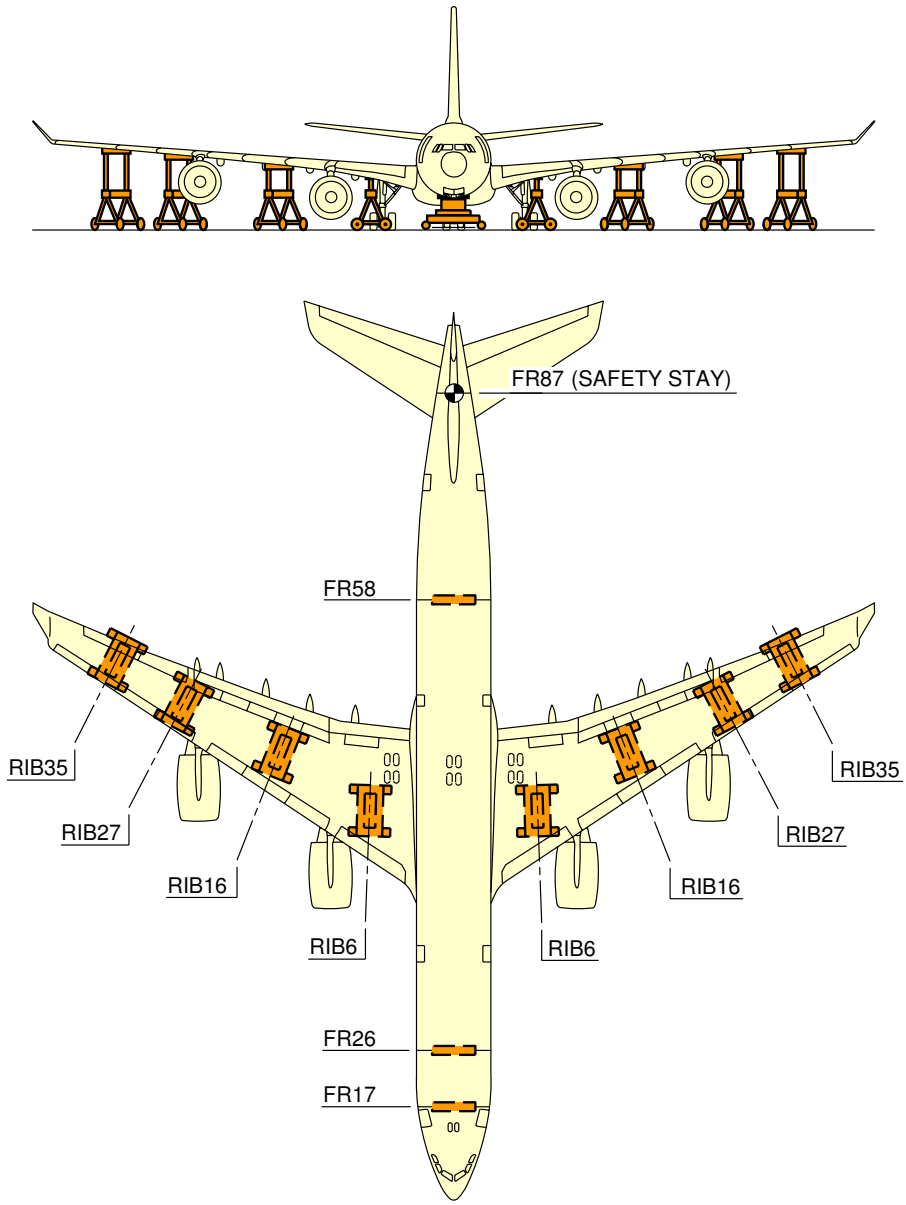
   The aircraft must not be lifted or supported by the wings or fuselage alone. It is important to support the aircraft fuselage and wings at the same time to prevent structural damage.

   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).

**ON A/C A340-500



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

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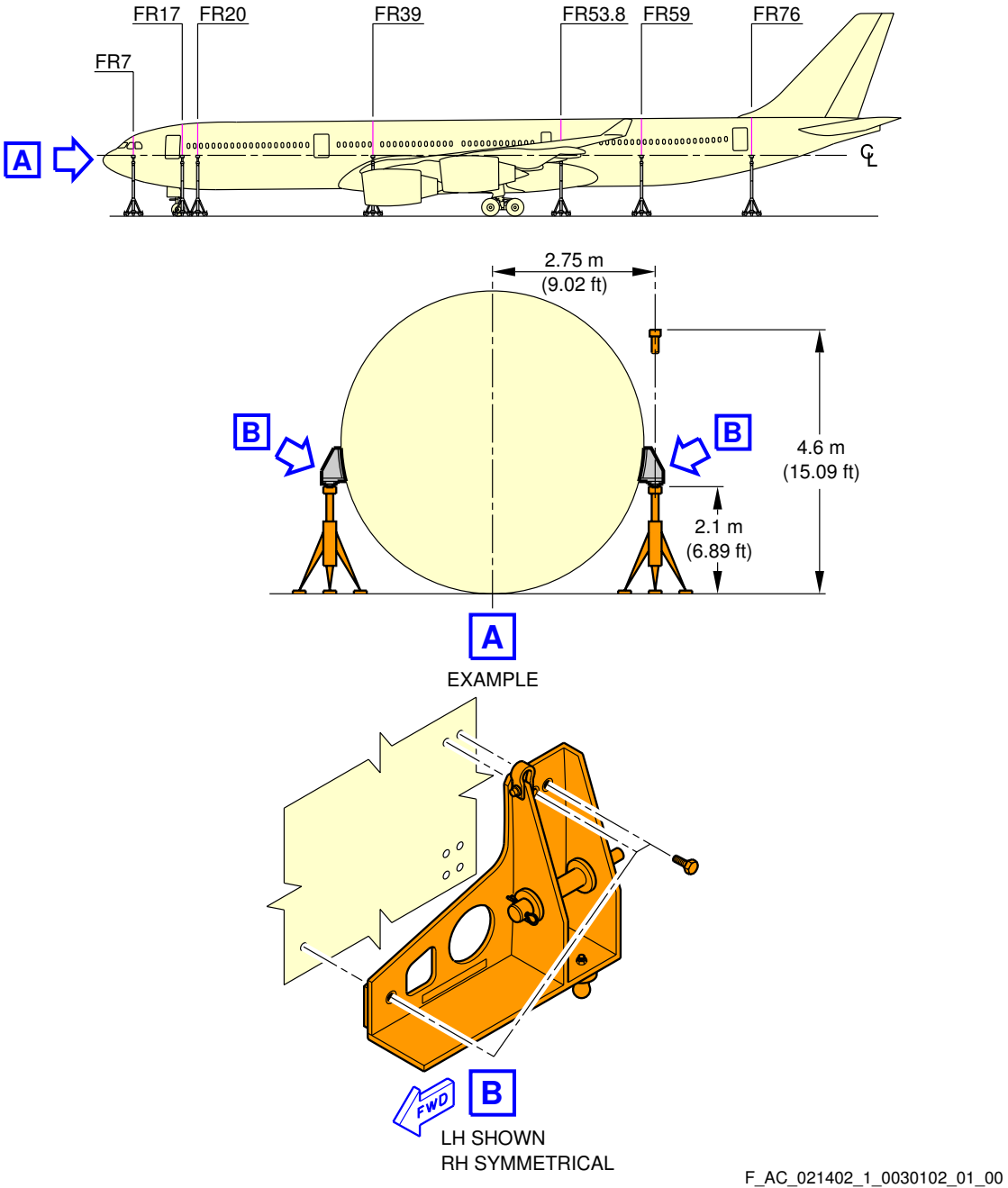
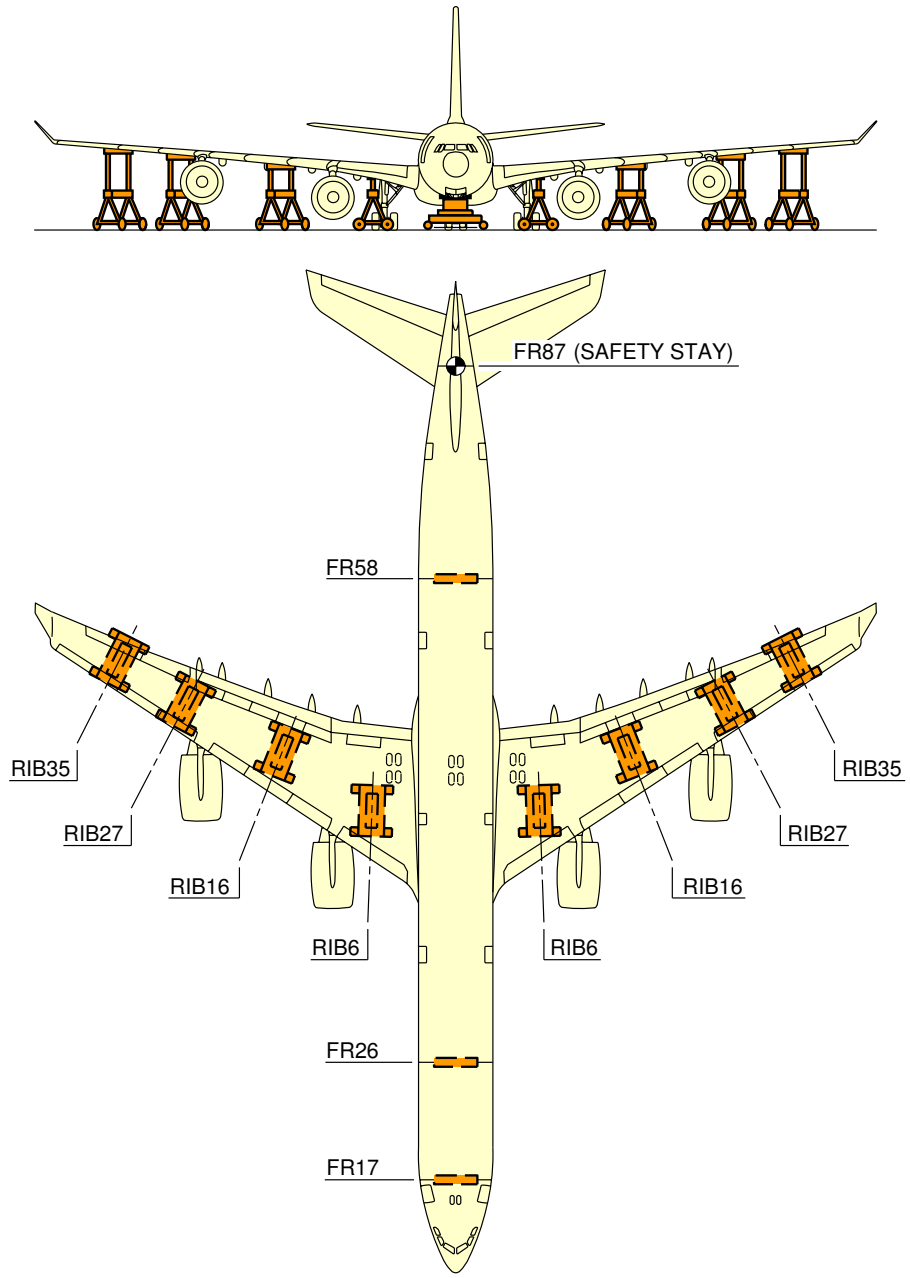
Support of Aircraft
Location of Shoring Cradles (Sheet 1 of 2)
FIGURE-2-14-2-991-003-A01

**ON A/C A340-500



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

**ON A/C A340-600



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

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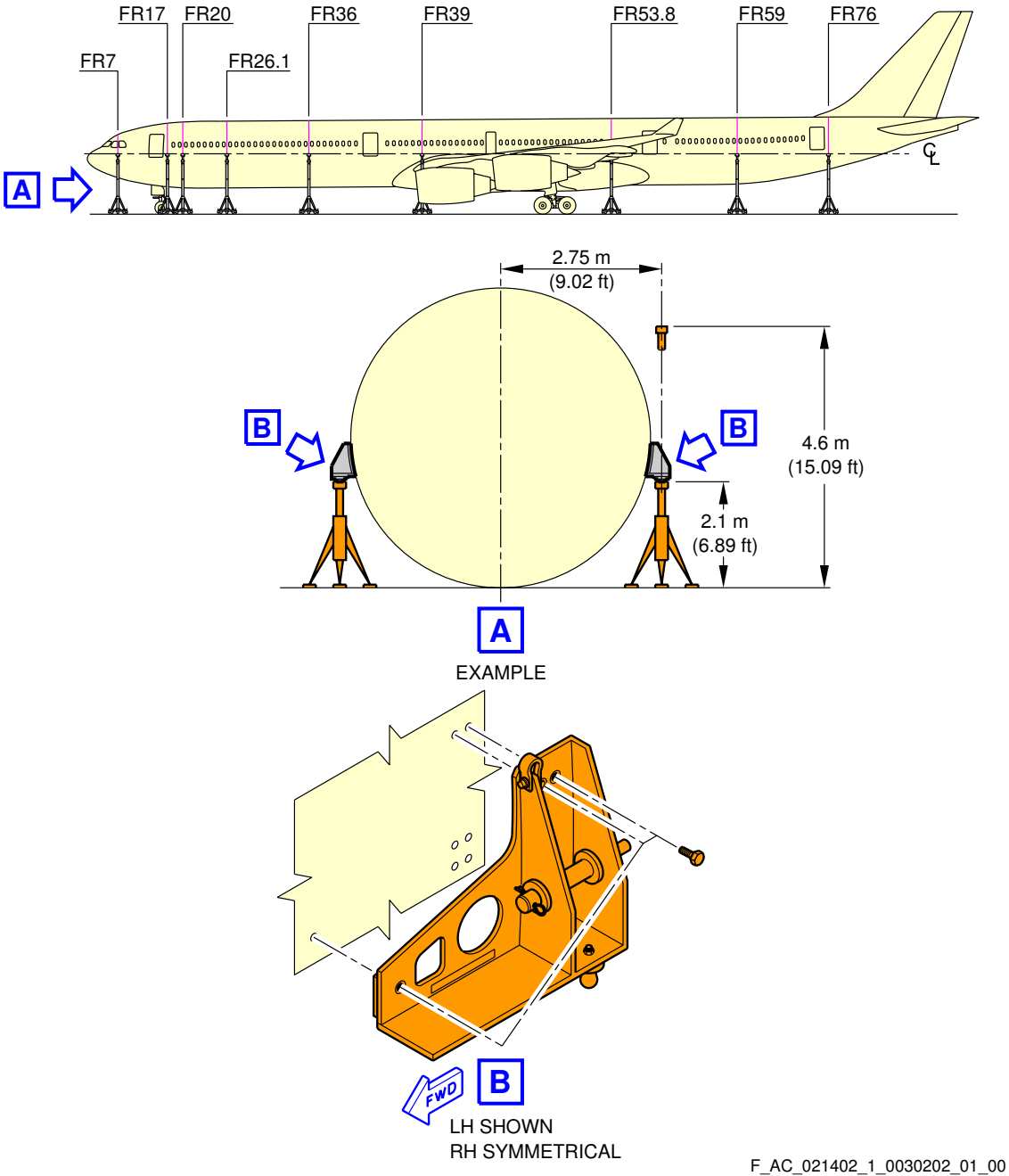
Support of Aircraft
Location of Shoring Cradles (Sheet 1 of 2)
FIGURE-2-14-2-991-003-B01

**ON A/C A340-600



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

AIRCRAFT PERFORMANCE

3-1-0 General Information

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

General Information

1. This section gives standard day temperatures.

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

   Section 3-3 represents FAR takeoff runway length requirements at ISA and ISA +15°C (+27°F) for RB 211 TRENT 500 series engine conditions for FAA certification.

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

   Section 3-5 indicates final approach speeds.

   Standard day temperatures for the altitude shown are tabulated below:

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

3-2-0 Payload / Range

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

Payload / Range

1. Payload / Range

3-2-1 ISA Conditions

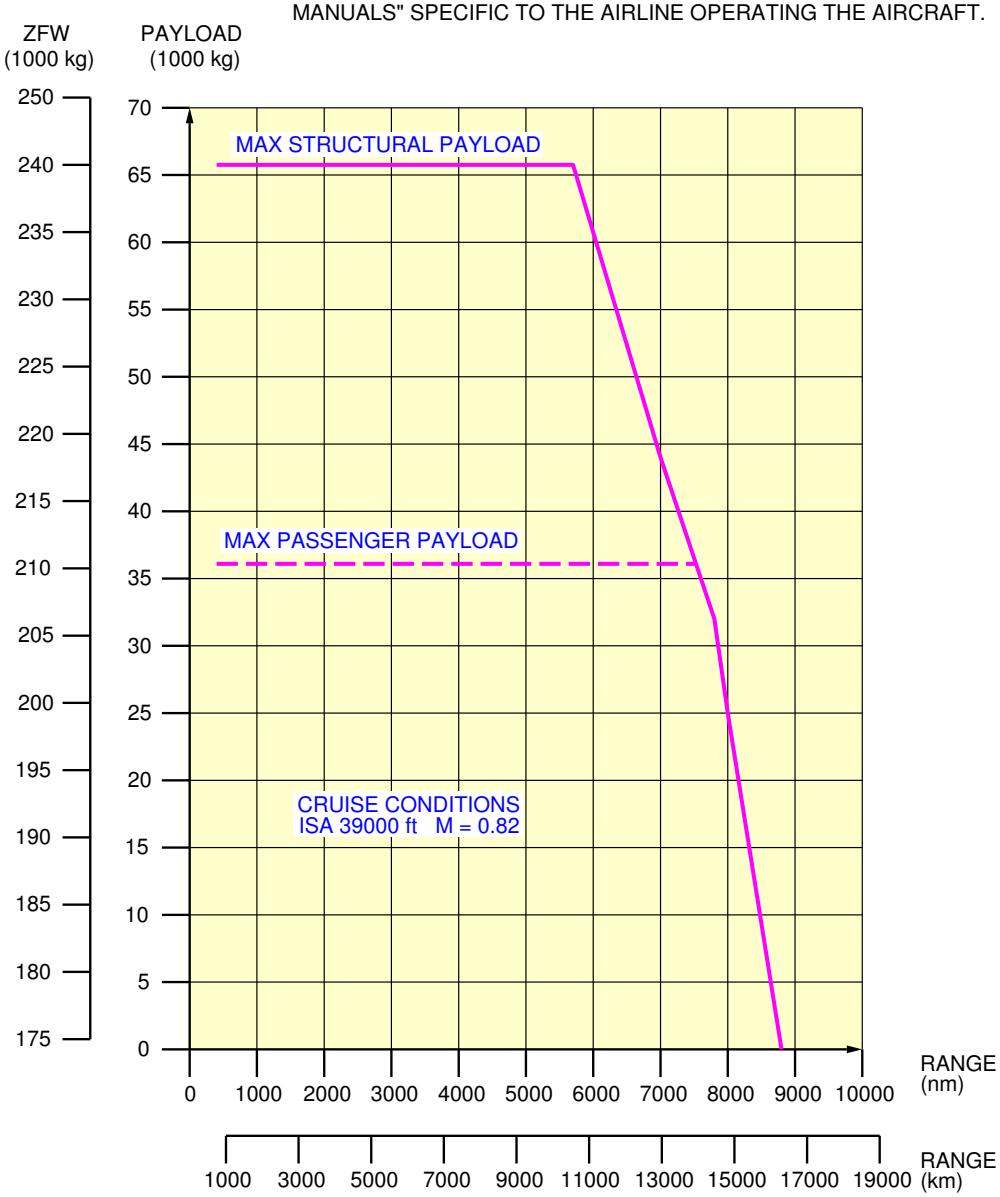
**ON A/C A340-500 A340-600

ISA Conditions

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

**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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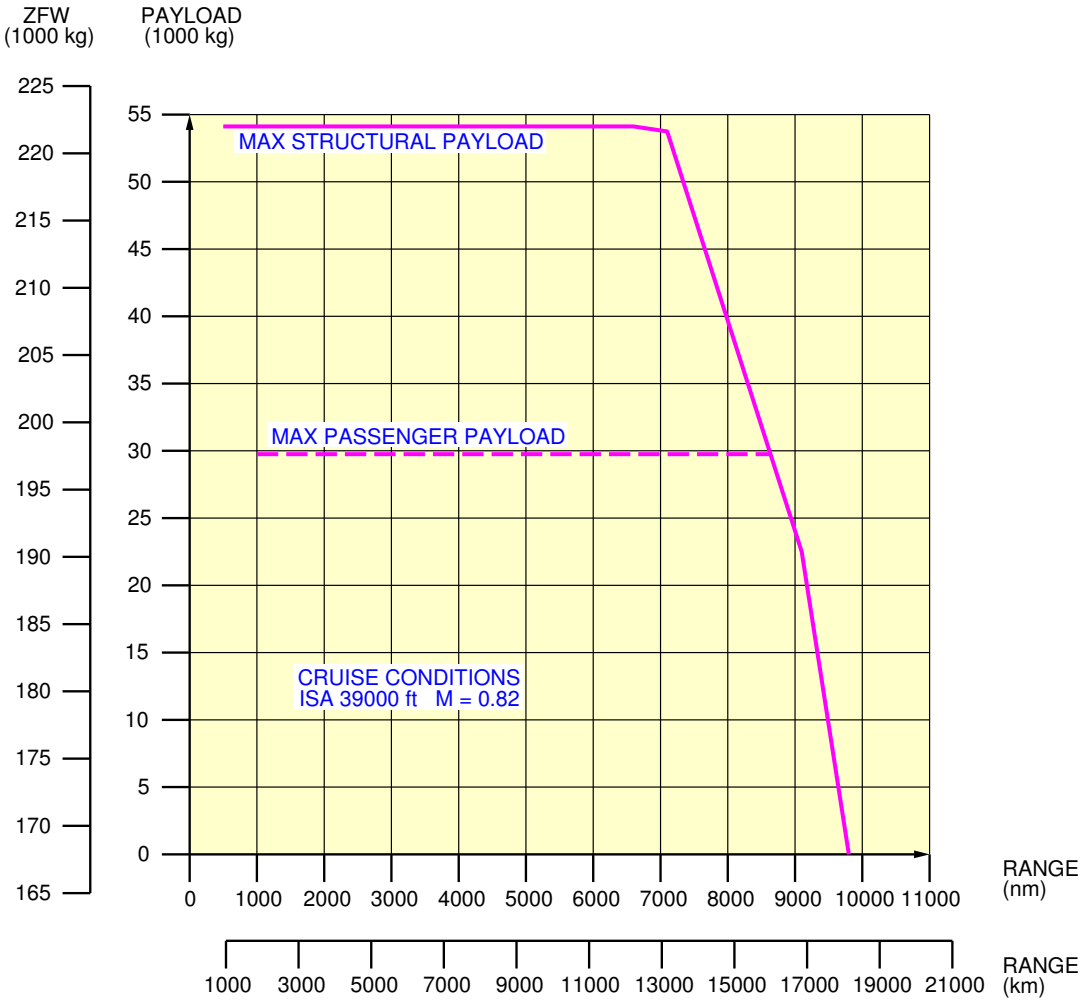
PAYLOAD / RANGE
RB 211 TRENT 556 engine
FIGURE-3-2-1-991-018-A01

**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_00

PAYLOAD / RANGE
RB 211 TRENT 553 engine
FIGURE-3-2-1-991-019-A01

3-3-0 FAR / JAR Takeoff Weight Limitation

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

FAR / JAR Takeoff Weight Limitation

1. FAR / JAR Takeoff Weight Limitation

3-3-1 ISA Conditions

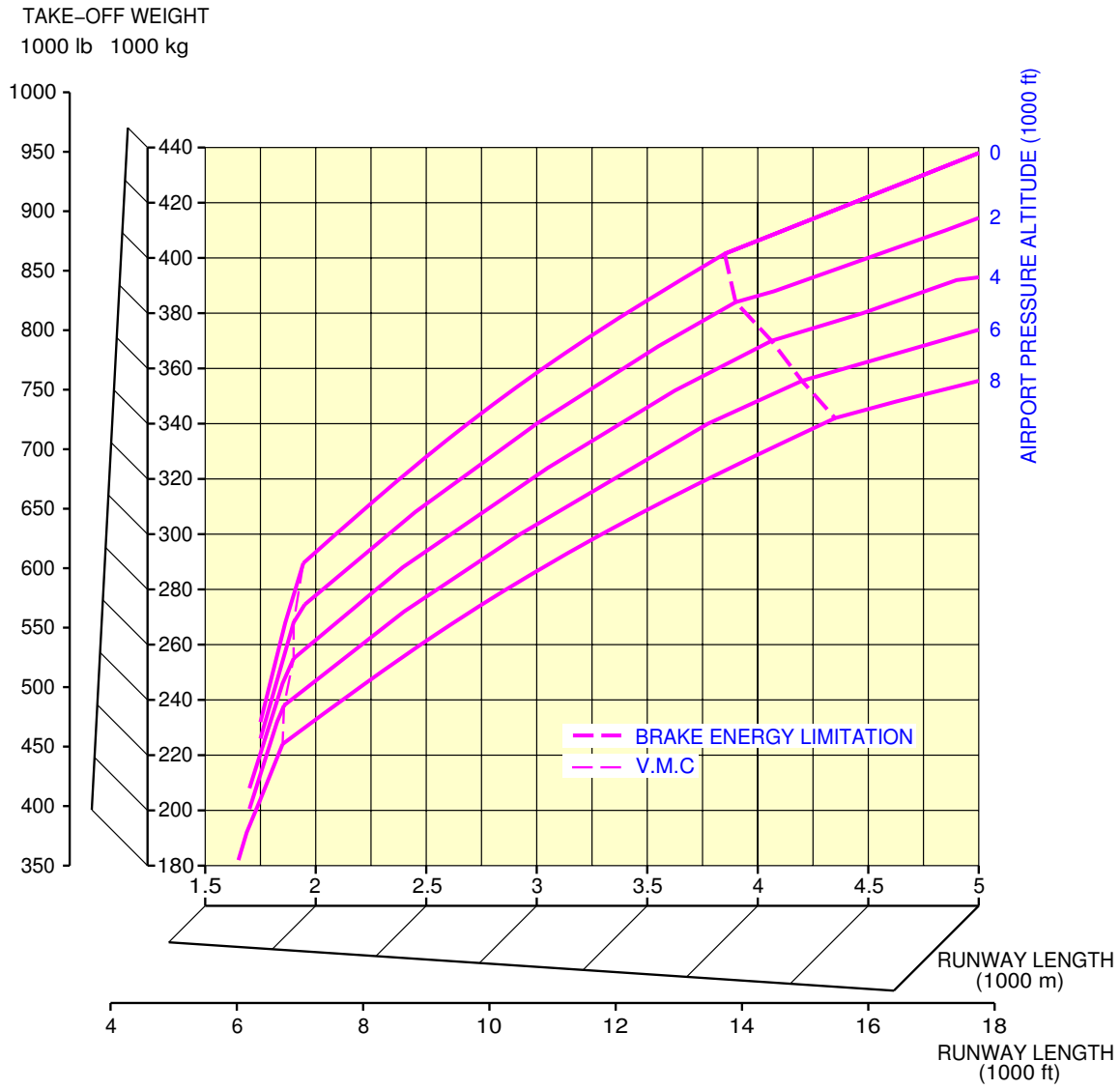
**ON A/C A340-500 A340-600

FAR / JAR Takeoff Weight Limitation

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

**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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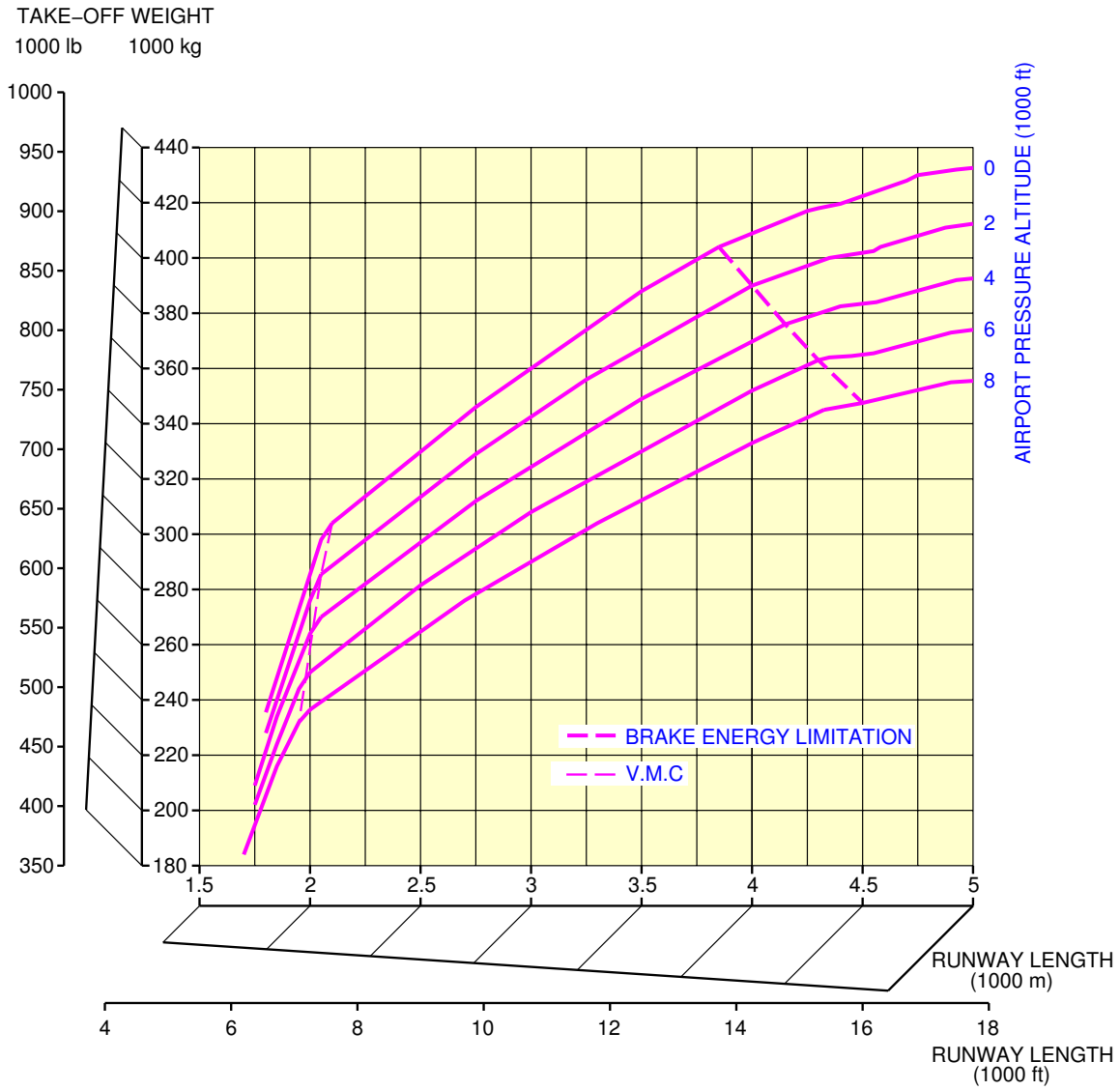
FAR / JAR Takeoff Weight Limitation
ISA Conditions – RB 211 TRENT 556 engine
FIGURE-3-3-1-991-010-A01

**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.



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FAR / JAR Takeoff Weight Limitation
ISA Conditions – RB 211 TRENT 553 engine
FIGURE-3-3-1-991-011-A01

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

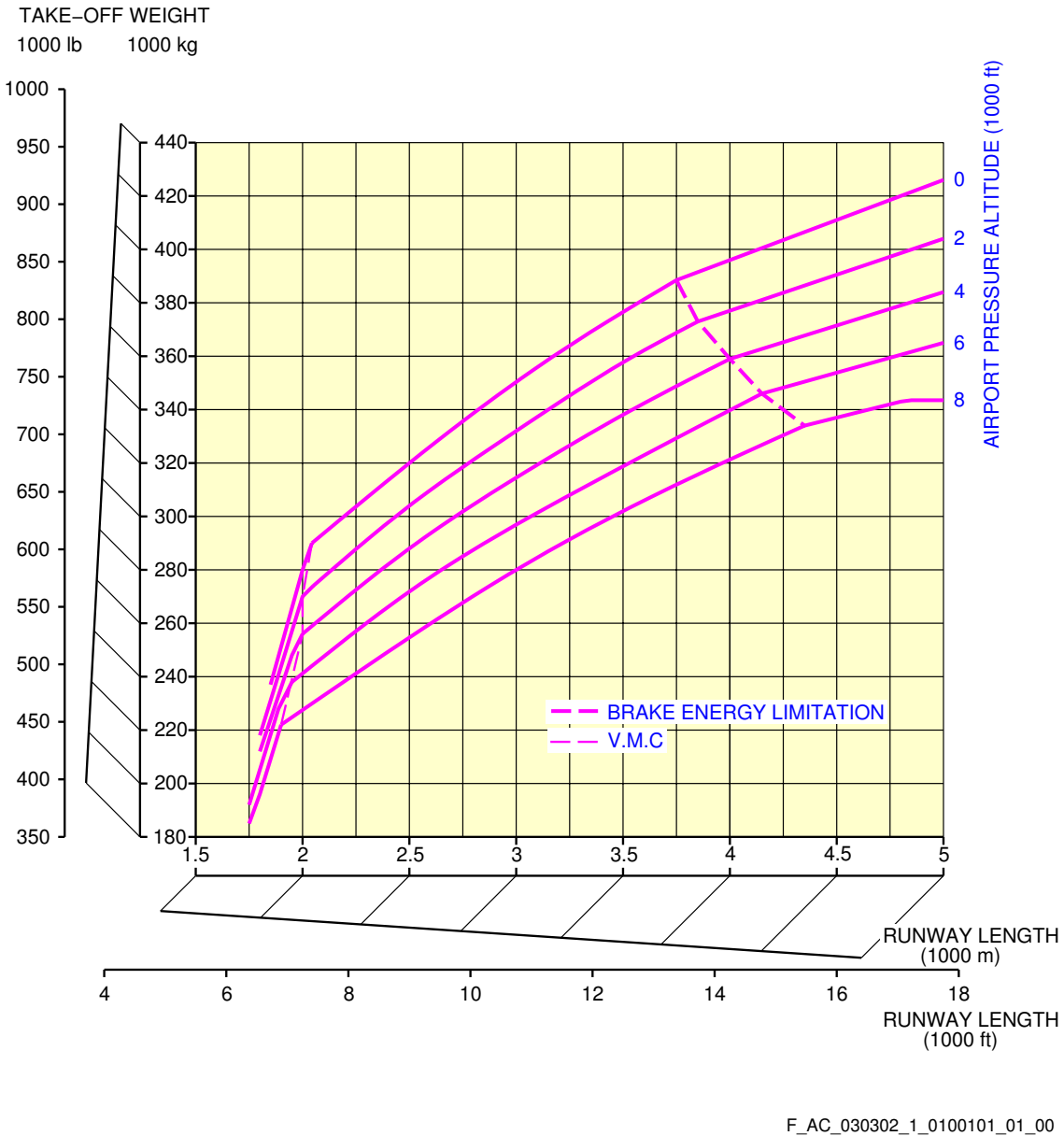
**ON A/C A340-500 A340-600

ISA +15°C (ISA +27°F) Conditions

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

**ON A/C A340-600

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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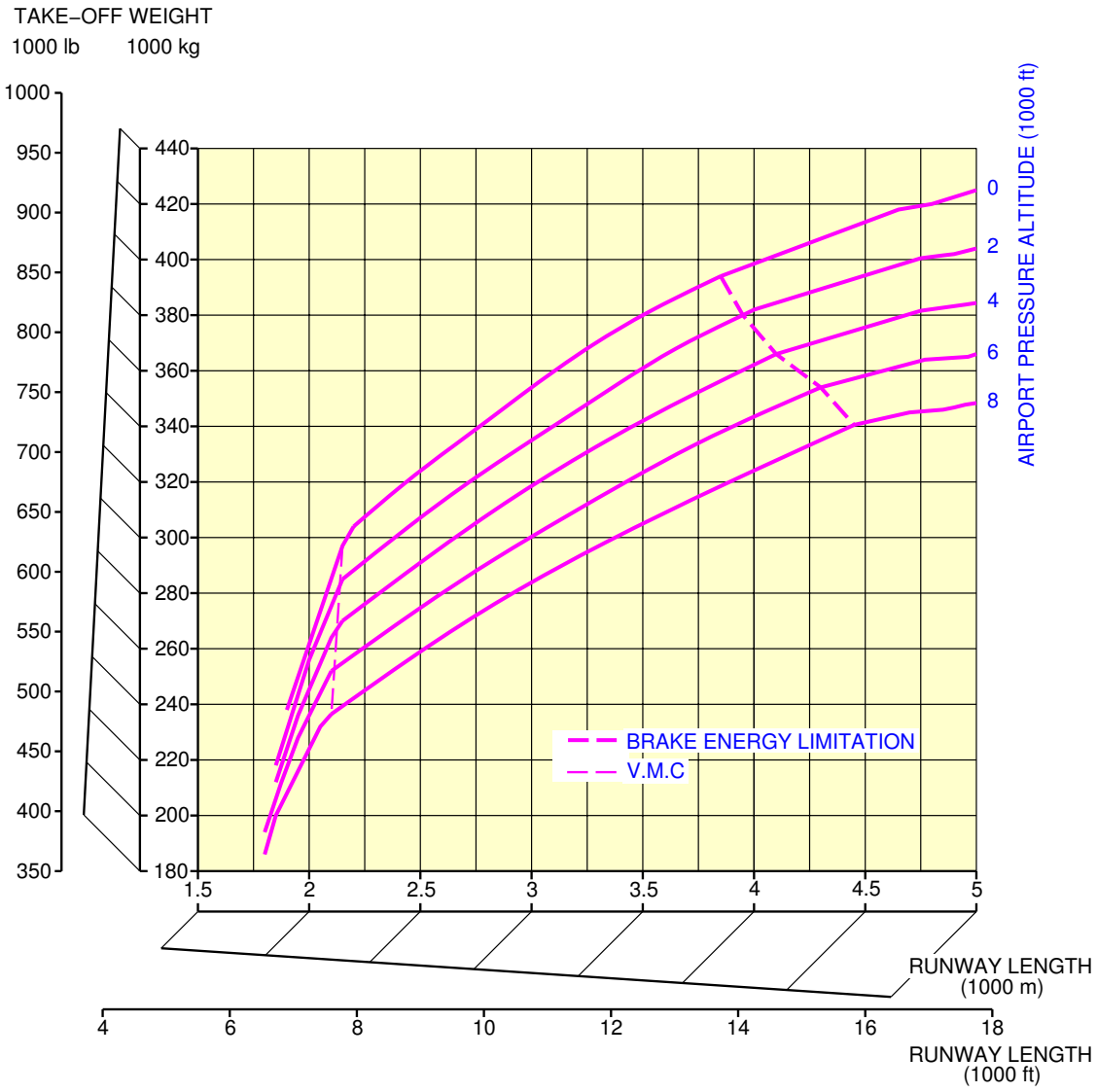
FAR / JAR Takeoff Weight Limitation
ISA +15˚C (ISA +27˚F) Conditions – RB 211 TRENT 556 engine
FIGURE-3-3-2-991-010-A01

**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

FAR / JAR Takeoff Weight Limitation
ISA +15˚C (ISA +27˚F) Conditions – RB 211 TRENT 553 engine
FIGURE-3-3-2-991-011-A01

3-4-0 FAR / JAR Landing Field Length

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

Landing Field Length

1. Landing Field Length

3-4-1 ISA Conditions All series engines

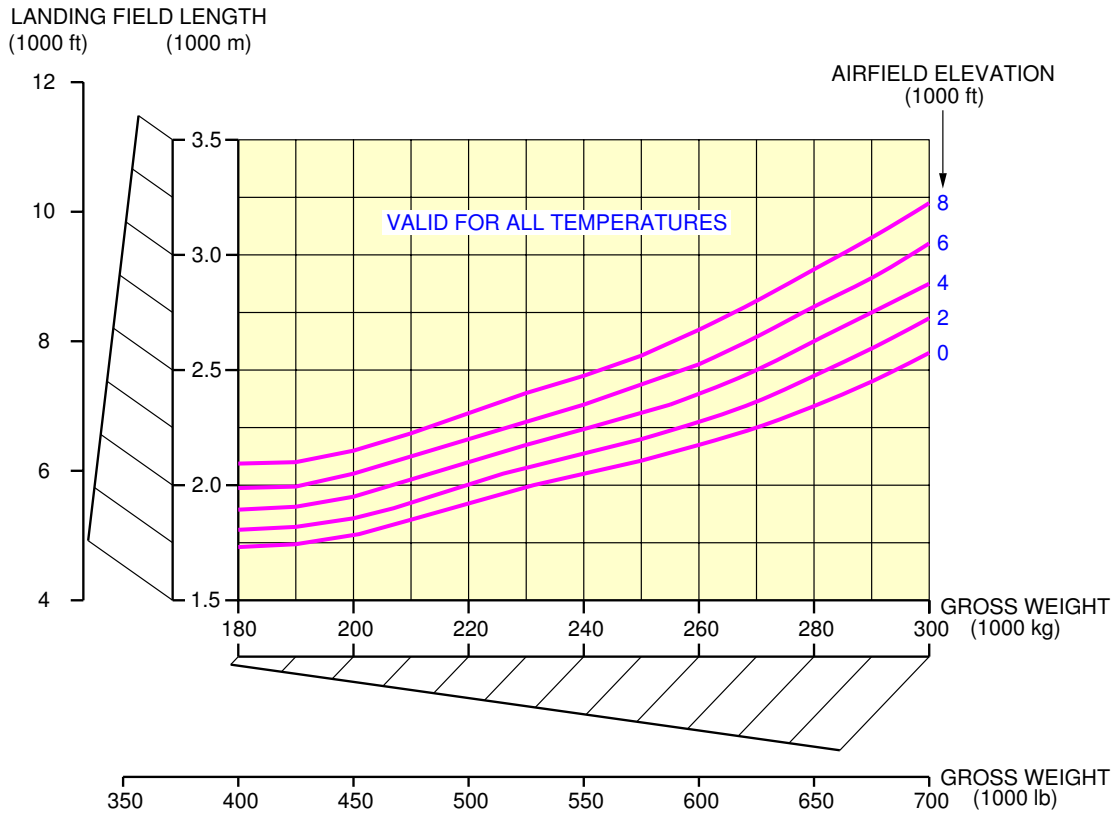
**ON A/C A340-500 A340-600

ISA Conditions All series engine

1. This section gives the landing field length.

**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.

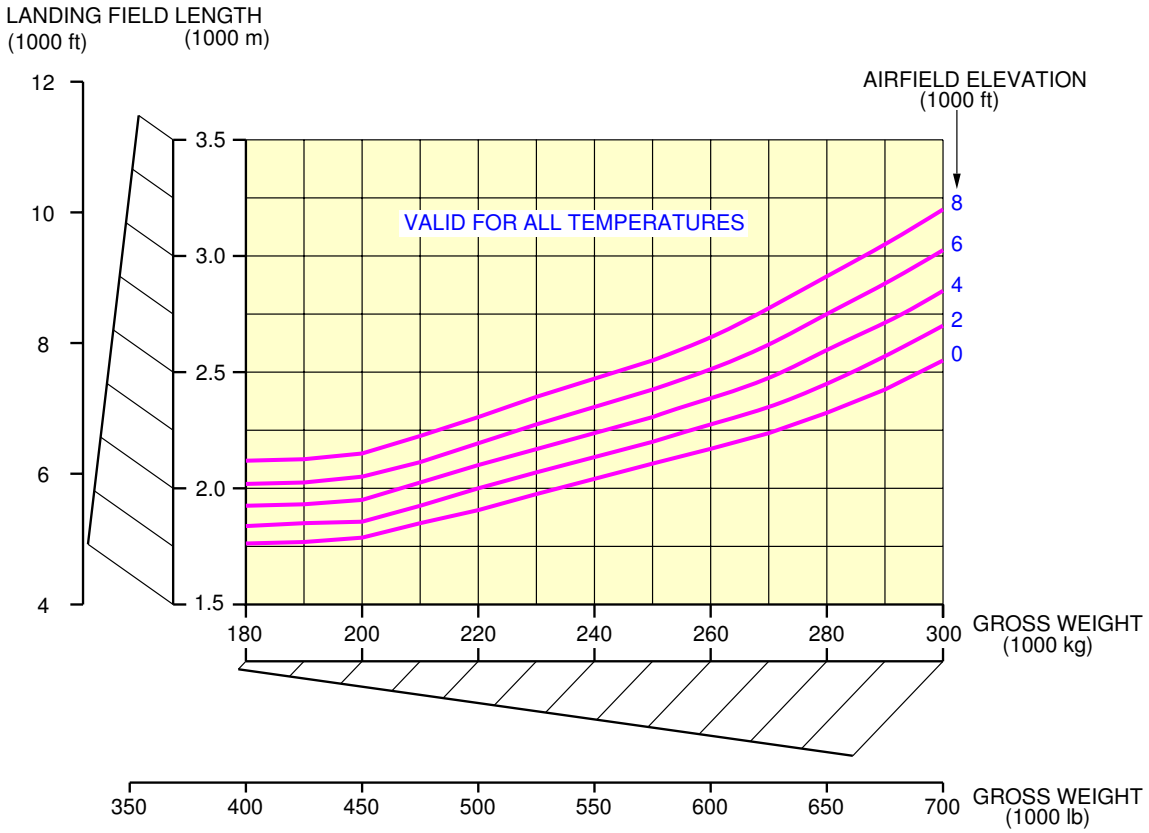


F_AC_030401_1_0100101_01_00

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

**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.



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

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.

      NOTE : 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.

      NOTE : This value is given for information only.

GROUND MANEUVERING

4-1-0 General Information

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

General Information

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

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

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

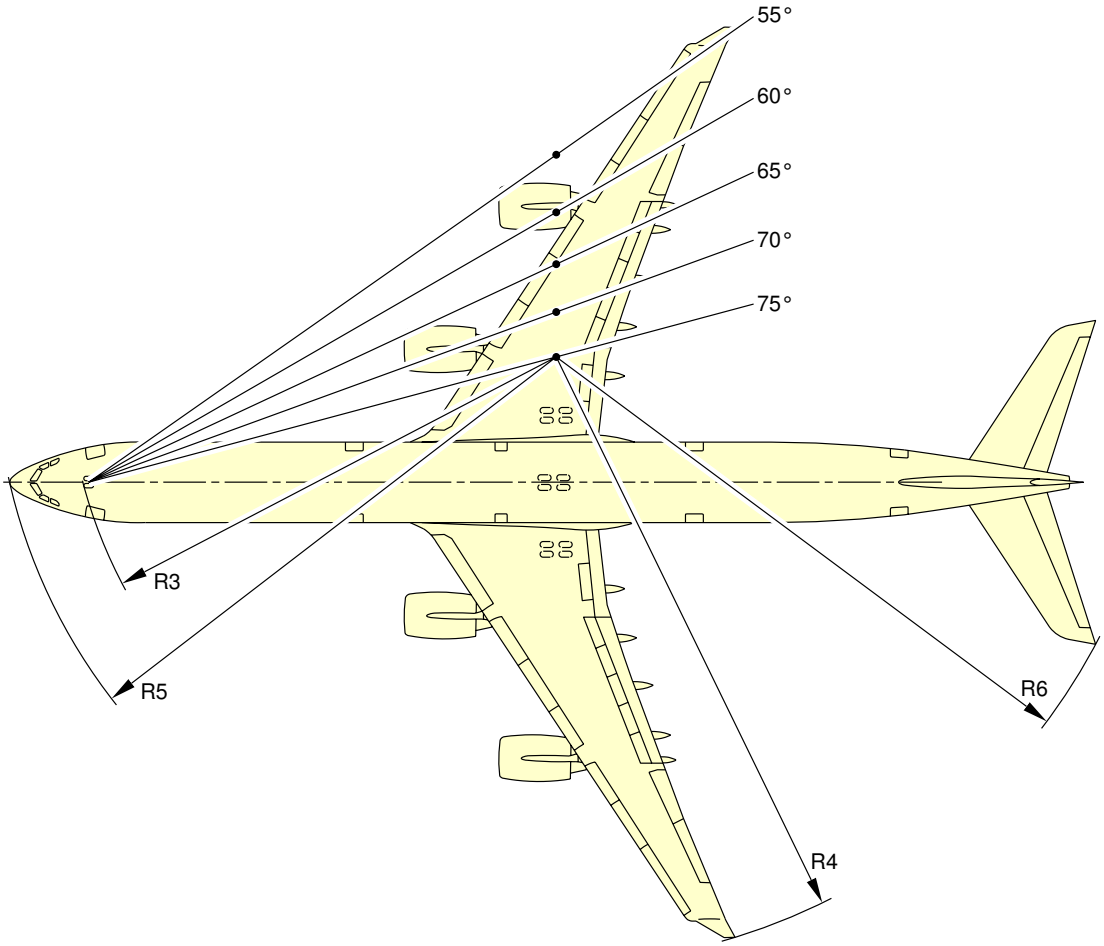
4-2-0 Turning Radii

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

Turning Radii

1. This section gives the turning radii.

**ON A/C A340-600



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

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

**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
		ft	325	409	322	361
25	24.6	m	80.2	104.7	82.8	91.1
		ft	263	344	272	299
30	29.5	m	67.9	91	70.9	78.6
		ft	223	299	233	258
35	34.4	m	59.3	80.9	62.8	69.7
		ft	195	265	206	229
40	39.2	m	53	73.2	56.9	63.1
		ft	174	240	187	207
45	44	m	48.3	66.9	52.6	58
		ft	159	220	173	190
50	48.8	m	44.7	61.7	49.3	53.9
		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
		ft	131	176	147	158
65	62	m	38.2	50.5	43.5	45.9
		ft	125	166	143	151
70	65.6	m	37.1	48	42.5	44.4
		ft	122	158	139	146
75	67.4	m	36.6	46.8	42.1	43.6
		ft	120	153	138	143

NOTE:
SYMMETRIC THRUST– NO BRAKING.

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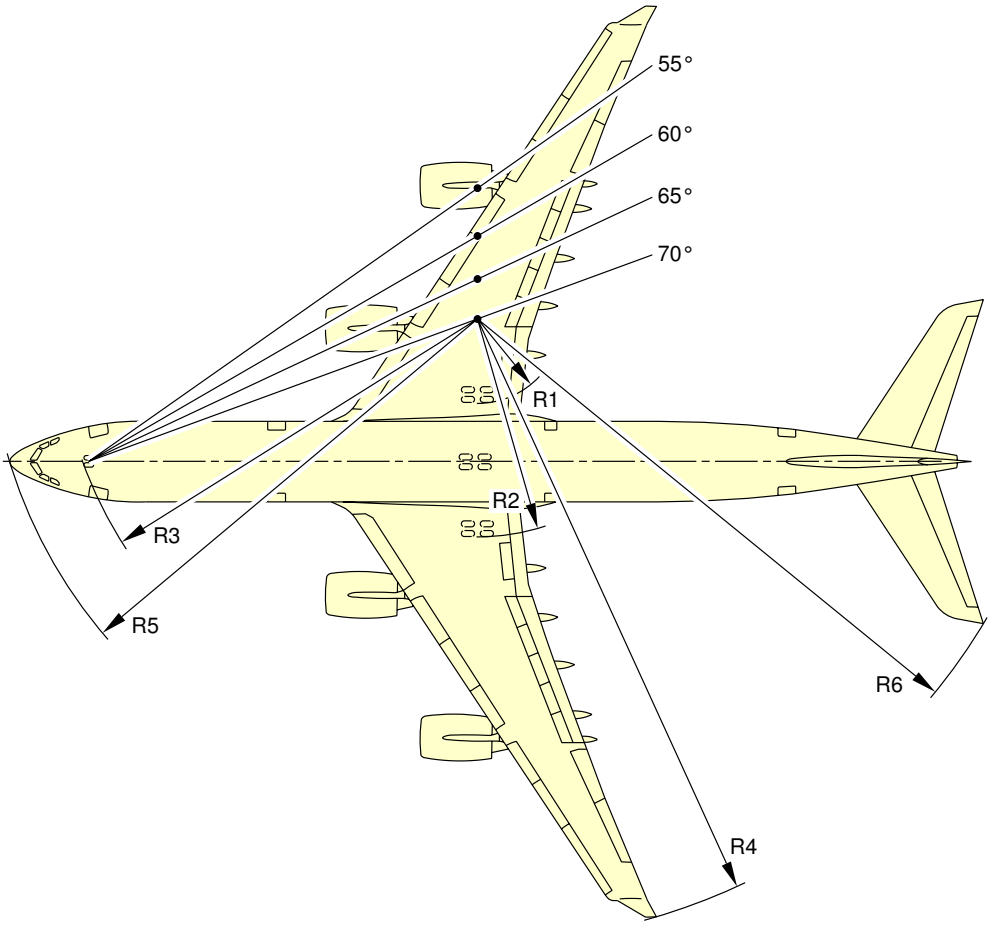
Turning Radii
(Sheet 2) (Sheet 2 of 2)
FIGURE-4-2-0-991-008-A01

**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

**ON A/C A340-500

A340–500 TURNING RADII									
TYPE OF TURN	STEERING ANGLE (deg)	EFFECTIVE STEERING ANGLE (deg)		R1 RMLG	R2 LMLG	R3 NLG	R4 WING	R5 NOSE	R6 TAIL
2	20	19.5	m	78.7	84.4	83.5	110.4	85.3	94.9
			ft	258	277	274	362	280	311
2	25	24.3	m	63.1	67.4	67.6	93.5	70.0	79.2
			ft	207	221	222	307	230	260
2	30	29.1	m	52.9	55.9	57.3	82.0	60.2	68.8
			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
			ft	134	134	146	220	159	184
2	45	43.4	m	37.1	35.5	40.6	61.9	44.9	51.9
			ft	122	116	133	203	147	170
2	50	48.0	m	34.3	31.1	37.5	57.6	42.2	48.7
			ft	113	102	123	189	138	160
2	55	52.6	m	32.3	27.4	35.1	53.9	40.1	46.0
			ft	106	90	115	177	132	151
2	60	57.0	m	30.7	24.2	33.3	50.8	38.6	43.9
			ft	101	79	109	167	127	144
2	65	61.1	m	29.7	21.6	31.8	48.2	37.4	42.2
			ft	97	71	104	158	123	138
2	70	64.5	m	29.0	19.5	30.9	46.2	36.6	40.9
			ft	95	64	101	152	120	134
1	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	28.4	17.4	30.0	44.2	35.9	39.8
			ft	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.

F_AC_040200_1_0090102_01_00

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

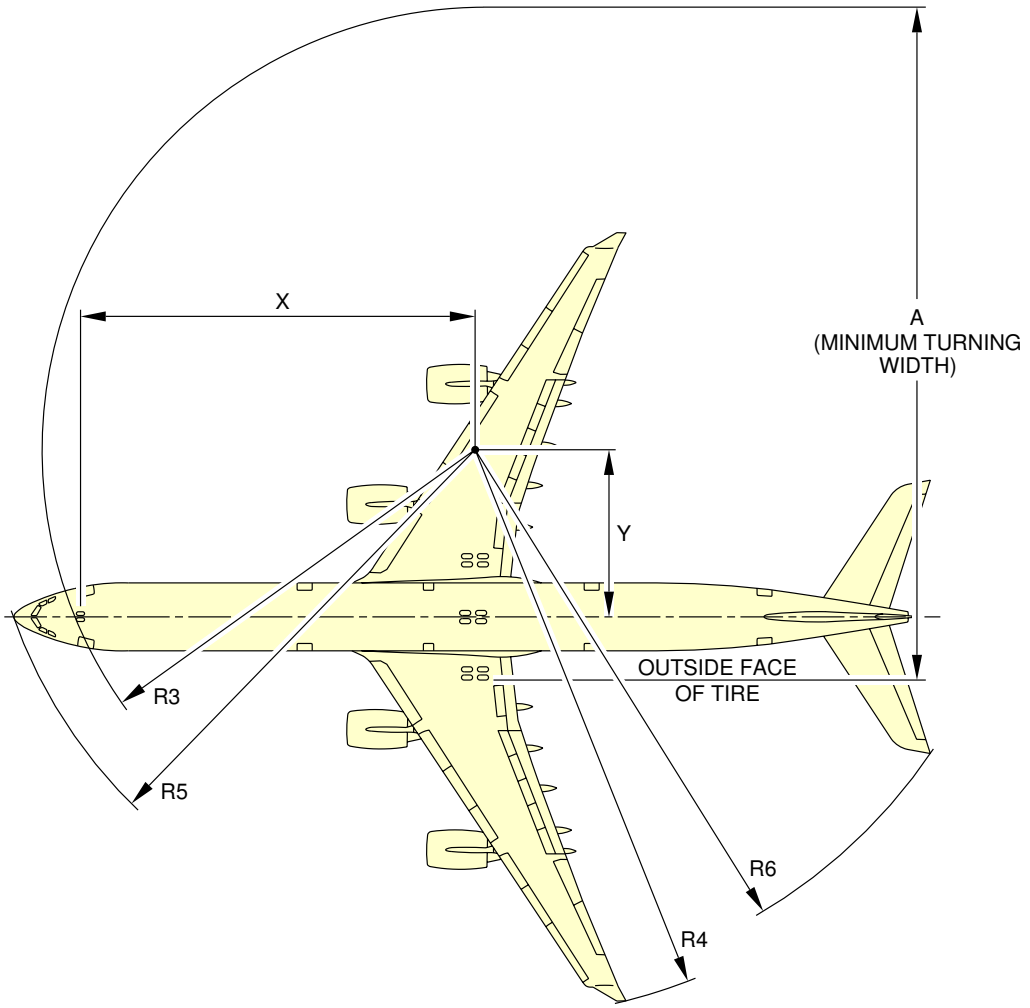
4-3-0 Minimum Turning Radii

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

Minimum Turning Radii

1. This section gives the minimum turning radii.

**ON A/C A340-600



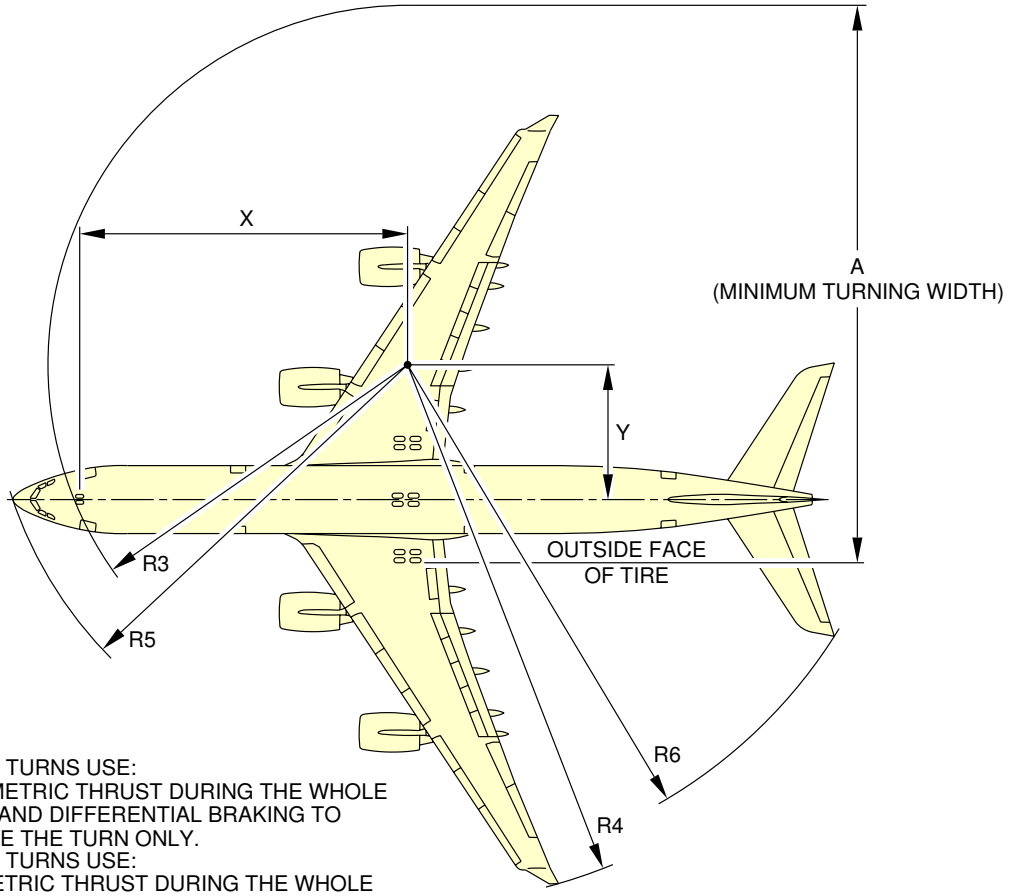
A340–600 MINIMUM TURNING RADII									
TYPE OF TURN	EFFECTIVE STEERING ANGLE (deg)		X	Y	A	R3 NLG	R4 WING	R5 NOSE	R6 TAIL
2	67.4	m	33.2	13.7	56.7	36.6	46.8	42.1	43.6
		ft	109	45	186	120	154	138	143

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

F_AC_040300_1_0050101_01_01

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

**ON A/C A340-500



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

A340–500 MINIMUM TURNING RADII										
TYPE OF TURN	STEERING ANGLE (deg)	EFFECTIVE STEERING ANGLE (deg)		X	Y	A	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.

F_AC_040300_1_0060101_01_01

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

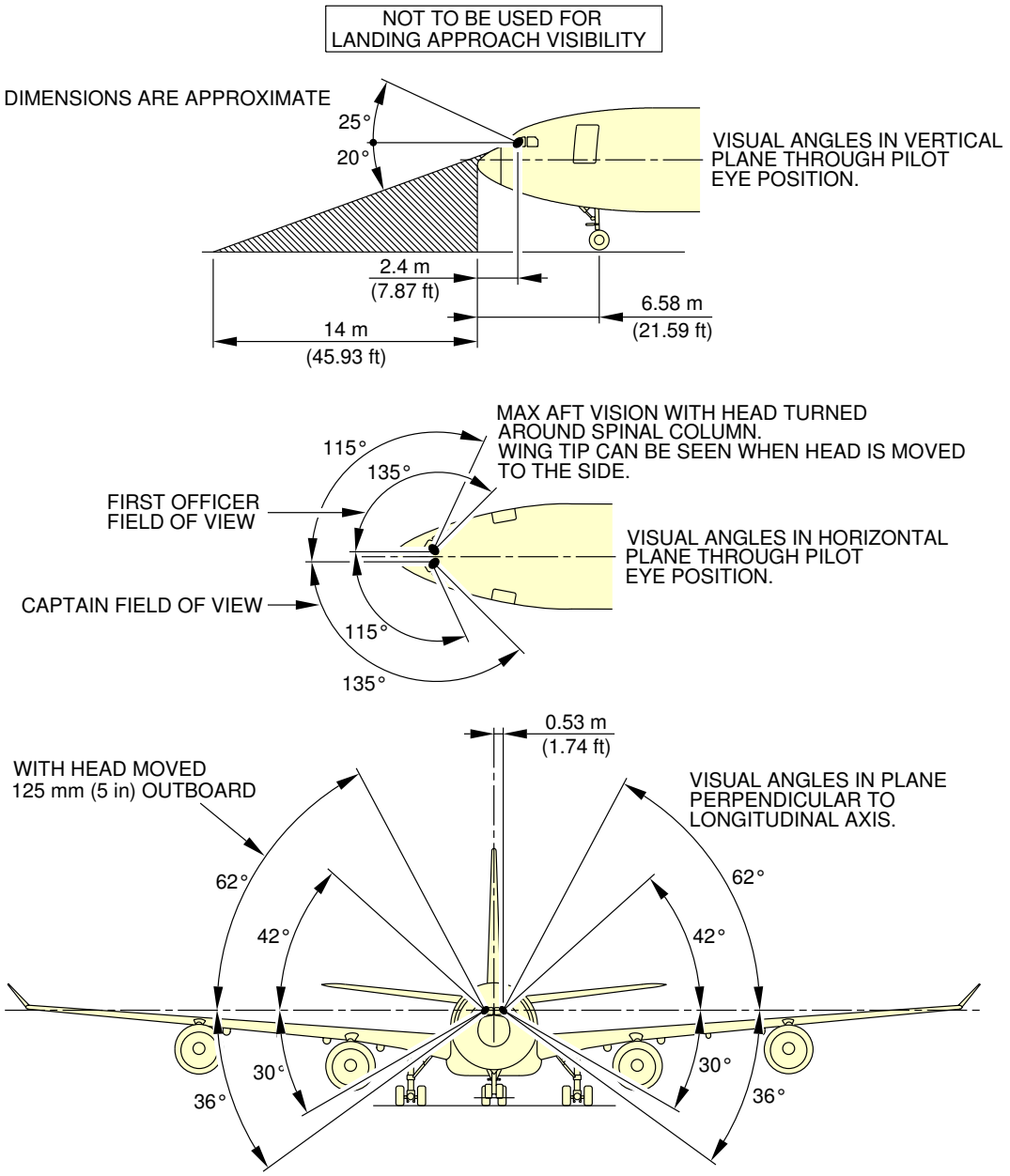
4-4-0 Visibility from Cockpit in Static Position

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

Visibility from Cockpit in Static Position

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

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



NOTE:

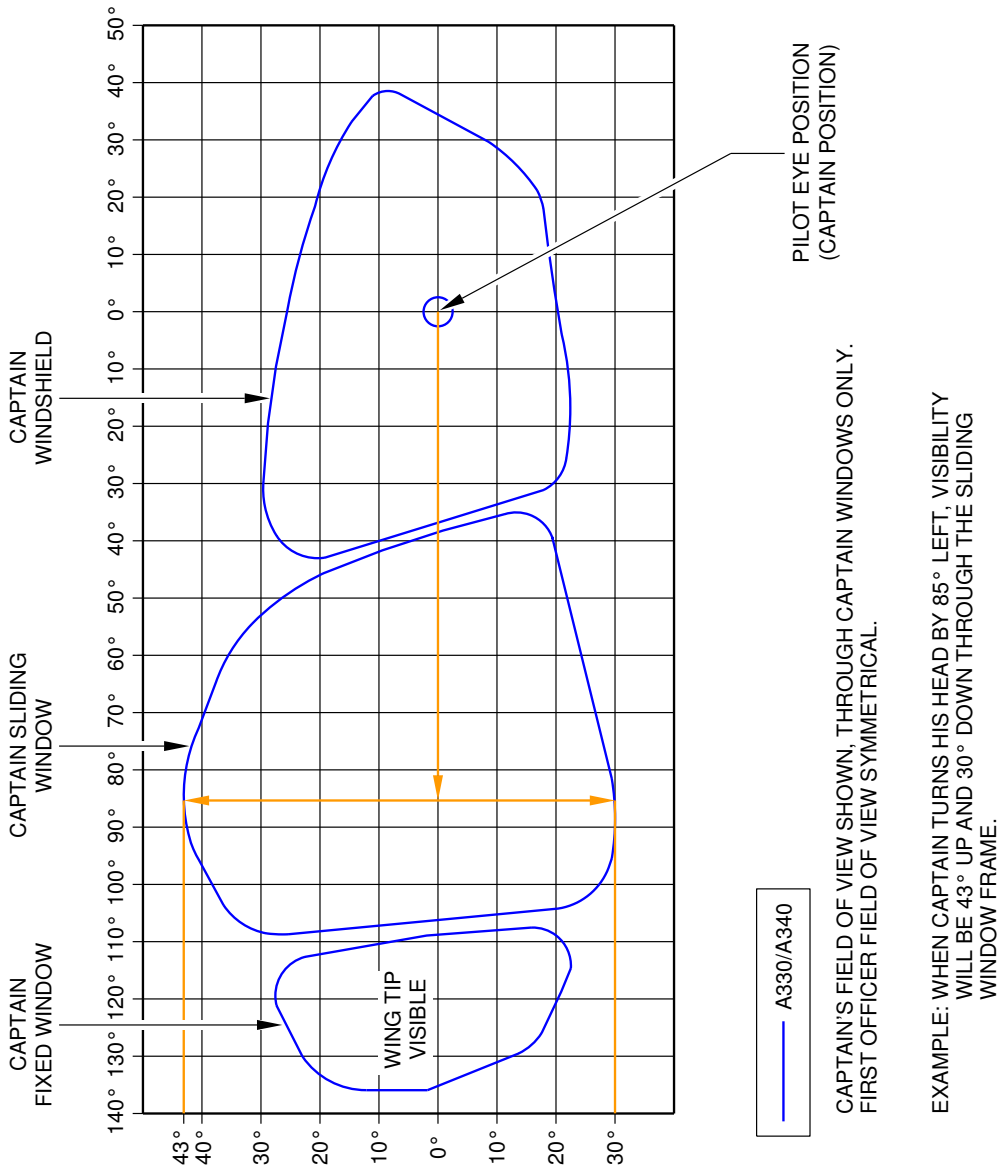
- PILOT EYE POSITION WHEN PILOT'S EYES ARE IN LINE WITH THE RED AND WHITE BALLS.

ZONE THAT CANNOT BE SEEN

F_AC_040400_1_0050101_01_01

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

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



F_AC_040400_1_0090101_01_00

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

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.

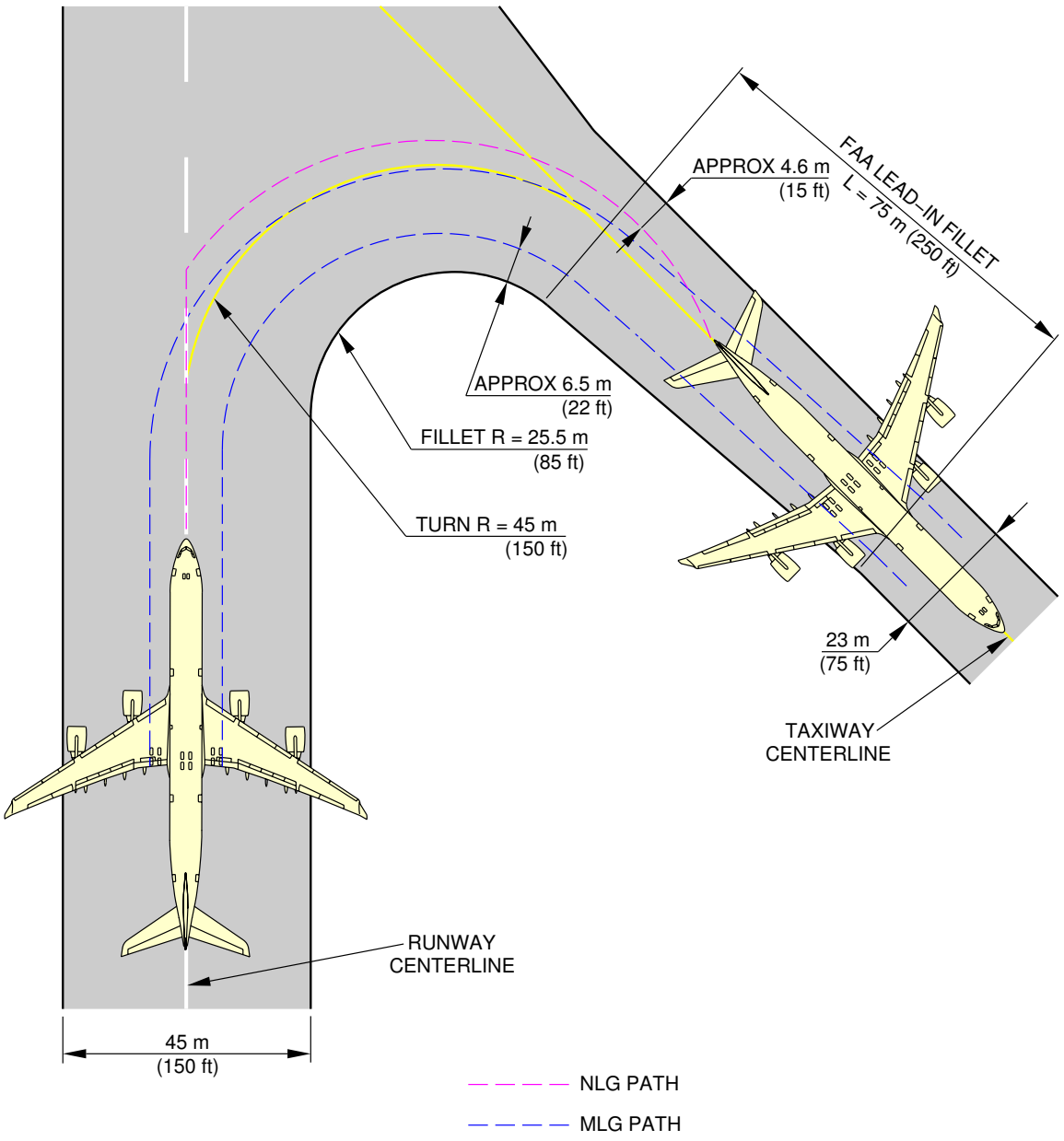
4-5-1 135° Turn - Runway to Taxiway

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

135° Turn - Runway to Taxiway

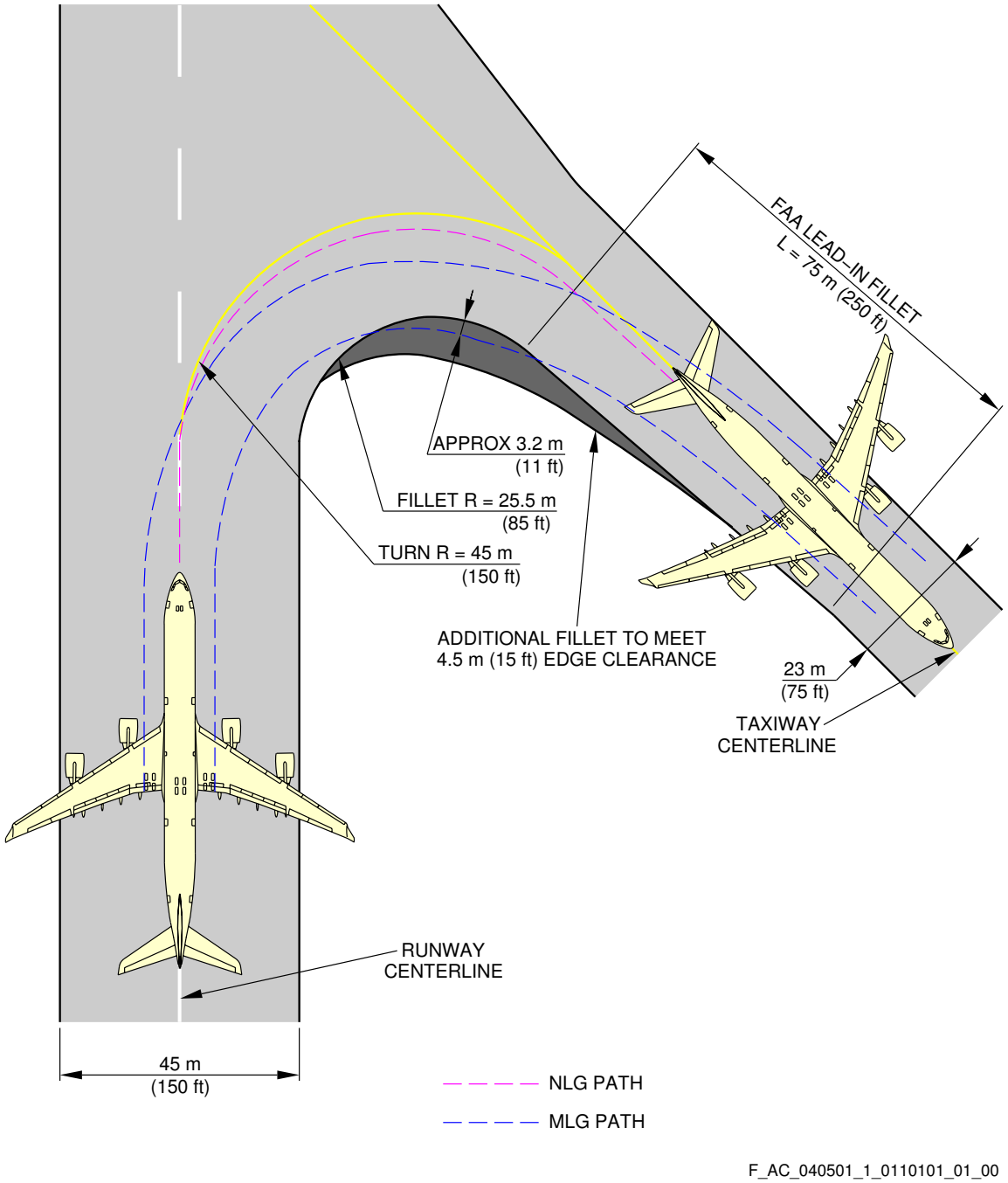
1. This section gives the 135° turn - runway to taxiway.

**ON A/C A340-600



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

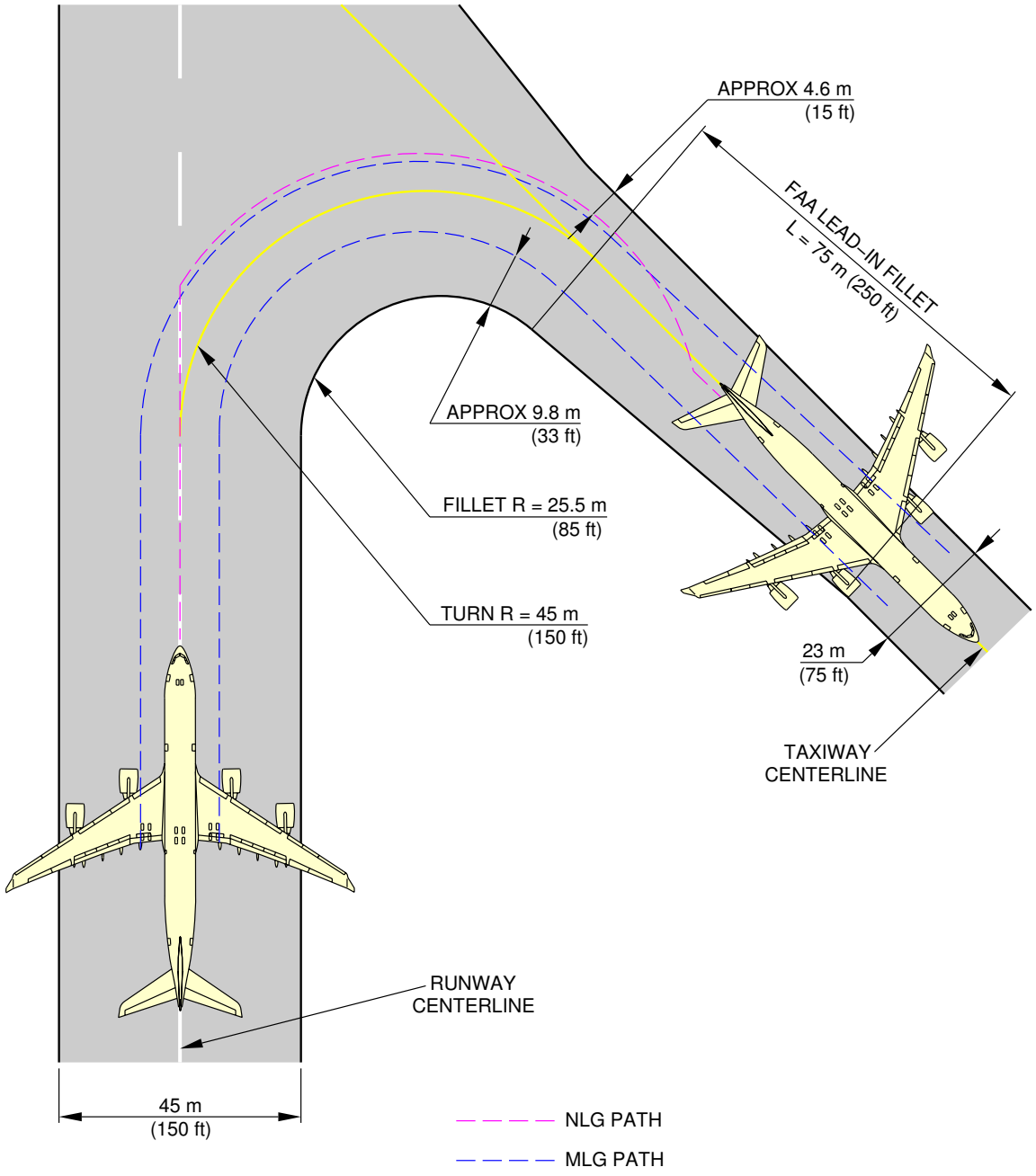
**ON A/C A340-600



F_AC_040501_1_0110101_01_00

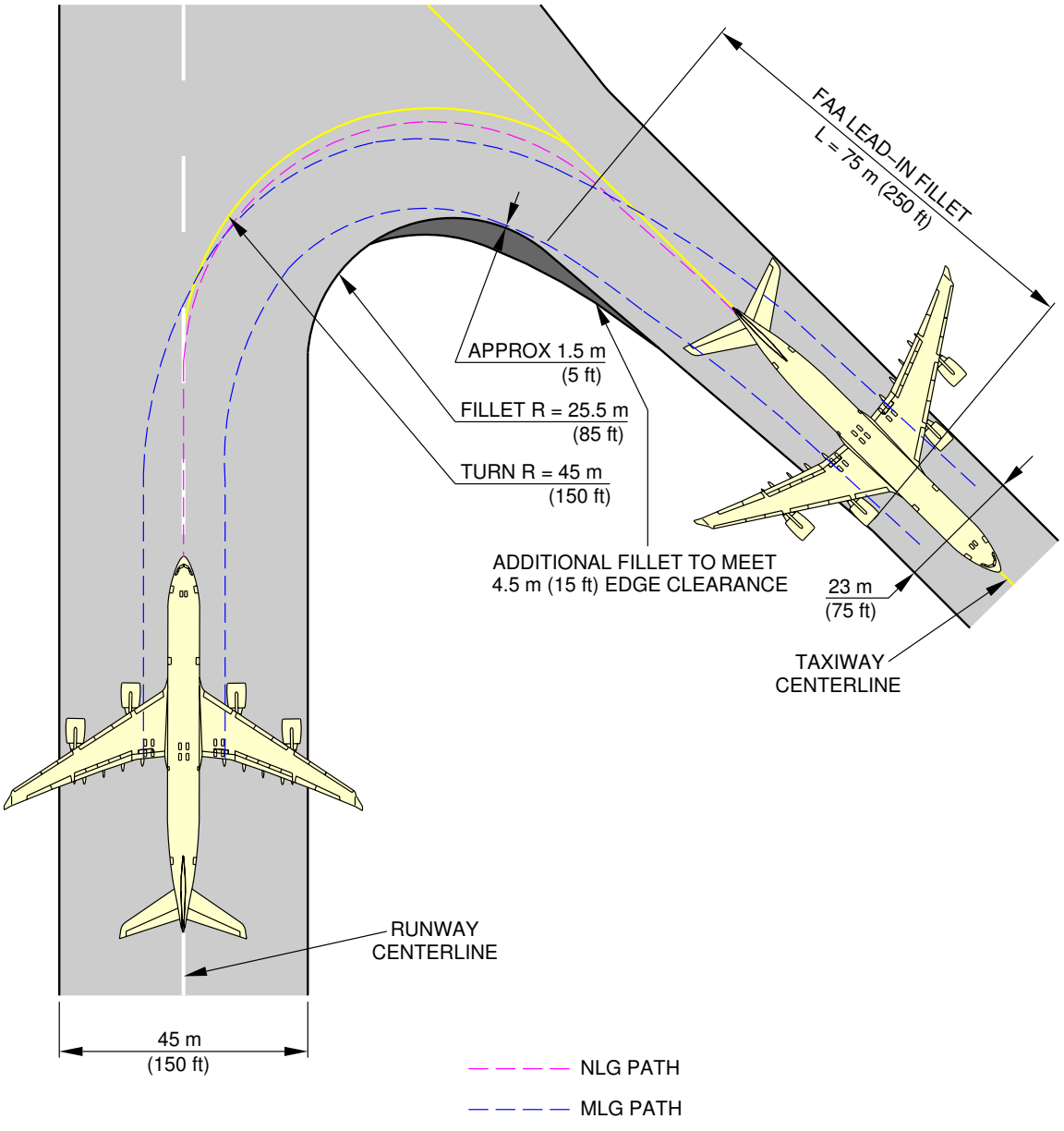
135° Turn - Runway to Taxiway
Cockpit Over Centerline Method
FIGURE-4-5-1-991-011-A01

**ON A/C A340-500



135° Turn - Runway to Taxiway
Judgemental Oversteering Method
FIGURE-4-5-1-991-005-A01

**ON A/C A340-500



F_AC_040501_1_0120101_01_00

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

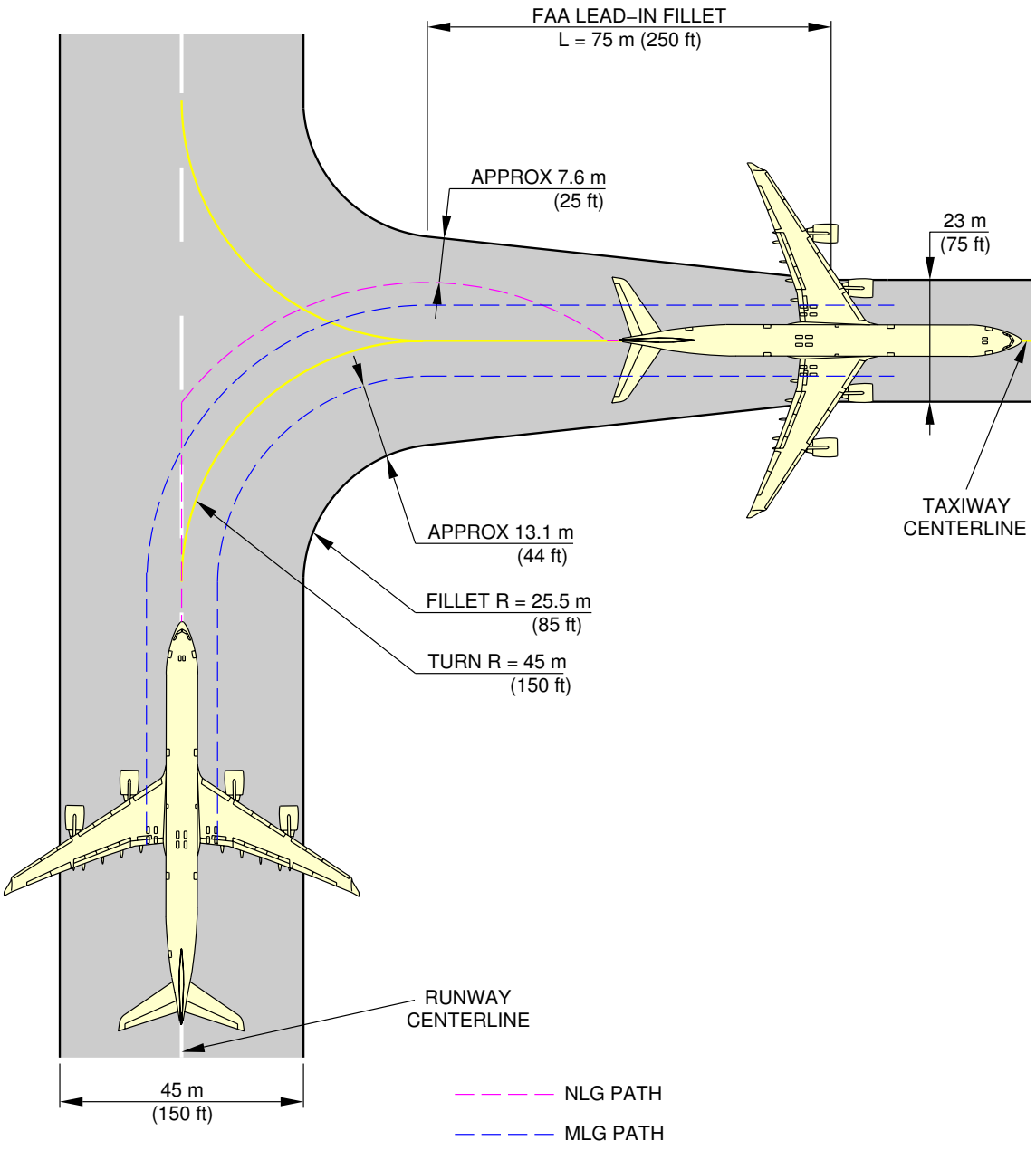
4-5-2 90° Turn - Runway to Taxiway

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

90° Turn - Runway to Taxiway

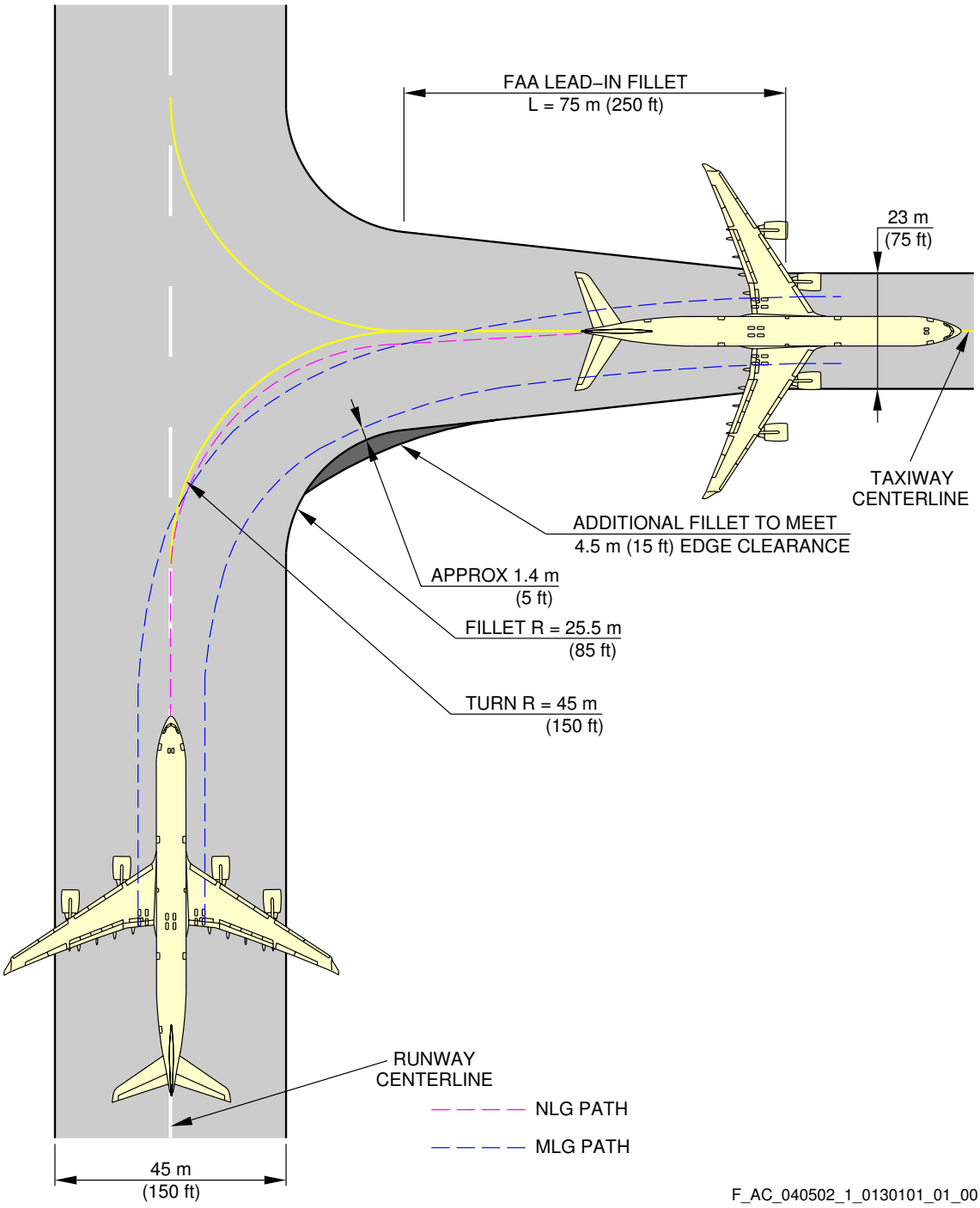
1. This section gives the 90° turn - runway to taxiway.

**ON A/C A340-600



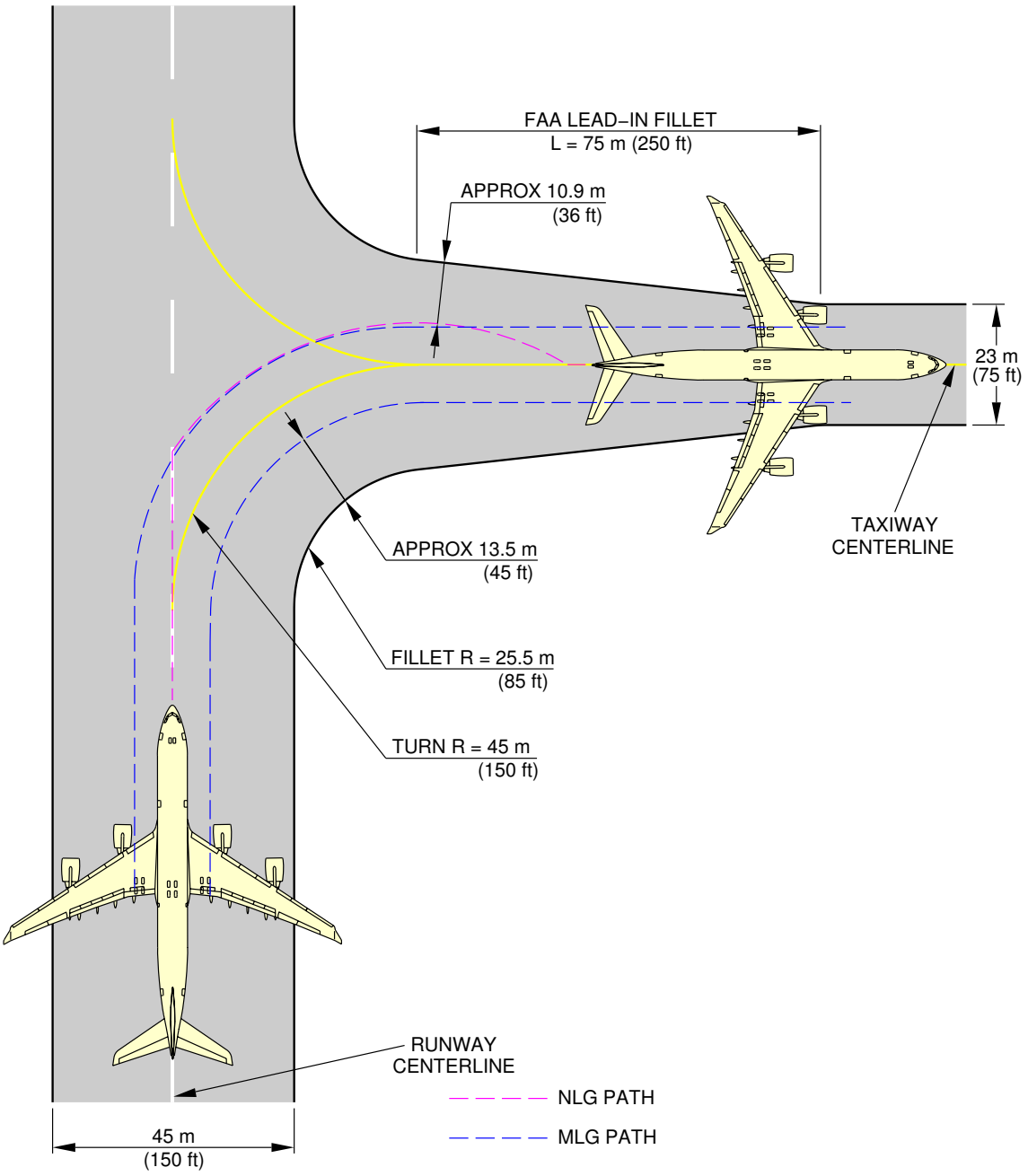
90° Turn - Runway to Taxiway
Judgement Oversteering Method
FIGURE-4-5-2-991-004-A01

**ON A/C A340-600



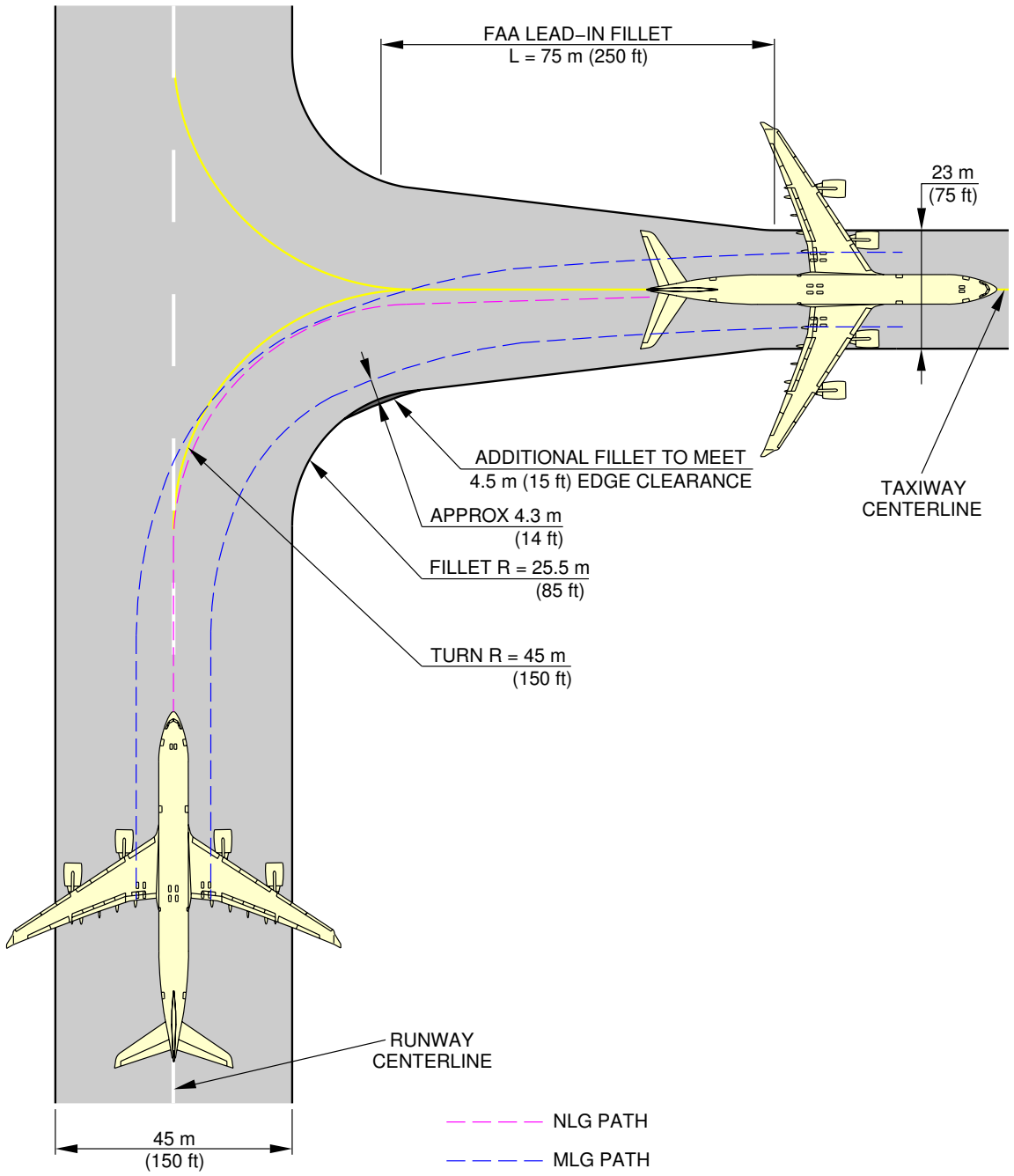
90° Turn - Runway to Taxiway
Cockpit Over Centerline Method
FIGURE-4-5-2-991-013-A01

**ON A/C A340-500



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

**ON A/C A340-500



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

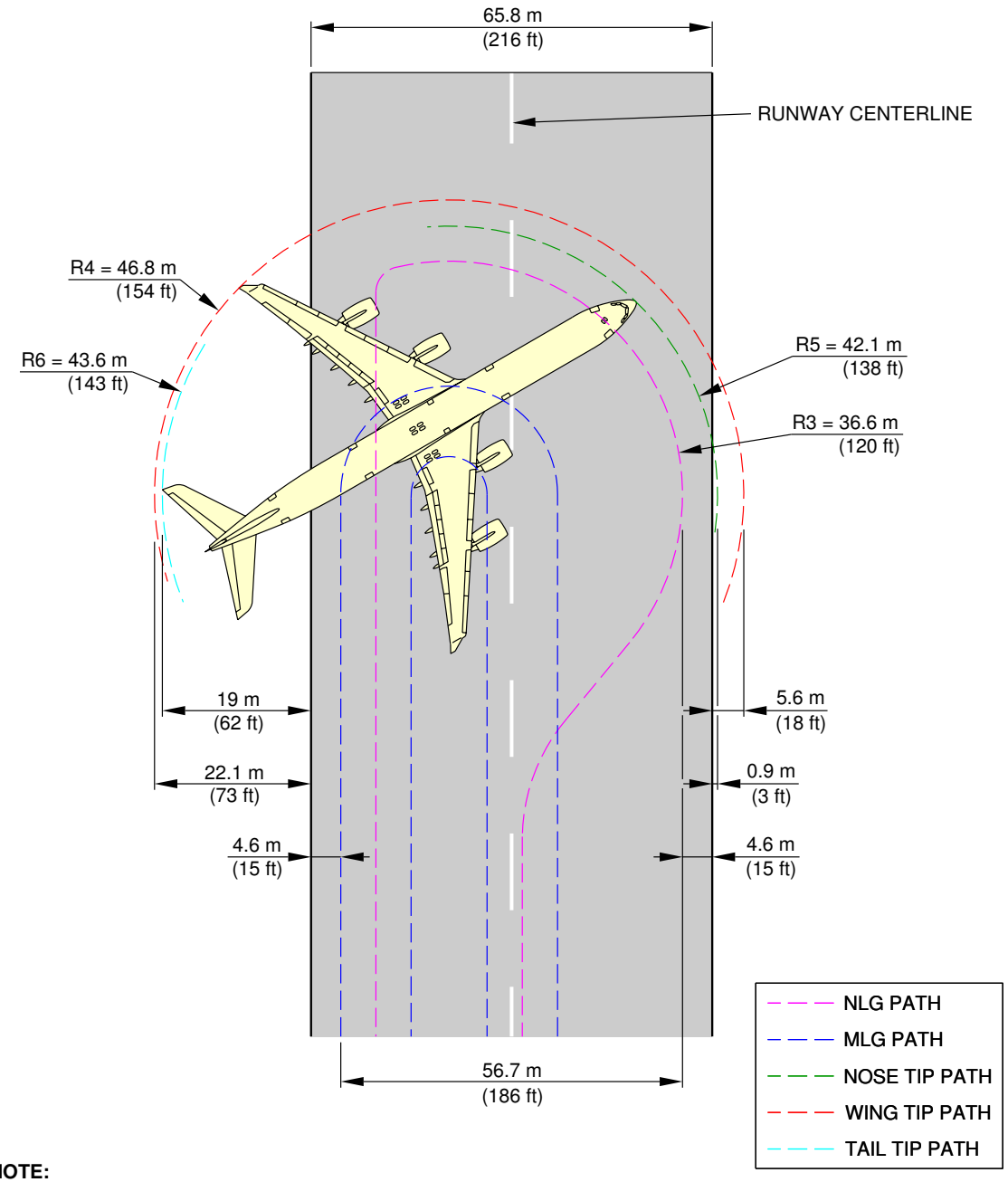
4-5-3 180° Turn on a Runway

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

180° Turn on a Runway

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

**ON A/C A340-600



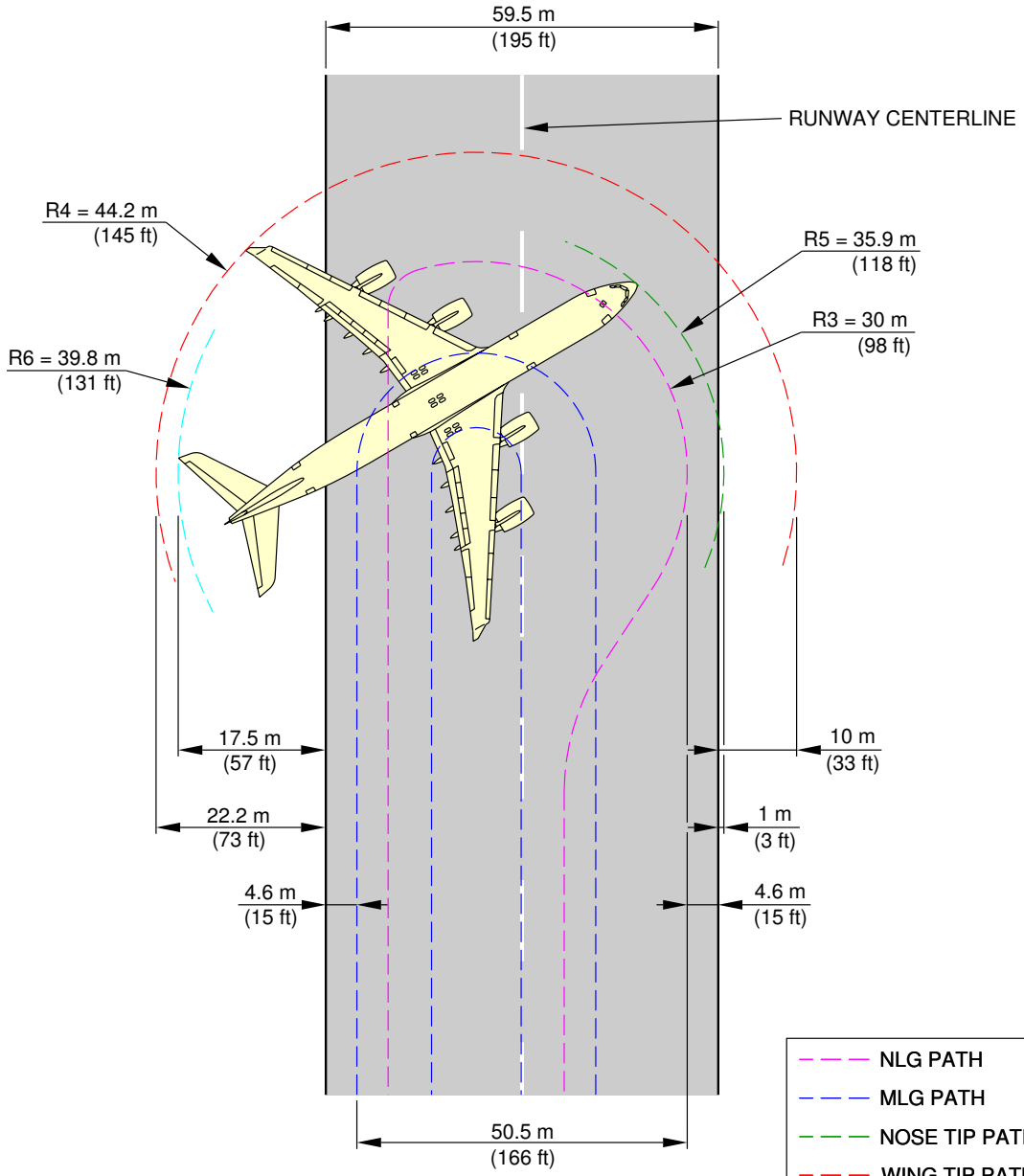
NOTE:

TYPE 2 VALUES FOR MAX STEERING ANGLE = 75°.

F_AC_040503_1_0090101_01_02

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

**ON A/C A340-500



NOTE:

TYPE 1 VALUES FOR MAX STEERING ANGLE = 70°.
IT IS POSSIBLE TO GET LOWER VALUES THAN THOSE FROM TYPE 1 BY APPLYING DIFFERENTIAL BRAKING DURING THE WHOLE TURN.

F_AC_040503_1_0100101_01_02

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

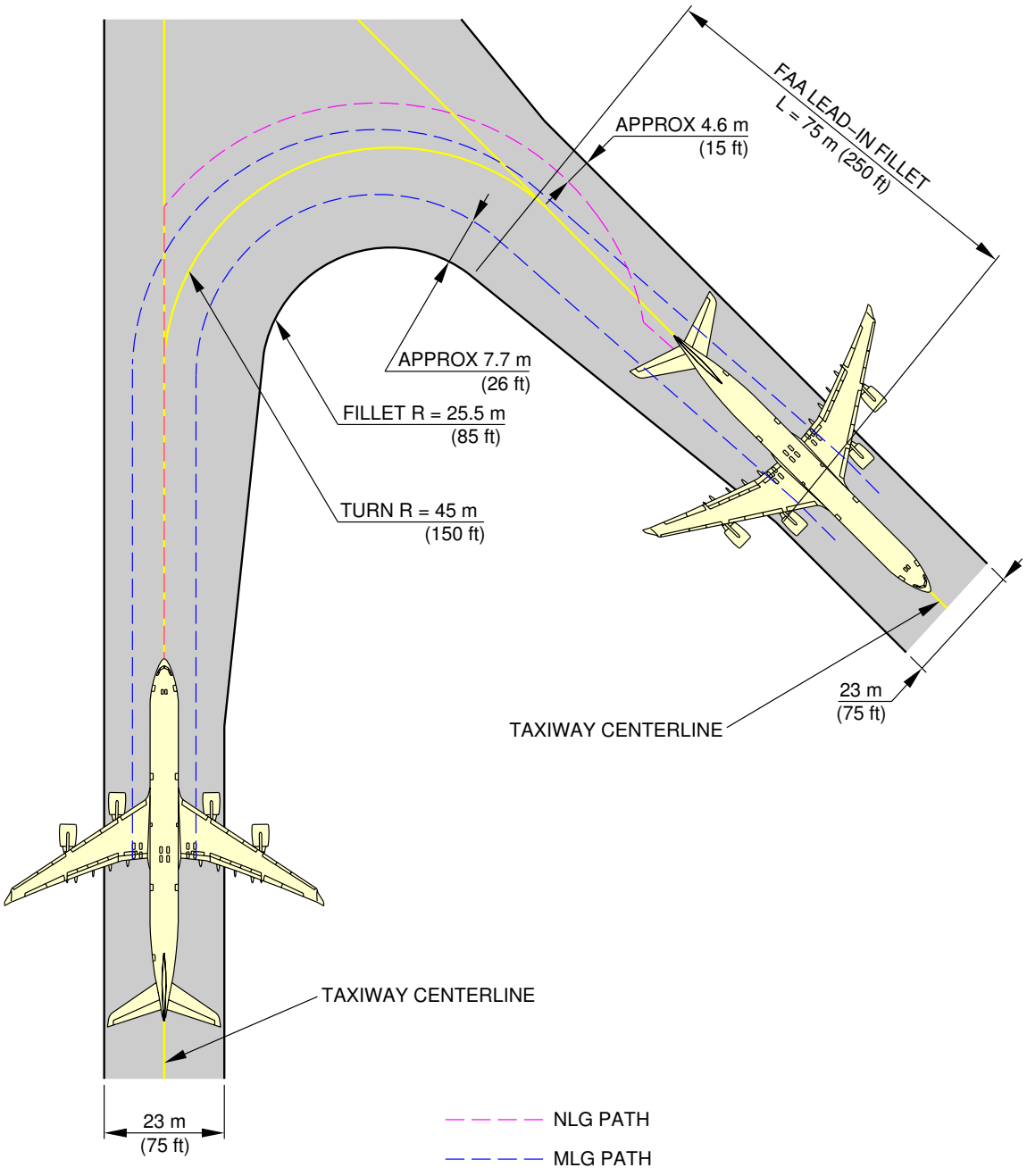
4-5-4 135° Turn - Taxiway to Taxiway

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

135° Turn - Taxiway to Taxiway

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

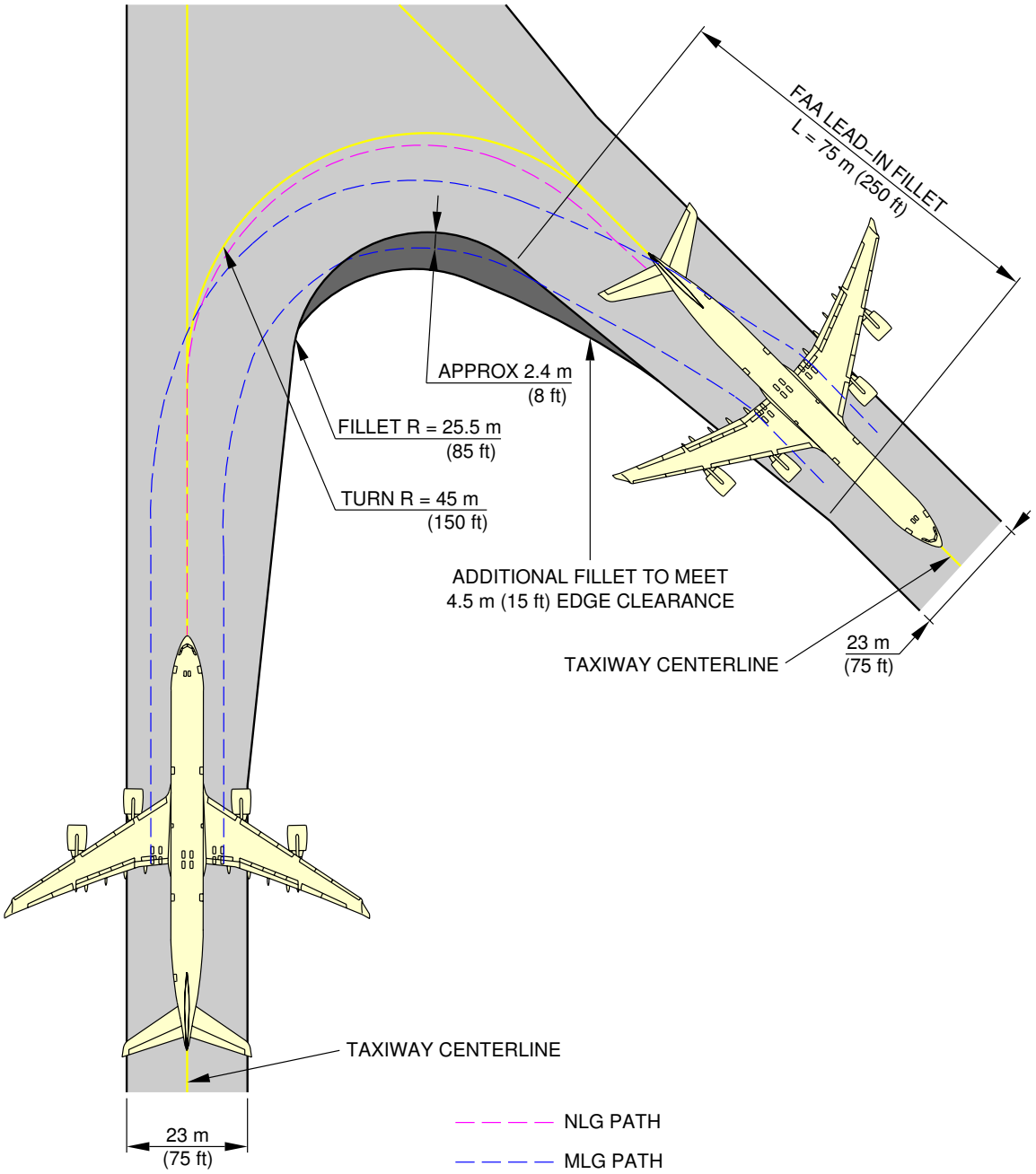
**ON A/C A340-600



F_AC_040504_1_0050101_01_01

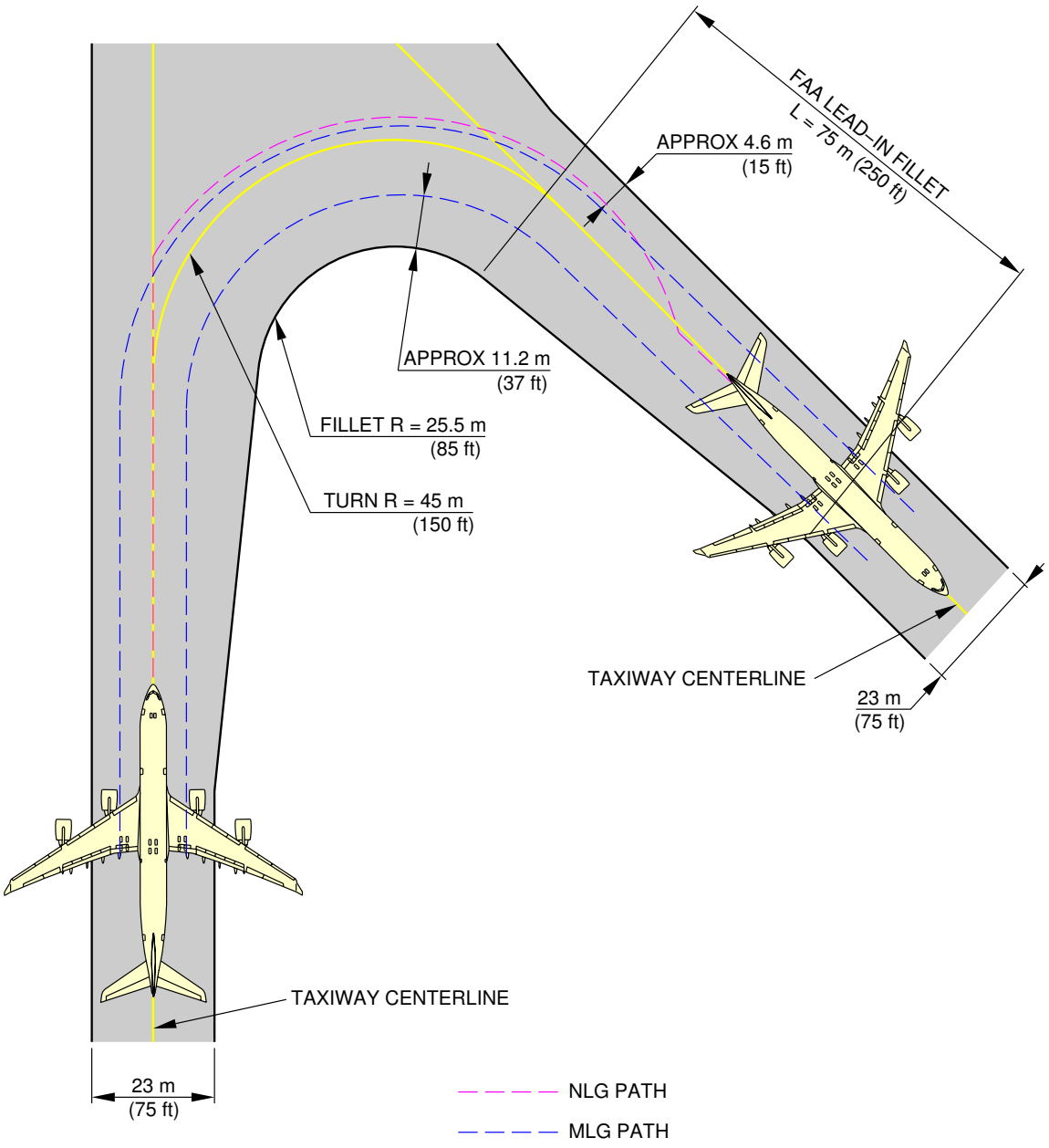
135° Turn - Taxiway to Taxiway
Judgement Oversteering Method
FIGURE-4-5-4-991-005-A01

**ON A/C A340-600



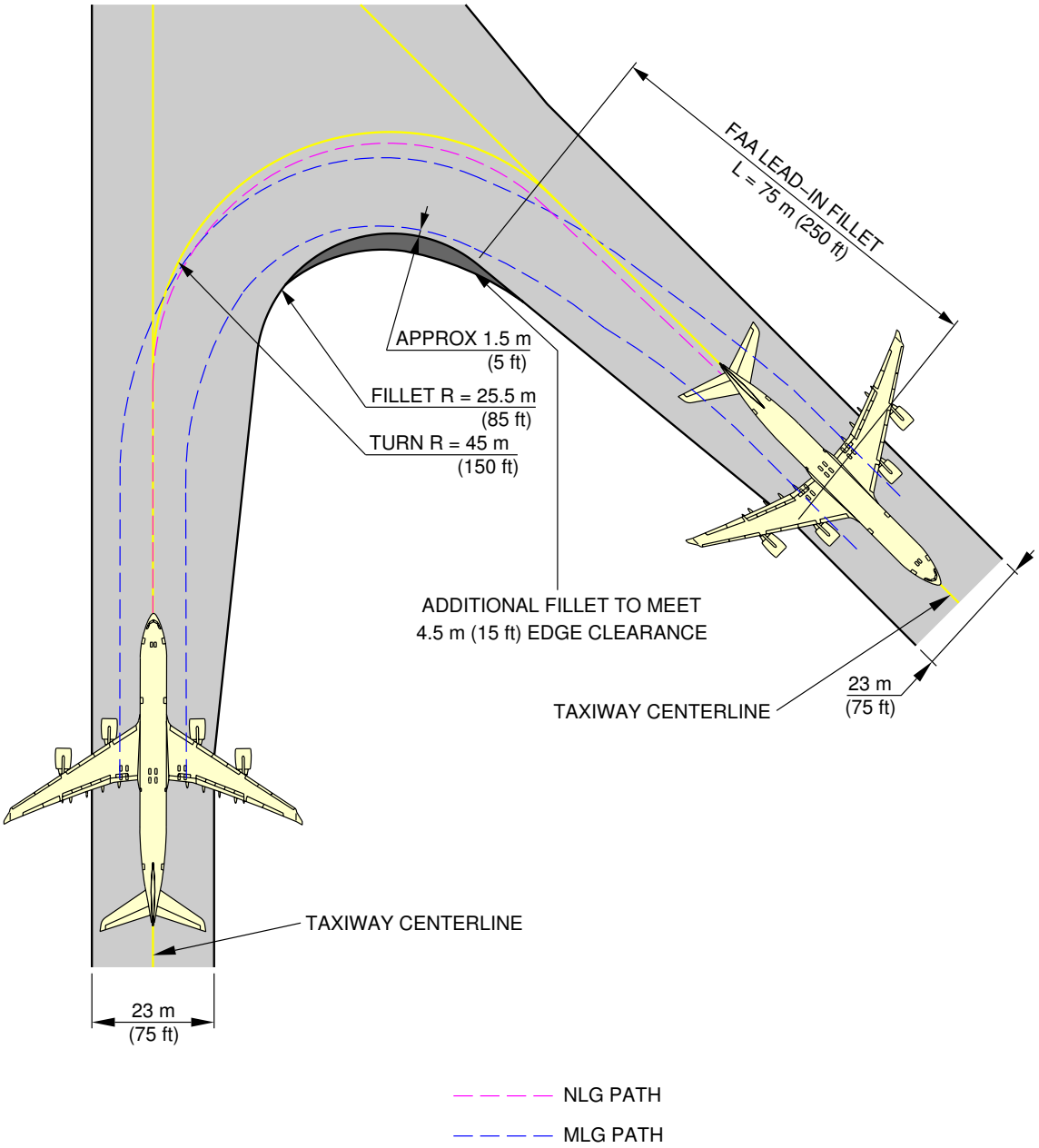
135° Turn - Taxiway to Taxiway
Cockpit Over Centerline Method
FIGURE-4-5-4-991-013-A01

**ON A/C A340-500



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

**ON A/C A340-500



F_AC_040504_1_0140101_01_00

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

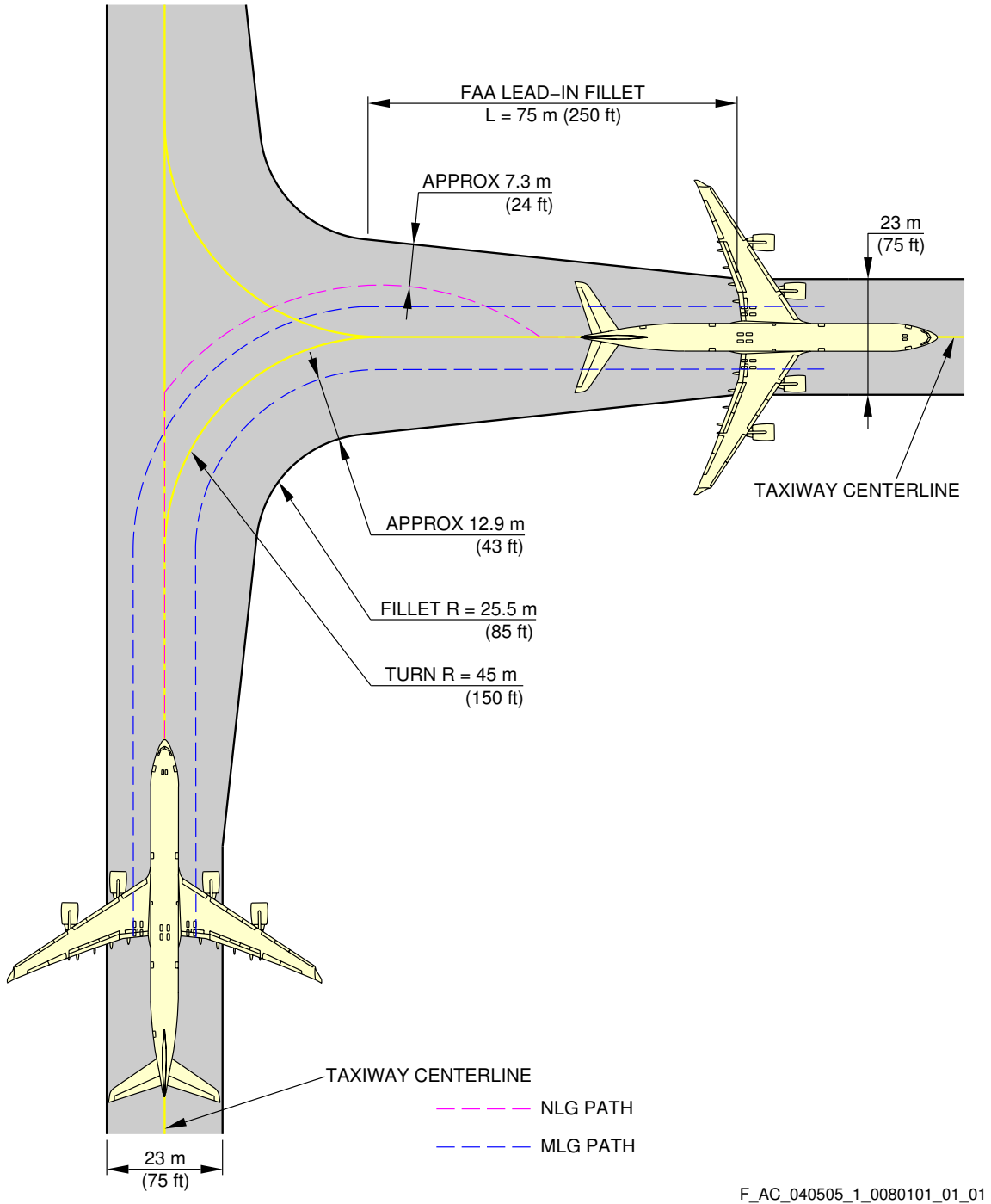
4-5-5 90° Turn - Taxiway to Taxiway

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

90° Turn - Taxiway to Taxiway

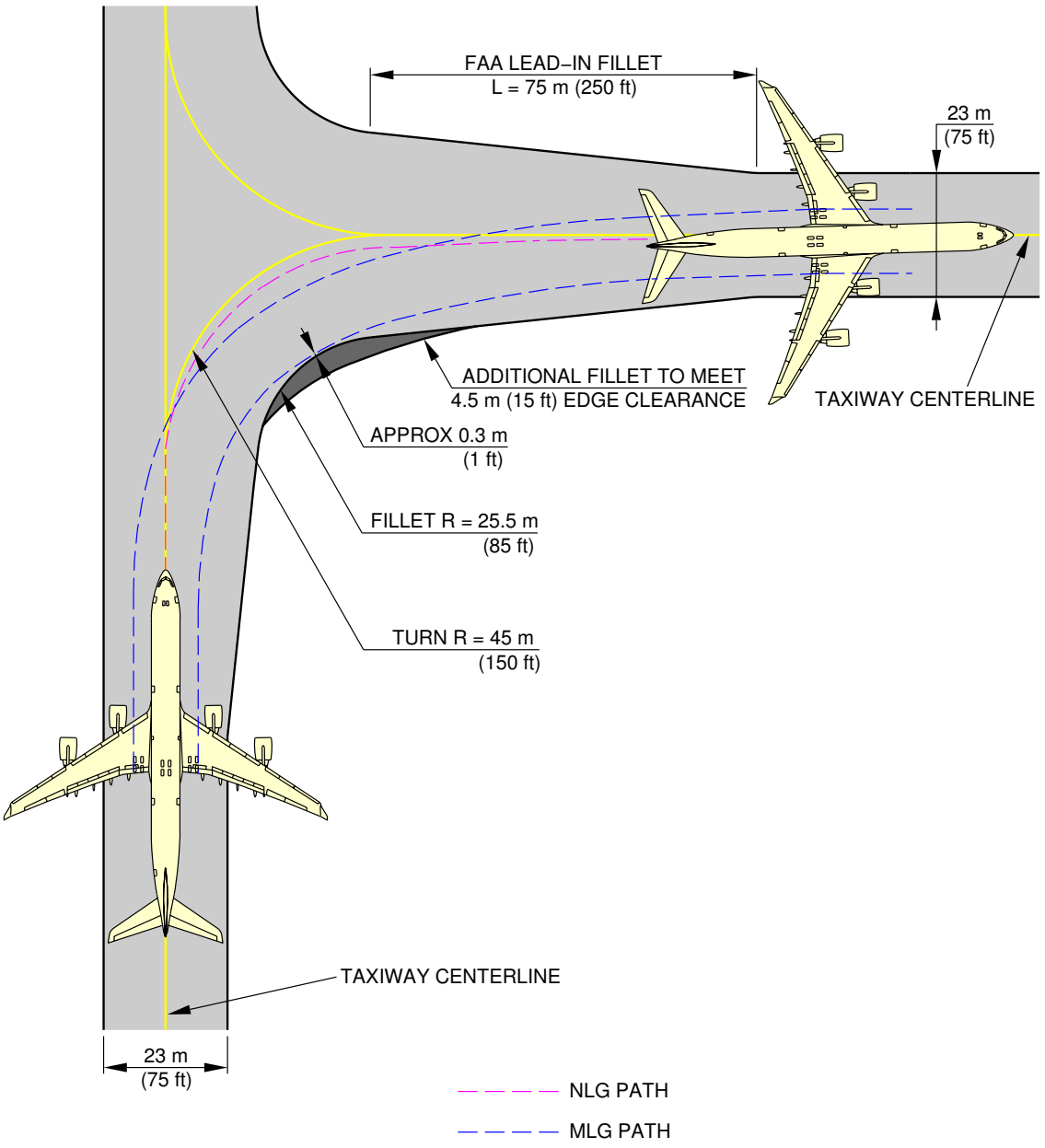
1. This section gives the 90° turn - taxiway to taxiway.

**ON A/C A340-600



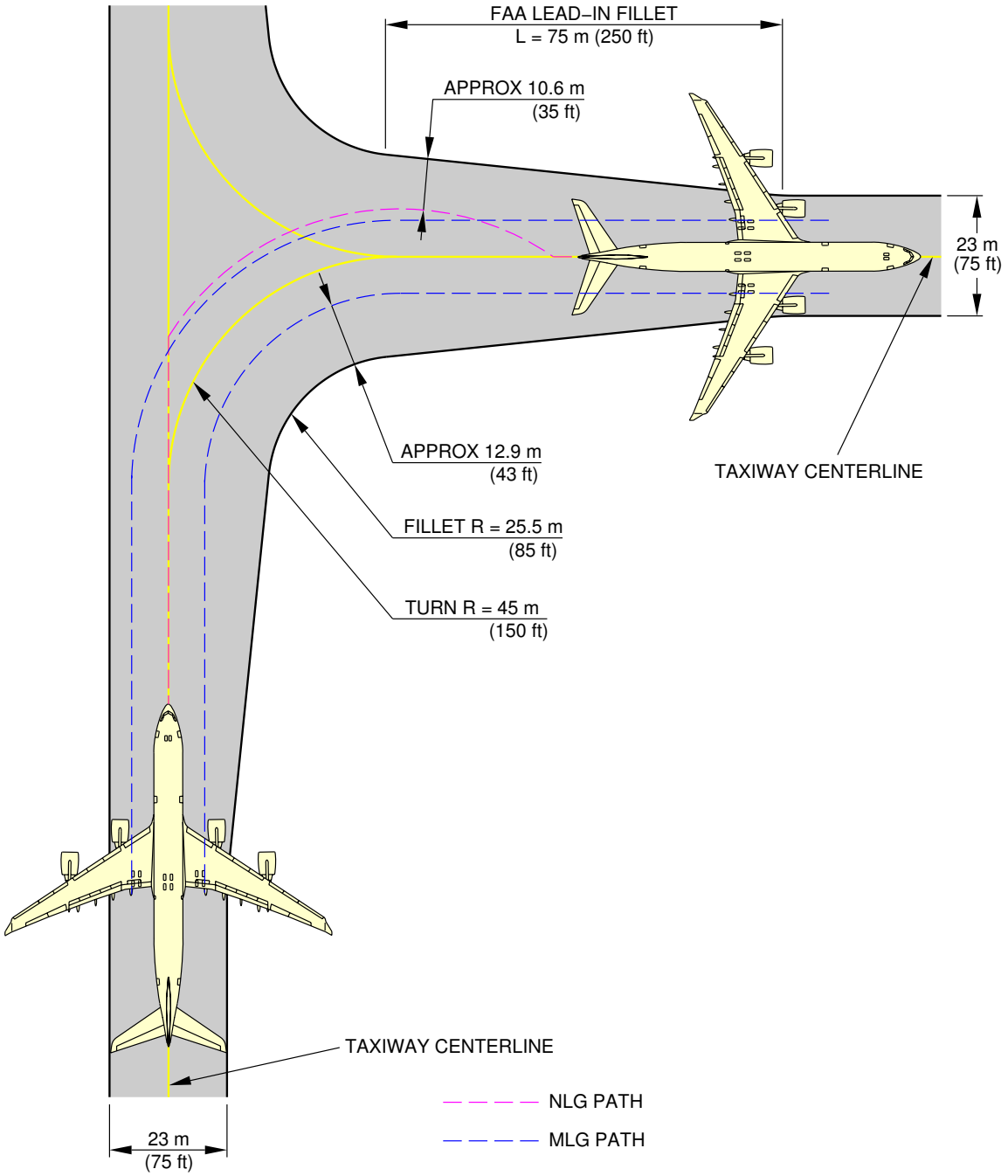
90° Turn - Taxiway to Taxiway
Judgemental Oversteering Method
FIGURE-4-5-5-991-008-A01

**ON A/C A340-600



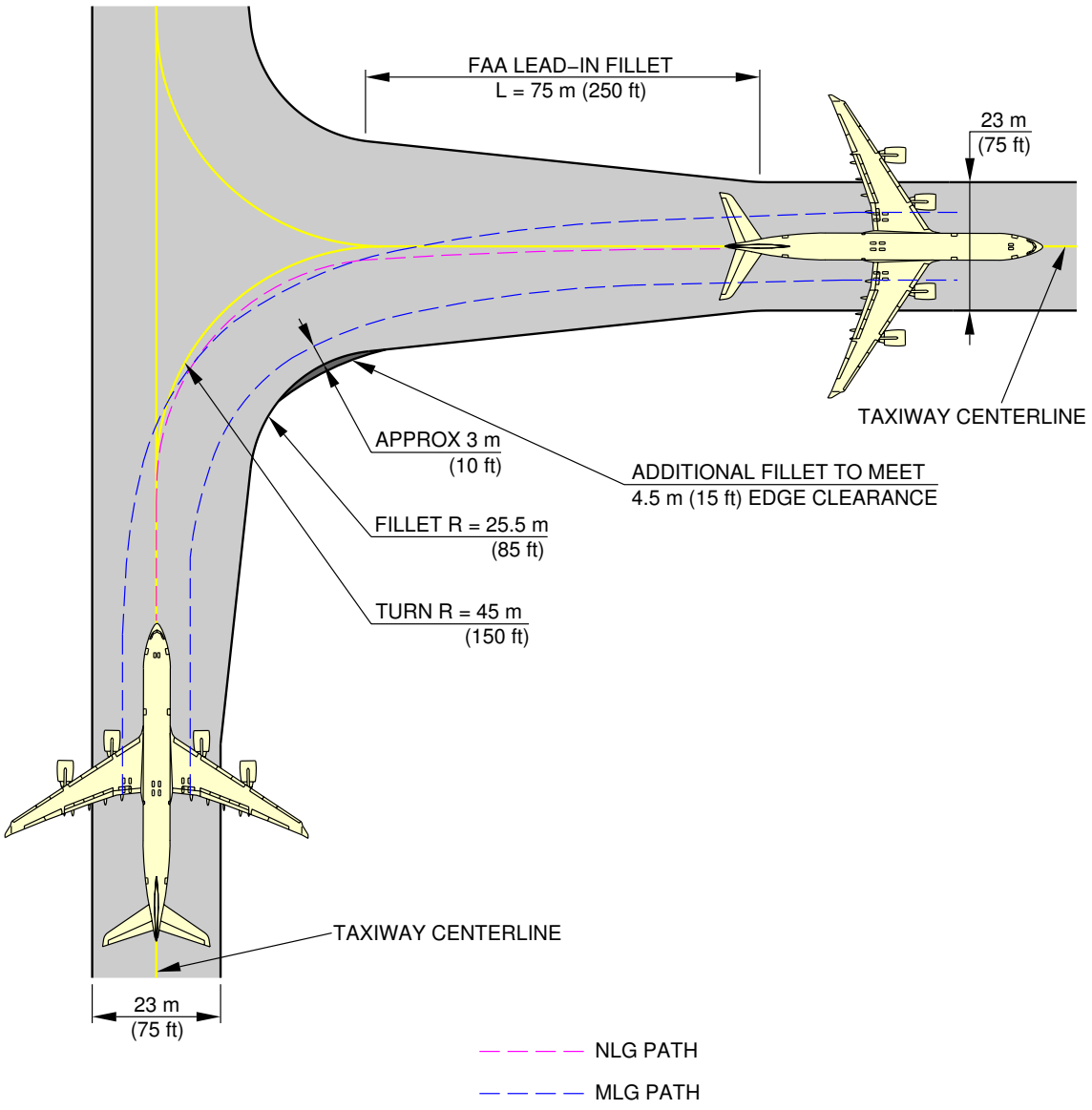
90° Turn - Taxiway to Taxiway
Cockpit Over Centerline Method
FIGURE-4-5-5-991-015-A01

**ON A/C A340-500



90° Turn - Taxiway to Taxiway
Judgemental Oversteering Method
FIGURE-4-5-5-991-009-A01

**ON A/C A340-500



90° Turn - Taxiway to Taxiway
Cockpit Over Centerline Method
FIGURE-4-5-5-991-016-A01

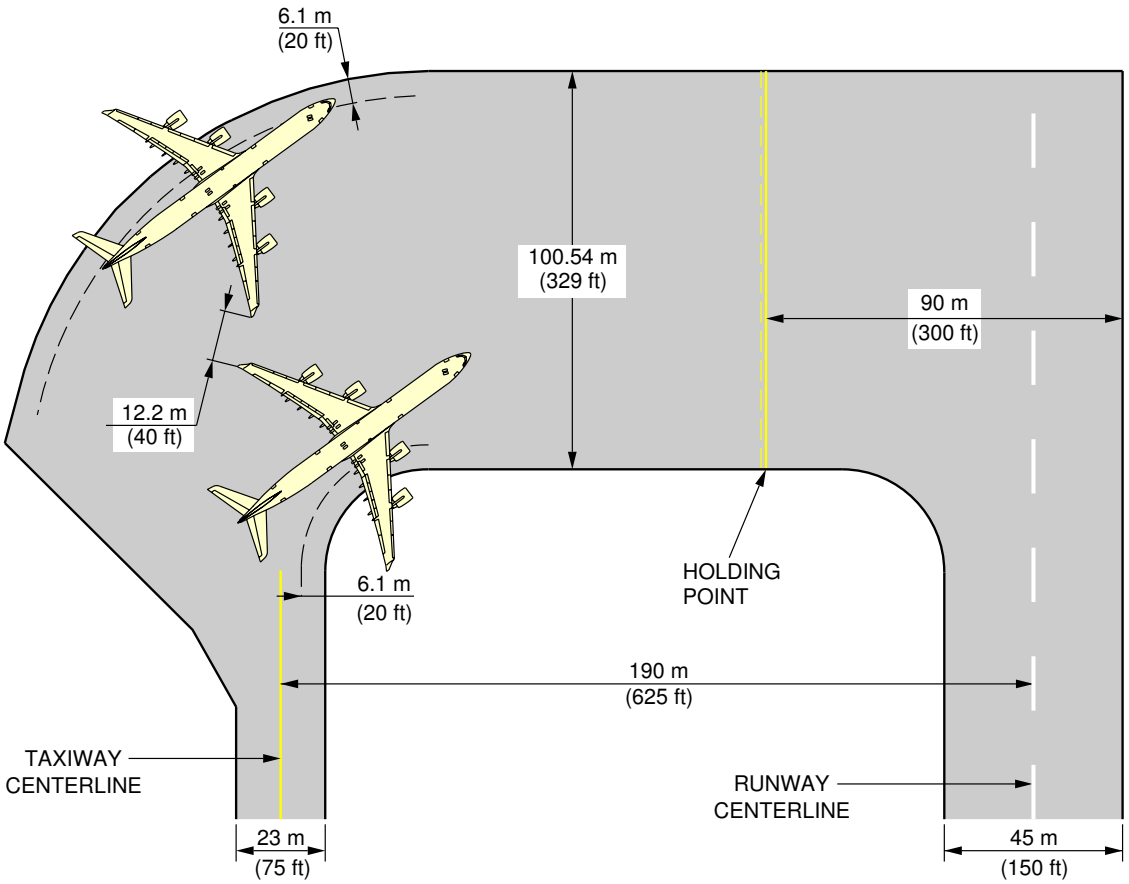
4-6-0 Runway Holding Bay (Apron)

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

Runway Holding Bay (Apron)

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

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



NOTE : 20° NOSE WHEEL STEERING ANGLE.
COORDINATE WITH USING AIRPLANE FOR SPECIFIC PLANNED OPERATING PROCEDURES.

F_AC_040600_1_0040101_01_01

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

4-7-0 Aircraft Parking

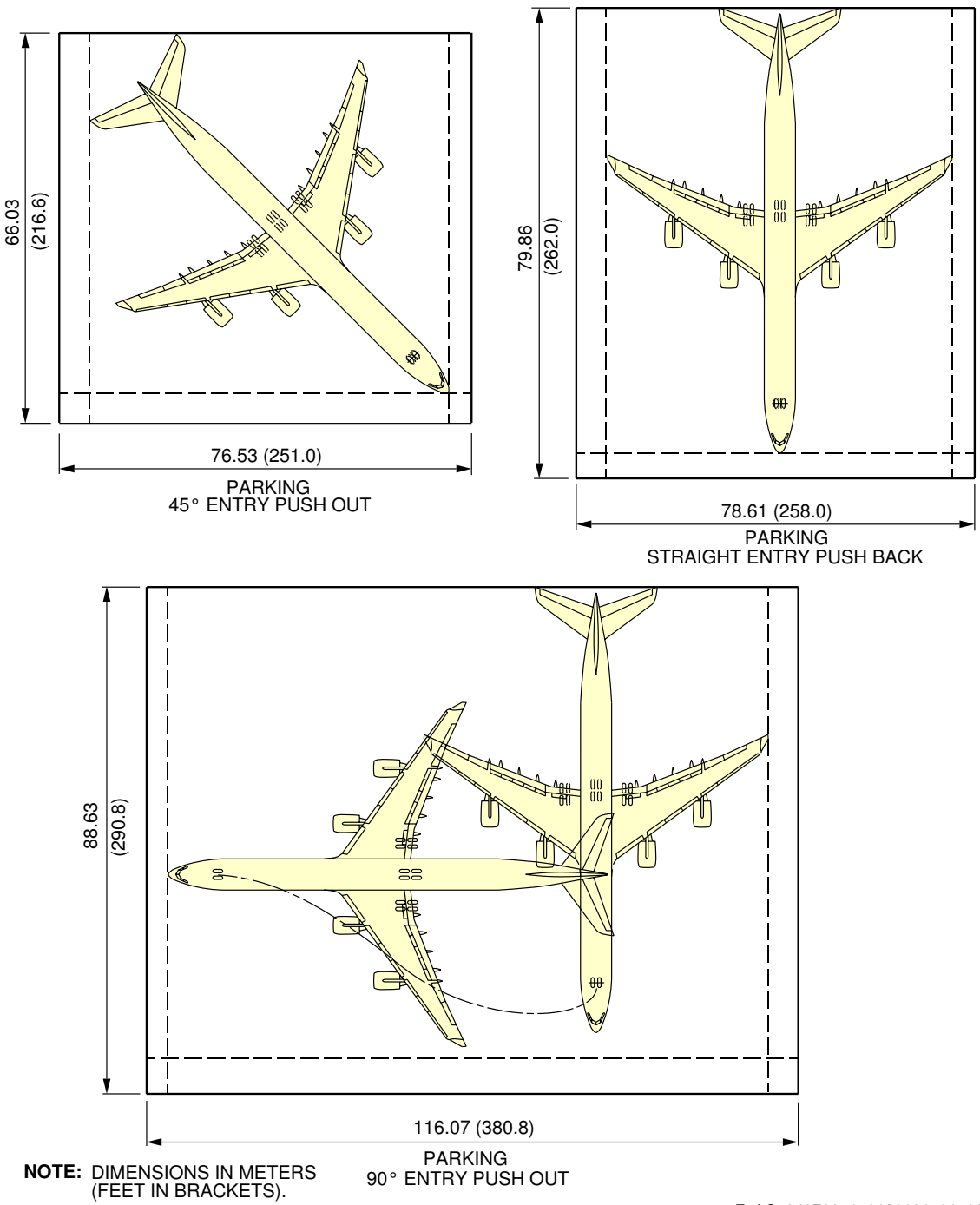
**ON A/C A340-500 A340-600

Airplane Parking

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

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

**ON A/C A340-600

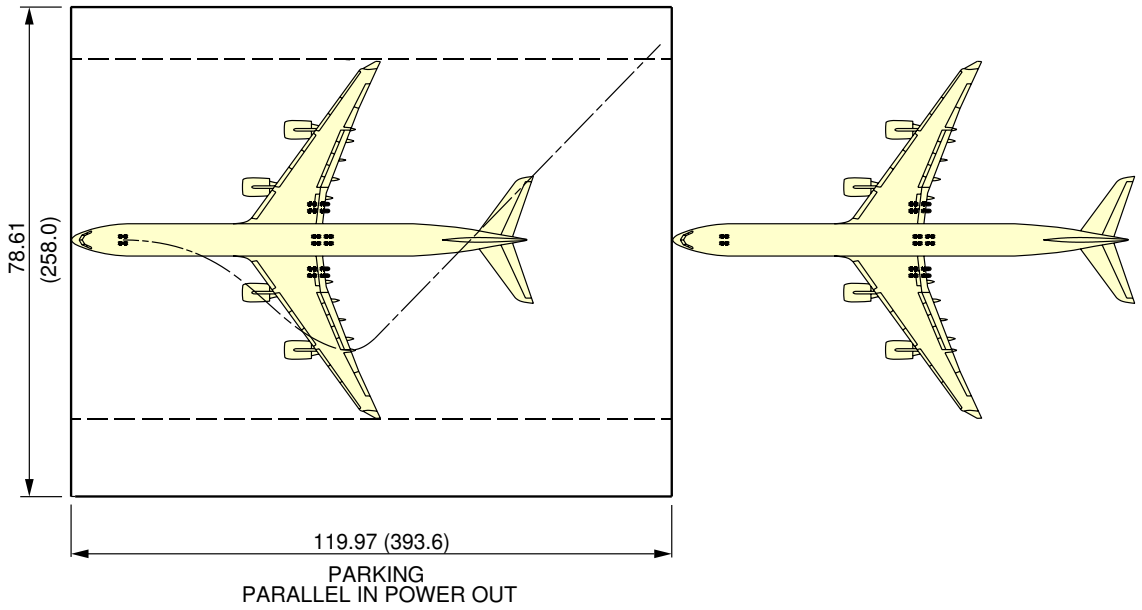


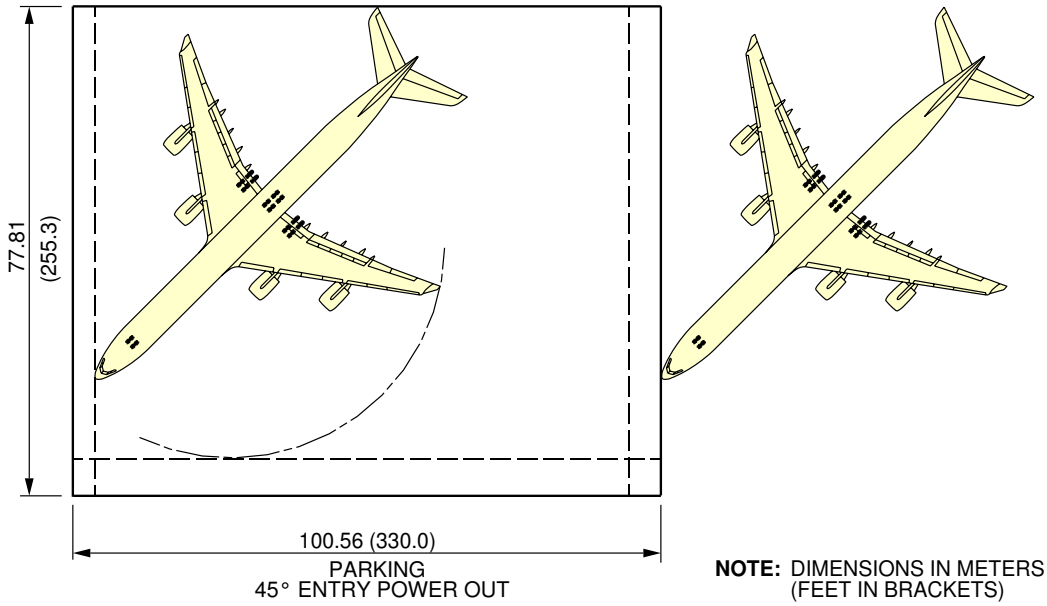
NOTE: DIMENSIONS IN METERS (FEET IN BRACKETS).

F_AC_040700_1_0130101_01_00

Airplane Parking
Steering Geometry
FIGURE-4-7-0-991-013-A01

**ON A/C A340-600



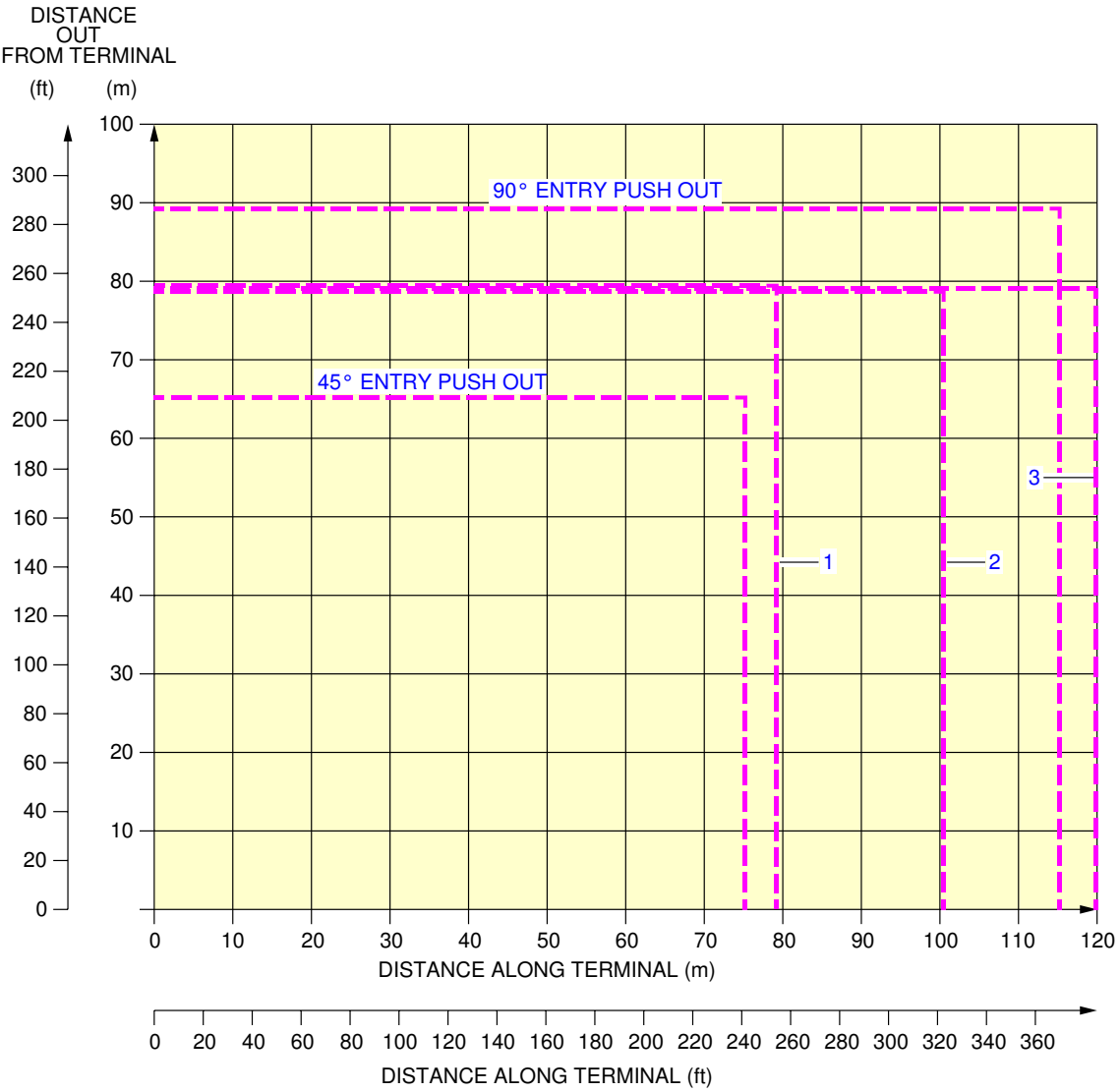


NOTE: DIMENSIONS IN METERS
(FEET IN BRACKETS)

F_AC_040700_1_0140101_01_00

Airplane Parking
Steering Geometry
FIGURE-4-7-0-991-014-A01

**ON A/C A340-600

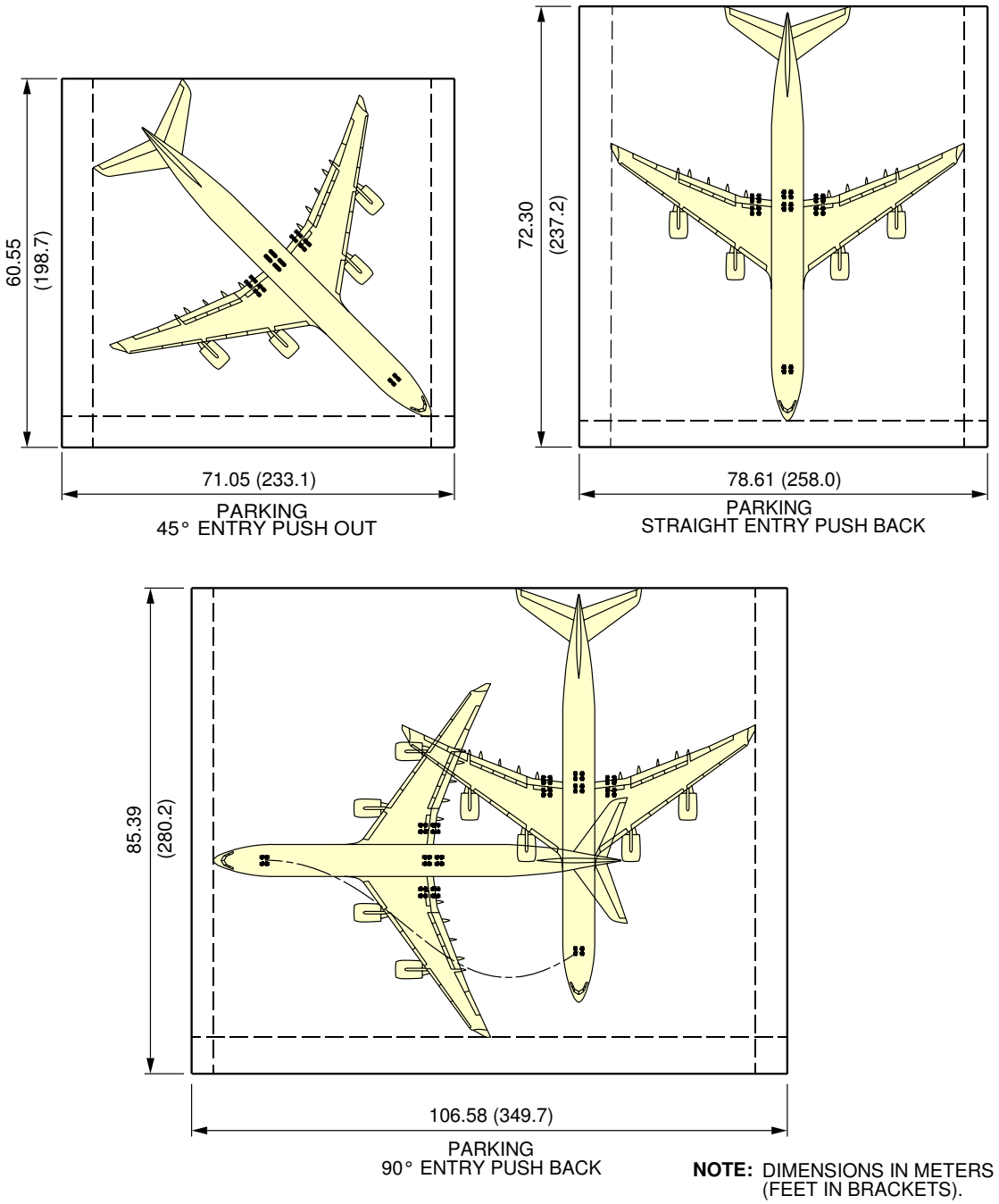


1. STRAIGHT ENTRY PUSH BACK
2. 45° ENTRY POWER OUT
3. PARALLEL IN POWER OUT

F_AC_040700_1_0150101_01_00

Airplane Parking
Minimum Parking Space Requirements
FIGURE-4-7-0-991-015-A01

**ON A/C A340-500

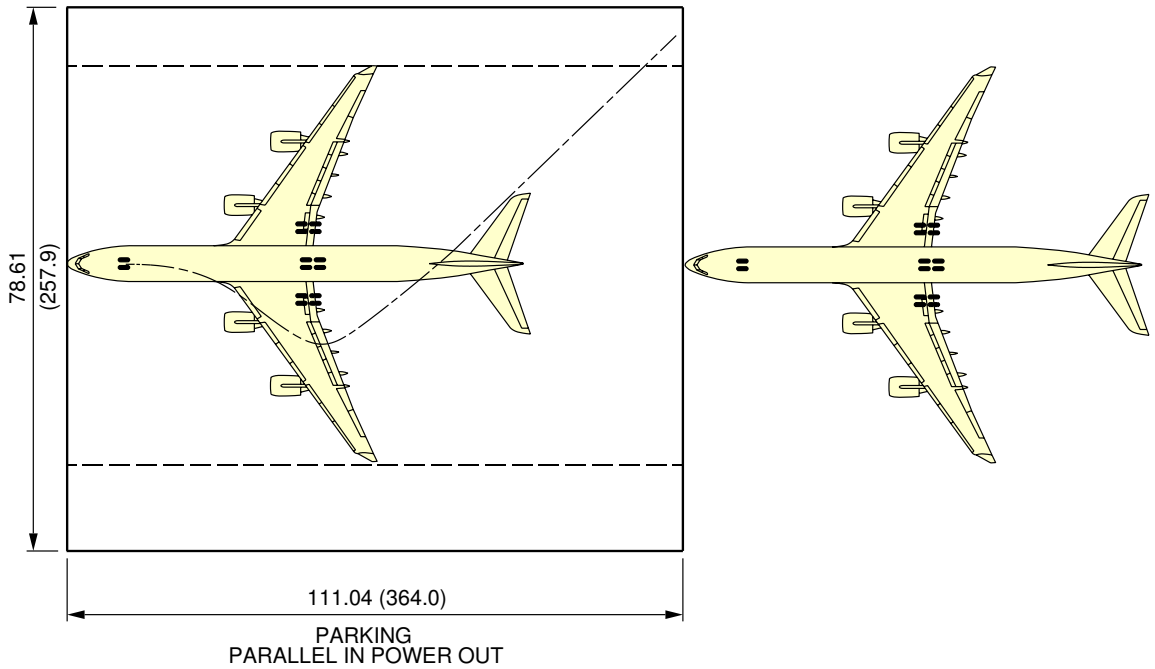


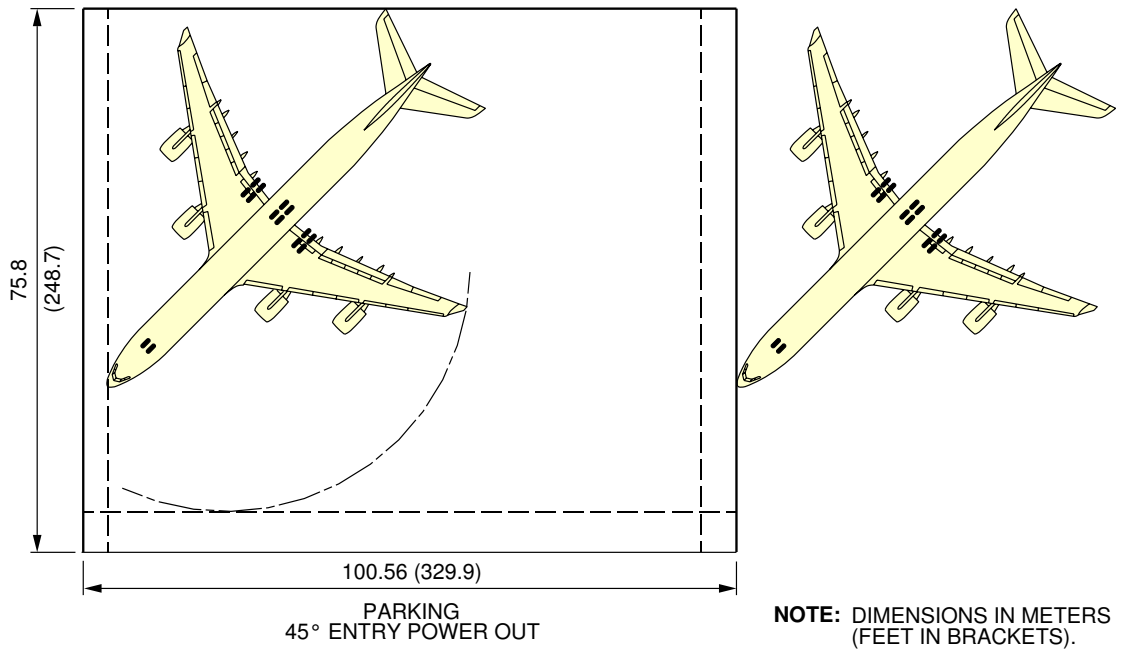
NOTE: DIMENSIONS IN METERS (FEET IN BRACKETS).

F_AC_040700_1_0160101_01_00

Airplane Parking
Steering Geometry
FIGURE-4-7-0-991-016-A01

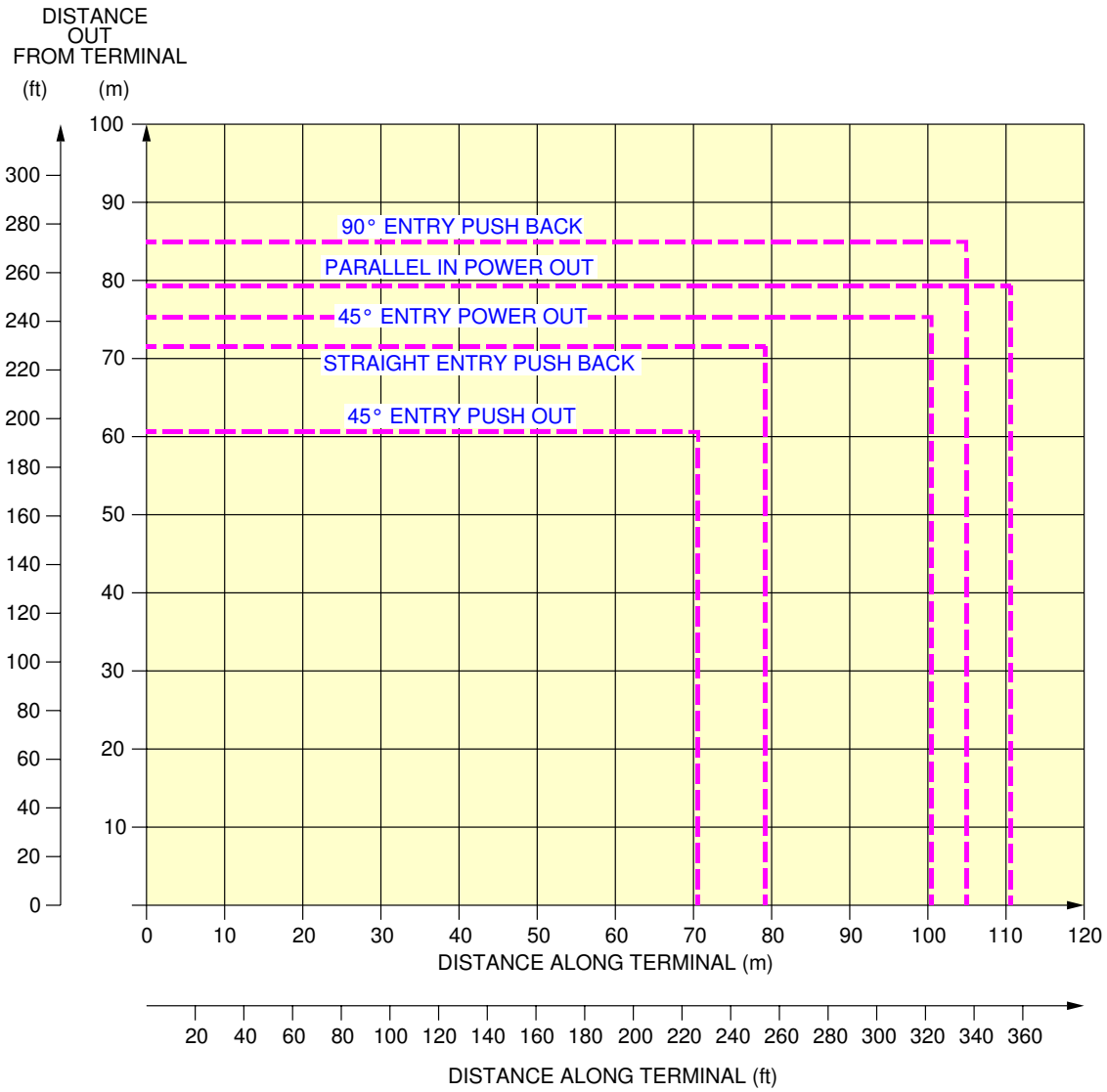
**ON A/C A340-500





Airplane Parking
Steering Geometry
FIGURE-4-7-0-991-017-A01

**ON A/C A340-500



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Airplane Parking
Minimum Parking Space Requirements
FIGURE-4-7-0-991-018-A01

TERMINAL SERVICING

5-0-0 TERMINAL SERVICING

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

TERMINAL SERVICING

1. Terminal servicing

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

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

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

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

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

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

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

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

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

5-1-0 Aircraft Servicing Arrangements

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

Airplane Servicing Arrangements

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

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

   The associated turnaround station is given in the section 5-2-1 for Full Servicing Turn Round Charts. The associated minimum turnaround time for Transit Turn Round Charts is given in a section 5-3-1.

5-1-1 Symbols Used on Servicing Diagrams

**ON A/C A340-500 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

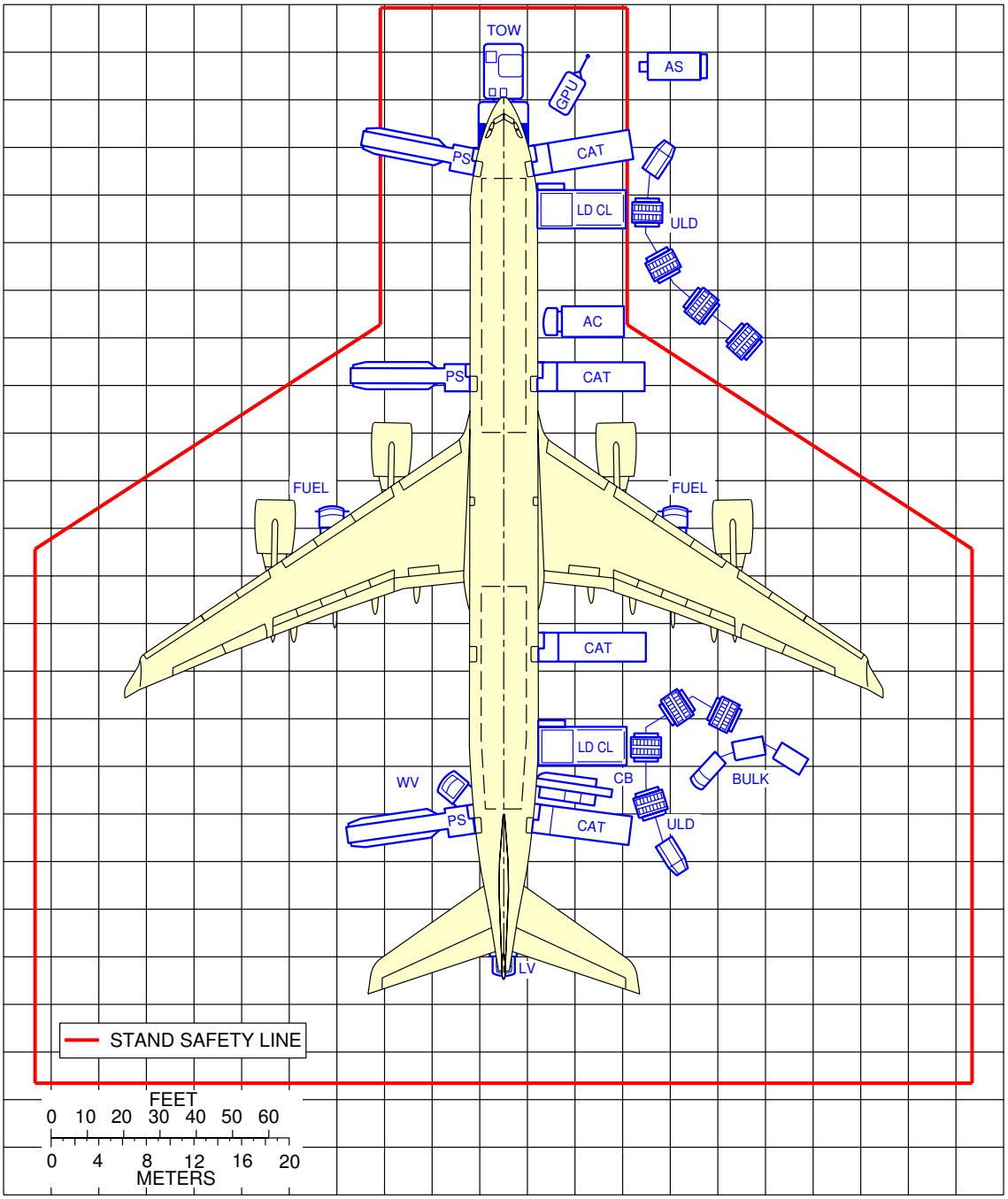
5-1-2 Typical Ramp Layout - Open Apron

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

Typical Ramp Layout - Open Apron

1. This section gives 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).

**ON A/C A340-600



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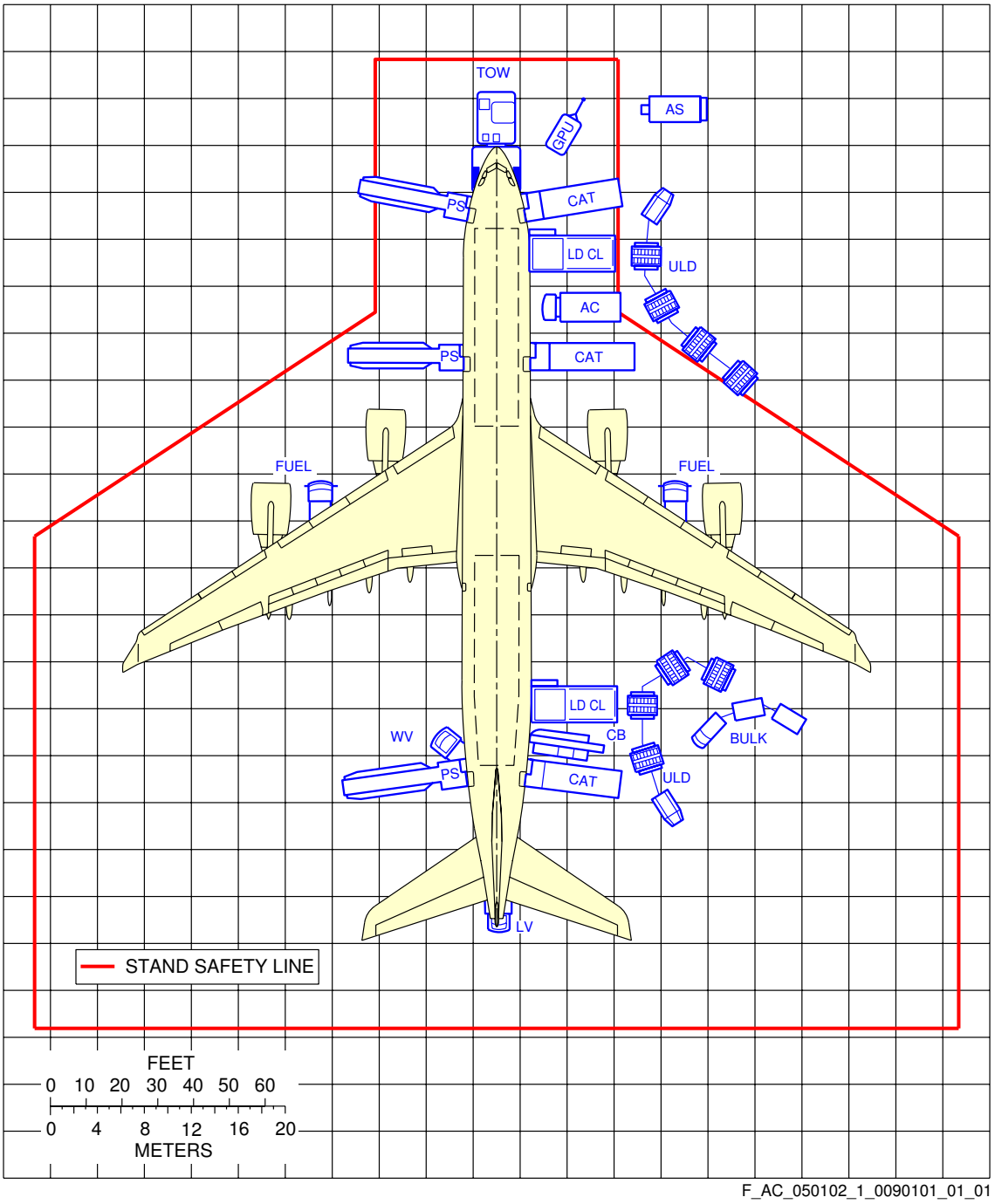
Typical Ramp Layout
Open Apron
FIGURE-5-1-2-991-008-A01

**ON A/C A340-500



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

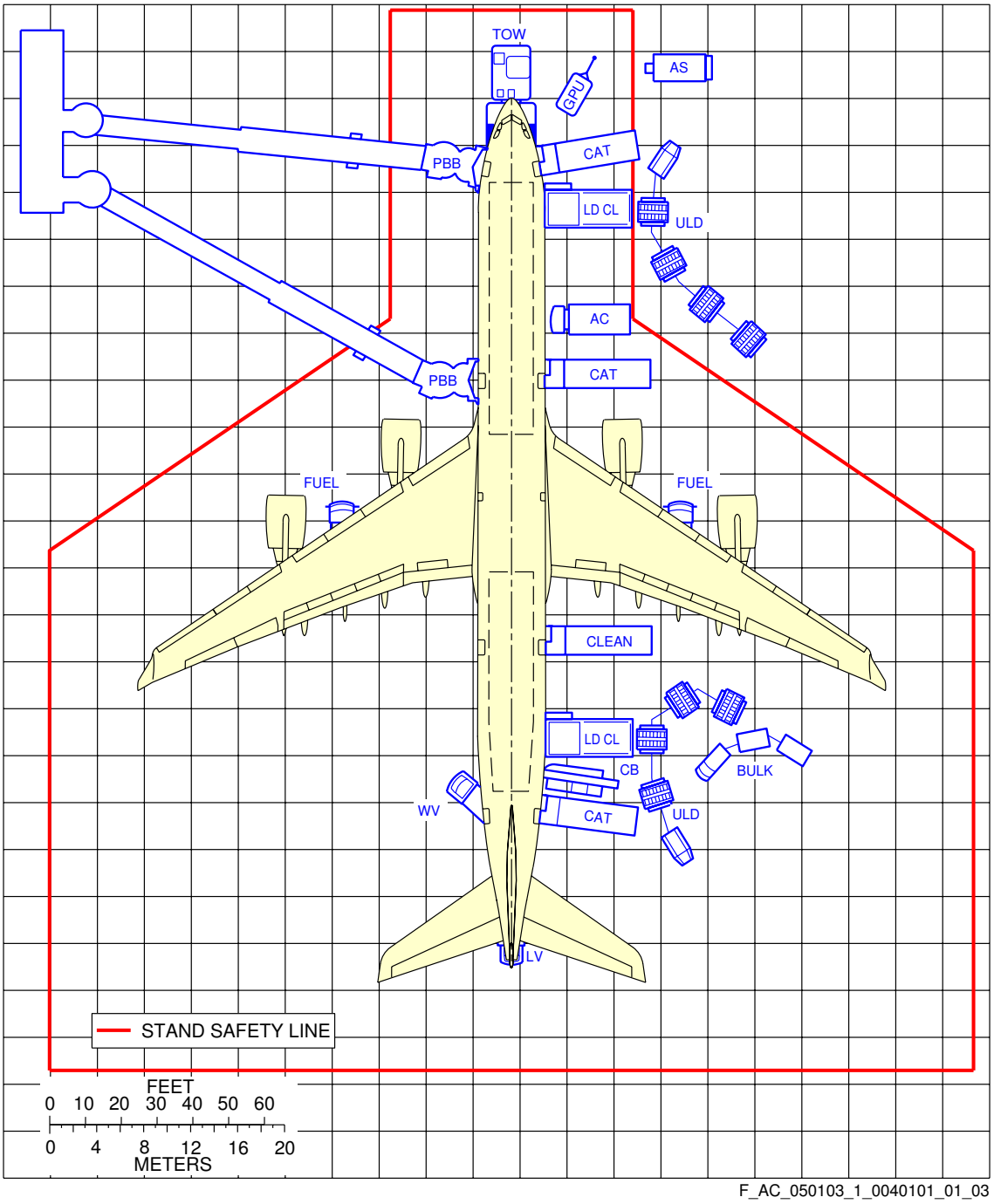
5-1-3 Typical Ramp Layout - Gate

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

Typical Ramp Layout - Gate

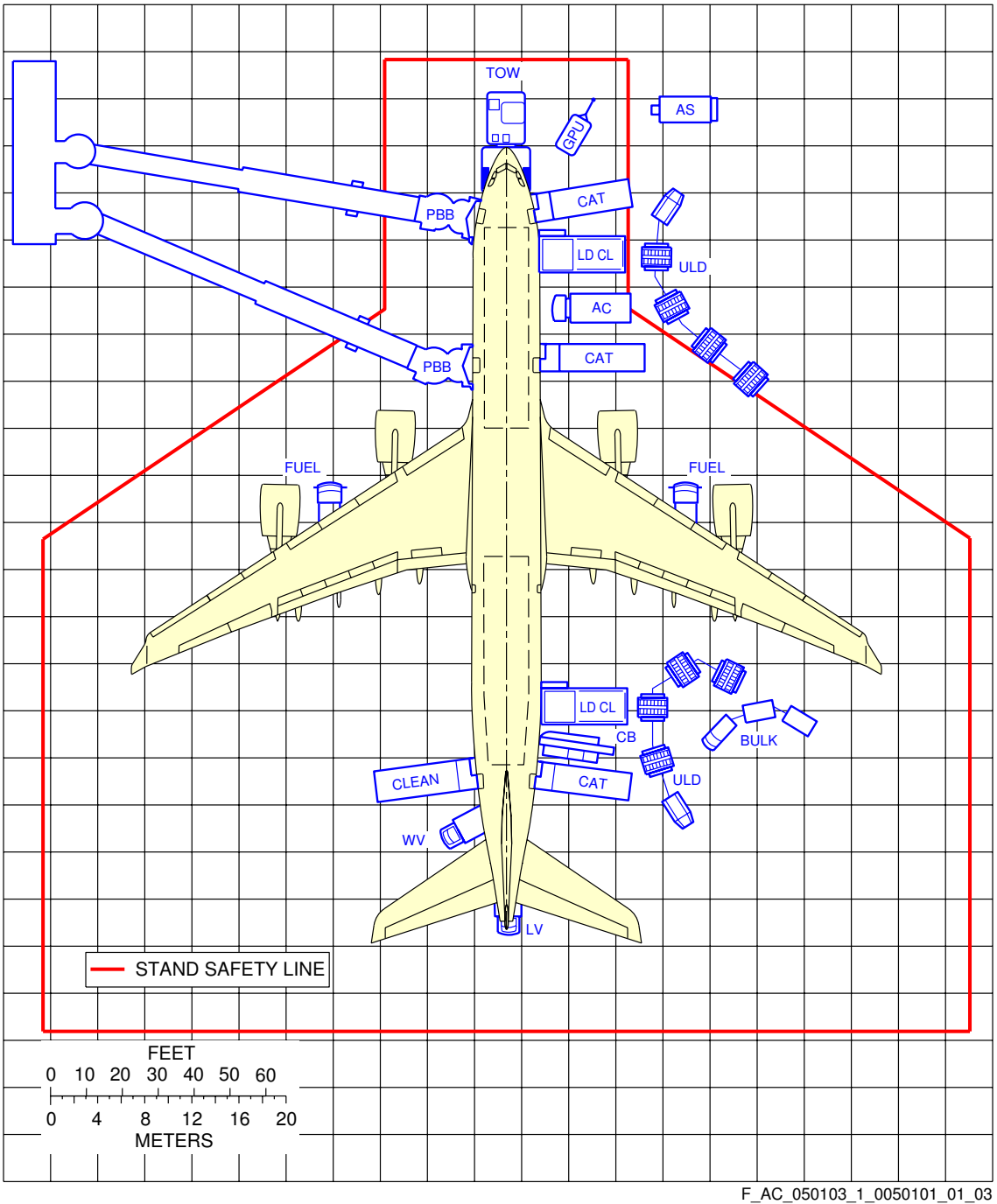
1. This section gives the typical servicing arrangements in the gate area for the passenger version of the aircraft, with two Passenger Boarding Bridges.
   The Stand Safety Line delimits the Aircraft Safety Area (minimum distance of 7.5 m (24.61 ft) from the aircraft). No vehicle must be parked in this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

**ON A/C A340-600



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

**ON A/C A340-500



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

5-2-0 Terminal Operations - Full Servicing

**ON A/C A340-600

Terminal Operations - Full Servicing Turn Round Time

1. This section provides typical turn-round time charts 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 full servicing turn-round time chart
   A. PASSENGER HANDLING
   319 pax (12 F/C + 42 B/C + 265 Y/C)
   All passengers deboard and board the aircraft
   2 Passenger Boarding Bridges (PBB) used at doors L1 and L2
   Equipment positioning/removal + opening/closing door = 3 min
   No Passenger with Reduced Mobility (PRM) on board

   Deboarding:
   - 160 pax at door L1 (12 F/C + 42 B/C + 106 Y/C)
   - 159 pax at door L2 (159 Y/C)
   - Deboarding rate = 25 pax/min per door
   - Priority deboarding 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
   Equipment positioning/removal + opening/closing door = 2.5 min

   Cargo exchange:
   - 20 LD3 in FWD cargo compartment
   - 6 pallets in AFT cargo compartment
   - 1 000 kg (2 205 lb) in bulk cargo compartment

   LD3 off-loading/loading times:
   - Off-loading = 1.2 min/LD3
   - Loading = 1.4 min/LD3

   Pallet off-loading/loading times:
   - Off-loading = 2.4 min/pallet

- Loading = 2.8 min/pallet

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

C. REFUELLING

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

D. CLEANING

Performed in available time

E. CATERING

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

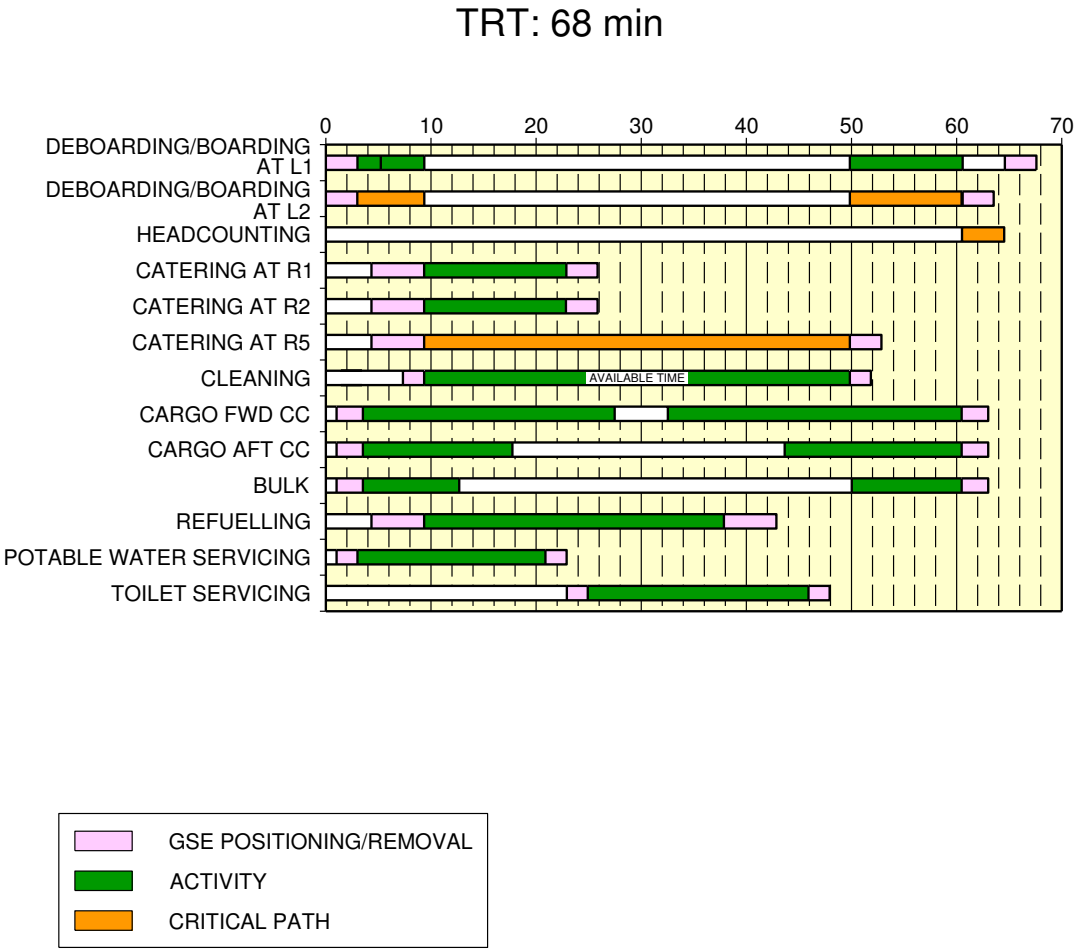
Time for trolley exchange = 1.5 min per FSTE

F. GROUND HANDLING/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 × 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)
Toilet servicing: draining + rinsing

**ON A/C A340-600



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

**ON A/C A340-500

Terminal Operations - Full Servicing Turn Round Time

1. This section provides typical turn-round time charts 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 full servicing turn-round time chart

   A. PASSENGER HANDLING
   246 pax (8 F/C + 42 B/C + 196 Y/C)
   All passengers deboard and board the aircraft
   2 Passenger Boarding Bridges (PBB) used at doors L1 and L2
   Equipment positioning/removal + opening/closing door = 3 min
   No Passenger with Reduced Mobility (PRM) on board

   Deboarding:
   - 123 pax at door L1 (8 F/C + 42 B/C + 73 Y/C)
   - 123 pax at door L2 (123 Y/C)
   - Deboarding rate = 25 pax/min per door
   - Priority deboarding 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
   Equipment positioning/removal + opening/closing door = 2.5 min

   Cargo exchange:
   - 16 LD3 in FWD cargo compartment
   - 4 pallets in AFT cargo compartment
   - 1 000 kg (2 205 lb) in bulk cargo compartment

   LD3 off-loading/loading times:
   - Off-loading = 1.2 min/LD3
   - Loading = 1.4 min/LD3

   Pallet off-loading/loading times:
   - Off-loading = 2.4 min/pallet
   - Loading = 2.8 min/pallet

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

C. REFUELLING

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

D. CLEANING

Performed in available time

E. CATERING

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

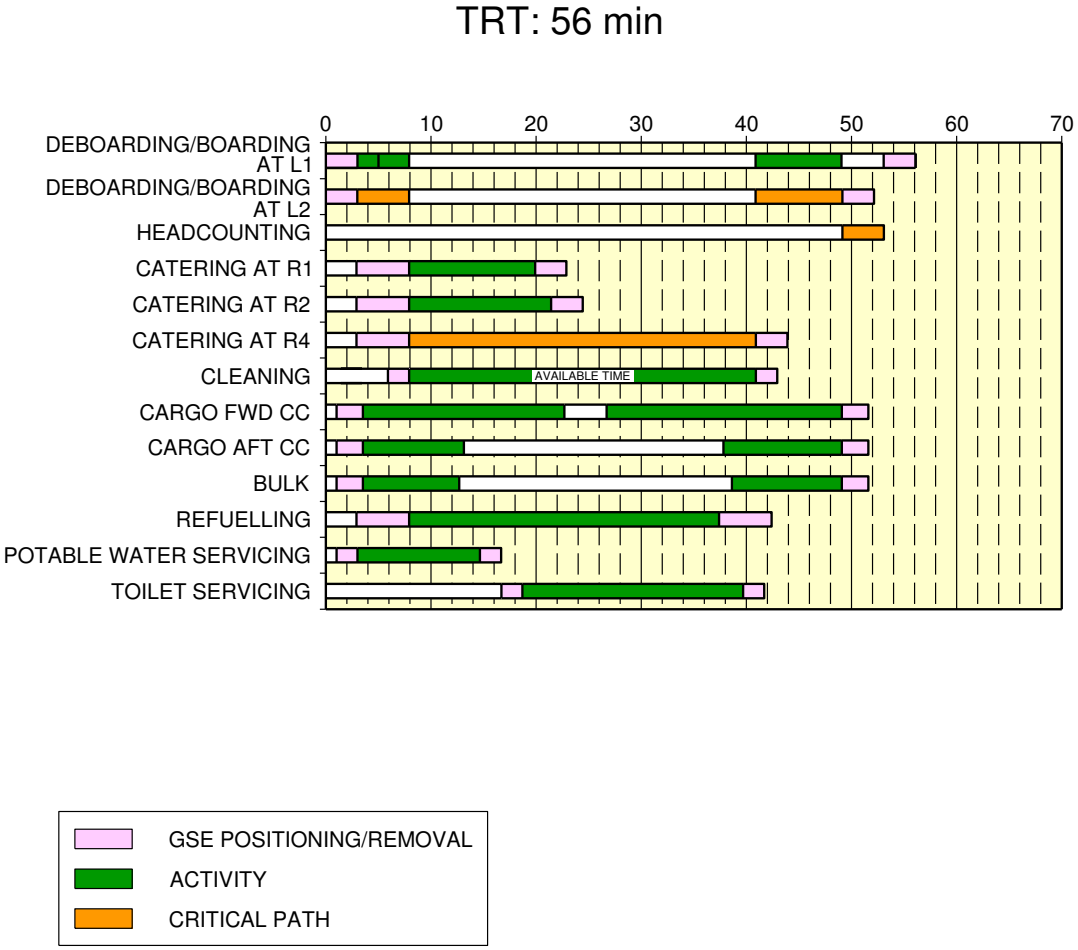
Time for trolley exchange = 1.5 min per FSTE

F. GROUND HANDLING/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 × 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)
Toilet servicing: draining + rinsing

**ON A/C A340-500



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

5-3-0 Terminal Operations - Transit

**ON A/C A340-600

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
   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)

Dispenser positioning/removal = 3 min

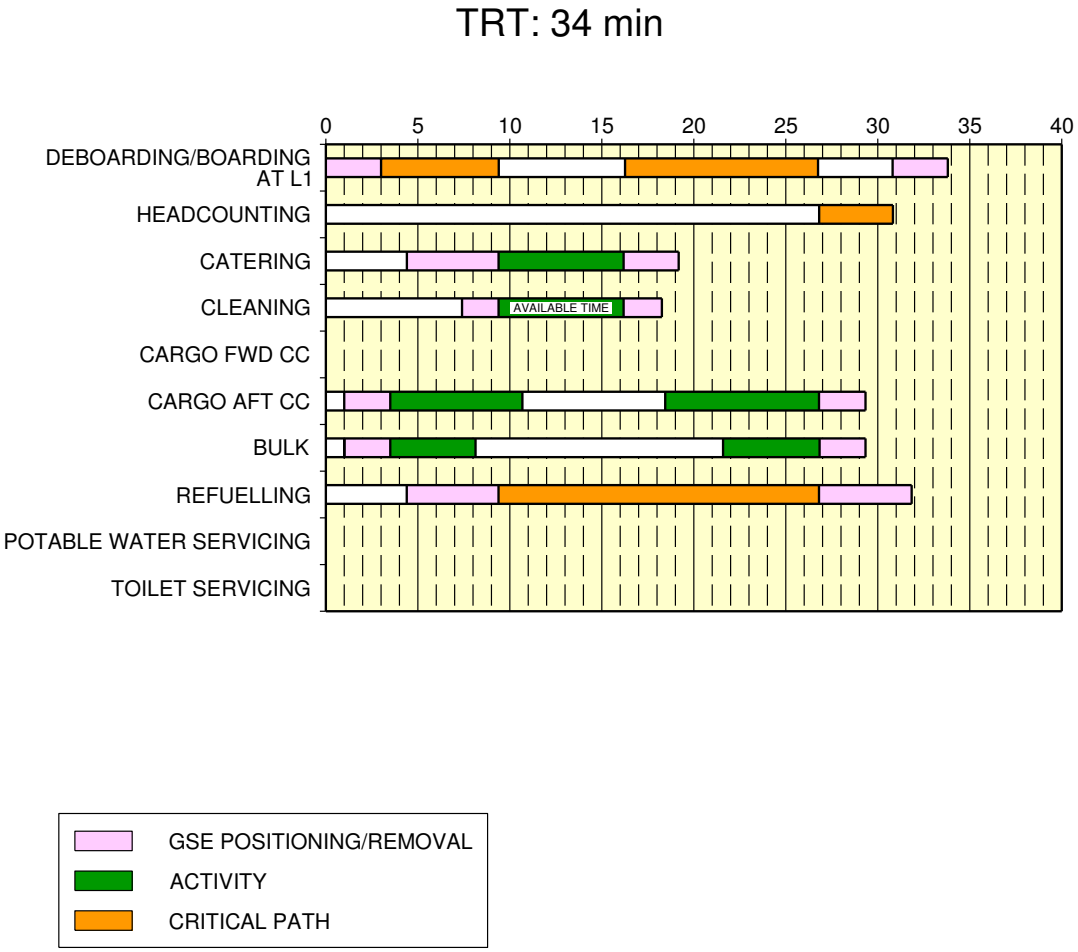
D. CLEANING
Performed in available time

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 × 90 kVA
Air conditioning: two hoses
No potable water servicing
No toilet servicing

**ON A/C A340-600



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

**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

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

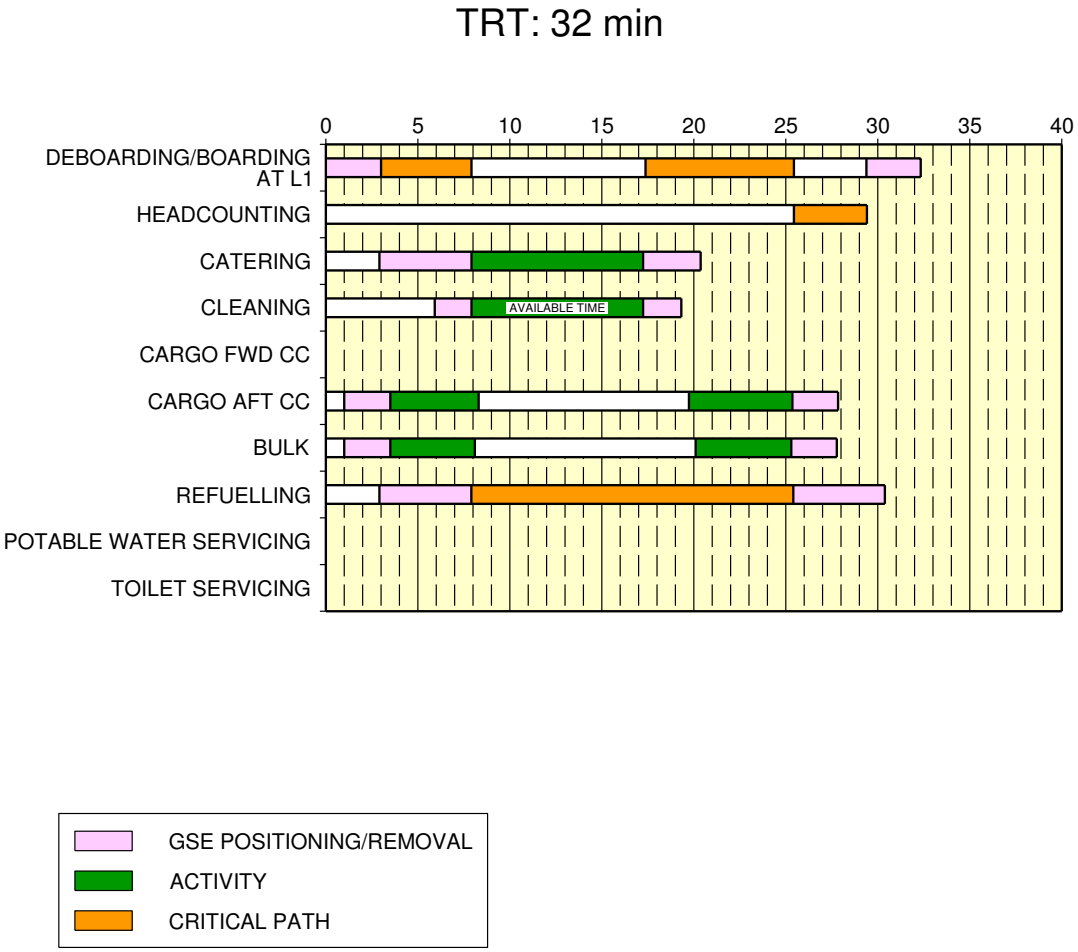
F. GROUND HANDLING/SERVICING

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 × 90 kVA
Air conditioning: two hoses
No potable water servicing
No toilet servicing

**ON A/C A340-500



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

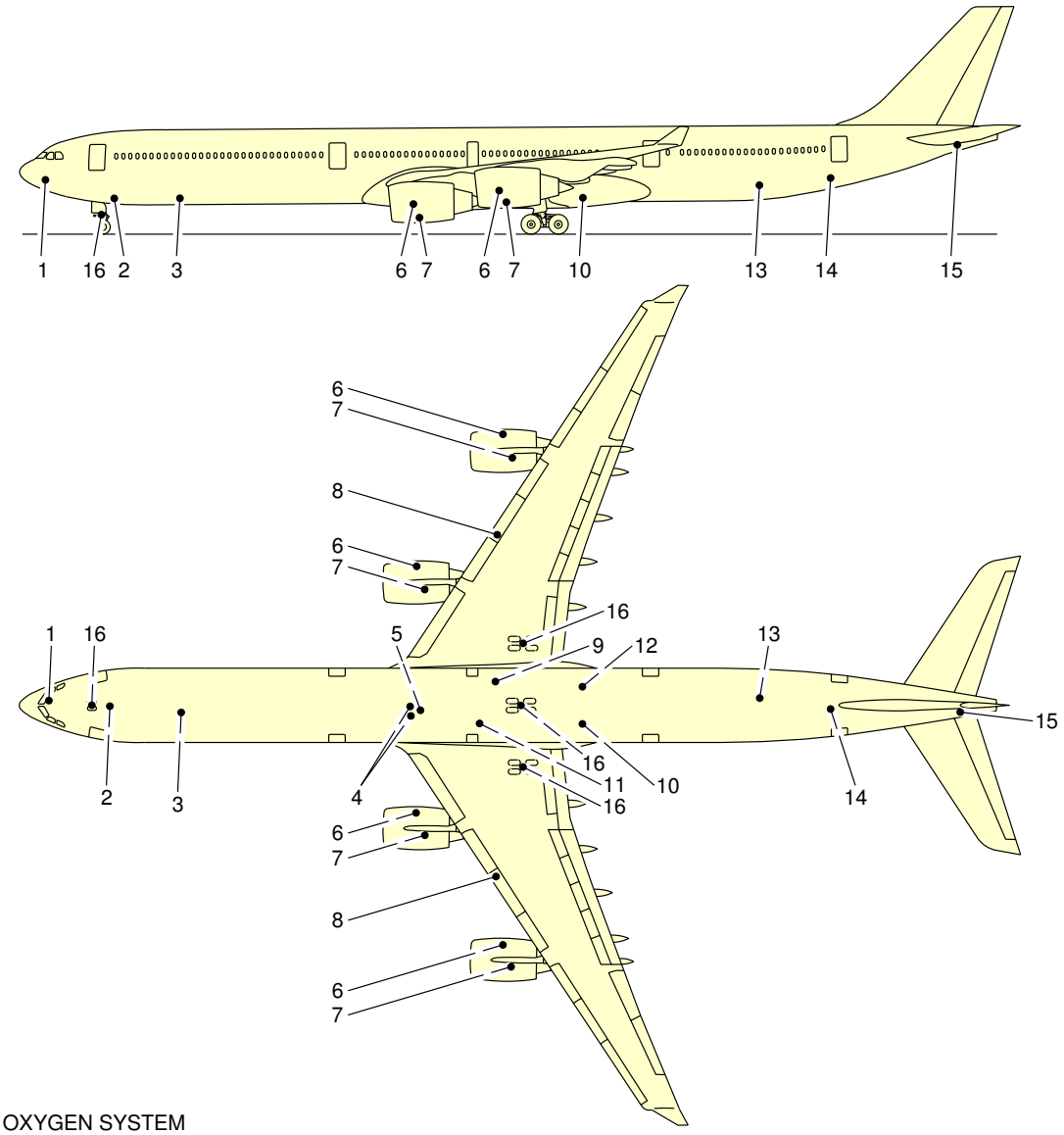
5-4-1 Ground Service Connections Layout

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

Ground Service Connections Layout

1. This section gives the ground service connections layout.

**ON A/C A340-600



1 – OXYGEN SYSTEM
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 – HYD RESERVOIR FILLING AND GROUND POWER SUPPLY (GREEN)
11 – HYD RESERVOIR AIR PRESSURIZATION AND GROUND POWER SUPPLY (BLUE)
12 – REFUEL/DEFUEL PANEL
13 – POTABLE WATER SERVICE PANEL
14 – TOILET AND WASTE SERVICE PANEL
15 – APU OIL FILLING
16 – GROUNDING POINTS

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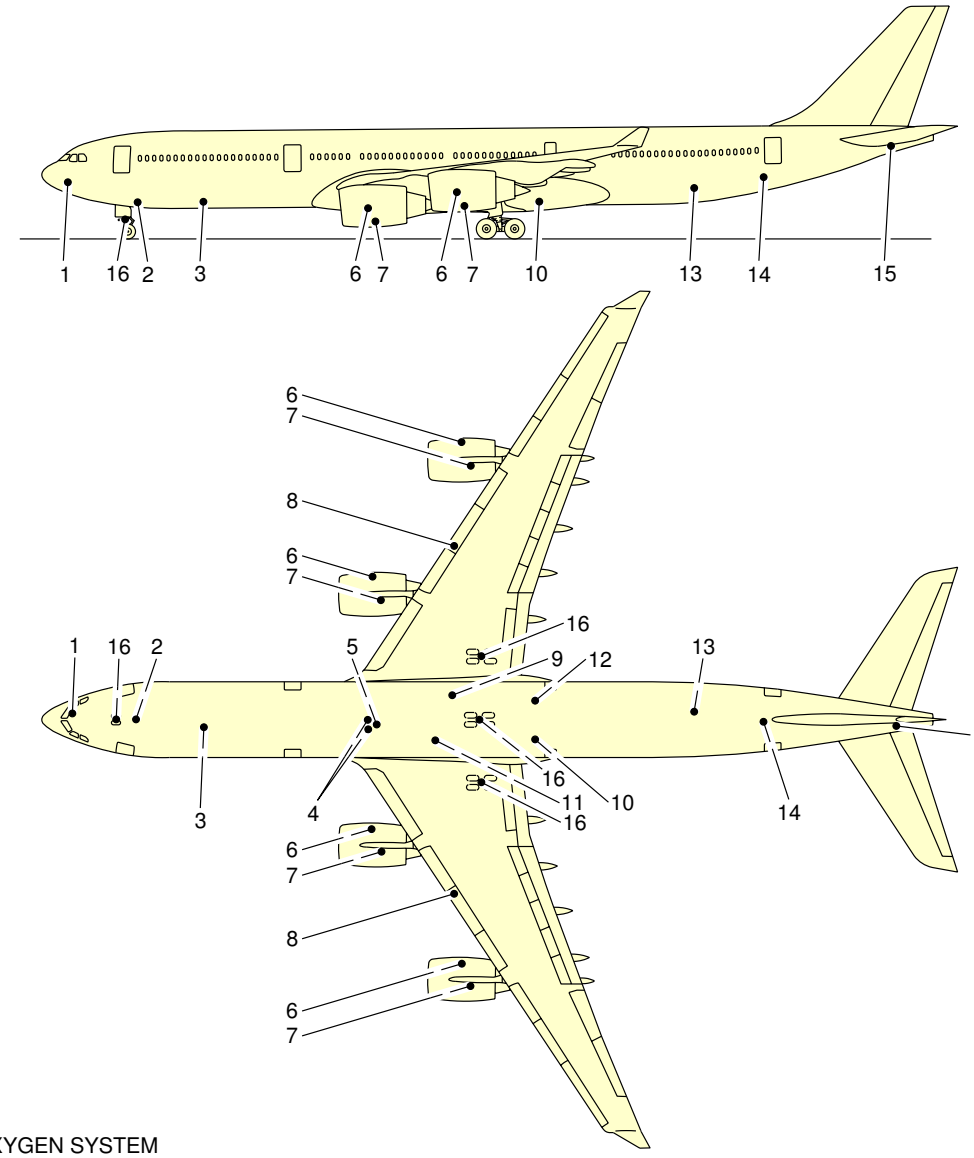
Ground Service Connections
Ground Service Connections Layout
FIGURE-5-4-1-991-004-A01

**ON A/C A340-500



1 – OXYGEN SYSTEM
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 – HYD RESERVOIR FILLING AND GROUND POWER SUPPLY (GREEN)
11 – HYD RESERVOIR AIR PRESSURIZATION AND GROUND POWER SUPPLY (BLUE)
12 – REFUEL/DEFUEL PANEL
13 – POTABLE WATER SERVICE PANEL
14 – TOILET AND WASTE SERVICE PANEL
15 – APU OIL FILLING
16 – GROUNDING POINTS

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

5-4-2 Grounding Points

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

Grounding Points

**ON A/C A340-600

1. Grounding Points.

	DISTANCE: Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
On Nose Landing Gear leg:	6.57 m (21.56 ft)	on centerline		1.40 m (4.59 ft)
On left Main Landing Gear leg:	39.45 m (129.43 ft)		5.34 m (17.52 ft)	1.50 m (4.92 ft)
On right Main Landing Gear leg:	39.45 m (129.43 ft)	5.34 m (17.52 ft)		1.50 m (4.92 ft)

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

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

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

**ON A/C A340-500

2. Grounding Points.

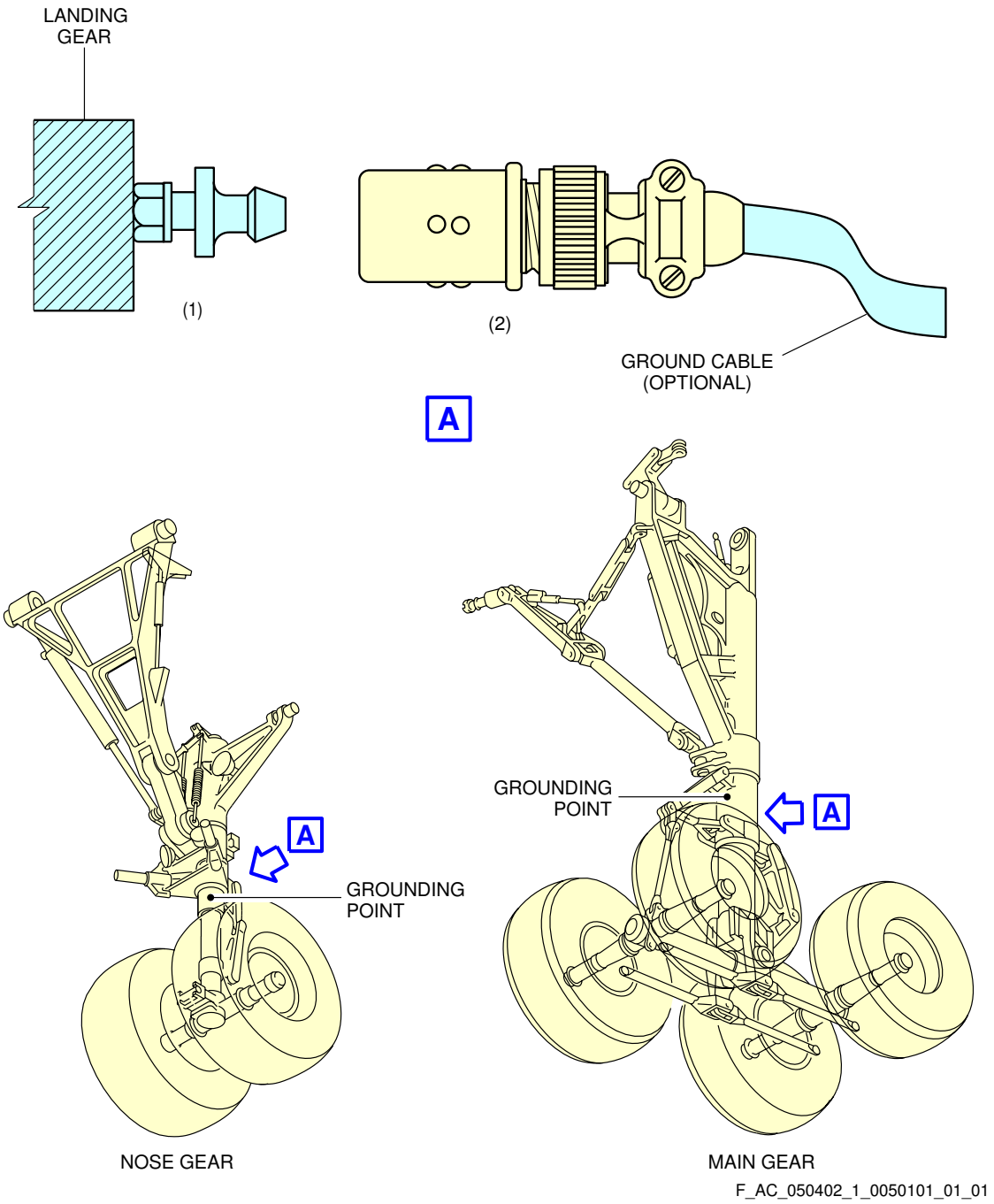
	DISTANCE: Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
On Nose Landing Gear leg:	6.57 m (21.56 ft)	on centerline		1.40 m (4.59 ft)
On left Main Landing Gear leg:	34.15 m (112.04 ft)		5.34 m (17.52 ft)	1.50 m (4.92 ft)
On right Main Landing Gear leg:	34.15 m (112.04 ft)	5.34 m (17.52 ft)		1.50 m (4.92 ft)

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

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

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

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



Ground Service Connections
Grounding Points
FIGURE-5-4-2-991-005-A01

5-4-3 Hydraulic System

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

Hydraulic System

**ON A/C A340-600

1. Ground Service Panels

ACCESS	DISTANCE			
	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
Green System: (Access door 197FB)	42 m (137.8 ft)	-	1.5 m (4.92 ft)	2.1 m (6.89 ft)
Yellow System: (Access door 196PB)	36.7 m (120.41 ft)	1.7 m (5.58 ft)	-	1.8 m (5.91 ft)
Blue System: (Access door 195MB)	34.2 m (112.2 ft)	-	1.5 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.

NOTE : 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

ACCESS	DISTANCE			
	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
Green System: (Access door 197FB)	36.7 m (120.41 ft)	-	1.5 m (4.92 ft)	2.1 m (6.89 ft)
Yellow System: (Access door 196PB)	31.4 m (103.02 ft)	1.7 m (5.58 ft)	-	1.8 m (5.91 ft)
Blue System: (Access door 195MB)	28.85 m (94.65 ft)	-	1.5 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.

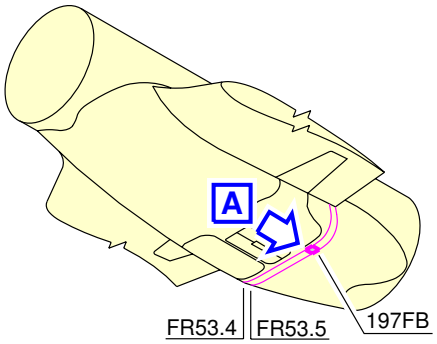
D. Accumulator charging

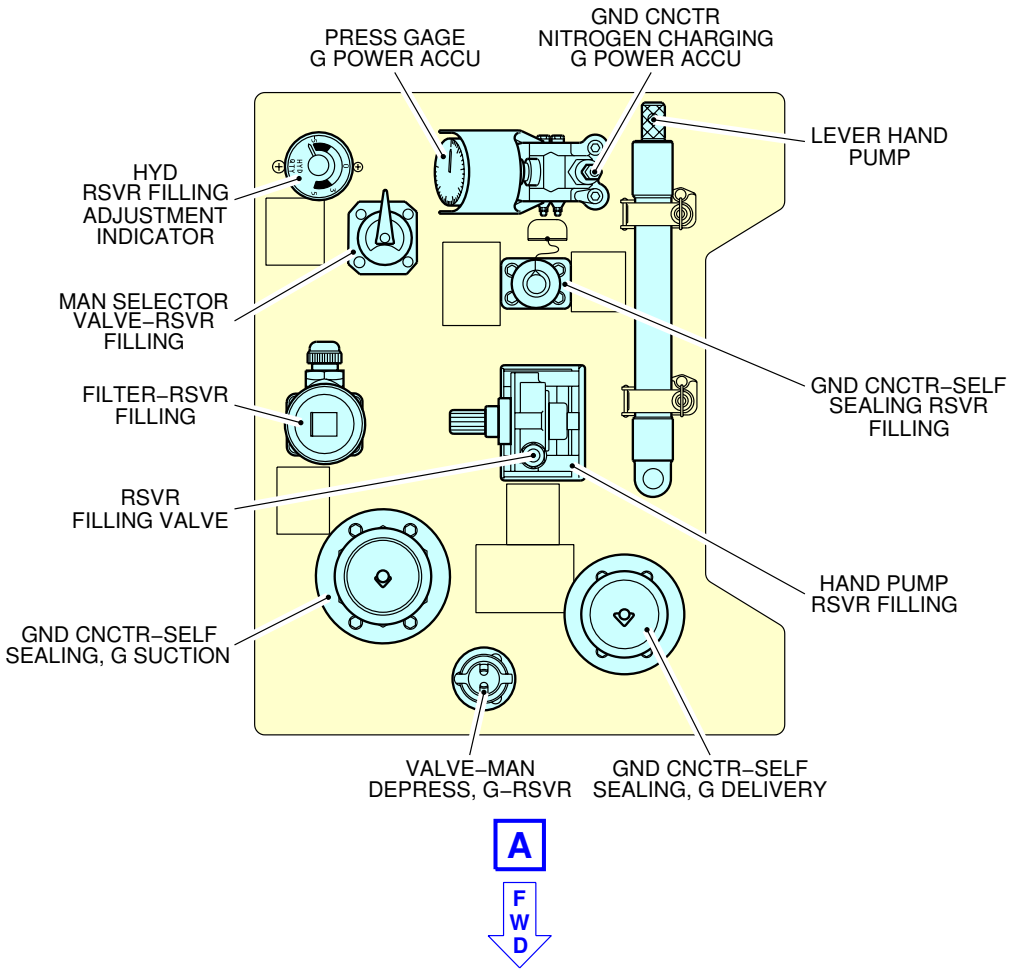
On each ground service panel:
- One nitrogen charging connector - power accumulator.

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

NOTE : 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





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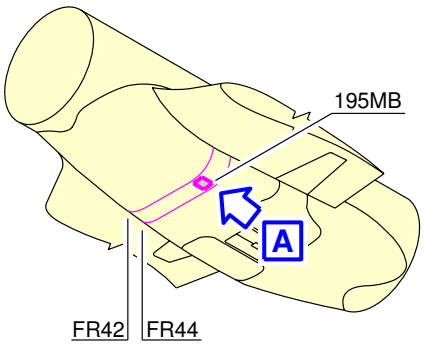
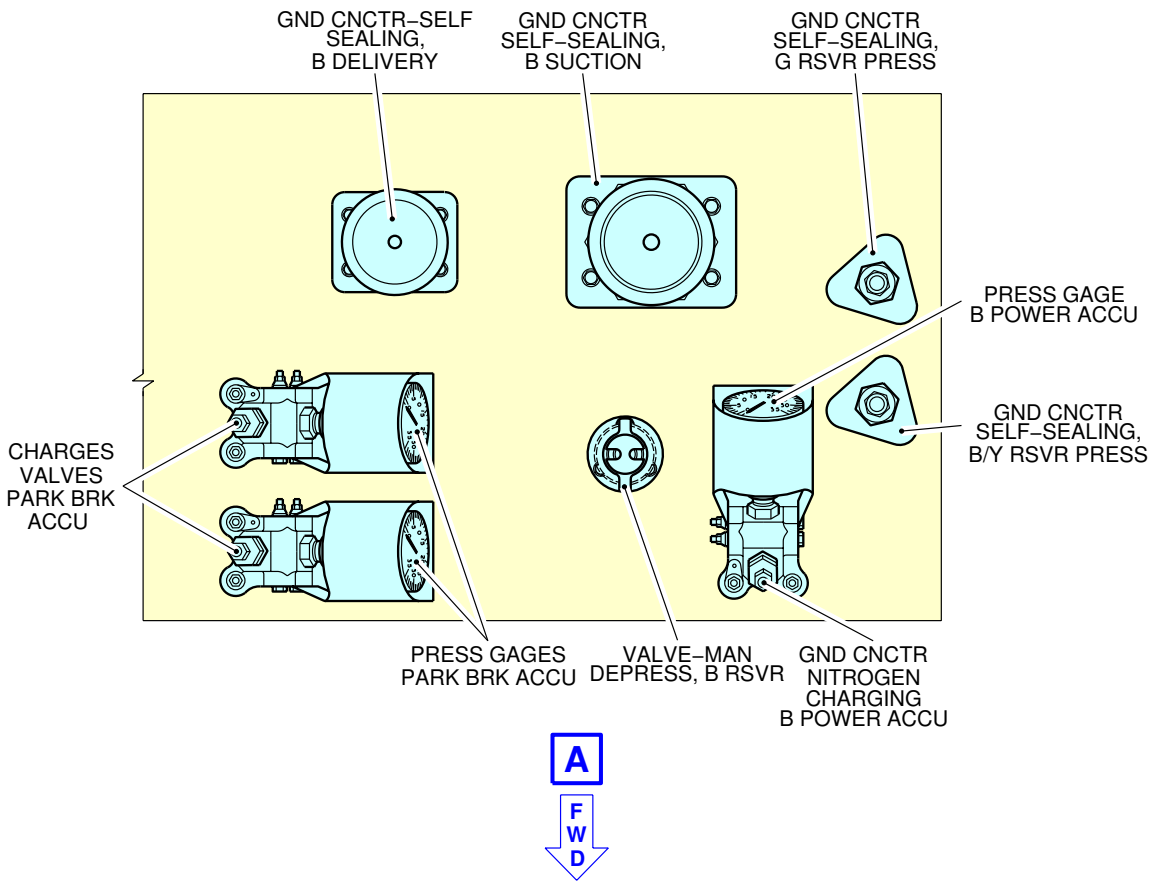
Ground Service Connections
Green System Ground Service Panel
FIGURE-5-4-3-991-007-A01

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





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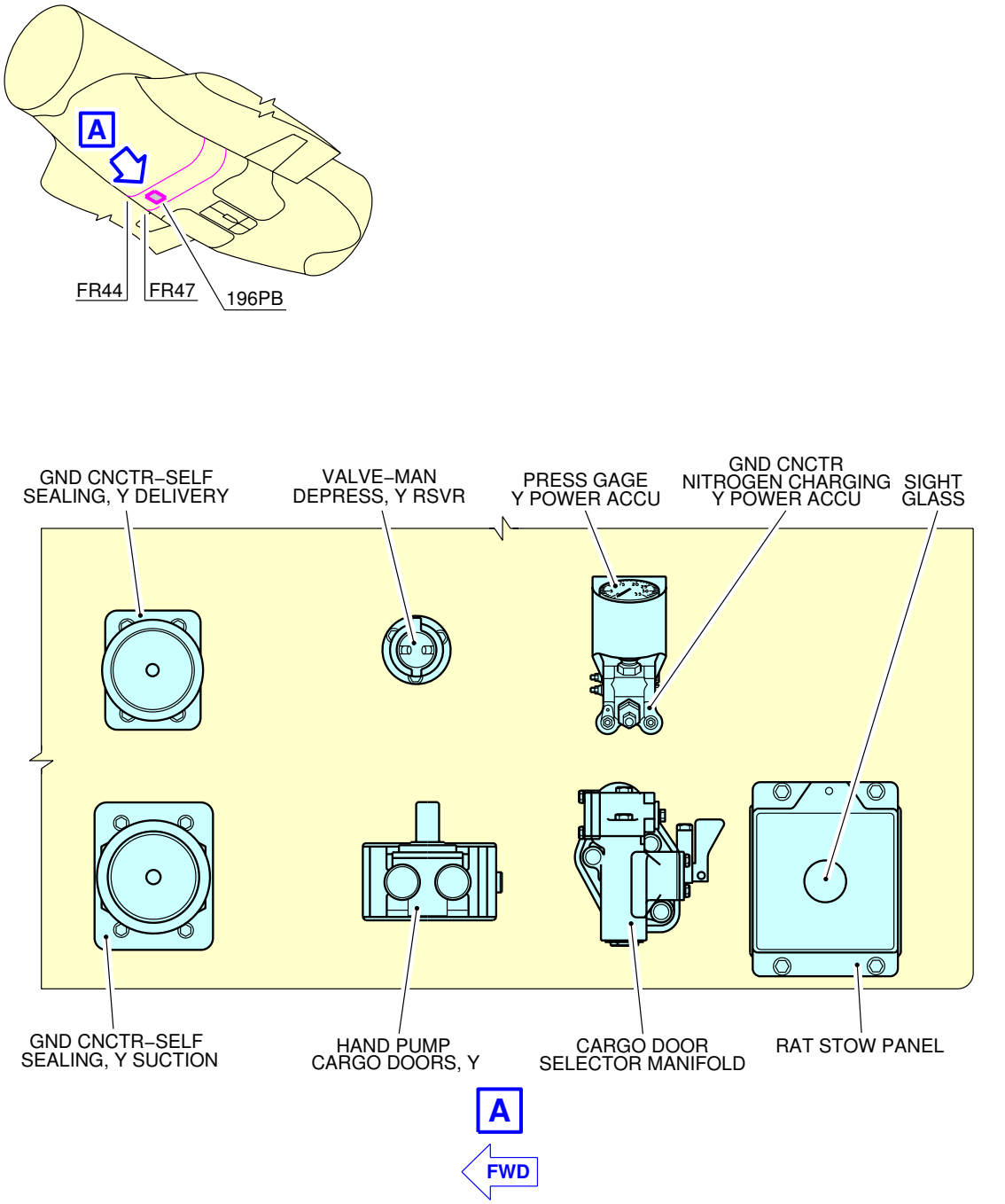
Ground Service Connections
Blue System Ground Service Panel
FIGURE-5-4-3-991-008-A01

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



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

5-4-4 Electrical System

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

Electrical System

1. Electrical System

ACCESS	DISTANCE			
	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
A/C External Power: Access Door 121EL	7 m (22.97 ft)	On centerline		2 m (6.56 ft)

NOTE : Distances are approximate.

2. Technical Specifications

A. External Power Receptacle:
- Two standard ISO 461 receptacles - 90 kVA each.

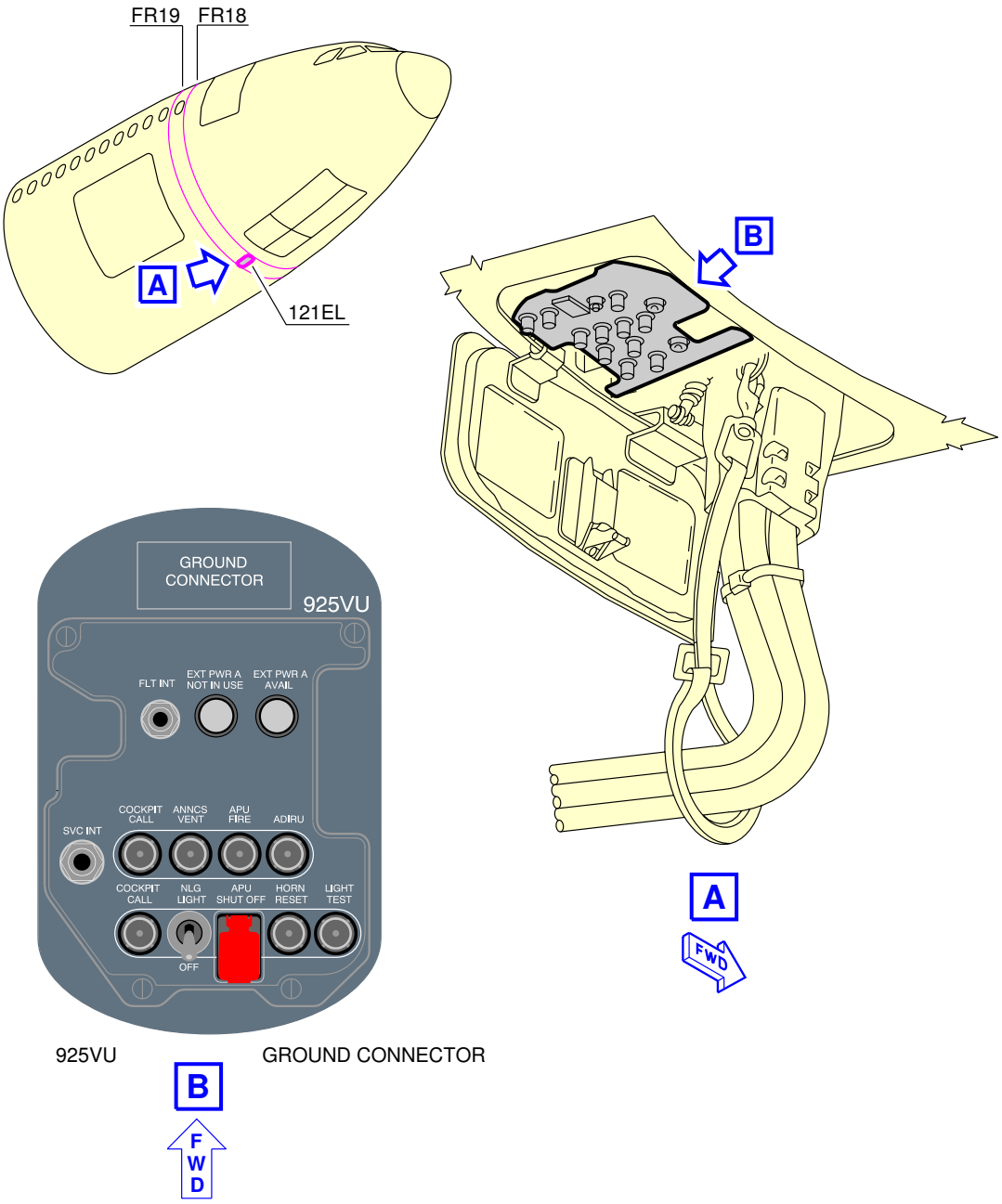
B. Power Supply:
- Three-phase, 115 V, 400 Hz.

C. Electrical Connectors for Servicing:
- AC outlets: HUBBELL 5258
- DC outlets: HUBBELL 7472.

D. Electrical Loads in Ground Configuration
In ground configuration, in addition to the power necessary for maintenance, all the circuits, except those which are directly connected to the engines, are supplied as in flight. In these conditions, the maximum power on the ground is approximately 105 kVA; this value does not take into account the supply of the galleys, which according to the aircraft interior layout, may reach 90 kVA.

E. Electrical Power necessary for Maintenance at Line Stop and Workshops:
- Hydraulic electric-pumps: 15 $\times$ 3 kVA
- Air Conditioning/ventilation: 54.1 kVA
- Fuel pumps: 17 kVA
- Lighting (commercial): 17.9 kVA
- Lighting (technical): 6.1 kVA
- Ice and rain protection: 3 kVA
- Cargo loading: 13 kVA
- AFS, flight controls, ADS, recorders: 3.5 kVA
- Communications: 1 kVA
- Radio navigation: 2 kVA.

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



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

5-4-5 Oxygen System

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

Oxygen System

1. Oxygen System

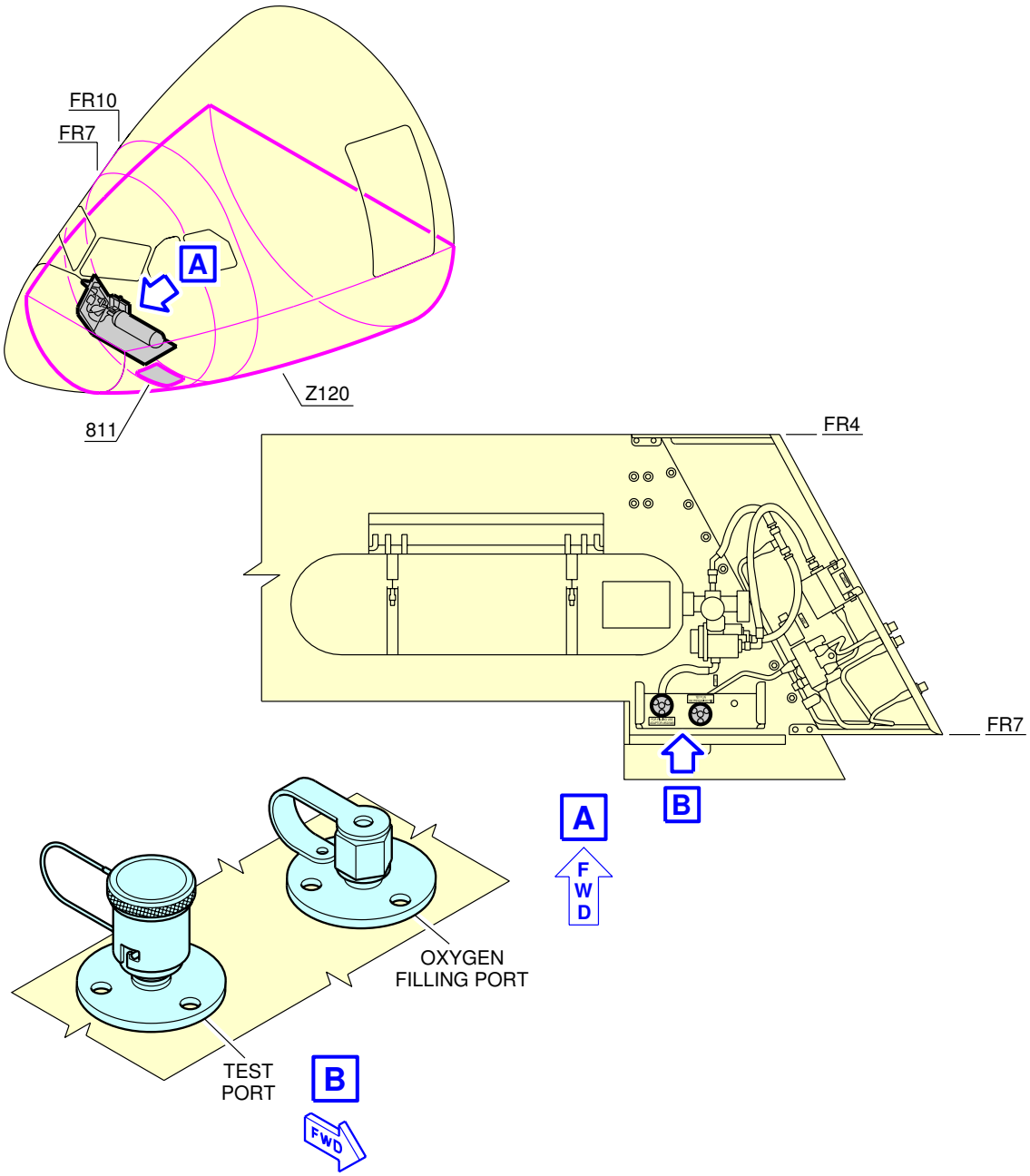
ACCESS	DISTANCE			
	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
Oxygen Replenishment (Option 1): Access Door 811	2.5 m (8.2 ft)	0.53 m (1.74 ft)	-	3.2 m (10.5 ft)
Oxygen Replenishment (Option 2): Access Door 811	2.5 m (8.2 ft)	0.68 m (2.23 ft)	-	3.2 m (10.5 ft)

- 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 service connections (external charging in the avionics compartment) MS22066 Std.

NOTE : Internal charging connection provided.

**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 System
FIGURE-5-4-5-991-004-A01

5-4-6 Fuel System

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

Fuel System

**ON A/C A340-600

1. Refuel/Defuel Access

	DISTANCE			
	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
Refuel/Defuel Coupling, Left: Access Door 522HB	37.1 m (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.

2. Refuel/Defuel Control Panel

	DISTANCE			
	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
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 l (416 US gal)
- 4 couplings (total/min): 1438 l (380 US gal).

**ON A/C A340-500

3. Refuel/Defuel Access

	DISTANCE			
	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
Refuel/Defuel Coupling, Left: Access Door 522HB	31.4 m (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.

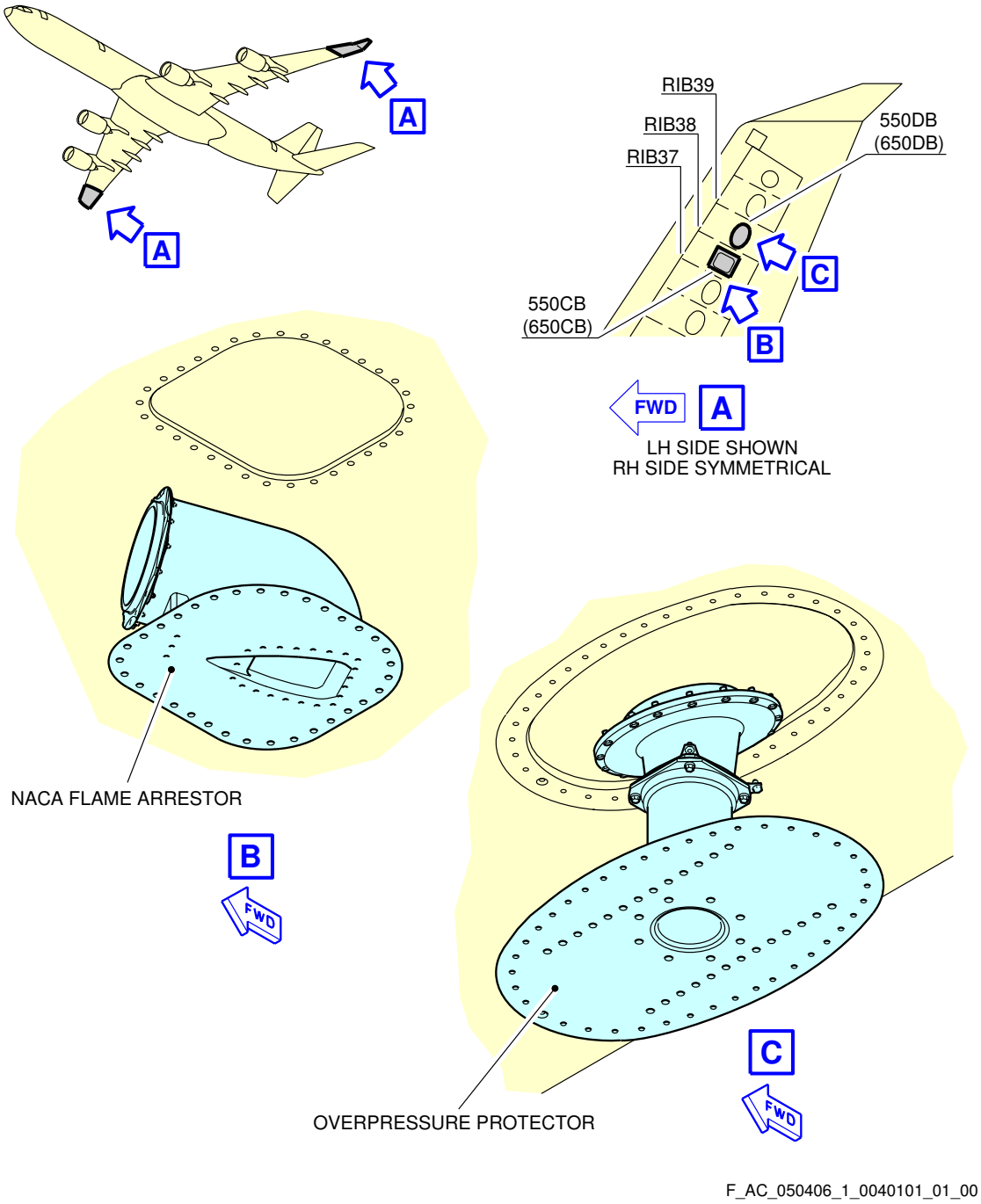
4. Refuel/Defuel Control Panel

	DISTANCE			
	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
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 l (416 US gal)
- 4 couplings (total/min): 1438 l (380 US gal).

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



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

5-4-7 Pneumatic System

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

Pneumatic System

**ON A/C A340-600

1. High Pressure Air Connection

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

A. Connectors:
- Two standard 3 in. ISO 2026 connections.

2. Low Pressure Air Connection

	DISTANCE			
	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
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.

**ON A/C A340-500

3. High Pressure Air Connection

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

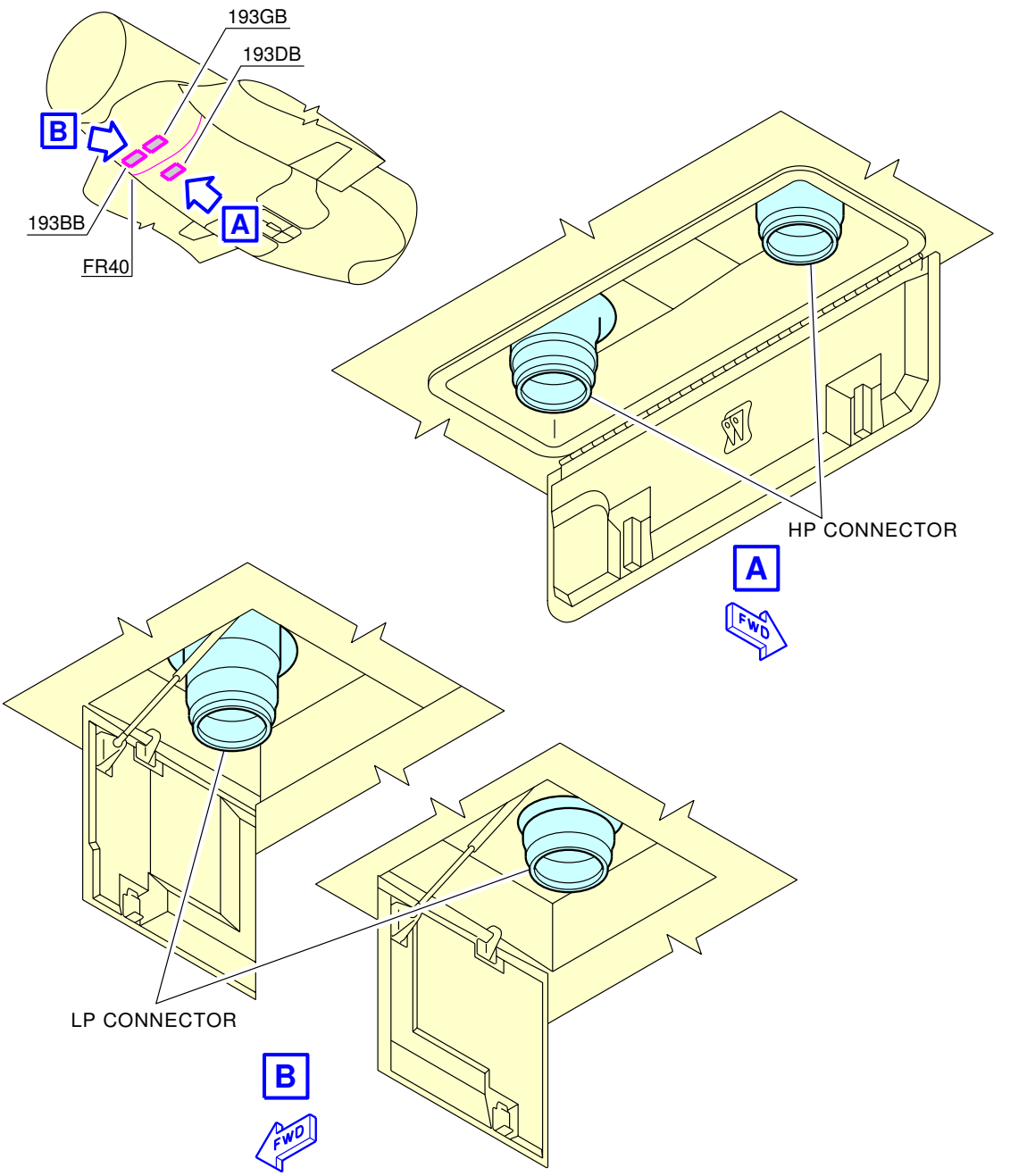
A. Connectors:
- Two standard 3 in. ISO 2026 connections.

4. Low Pressure Air Connection

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

A. Connectors:
- Two standard 8 in. SAE AS4262 connections.

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



Ground Service Connections
LP and HP Ground Connectors
FIGURE-5-4-7-991-003-A01

5-4-8 Potable Water System

**ON A/C A340-600

Potable Water System

1. Potable Water System

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

NOTE : Distances are approximate.

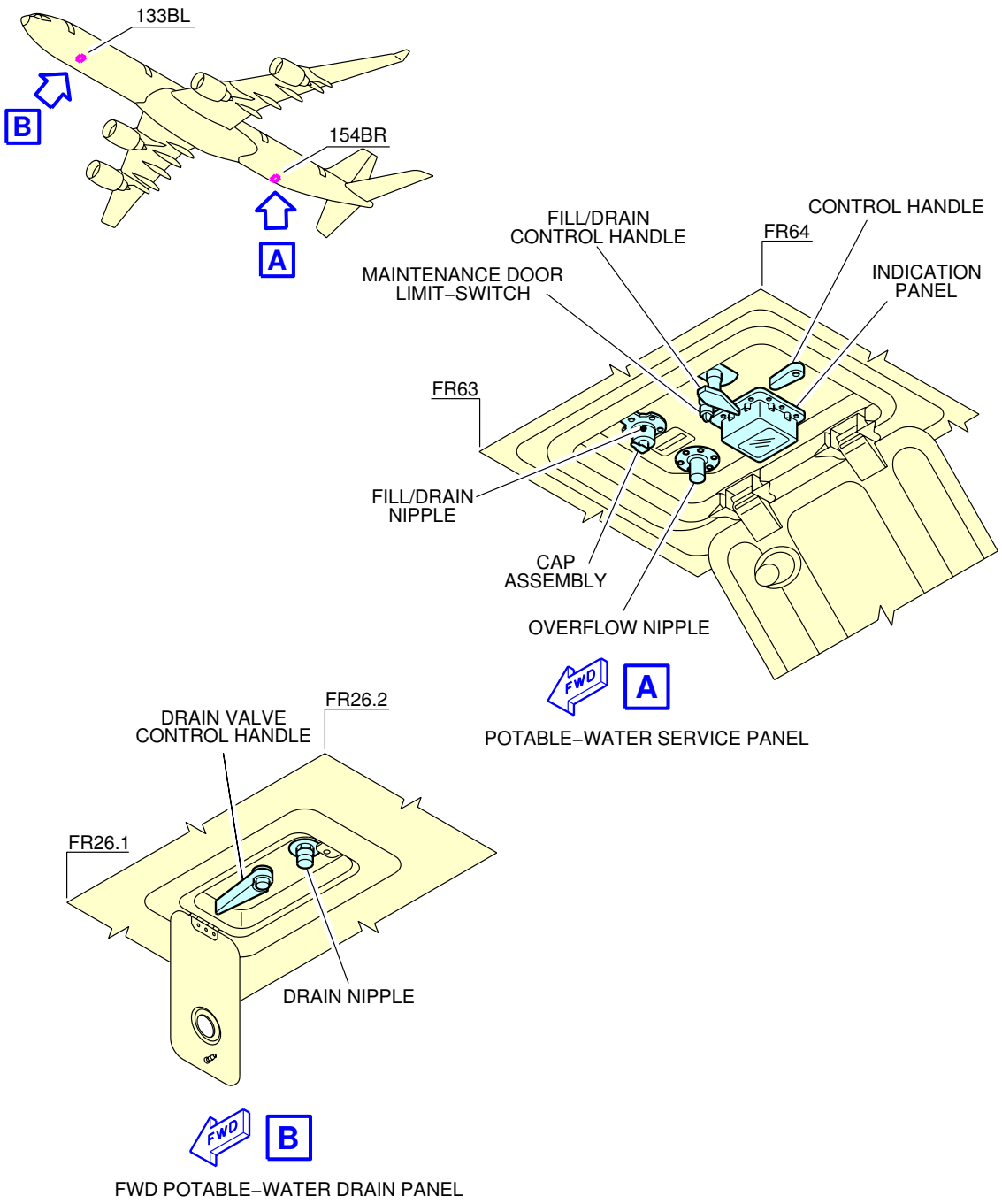
2. Technical Specifications

A. Connectors
- Roylin, 3/4 in.

B. Capacity
- 1070 l (282.66 US gal).

C. Filling Pressure and Flow Rate
- Filling pressure: 25/30 psi (1.72/2.07 bar)
- Flow rate: 87.5 l/min (23.12 US gal/min).

**ON A/C A340-600



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Ground Service Connections
Potable-Water Ground Service Panels
FIGURE-5-4-8-991-006-A01

**ON A/C A340-500

Potable Water System

1. Potable Water System

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

NOTE : Distances are approximate.

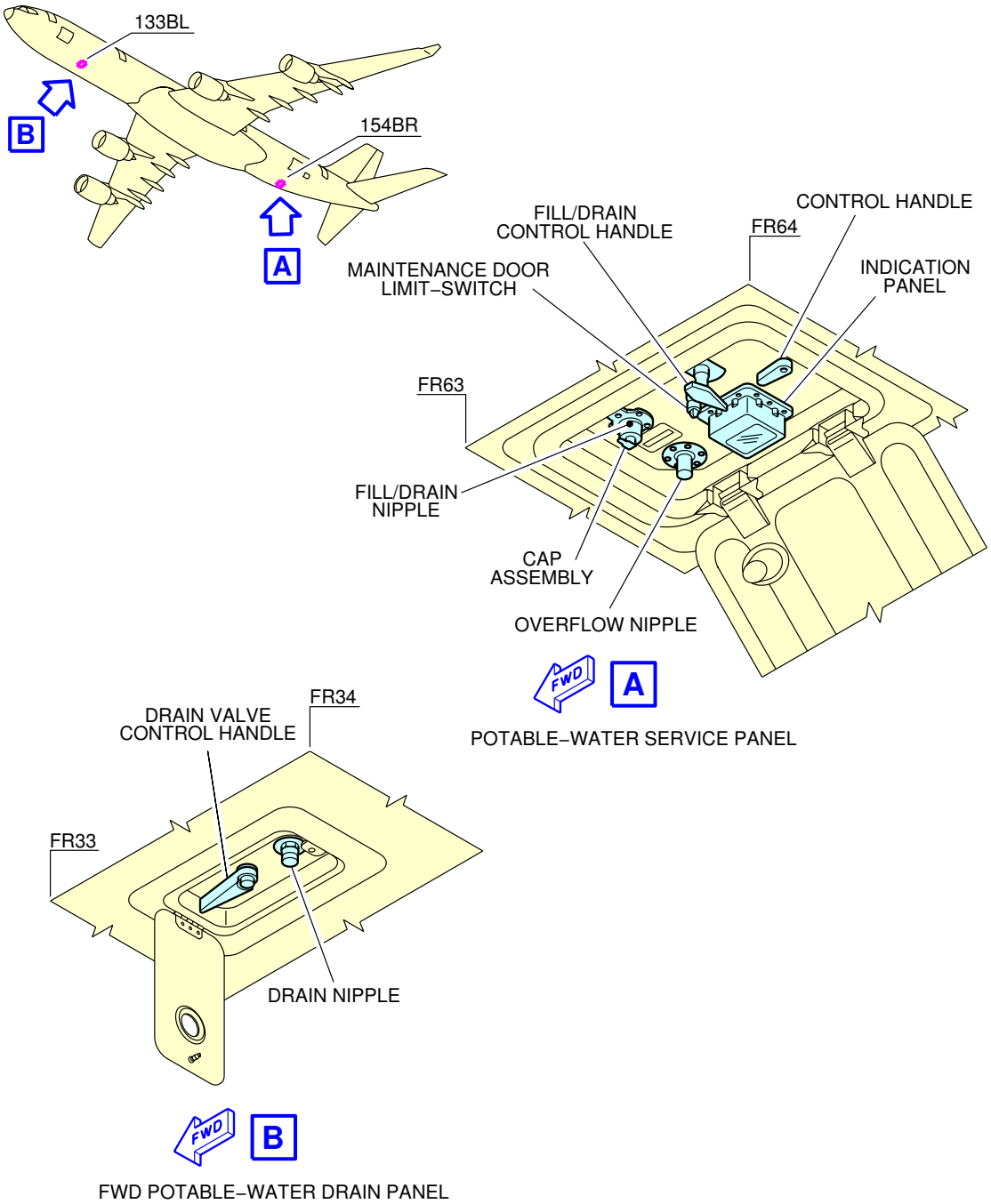
2. Technical Specifications

A. Connectors
- Roylin, 3/4 in.

B. Capacity
- 700 l (184.92 US gal).

C. Filling Pressure and Flow Rate
- Filling pressure: 25/30 psi (1.72/2.07 bar)
- Flow rate: 87.5 l/min (23.12 US gal/min).

**ON A/C A340-500



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Ground Service Connections
Potable-Water Ground Service Panels
FIGURE-5-4-8-991-007-A01

5-4-9 Oil System

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

Oil System

**ON A/C A340-600

1. Engine Oil Replenishment:

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

	DISTANCE: Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Engine 1 (access door 416 BR):	36.30 m (119.09 ft)		17.85 m (58.56 ft)	3.15 m (10.33 ft)
Engine 2 (access door 426 BR):	29.70 m (97.44 ft)		7.95 m (26.08 ft)	1.60 m (5.25 ft)
Engine 3 (access door 436 BR):	29.70 m (97.44 ft)	10.80 m (35.43 ft)		1.60 m (5.25 ft)
Engine 4 (access door 446 BR):	36.30 m (119.09 ft)	20.70 m (67.91 ft)		3.15 m (10.33 ft)

   A. Engine oil replenishment:
      - one gravity filling cap.
   B. Approximate tank capacity:
      - full level: 23.20 l (6.13 US gal).
      - usable: 15.90 l (4.20 US gal).

**ON A/C A340-500

2. Engine Oil Replenishment:

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

	DISTANCE: Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Engine 1 (access door 416 BR):	31.00 m (101.71 ft)		17.85 m (58.56 ft)	3.15 m (10.33 ft)
Engine 2 (access door 426 BR):	24.42 m (80.12 ft)		7.95 m (26.08 ft)	1.60 m (5.25 ft)
Engine 3 (access door 436 BR):	24.42 m (80.12 ft)	10.80 m (35.43 ft)		1.60 m (5.25 ft)
Engine 4 (access door 446 BR):	31.00 m (101.71 ft)	20.70 m (67.91 ft)		3.15 m (10.33 ft)

A. Engine oil replenishment:
   - one gravity filling cap.

B. Approximate tank capacity:
   - full level: 23.20 l (6.13 US gal).
   - usable: 15.90 l (4.20 US gal).

**ON A/C A340-600

3. IDG Oil Replenishment:

   One pressure filling connection per engine.

	DISTANCE: Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Engine 1 (access door 415 CL):	36.97 m (121.29 ft)		19.66 m (64.50 ft)	1.85 m (6.07 ft)
Engine 2 (access door 425 CL):	30.36 m (99.61 ft)		9.76 m (32.02 ft)	0.80 m (2.62 ft)
Engine 3 (access door 435 CL):	30.36 m (99.61 ft)	8.98 m (29.46 ft)		0.80 m (2.62 ft)
Engine 4 (access door 445 CL):	36.97 m (121.29 ft)	18.87 m (61.91 ft)		1.85 m (6.07 ft)

A. IDG oil replenishment:
   - one ozone self-sealing pressure fill and overfill connector.

B. Max. delivery pressure:
   - 2.41 bar (34.95 psi).

C. Approximate max. oil capacity of the IDG:
   - 7.00 l (1.85 US gal).

**ON A/C A340-500

4. IDG Oil Replenishment:

One pressure filling connection per engine.

	DISTANCE: Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Engine 1 (access door 415 CL):	31.66 m (103.87 ft)		19.66 m (64.50 ft)	1.85 m (6.07 ft)
Engine 2 (access door 425 CL):	25.05 m (82.19 ft)		9.76 m (32.02 ft)	0.80 m (2.62 ft)
Engine 3 (access door 435 CL):	25.05 m (82.19 ft)	8.98 m (29.46 ft)		0.80 m (2.62 ft)
Engine 4 (access door 445 CL):	31.66 m (103.87 ft)	18.87 m (61.91 ft)		1.85 m (6.07 ft)

A. IDG oil replenishment:
   - one ozone self-sealing pressure fill and overfill connector.

B. Max. delivery pressure:
   - 2.41 bar (34.95 psi).

C. Approximate max. oil capacity of the IDG:
   - 7.00 l (1.85 US gal).

**ON A/C A340-600

5. Starter Oil Replenishment:

One filling connection per engine.

	DISTANCE: Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Engine 1:	36.30 m (119.09 ft)		19.72 m (64.70 ft)	1.80 m (5.91 ft)
Engine 2:	29.70 m (97.44 ft)		9.82 m (32.22 ft)	0.77 m (2.53 ft)
Engine 3:	29.70 m (97.44 ft)	8.92 m (29.27 ft)		0.77 m (2.53 ft)
Engine 4:	36.30 m (119.09 ft)	18.82 m (61.75 ft)		1.80 m (5.91 ft)

A. Pneumatic starter, oil replenishment:
   - one gravity filling plug.

B. Approximate max. oil capacity of the starter:
   - 355 cc (12 fl.oz).

**ON A/C A340-500

6. Starter Oil Replenishment:

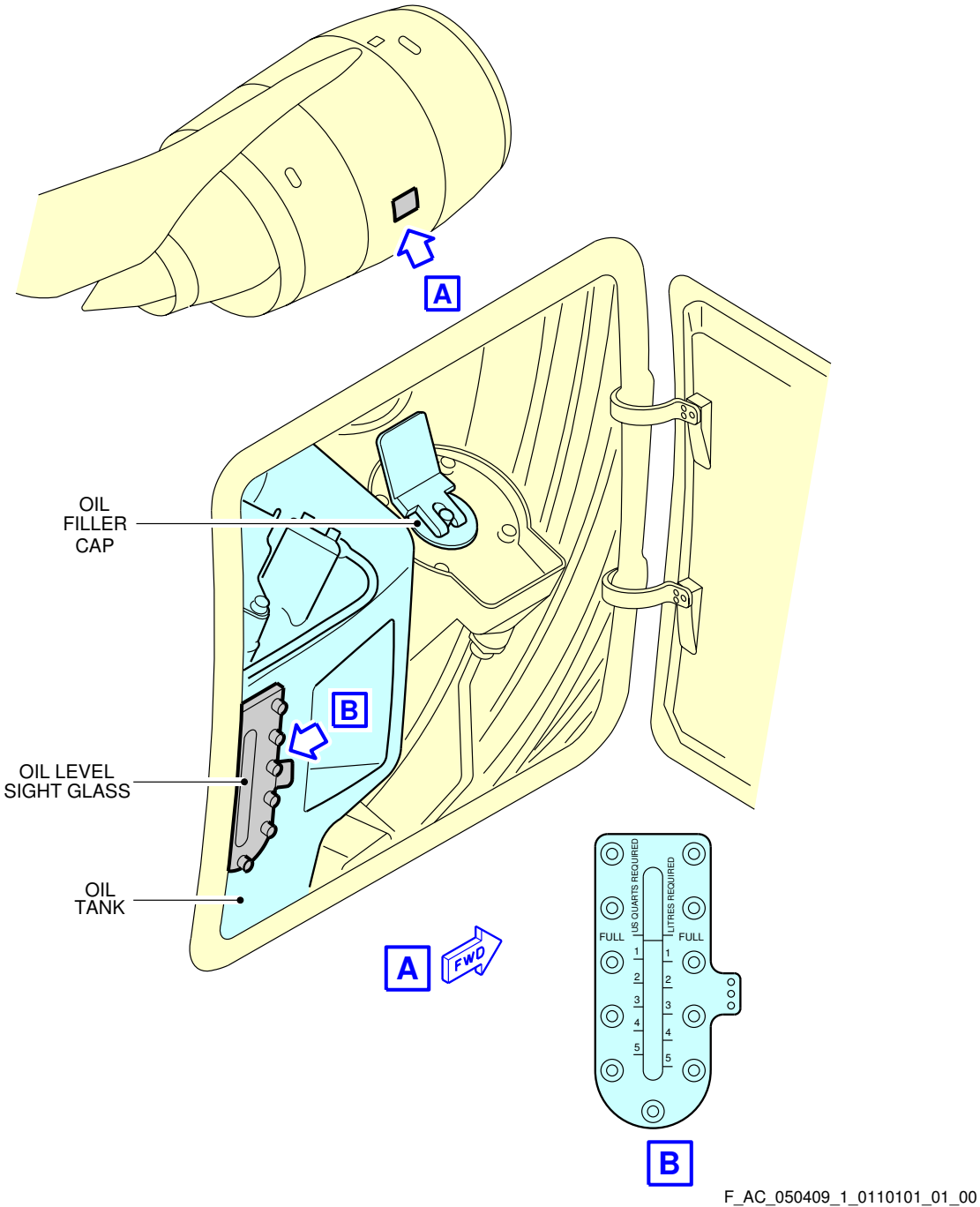
   One filling connection per engine.

	DISTANCE: Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
Engine 1:	31.00 m (101.71 ft)		19.72 m (64.70 ft)	1.80 m (5.91 ft)
Engine 2:	24.42 m (80.12 ft)		9.82 m (32.22 ft)	0.77 m (2.53 ft)
Engine 3:	24.42 m (80.12 ft)	8.92 m (29.27 ft)		0.77 m (2.53 ft)
Engine 4:	31.00 m (101.71 ft)	18.82 m (61.75 ft)		1.80 m (5.91 ft)

A. Pneumatic starter, oil replenishment:
   - one gravity filling plug.

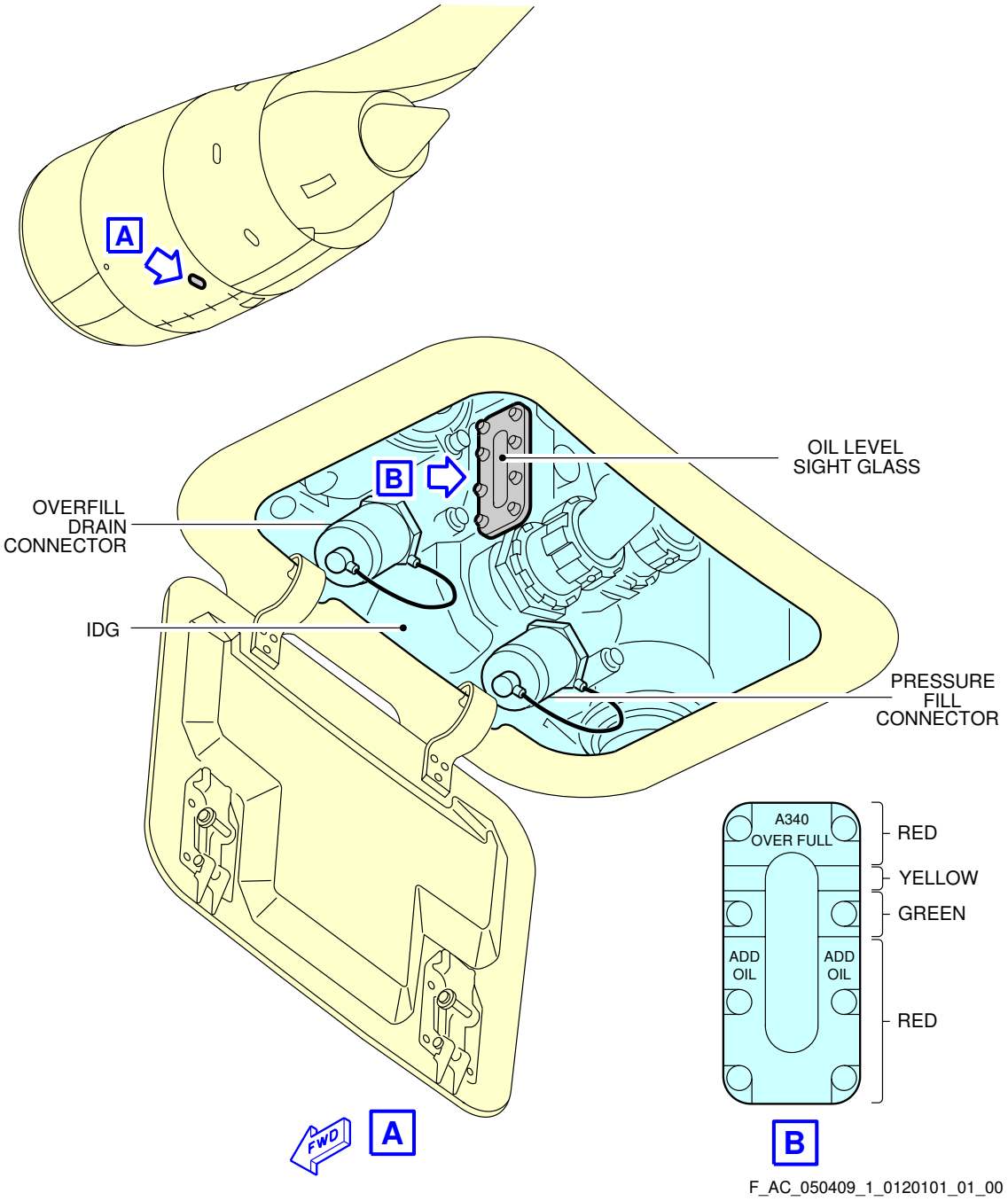
B. Approximate max. oil capacity of the starter:
   - 355 cc (12 fl.oz).

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



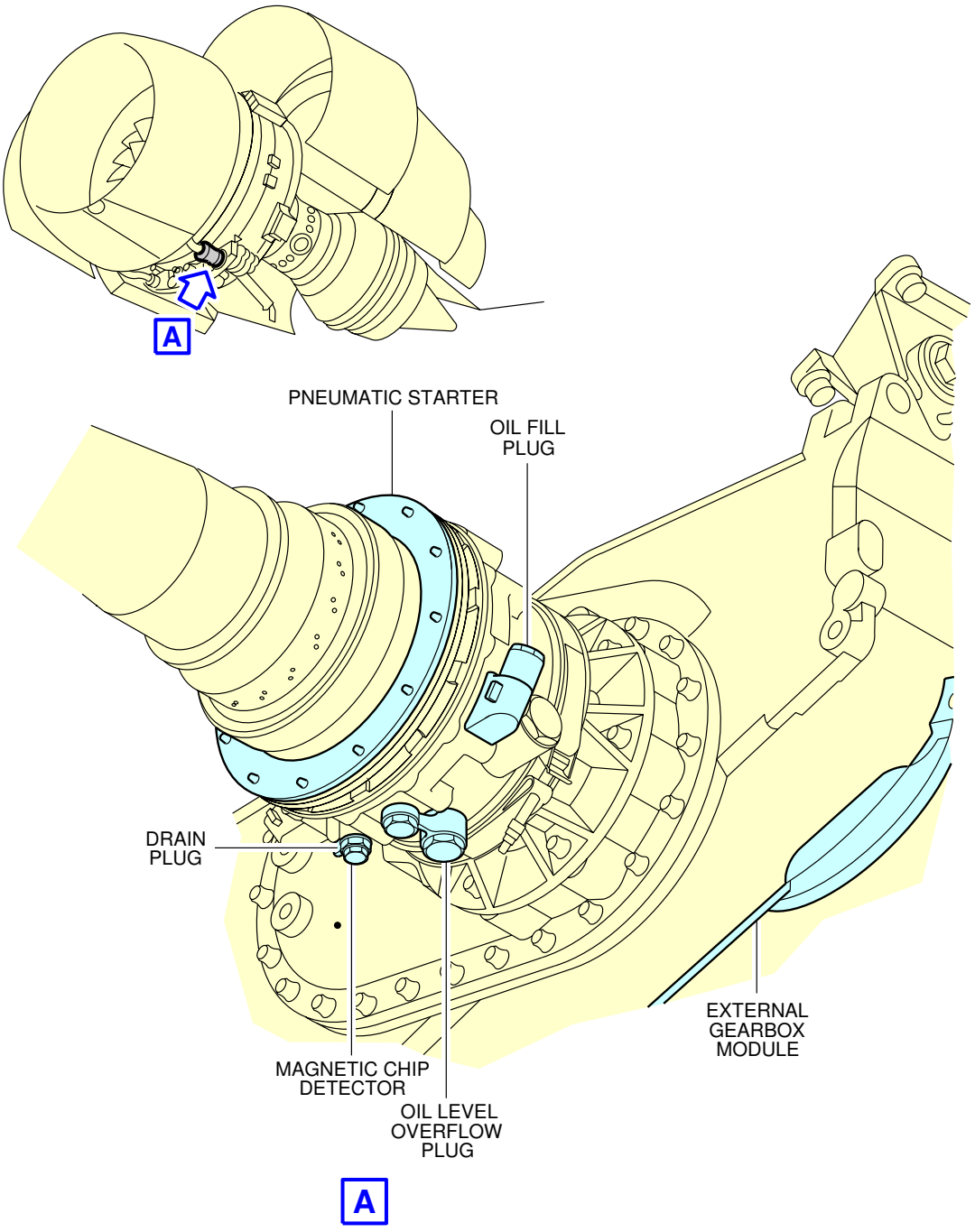
Ground Service Connections
Engine Oil Tank - RR TRENT 500 series engine
FIGURE-5-4-9-991-011-A01

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



Ground Service Connections
IDG Oil Tank - RR TRENT 500 series engine
FIGURE-5-4-9-991-012-A01

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



Ground Service Connections
Starter Oil Tank - RR TRENT 500 series engine
FIGURE-5-4-9-991-013-A01

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

APU Oil System

**ON A/C A340-600

1. APU Oil System
   APU oil gravity filling cap.

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

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

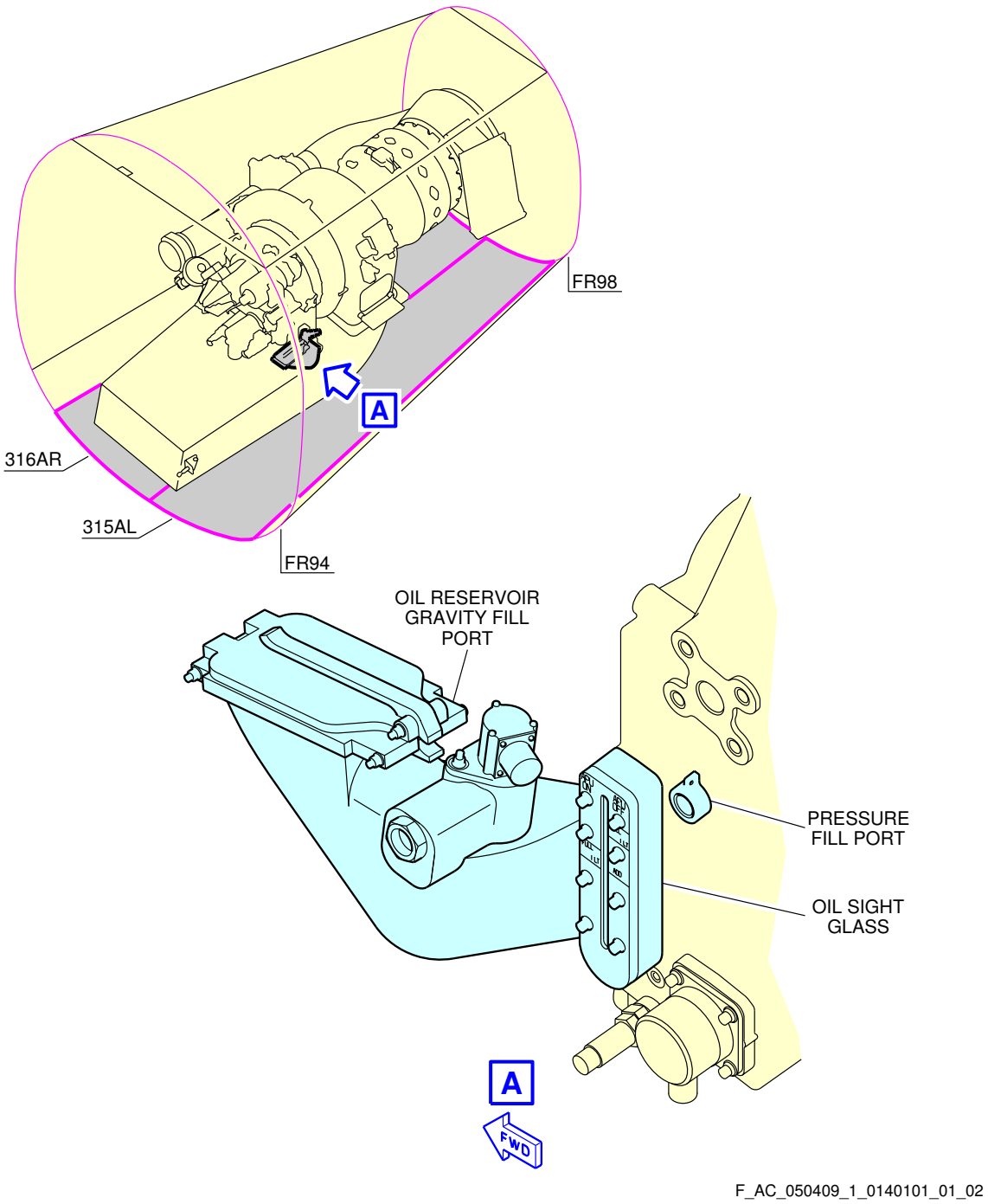
**ON A/C A340-500

2. APU Oil System
   APU oil gravity filling cap.

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

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

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



Ground Service Connections
APU Oil Servicing
FIGURE-5-4-9-991-014-A01

5-4-10 Vacuum Toilet System

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

Vacuum Toilet System

**ON A/C A340-600

1. Vacuum Toilet System

	DISTANCE			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
Waste Water Ground Service Panel: Access Door 171AL	60.61 m (198.85 ft)	-	0.1 m (0.33 ft)	4 m (13.12 ft)

A. Connectors:
- flushing and filling: Roylin, 1 in.
- draining: Roylin, 4 in.

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. Vacuum Toilet System

	DISTANCE			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
Waste Water Ground Service Panel: Access Door 171AL	53.18 m (174.48 ft)	-	0.1 m (0.33 ft)	4 m (13.12 ft)

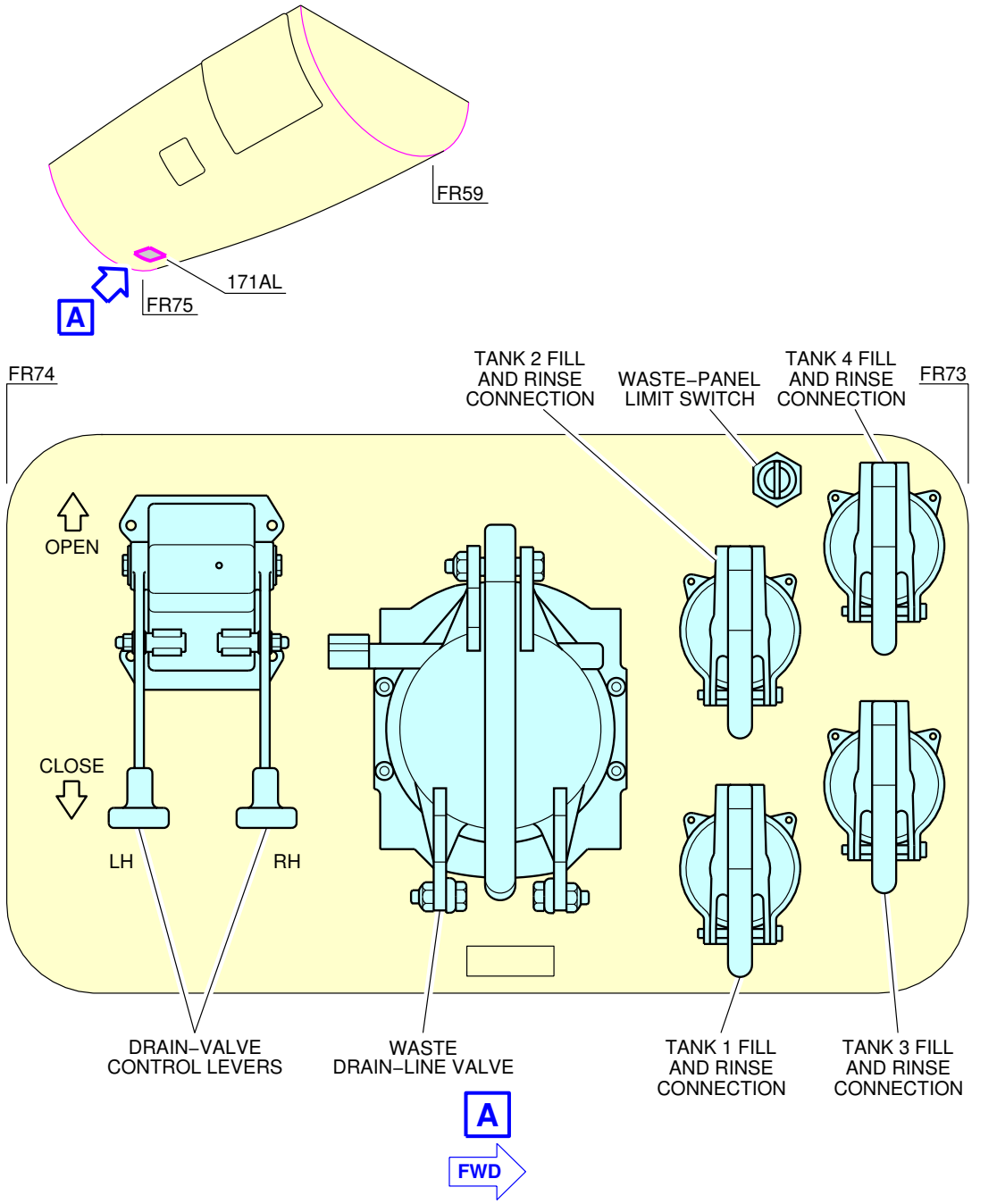
A. Connectors:
- flushing and filling: Roylin, 1 in.
- draining: Roylin, 4 in.

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 A340-600



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

5-5-0 Engine Starting Pneumatic Requirements

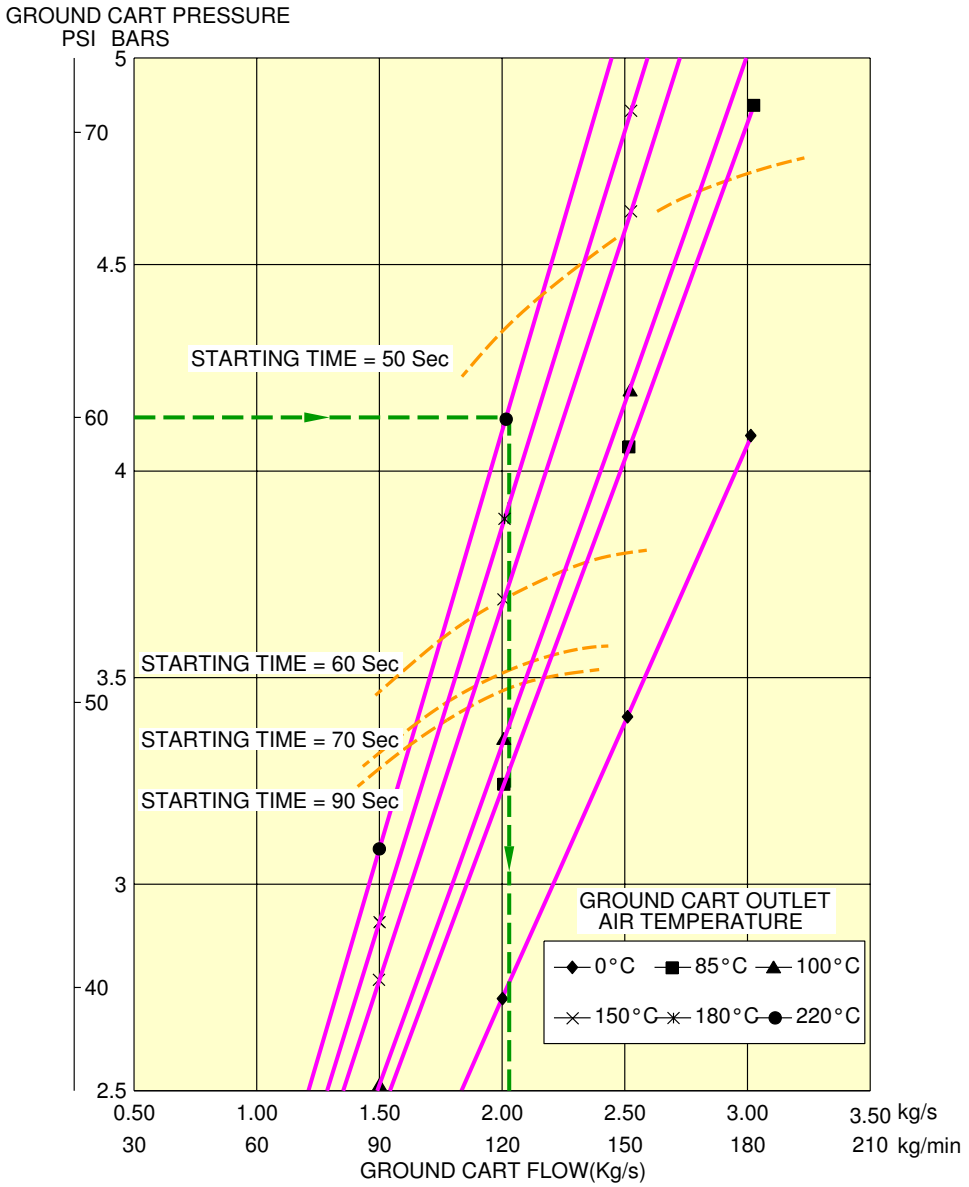
**ON A/C A340-500 A340-600

Engine Starting Pneumatic Requirements

1. Engine Starting Pneumatic Requirements.
   To determinate the airflow required at ground connection, refer to the example given in FIGURE 5---0-99--003-A.

   For engine starting pneumatic requirements for:
   - Low ambient temperatures, refer to 5-5-1,
   - Medium ambient temperatures, refer to 5-5-2,
   - High ambient temperatures, refer to 5-5-3.

**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)).

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

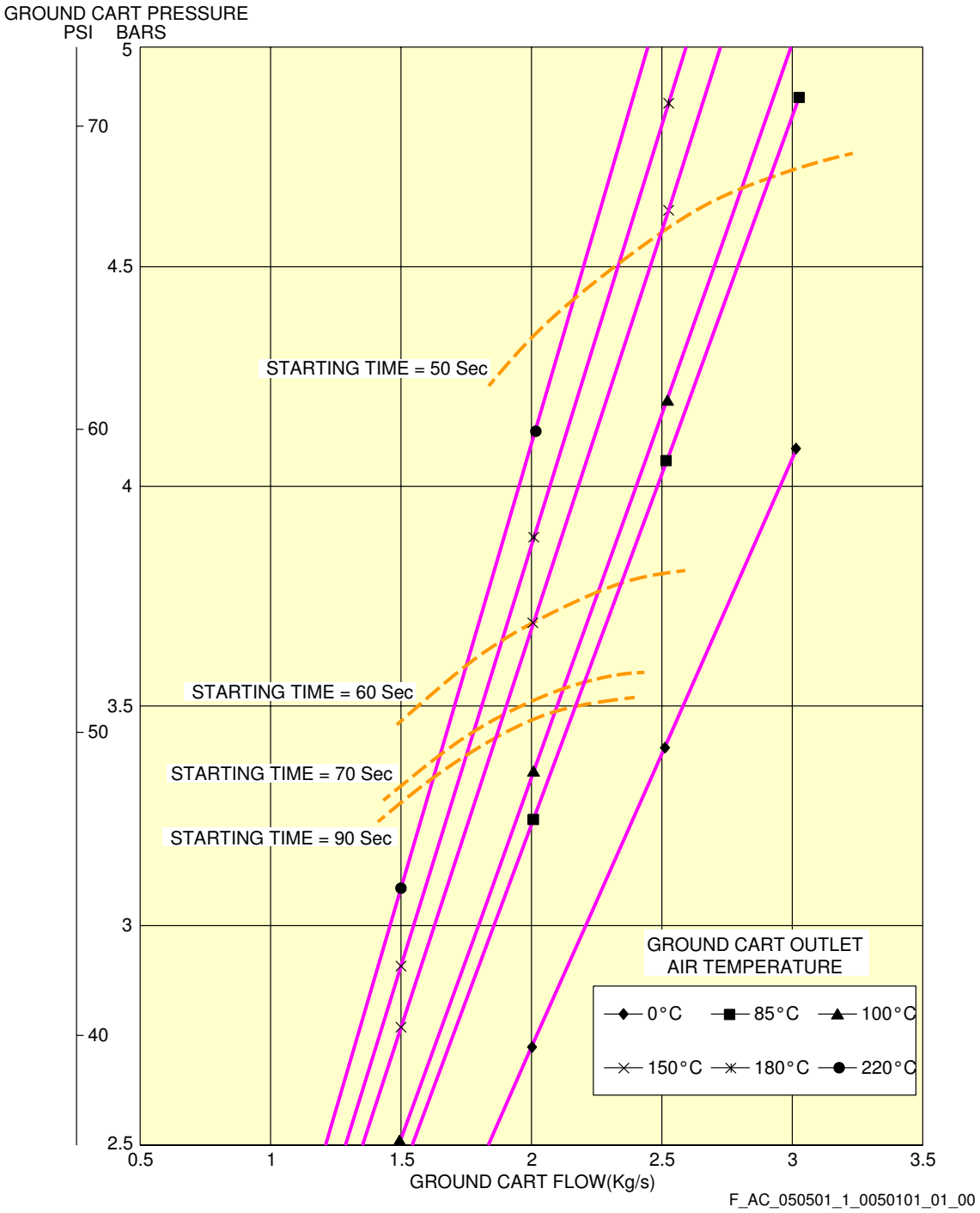
5-5-1 Low Ambient Temperatures

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

Low Ambient Temperatures

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

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



Engine Starting Pneumatic Requirements
Low Ambient Temperature -40°C (-40°F) – RB 211 TRENT 500 series engine
FIGURE-5-5-1-991-005-A01

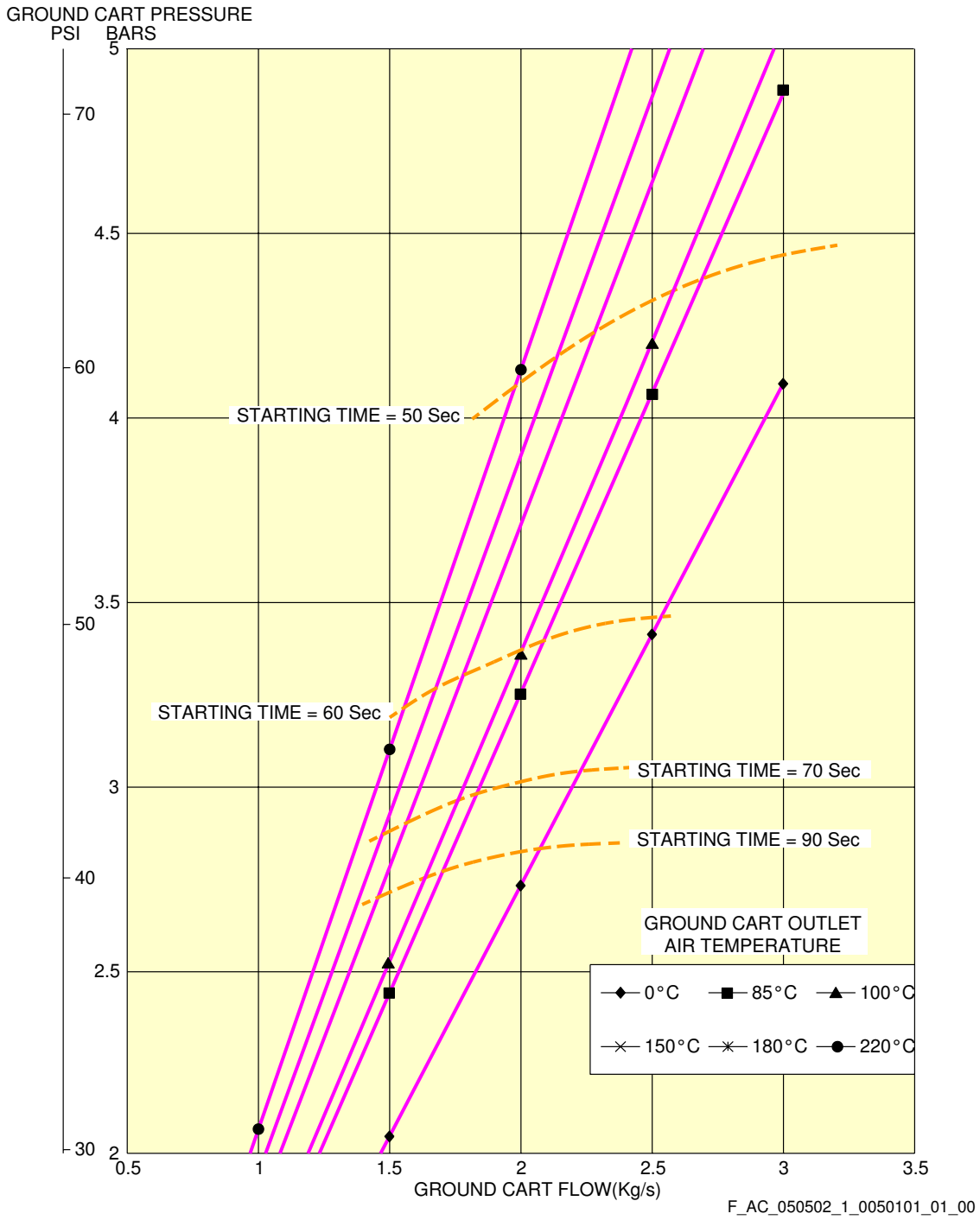
5-5-2 Medium Ambient Temperatures

**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).

**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

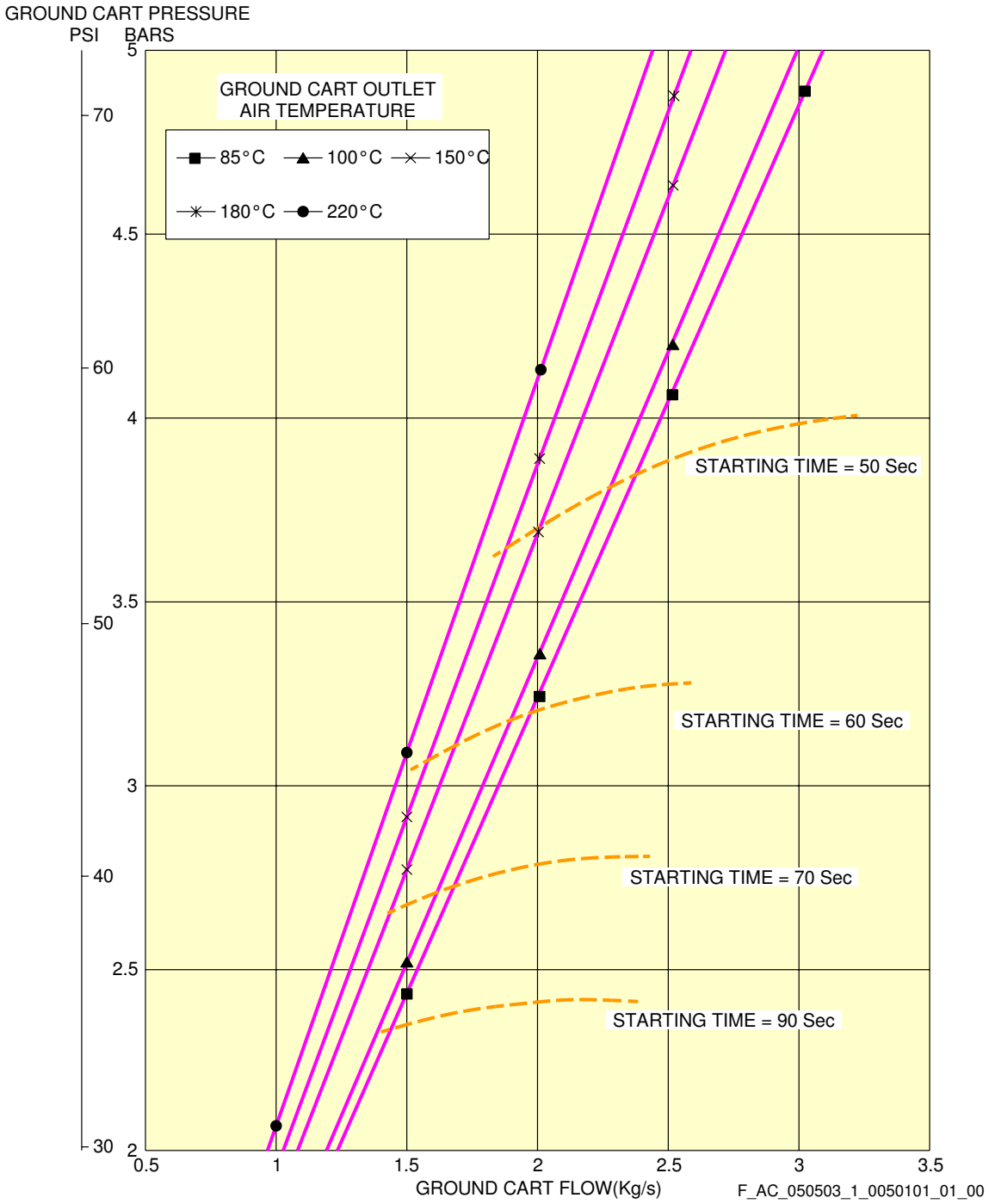
5-5-3 High Ambient Temperatures

**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).

**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

5-6-0 Ground Pneumatic Power Requirements

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

Ground Pneumatic Power Requirements

1. Ground Pneumatic Power Requirements.

5-6-1 Heating

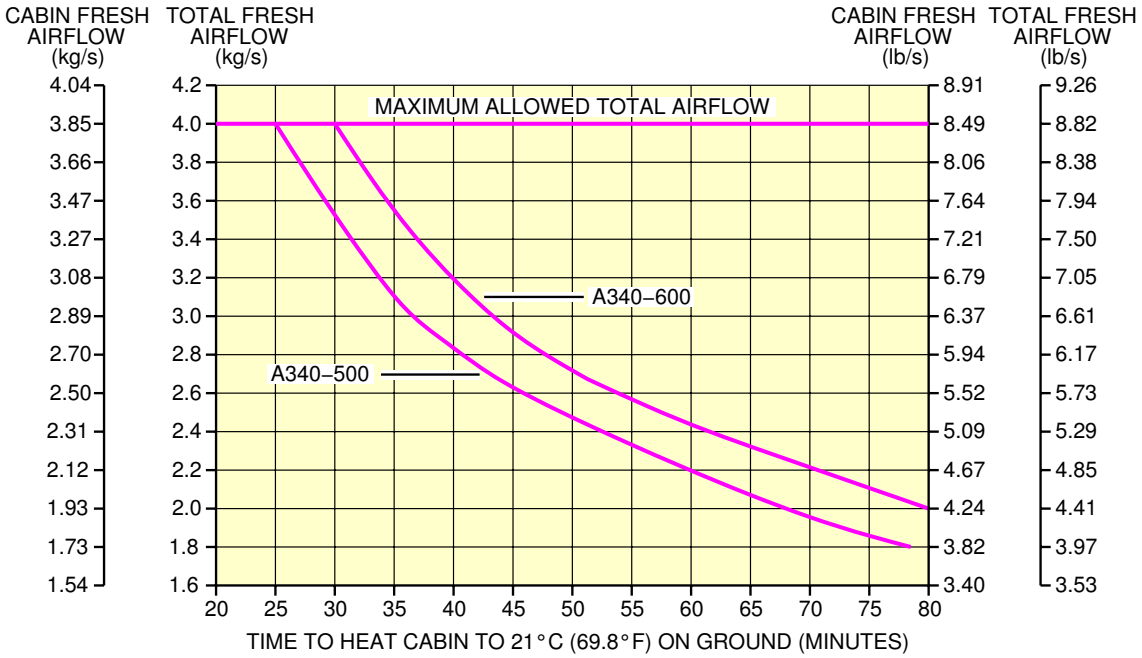
**ON A/C A340-500 A340-600

Heating

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

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

THIS CHART ASSUMES:
– INITIAL CABIN TEMPERATURE: –23°C (–9.4°F)
– TEMPERATURE AT GROUND CONNECTION: 70°C (158°F)
– EMPTY CABIN
– ELECTRICAL LOAD:
. A340–500: 4600 W
. A340–600: 5200 W
– RECIRCULATION: ON



NOTE: TOTAL FLOW INTO CONNECTORS MUST NEVER EXCEED 4.0 kg/s (8.82 lb/s) AND/OR 65 mbar (0.94 psi) AT AIRCRAFT CONNECTION.

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Ground Pneumatic Power Requirements
Heating
FIGURE-5-6-1-991-003-A01

5-6-2 Cooling

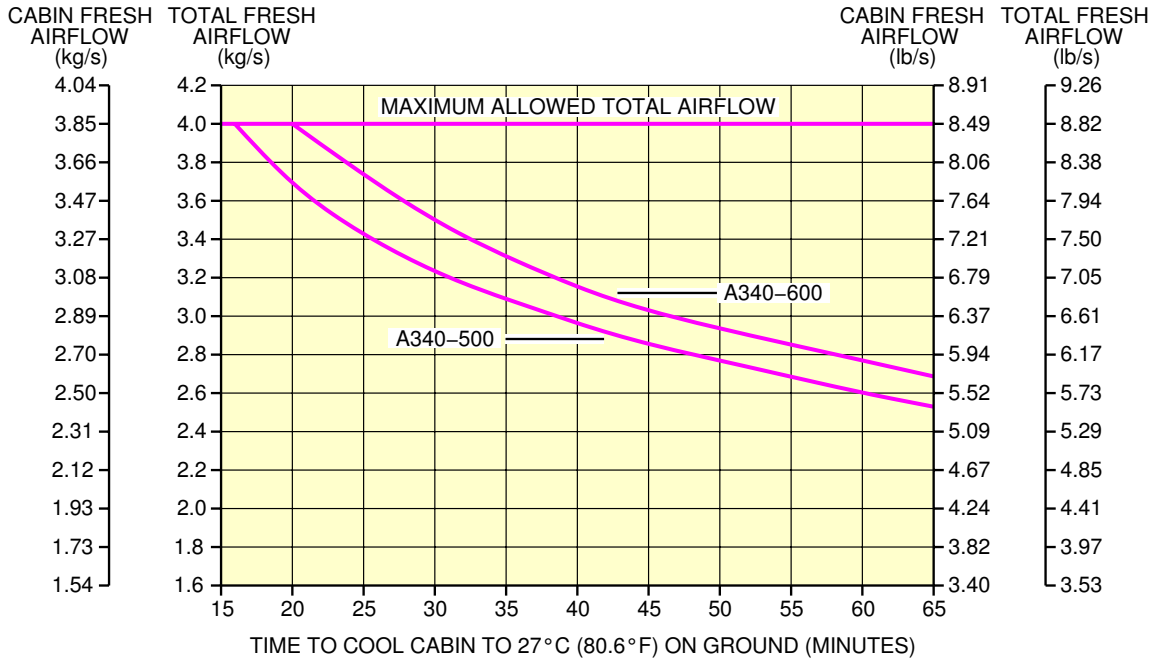
**ON A/C A340-500 A340-600

Cooling

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

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

THIS CHART ASSUMES:
– INITIAL CABIN TEMPERATURE: 38°C (100.4°F)
– TEMPERATURE AT GROUND CONNECTION: 1.5°C (34.7°F)
– EMPTY CABIN
– ELECTRICAL LOAD:
. A340–500: 4600 W
. A340–600: 5200 W
– RECIRCULATION: ON



NOTE: TOTAL FLOW INTO CONNECTORS MUST NEVER EXCEED 4.0 kg/s (8.82 lb/s) AND/OR 65 mbar (0.94 psi) AT AIRCRAFT CONNECTION.

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Ground Pneumatic Power Requirements
Cooling
FIGURE-5-6-2-991-003-A01

5-7-0 Preconditioned Airflow Requirements

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

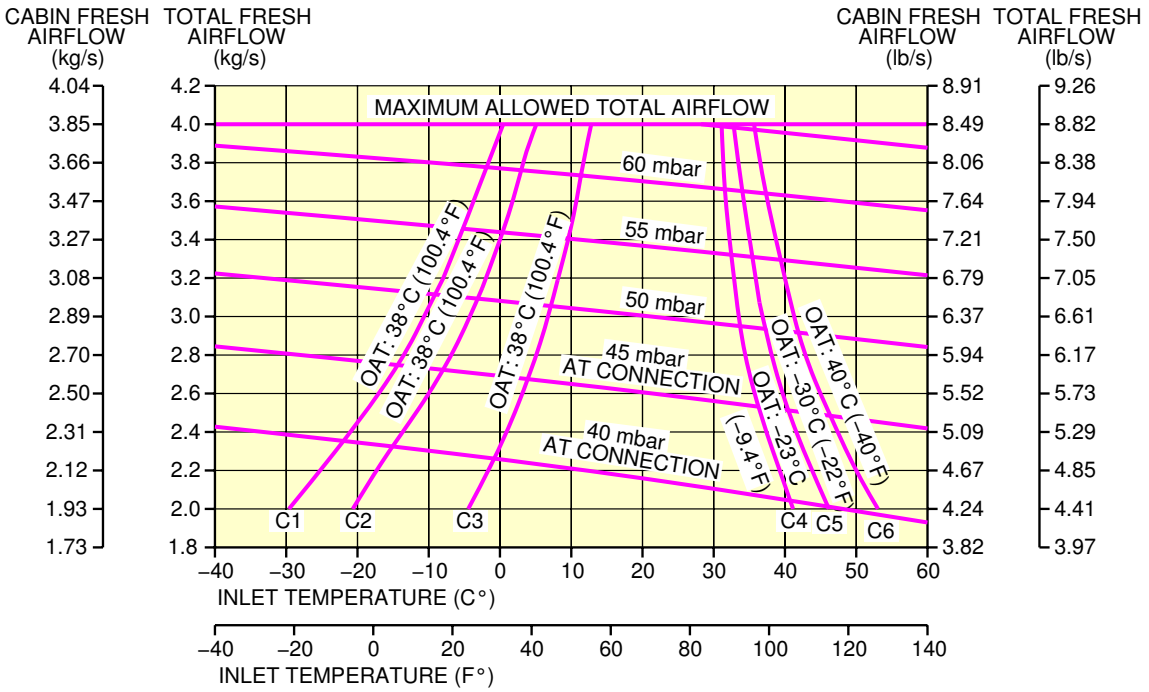
Preconditioned Airflow Requirements

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

   The total airflow must be not more than 4 kg.s. If the total airflow is more than this value, it will be more than the capacity of the outflow valve in the fully open position and a cabin overpressure of more than 65 mbar will occur.

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

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



C1 CURVE ASSUMES:
- CABIN TEMPERATURE: 27°C (80.6°F)
- MAX. PASSENGER LOAD, 10 ATTENDANTS, 3 CREW MEMBERS
- RECIRCULATION: ON
- ELECTRICAL LOAD: 6200 W
- SOLAR RADIATION: 7990 W
- IFE: ON

C2 CURVE ASSOMES:
- SAME CONDITIONS AS C1 BUT WITH IFE OFF

C3 CURVE ASSUMES:
- SAME CONDITIONS AS C1 BUT WITHOUT PASSENGERS

C4, C5 AND C6 CURVES ASSUME:
- CABIN TEMPERATURE: 21°C (69.8°F)
- NO PASSENGERS OR ATTENDANTS
- RECIRCULATION: ON
- ELECTRICAL LOAD: 5200 W

NOTE: IFE = IN–FLIGHT ENTERTAINMENT SYSTEM.
OAT = OUTSIDE AIR TEMPERATURE.

NOTE: TOTAL FLOW INTO CONNECTORS MUST NEVER EXCEED 4.0 kg/s (8.82 lb/s) AND/OR 65 mbar (0.94 psi) AT AIRCRAFT CONNECTION.

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

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 SIL 09-002.
It is possible to tow or push the aircraft, at maximum ramp weight with engines at zero or up to idle thrust, using a towbar attached to the nose gear leg (refer to AMM chapter 9 for conditions and limitations). 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 to chapter 7 of the Aircraft Recovery Manual).

This section shows the chart to determine the draw bar 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.

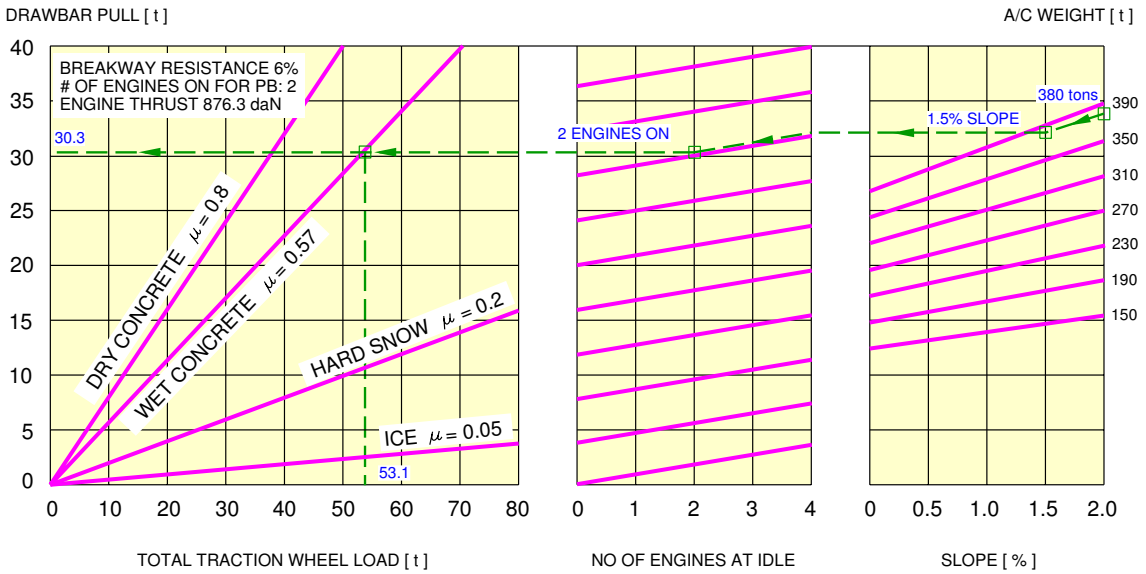
2. Towbar design guidelines

The aircraft towbar shall comply with the following standards:
- SAE AS 1614, "Main Line Aircraft TowBar Attach Fitting Interface",
- SAE ARP 1915, "Aircraft TowBar",
- 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 nose gear 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 (424 779 lbf.in).

The towing head is designed according to SAE AS 1614, cat. IV.

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



EXAMPLE HOW TO DETERMINE THE MASS REQUIREMENT TO TOW A A340–500 OR –600 AT 380 t, AT 1.5% SLOPE, 2 ENGINES AT IDLE AND FOR WET TARMAC CONDITIONS:

- ON THE RIGHT HAND SIDE OF THE GRAPH, CHOOSE THE RELEVANT AIRCRAFT WEIGHT (380 t),
- FROM THIS POINT DRAW A PARALLEL LINE TO THE REQUIRED SLOPE PERCENTAGE (1.5%),
- FROM THIS POINT OBTAINED DRAW A STRAIGHT HORIZONTAL LINE UNTIL NO OF ENGINES AT IDLE = 4,
- FROM THIS POINT DRAW A PARALLEL LINE TO THE REQUESTED NUMBER OF ENGINES (1),
- FROM THIS POINT DRAW A STRAIGHT HORIZONTAL LINE TO THE DRAWBAR PULL AXIS,
- THE Y–COORDINATE OBTAINED IS THE NECESSARY DRAWBAR PULL FOR THE TRACTOR (30.3 t),
- SEARCH THE INTERSECTION WITH THE "WET CONCRETE" LINE.

THE OBTAINED X–COORDINATE IS THE RECOMMENDED MINIMUM TRACTOR WEIGHT (53.1 t).

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

5-9-0 De-Icing and External Cleaning

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

De-Icing and External Cleaning

1. 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).

**ON A/C A340-500

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)	
	m^2	ft^2	m^2	ft^2	m^2	ft^2	m^2	ft^2
A340-500	373	4 015	11	118	90	969	103	1 109

AIRCRAFT TYPE	Fuselage Top Surface (Top Third - 120° Arc)		Nacelle and Pylon (Top Third - 120° Arc) (All Engines)		Total De-Iced Area	
	m^2	ft^2	m^2	ft^2	m^2	ft^2
A340-500	338	3 638	83	893	998	10 742

NOTE : Dimensions are approximate.

**ON A/C A340-600

3. 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)	
	m^2	ft^2	m^2	ft^2	m^2	ft^2	m^2	ft^2
A340-600	373	4 015	11	118	90	969	103	1 109

AIRCRAFT TYPE	Fuselage Top Surface (Top Third - 120° Arc)		Nacelle and Pylon (Top Third - 120° Arc) (All Engines)		Total De-Iced Area	
	m^2	ft^2	m^2	ft^2	m^2	ft^2
A340-600	382	4 112	83	893	1 042	11 216

NOTE : Dimensions are approximate.

**ON A/C A340-500

4. 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)	
	m^2	ft^2	m^2	ft^2	m^2	ft^2	m^2	ft^2	m^2	ft^2
A340-500	373	4 015	412	4 435	11	118	90	969	90	969

AIRCRAFT TYPE	VTP (Both Sides)		Fuselage and Belly Fairing		Nacelle and Pylon (All Engines)		Total Cleaned Area	
	m^2	ft^2	m^2	ft^2	m^2	ft^2	m^2	ft^2
A340-500	103	1 109	1 024	11 022	244	2 626	2 363	25 435

NOTE : Dimensions are approximate.

**ON A/C A340-600

5. 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)	
	m^2	ft^2	m^2	ft^2	m^2	ft^2	m^2	ft^2	m^2	ft^2
A340-600	373	4 015	412	4 435	11	118	90	969	90	969

AIRCRAFT TYPE	VTP (Both Sides)		Fuselage and Belly Fairing		Nacelle and Pylon (All Engines)		Total Cleaned Area	
	m^2	ft^2	m^2	ft^2	m^2	ft^2	m^2	ft^2
A340-600	103	1 109	1 156	12 443	244	2 626	2 494	26 845

NOTE : Dimensions are approximate.

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, Maximum Takeoff conditions.

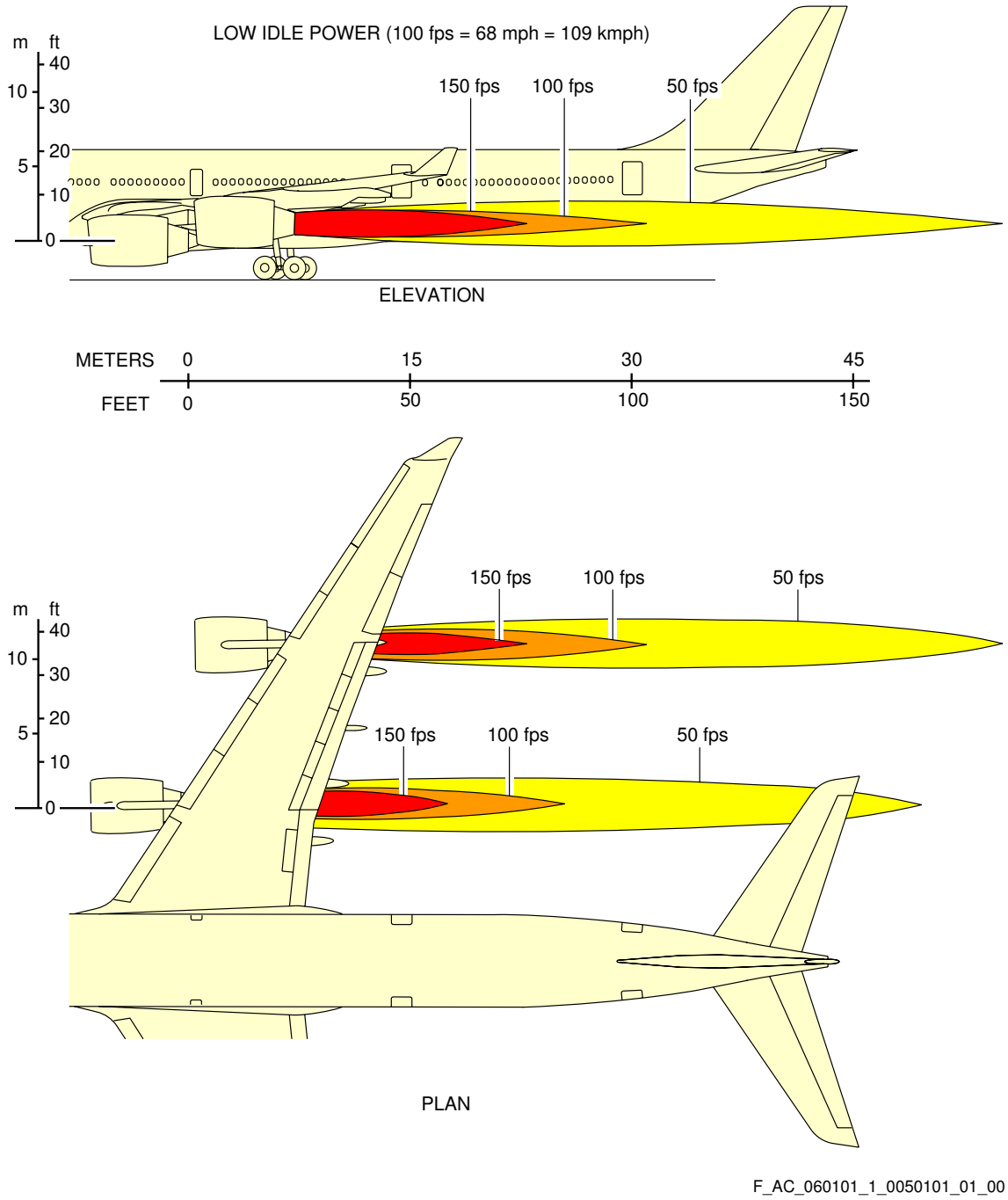
6-1-1 Engine Exhaust Velocities Contours - Ground Idle Power

**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.

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



Engine Exhaust Velocities
Ground Idle Power - RR TRENT 500 series engine
FIGURE-6-1-1-991-005-A01

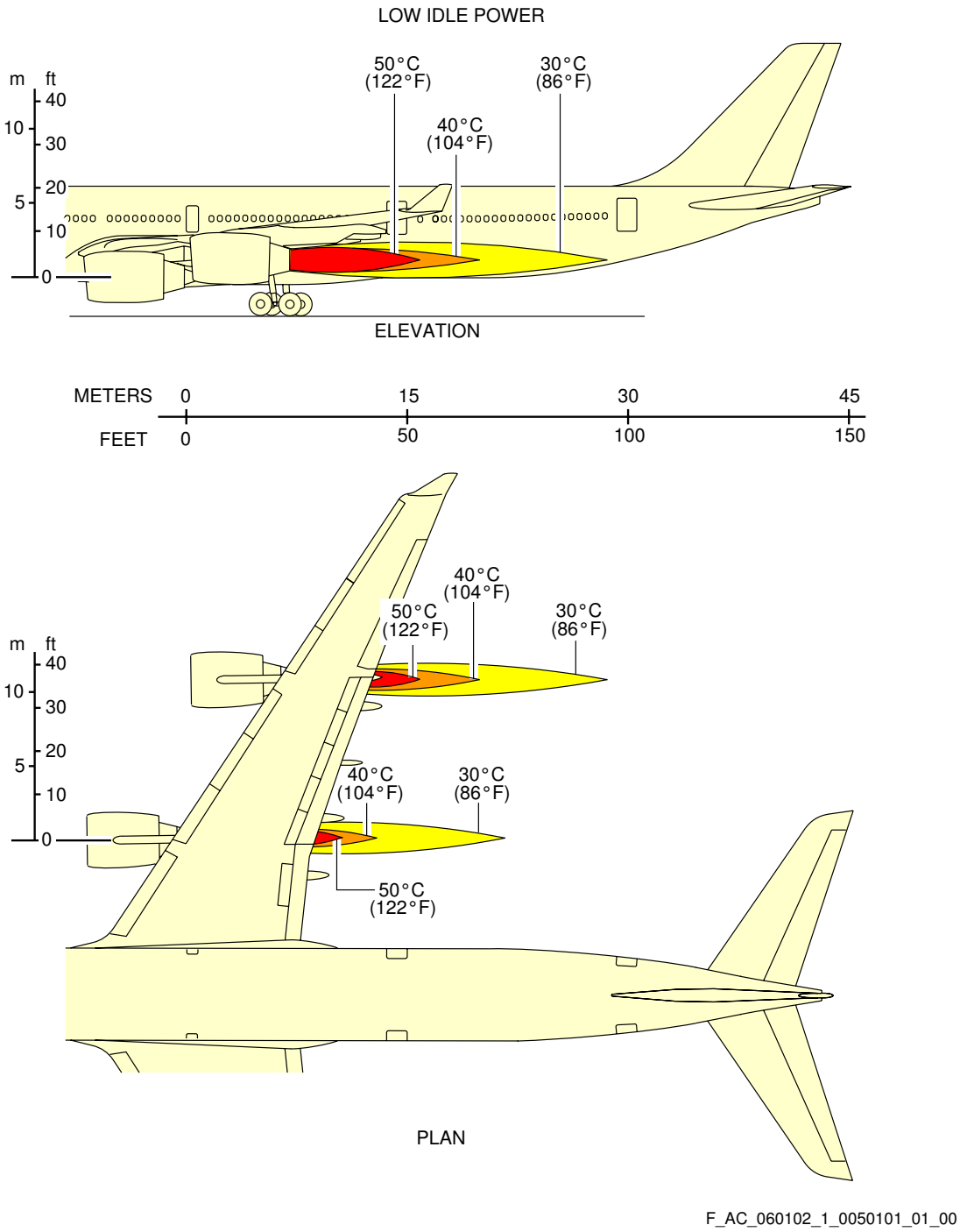
6-1-2 Engine Exhaust Temperatures Contours - Ground Idle Power

**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.

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



Engine Exhaust Temperatures
Ground Idle Power - RR TRENT 500 series engine
FIGURE-6-1-2-991-005-A01

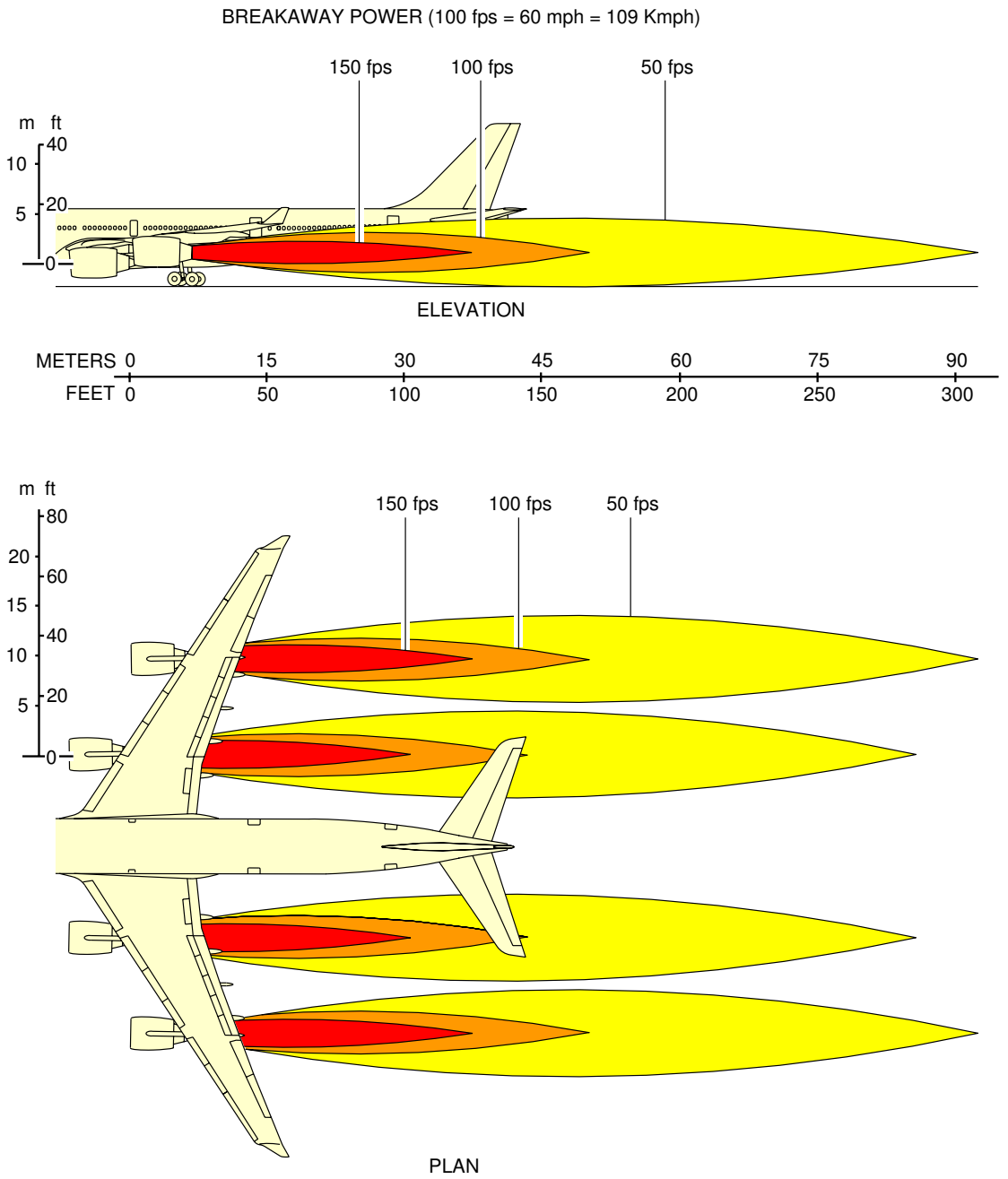
6-1-3 Engine Exhaust Velocities Contours - Breakaway Power

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

Engine Exhaust Velocities Contours - Breakaway Power

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

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



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Engine Exhaust Velocities
Breakaway Power - RR TRENT 500 series engine
FIGURE-6-1-3-991-005-A01

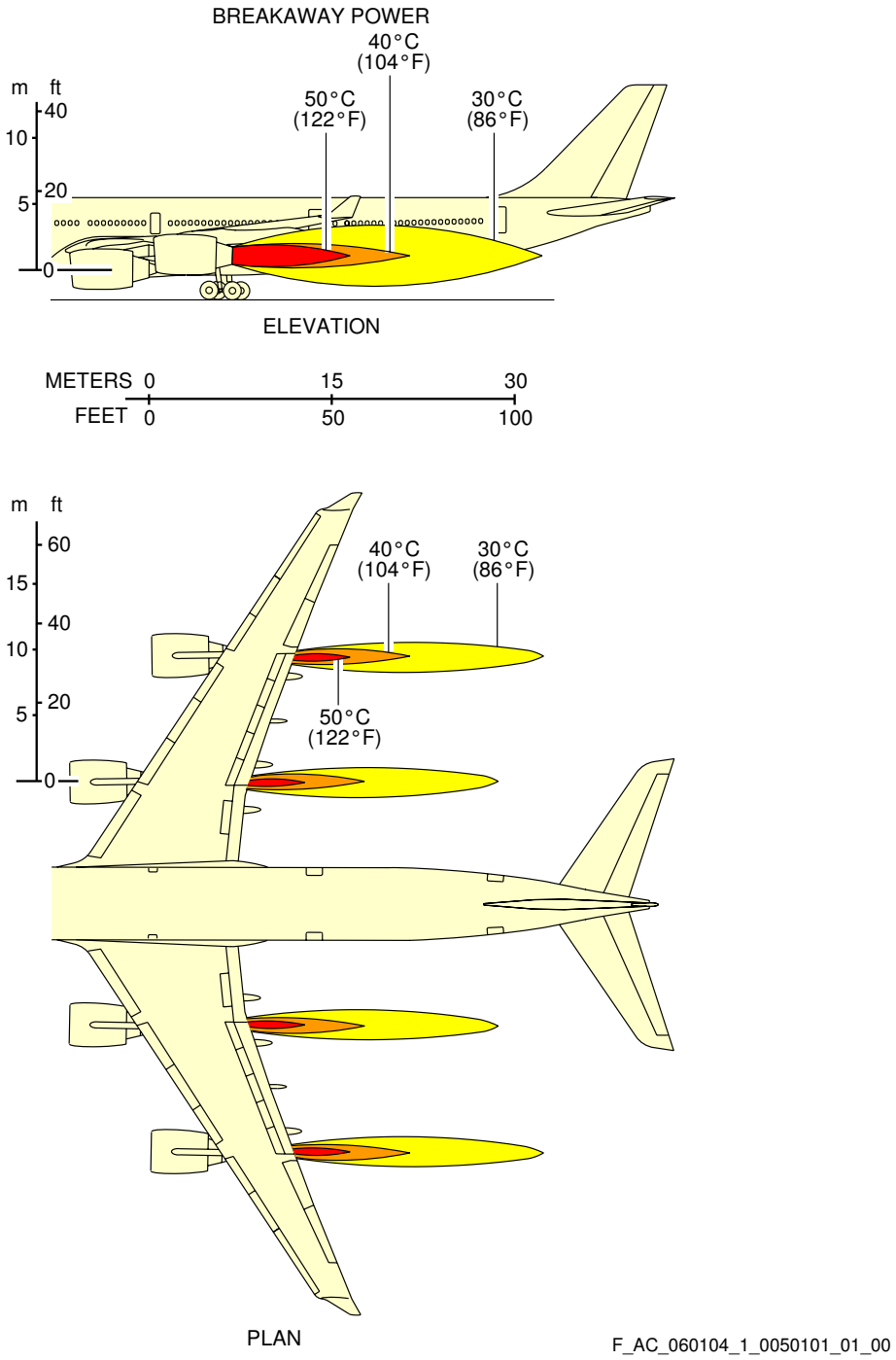
6-1-4 Engine Exhaust Temperatures Contours - Breakaway Power

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

Engine Exhaust Temperatures Contours - Breakaway Power

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

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



Engine Exhaust Temperatures
Breakaway Power - RR TRENT 500 series engine
FIGURE-6-1-4-991-005-A01

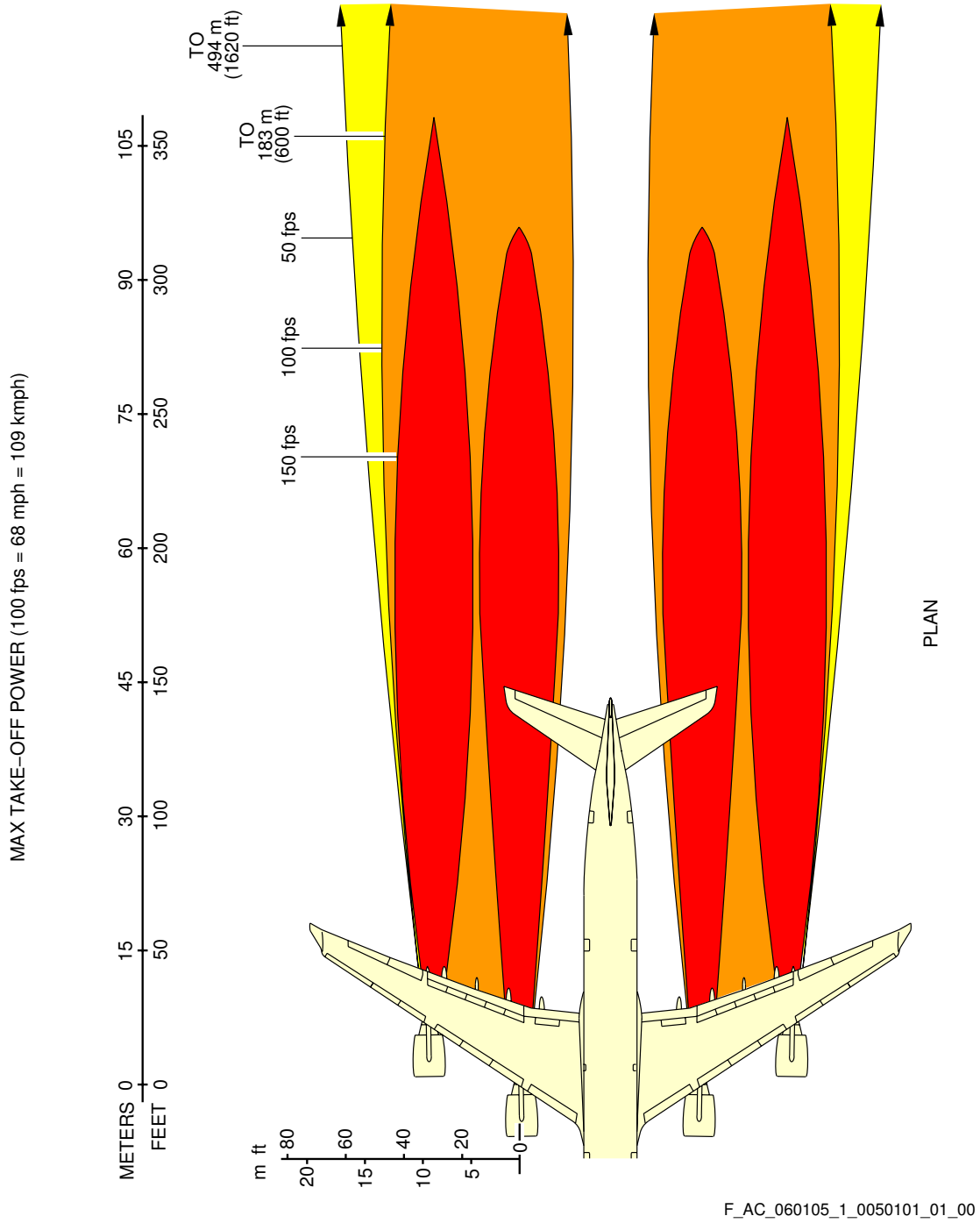
6-1-5 Engine Exhaust Velocities Contours - Takeoff Power

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

Engine Exhaust Velocities Contours - Takeoff Power

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

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



Engine Exhaust Velocities
Takeoff Power - RR TRENT 500 series engine
FIGURE-6-1-5-991-005-A01

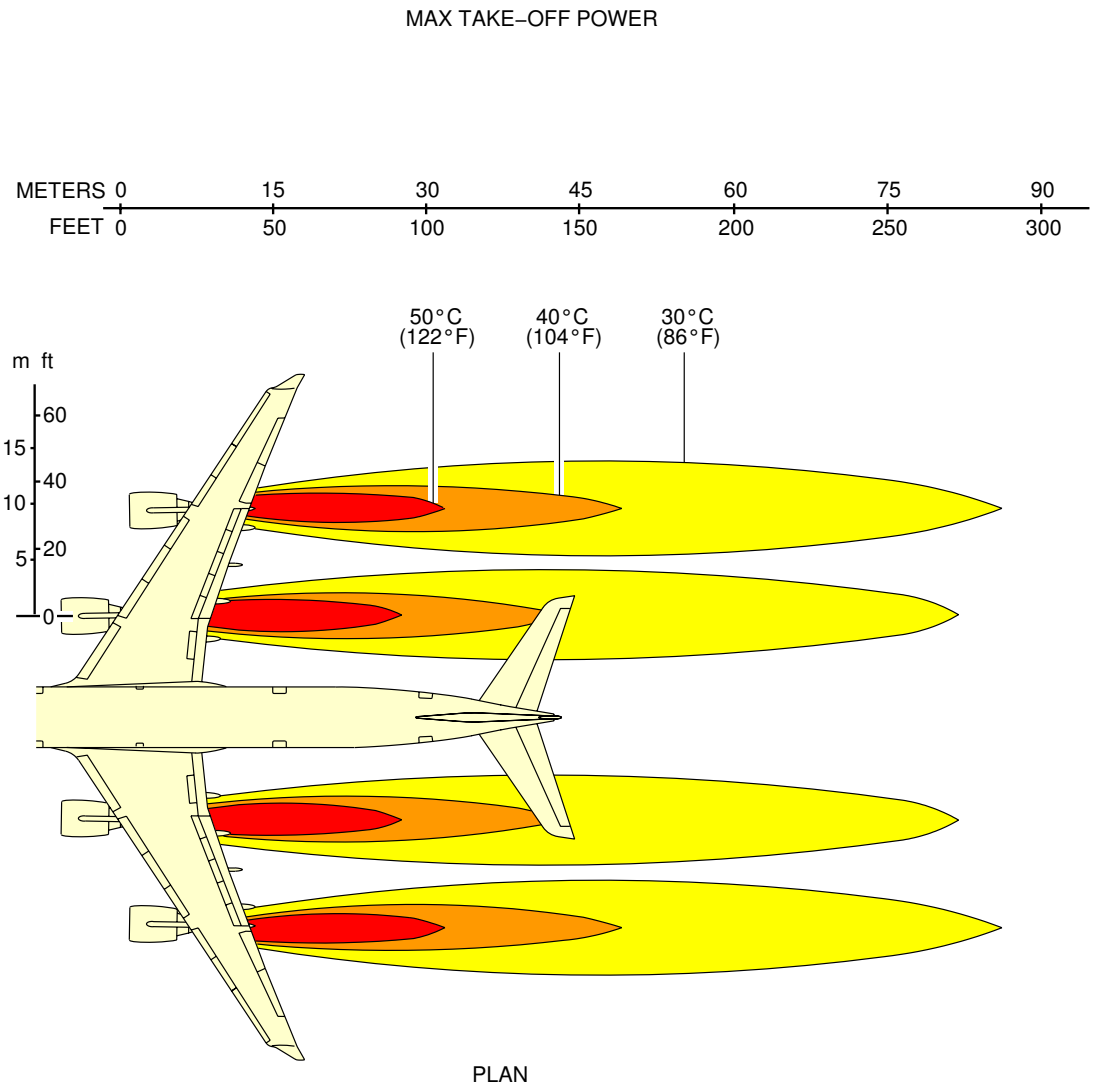
6-1-6 Engine Exhaust Temperatures Contours - Takeoff Power

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

Engine Exhaust Temperatures Contours - Takeoff Power

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

**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

6-2-0 Airport and Community Noise

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

Airport and Community Noise Data

1. Airport and Community Noise Data

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

6-2-1 Noise Data

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

Noise Data

1. Noise Data for RR TRENT 500 series engine

   A. Description of test conditions:

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

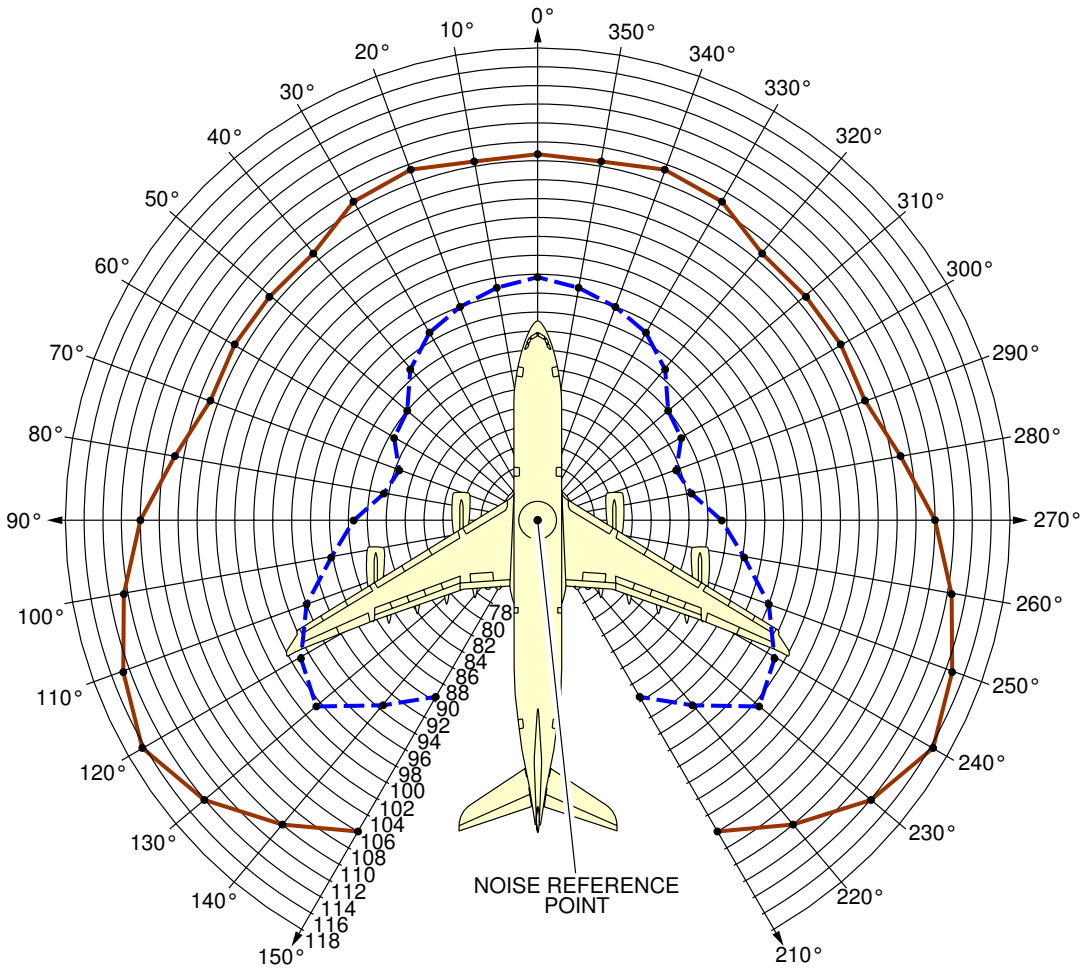
   B. Engine parameters:
      - 4 engines running: ground idle
      - 2 engines running: max thrust possible on brakes

   C. Meteorological data:

      The meteorological parameters measured 1.6 m (5.25 ft) from the ground on the day of test were as follows:
      - Temperature: 20 ° C (68 ° F)
      - Relative humidity: 78%
      - Atmospheric pressure: 1013 hPa
      - Wind speed: Negligible
      - No rain

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

	GROUND IDLE 4 ENGINES RUNNING	MAX THRUST POSSIBLE ON BRAKES 2 ENGINES RUNNING
E.P.R.	1.004	1.33
N1	18%	82%
CURVE		



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Airport and Community Noise
RR TRENT 500 series engine
FIGURE-6-2-1-991-005-A01

6-3-0 Danger Areas of Engines

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

Danger Areas of Engines

1. Danger Areas of the Engines.

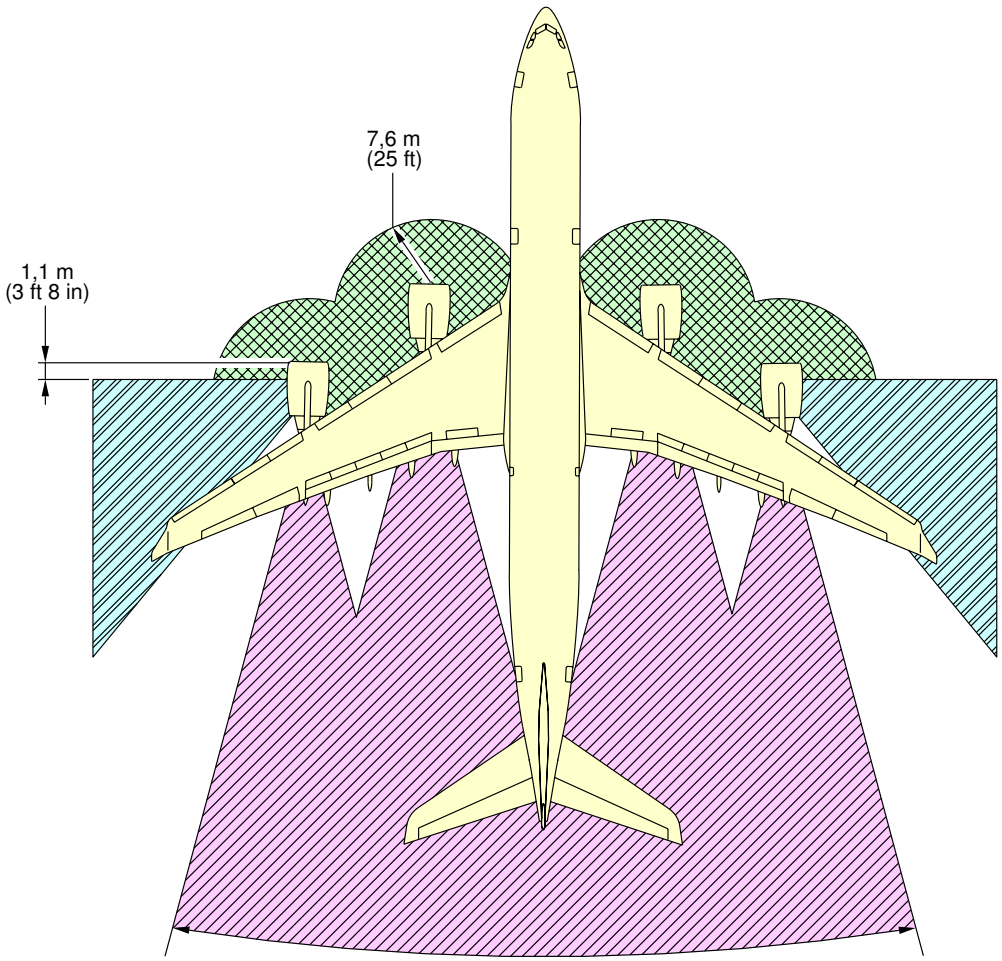
6-3-1 Ground Idle Power

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

Ground Idle Power

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

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



Danger Areas of Engines
RR TRENT 500 series engine
FIGURE-6-3-1-991-005-A01

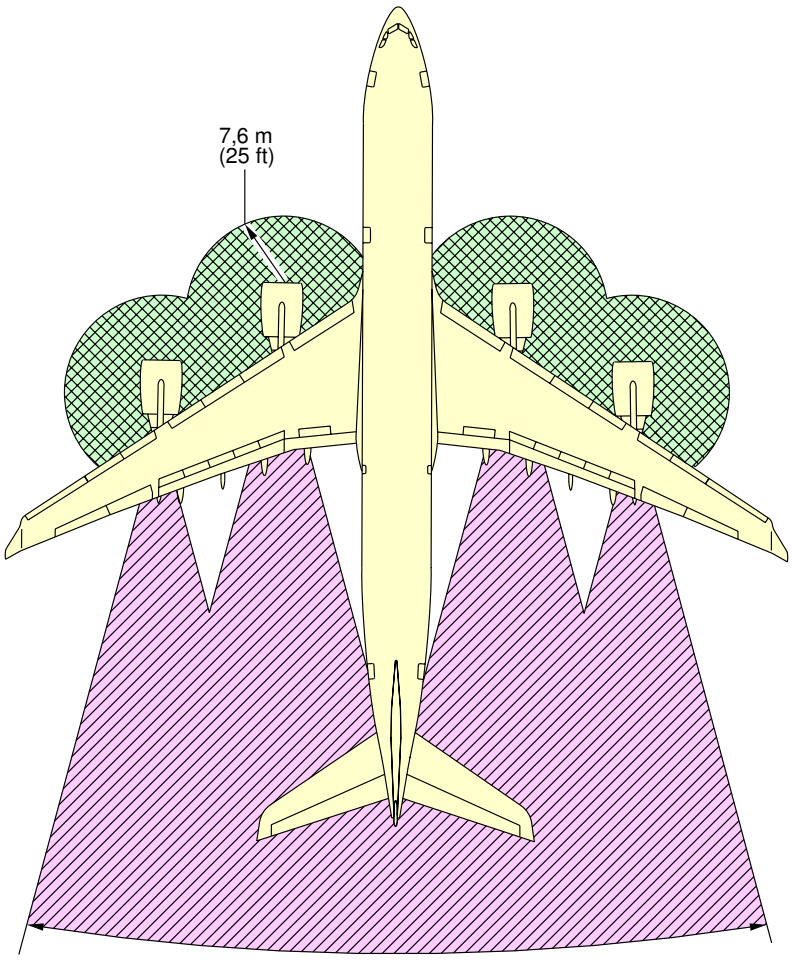
6-3-2 Breakaway Power

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

Breakaway Power

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

**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

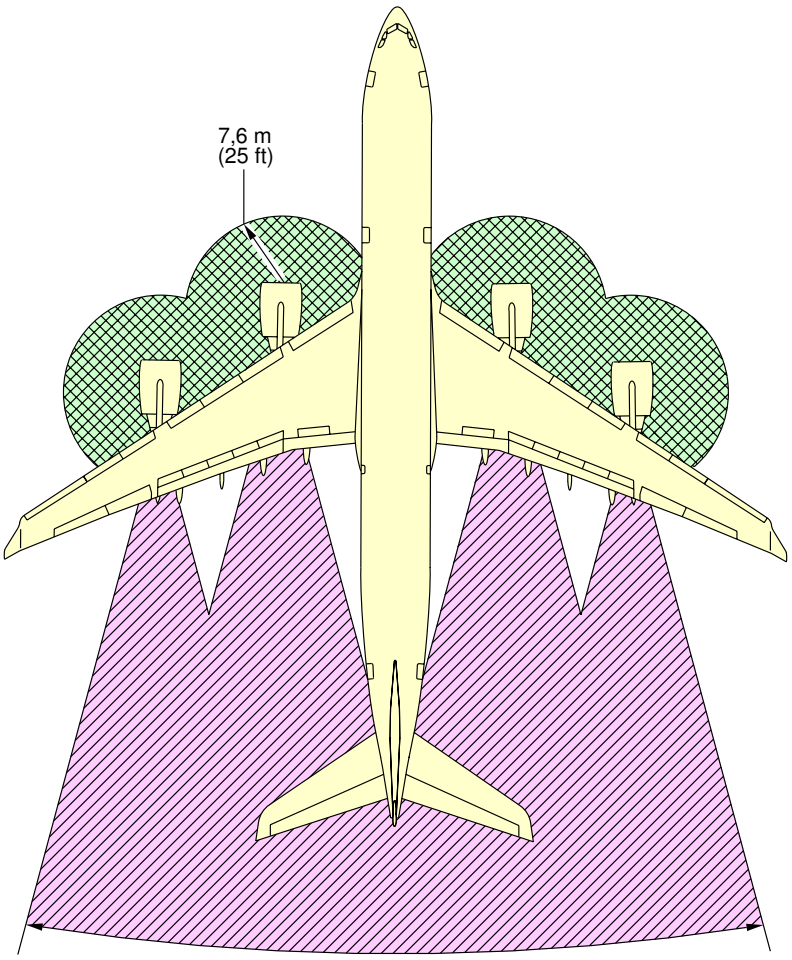
6-3-3 Takeoff Power

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

Takeoff Power

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

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



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Danger Areas of Engines
RR TRENT 500 series engine
FIGURE-6-3-3-991-005-A01

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.

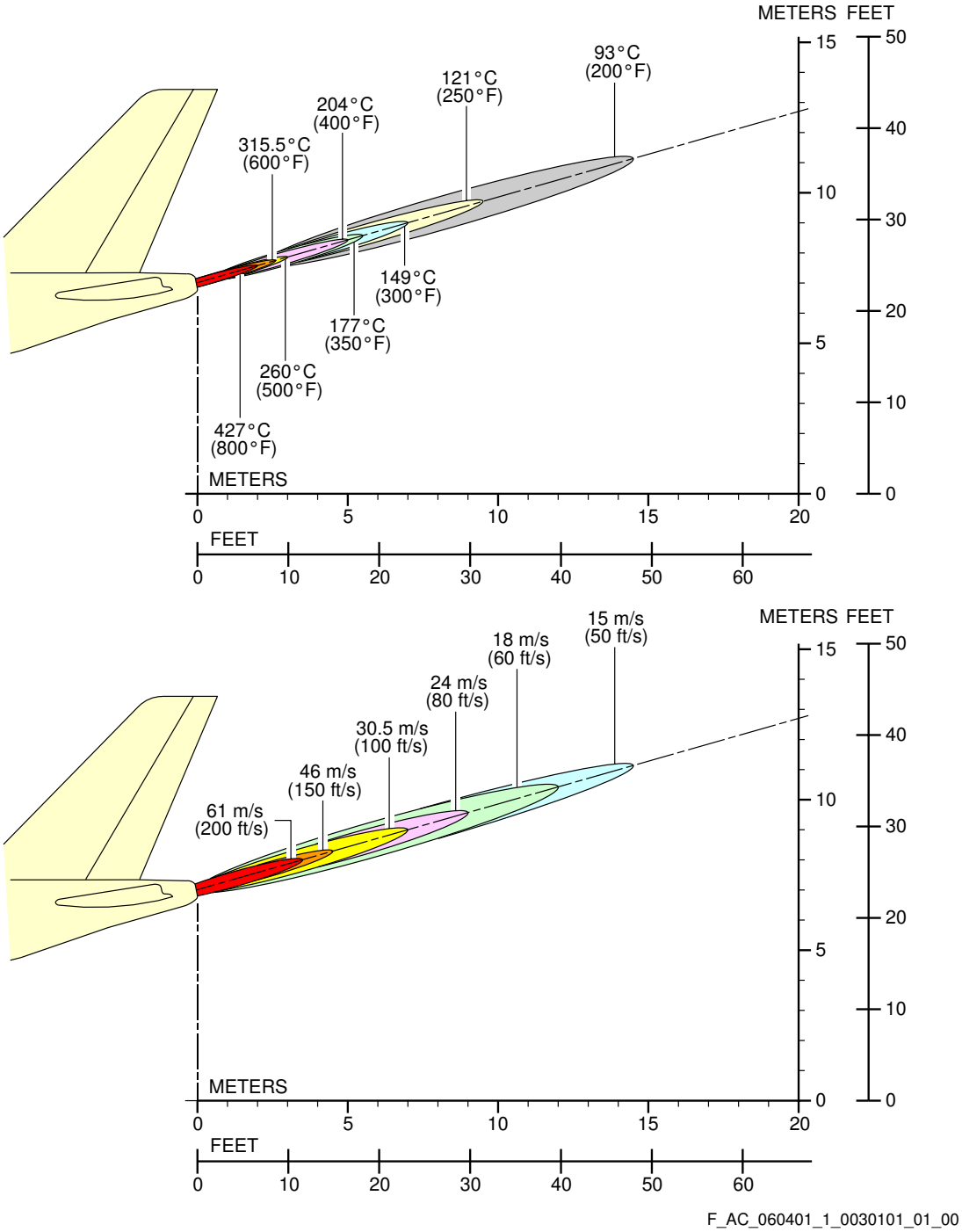
6-4-1 APU

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

APU - GARRETT

1. This section gives APU exhaust velocities and temperatures.

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



Exhaust Velocities and Temperatures
GARRETT GTCP 331-600 (A)
FIGURE-6-4-1-991-003-A01

PAVEMENT DATA

7-1-0 General Information

**ON A/C A340-500WV0xx A340-500WV1xx A340-600WV0xx A340-600WV1xx

General Information

1. General Information

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

To aid in the interpolation between the discrete values shown, each aircraft configuration is shown with a minimum range of five loads on the 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 7-2-0 presents basic data on the landing gear footprint configuration, MRW and tire sizes and pressures.

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

Landing Gear Loading on Pavement
Section 7-4-0 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 7-5-0 uses procedures in Instruction Report No S-77-1 "Procedures for Development of CBR Design Curves", dated June 1977 and as modified according to the methods described in ICAO Aerodrome Design Manual, Part 3. Pavements, 2nd Edition, 1983, Section 1.1 (The ACN-PCN Method), and utilizing the alpha factors approved by ICAO in October 2007.
The report was prepared by the U.S. Army Corps Engineers Waterways Experiment Station, Soils and Pavement Laboratory, Vicksburg, Mississippi". The line showing 10 000 coverages is used to calculate Aircraft Classification Number (ACN).

Flexible Pavement Requirements - LCN Conversion Method
The flexible pavement charts in Section 7-6-0 show Load Classification Number (LCN) against equivalent single wheel load (ESWL), and ESWL against pavement thickness.
All LCN curves shown in 'Flexible Pavement Requirements' were developed from a computer program based on data in International Civil Aviation Organization (ICAO) document 7920-AN/865/2, Aerodrome manual, Part 2, "Aerodrome Physical Characteristics", Second Edition, 1965.

Rigid Pavement Requirements - PCA (Portland Cement Association) Design Method
Section 7-7-0 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
Section 7-8-0 gives data about the rigid pavement requirements for the LCN Conversion.
- For the radius of relative stiffness,
- For the radius of relative stiffness (other values of E and μ).

All LCN curves shown in Rigid Pavement Requirements - LCN conversion - were developed from a computer program based on data in International Civil Aviation Organization (ICAO) document 7920-AN/865/2, Aerodrome manual, Part 2, "Aerodrome Physical Characteristics", Second Edition, 1965.
Rigid Pavement Requirements - LCN Conversion - Radius of Relative Stiffness.
The rigid pavement charts show LCN against ESWL, and ESWL against radius of relative stiffness.
Rigid Pavement Requirements - LCN Conversion - Radius of Relative Stiffness (other values of E and μ)
The rigid pavement charts show LCN against ESWL and ESWL against radius of relative stiffness affected by the other values of E and μ.
ACN/PCN Reporting System
Section 7-9-0 provides ACN data prepared according to the ACN/PCN system as referenced in ICAO Annex 14, "Aerodromes", Volume 1 "Aerodrome Design and Operations." Fourth Edition July 2004, incorporating Amendments 1 to 6.
The ACN/PCN system provides a standardized international 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 equal to or less than the PCN can operate without restriction on the pavement.
Numerically the ACN is two times the derived single wheel load expressed in thousands of kilograms.
The derived single wheel load is defined as the load on a single tire inflated to 1.25 Mpa (181 psi) that would have the same pavement requirements as the aircraft.
Computationally the ACN/PCN the system uses PCA program PDILB for rigid pavements and S-77-1 for flexible pavements to calculate ACN values.

The Airport Authority must decide on the method of pavement analysis and the results of their evaluation shown as follows :

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

Section 7-9-0 shows the aircraft ACN values.
For flexible pavements, the four subgrade categories are :

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

For rigid pavements, the four subgrade categories are :

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

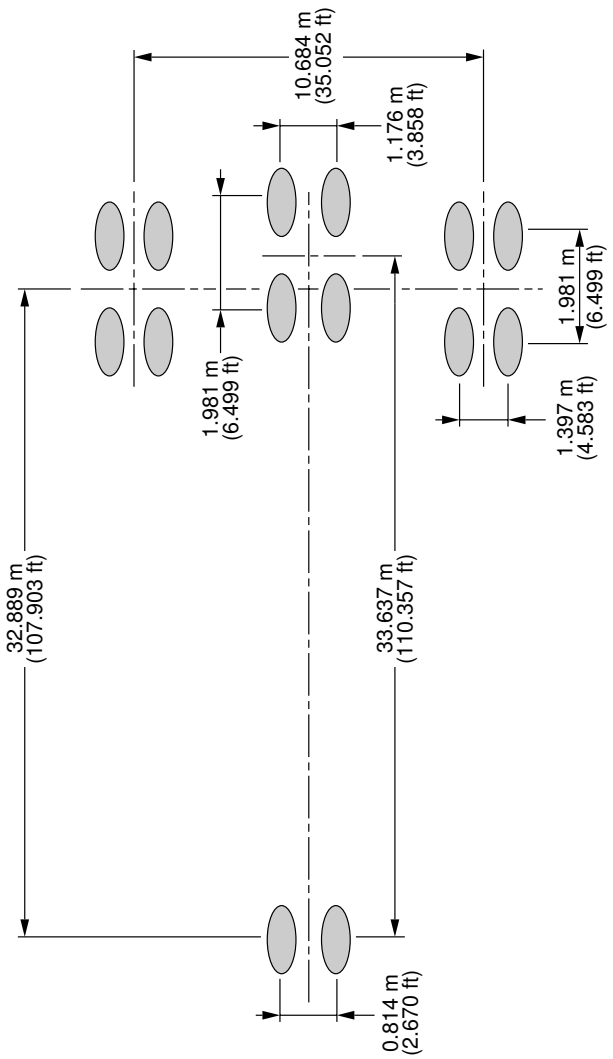
7-2-0 Landing Gear Footprint

**ON A/C A340-500WV0xx A340-500WV1xx A340-600WV0xx A340-600WV1xx

Landing Gear Footprint

1. This section gives data about the landing gear footprint in relation with the aircraft MRW and tire sizes and pressures.
   The landing gear footprint information is given for all the aircraft operational weight variants.

**ON A/C A340-600WV0xx A340-600WV1xx



WEIGHT VARIANT	MAXIMUM RAMP WEIGHT	PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	NOSE GEAR TIRE SIZE	NOSE GEAR TIRE PRESSURE	MAIN GEAR TIRE SIZE	MAIN GEAR TIRE PRESSURE	CENTRAL GEAR TIRE SIZE	CENTRAL GEAR TIRE PRESSURE
A340–600 WV000	366 200 kg (807 325 lb)	93.5%	45x180R17 36PR	13.7 bar (199 psi)	1400x530R23	16.1 bar (234 psi)	1400x530R23	15 bar (218 psi)
A340–600 WV001	369 200 kg (813 950 lb)	93.4%	45x180R17 36PR	13.7 bar (199 psi)	1400x530R23	16.1 bar (234 psi)	1400x530R23	15 bar (218 psi)
A340–600 WV101	381 200 kg (840 400 lb)	92.3%	45x180R17 36PR	13.9 bar (202 psi)	1400x530R23	16.1 bar (234 psi)	1400x530R23	16.1 bar (234 psi)
A340–600 WV102	369 200 kg (813 950 lb)	93.4%	45x180R17 36PR	13.9 bar (202 psi)	1400x530R23	16.1 bar (234 psi)	1400x530R23	16.1 bar (234 psi)
A340–600 WV103	366 200 kg (807 325 lb)	93.5%	45x180R17 36PR	13.9 bar (202 psi)	1400x530R23	16.1 bar (234 psi)	1400x530R23	16.1 bar (234 psi)

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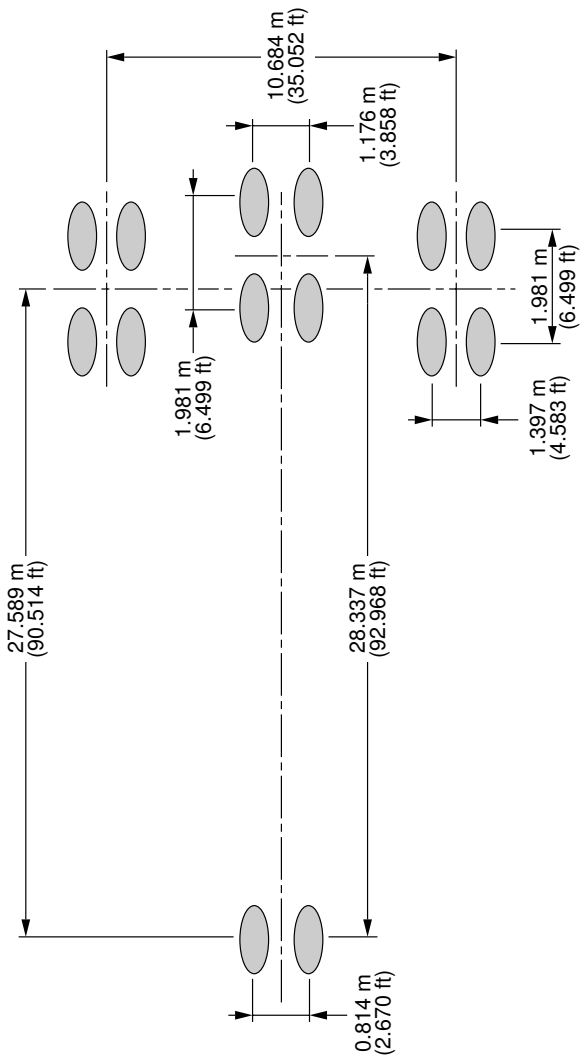
Landing Gear Footprint
FIGURE-7-2-0-991-032-A01

**ON A/C A340-500WV0xx A340-500WV1xx



WEIGHT VARIANT	MAXIMUM RAMP WEIGHT	PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	NOSE GEAR TIRE SIZE	NOSE GEAR TIRE PRESSURE	MAIN GEAR TIRE SIZE	MAIN GEAR TIRE PRESSURE	CENTRAL GEAR TIRE SIZE	CENTRAL GEAR TIRE PRESSURE
A340–500 WV000	369 200 kg (813 950 lb)	92.7%	45x180R17 36PR	14.1 bar (205 psi)	1400x530R23	16.1 bar (234 psi)	1400x530R23	15 bar (218 psi)
A340–500 WV001	373 200 kg (822 775 lb)	92.7%	45x180R17 36PR	14.1 bar (205 psi)	1400x530R23	16.1 bar (234 psi)	1400x530R23	15 bar (218 psi)
A340–500 WV002	373 200 kg (822 775 lb)	92.7%	45x180R17 36PR	14.1 bar (205 psi)	1400x530R23	16.1 bar (234 psi)	1400x530R23	15 bar (218 psi)
A340–500 WV003	375 200 kg (827 175 lb)	92.2%	45x180R17 36PR	14.1 bar (205 psi)	1400x530R23	16.1 bar (234 psi)	1400x530R23	15 bar (218 psi)
A340–500 WV004	375 200 kg (827 175 lb)	92.2%	45x180R17 36PR	14.1 bar (205 psi)	1400x530R23	16.1 bar (234 psi)	1400x530R23	15 bar (218 psi)
A340–500 WV101	381 200 kg (840 400 lb)	92.1%	45x180R17 36PR	14.1 bar (205 psi)	1400x530R23	16.1 bar (234 psi)	1400x530R23	16.1 bar (234 psi)
A340–500 WV102	373 200 kg (822 775 lb)	92.6%	45x180R17 36PR	14.1 bar (205 psi)	1400x530R23	16.1 bar (234 psi)	1400x530R23	16.1 bar (234 psi)
A340–500 WV103	373 200 kg (822 775 lb)	92.6%	45x180R17 36PR	14.1 bar (205 psi)	1400x530R23	16.1 bar (234 psi)	1400x530R23	16.1 bar (234 psi)

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Landing Gear Footprint
Landing Gear Footprint
FIGURE-7-2-0-991-044-A01

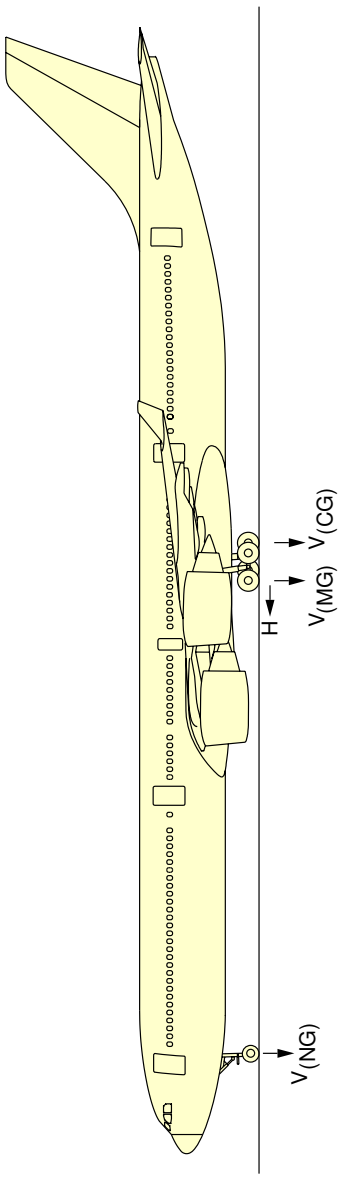
7-3-0 Maximum Pavement Loads

**ON A/C A340-500WV0xx A340-500WV1xx A340-600WV0xx A340-600WV1xx

Maximum Pavement Loads

1. This section shows maximum vertical and horizontal pavement loads for some critical conditions at the tire-ground interfaces.
   The maximum pavement loads are given for all the aircraft operational weight variants.

**ON A/C A340-600WV0xx A340-600WV1xx



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

1	2	3		4	5		6		7	
		VNG			VMG (PER STRUT)		VCG (PER STRUT)		H (PER STRUT)	
MODEL	MAXIMUM RAMP WEIGHT	STATIC LOAD AT MOST FWD C.G.		STATIC BRAKING @ 10 ft/s² DECELERATION	STATIC LOAD AT MAX AFT C.G.		STATIC LOAD AT MAX AFT C.G.		STEADY BRAKING @ 10 ft/s² DECELERATION	AT INSTANTANEOUS BRAKING COEFFICIENT = 0.8
			16% MAC (b)			35% MAC		35% MAC (a)		
A340–600 WV000	366 200 kg (807 325 lb)	40 320 kg (88 900 lb)		55 360 kg (122 050 lb)	117 950 kg (260 025 lb)		106 570 kg (234 950 lb)		39 200 kg (86 425 lb) ① 35 420 kg (78 100 lb) ②	94 360 kg (208 025 lb) ① 85 260 kg (187 975 lb) ②

NOTE:
① BRAKED MAIN GEAR
② BRAKED CENTER GEAR
(a) LOADS CALCULATED USING AIRCRAFT AT MRW
(b) LOADS CALCULATED USING AIRCRAFT AT 354 600 kg (781 758 lb)

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Maximum Pavement Loads
(Sheet 1 of 2)
FIGURE-7-3-0-991-011-A01

**ON A/C A340-600WV0xx A340-600WV1xx

1	2	3		4	5		6		7	
		VNG			VMG (PER STRUT)		VCG (PER STRUT)		H (PER STRUT)	
MODEL	MAXIMUM RAMP WEIGHT	STATIC LOAD AT MOST FWD C.G.		STATIC BRAKING @ 10 ft/s² DECELERATION	STATIC LOAD AT MAX AFT C.G.		STATIC LOAD AT MAX AFT C.G.		STEADY BRAKING @ 10 ft/s² DECELERATION	AT INSTANTANEOUS BRAKING COEFFICIENT = 0.8
A340–600 WV001	369 200 kg (813 950 lb)	40 320 kg (88 900 lb)	16% MAC (b)	55 360 kg (122 050 lb)	118 930 kg (262 200 lb)	34.43% MAC	106 880 kg (235 625 lb)	34.43% MAC (a)	39 590 kg (87 275 lb) (1) 35 580 kg (78 450 lb) (2)	95 140 kg (209 750 lb) (1) 85 500 kg (188 500 lb) (2)
A340–600 WV101	381 200 kg (840 400 lb)	40 330 kg (88 900 lb)	16% MAC (b)	55 170 kg (121 625 lb)	121 020 kg (266 800 lb)	30.2% MAC	109 720 kg (241 900 lb)	30.2% MAC (a)	40 760 kg (89 850 lb) (1) 36 960 kg (81 475 lb) (2)	96 810 kg (213 425 lb) (1) 87 780 kg (193 525 lb) (2)
A340–600 WV102	369 200 kg (813 950lb)	40 330 kg (88 900 lb)	16% MAC (b)	55 170 kg (121 625 lb)	118 160 kg (260 500 lb)	34.43% MAC	108 340 kg (238 850 lb)	34.43% MAC (a)	39 340 kg (86 725 lb) (1) 36 070 kg (79 525 lb) (2)	94 530 kg (208 400 lb) (1) 86 670 kg (191 075 lb) (2)
A340–600 WV103	366 200 kg (807 325 lb)	40 330 kg (88 900 lb)	16% MAC (b)	55 220 kg (121 750 lb)	117 270 kg (258 525 lb)	35% MAC	107 850 kg (237 775 lb)	35% MAC (a)	38 980 kg (85 925 lb) (1) 35 850 kg (79 025 lb) (2)	93 820 kg (206 850 lb) (1) 86 280 kg (190 225 lb) (2)

NOTE:

(1) (2) BRAKED MAIN GEAR
BRAKED CENTER GEAR

(a) LOADS CALCULATED USING AIRCRAFT AT MRW

(b) LOADS CALCULATED USING AIRCRAFT AT 354 600 kg (781 758 lb)

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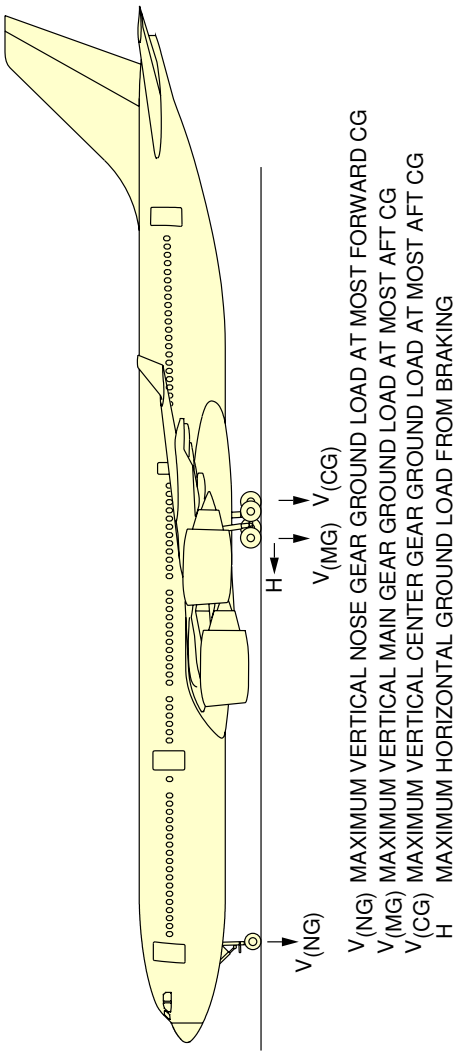
Maximum Pavement Loads
(Sheet 2 of 2)
FIGURE-7-3-0-991-011-A01

**ON A/C A340-500WV0xx A340-500WV1xx



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

1	2	3		4	5		6		7	
		VNG			VMG (PER STRUT)		VCG (PER STRUT)		H (PER STRUT)	
MODEL	MAXIMUM RAMP WEIGHT	STATIC LOAD AT MOST FWD C.G.		STATIC BRAKING @ 10 ft/s² DECELERATION	STATIC LOAD AT MAX AFT C.G.		STATIC LOAD AT MAX AFT C.G.		STEADY BRAKING @ 10 ft/s² DECELERATION	AT INSTANTANEOUS BRAKING COEFFICIENT = 0.8
A340–500 WV000	369 200 kg (813 950 lb)	41 160 kg (90 750 lb)	22% MAC (b)	58 650 kg (129 300 lb)	117 990 kg (260 125 lb)	36.5% MAC	106 240 kg (234 225 lb)	36.5% MAC (a)	39 560 kg (87 225 lb) ① 35 620 kg (78 525 lb) ②	94 390 kg (208 100 lb) ① 84 990 kg (187 375 lb) ②
A340–500 WV001	373 200 kg (822 775 lb)	41 160 kg (90 750 lb)	22% MAC (b)	58 650 kg (129 300 lb)	119 540 kg (263 550 lb)	36.4% MAC	106 760 kg (235 375 lb)	36.4% MAC (a)	40 090 kg (88 375 lb) ① 35 810 kg (78 950 lb) ②	95 630 kg (210 825 lb) ① 85 410 kg (188 300 lb) ②

NOTE:
① BRAKED MAIN GEAR
② BRAKED CENTER GEAR
(a) LOADS CALCULATED USING AIRCRAFT AT MRW
(b) LOADS CALCULATED USING AIRCRAFT AT 349 200 kg (769 853 lb)

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Maximum Pavement Loads
(Sheet 1 of 2)
FIGURE-7-3-0-991-013-A01

**ON A/C A340-500WV0xx A340-500WV1xx

1	2	3		4	5		6		7	
		VNG			VMG (PER STRUT)		VCG (PER STRUT)		H (PER STRUT)	
MODEL	MAXIMUM RAMP WEIGHT	STATIC LOAD AT MOST FWD C.G.		STATIC BRAKING @ 10 ft/s² DECELERATION	STATIC LOAD AT MAX AFT C.G.		STATIC LOAD AT MAX AFT C.G.		STEADY BRAKING @ 10 ft/s² DECELERATION	AT INSTANTANEOUS BRAKING COEFFICIENT = 0.8
A340–500 WV002	373 200 kg (822 775 lb)	41 160 kg (90 750 lb)	22% MAC (b)	58 650 kg (129 300 lb)	119 540 kg (263 550 lb)	36.4% MAC	106 760 kg (235 375 lb)	36.4% MAC (a)	40 090 kg (88 375 lb) ① 35 810 kg (78 950 lb) ②	95 630 kg (210 825 lb) ① 85 410 kg (188 300 lb) ②
A340–500 WV003	375 200 kg (827 175 lb)	41 160 kg (90 750 lb)	22% MAC (b)	58 650 kg (129 300 lb)	119 850 kg (263 850 lb)	35.01% MAC	106 730 kg (235 300 lb)	35.01% MAC (a)	40 330 kg (88 900 lb) ① 35 960 kg (79 275 lb) ②	95 740 kg (211 075 lb) ① 85 380 kg (188 225 lb) ②
A340–500 WV004	375 200 kg (827 175 lb)	41 160 kg (90 750 lb)	22% MAC (b)	58 650 kg (129 300 lb)	119 850 kg (263 850 lb)	35.01% MAC	106 730 kg (235 300 lb)	35.01% MAC (a)	40 330 kg (88 900 lb) ① 35 960 kg (79 275 lb) ②	95 740 kg (211 075 lb) ① 85 380 kg (188 225 lb) ②
A340–500 WV101	381 200 kg (840 400 lb)	41 150 kg (90 725 lb)	22% MAC (b)	58 580 kg (129 150 lb)	120 590 kg (265 850 lb)	34.7% MAC	109 980 kg (242 475 lb)	34.7% MAC (a)	40 690 kg (89 700 lb) ① 37 110 kg (81 825 lb) ②	96 470 kg (212 675 lb) ① 87 990 kg (193 975 lb) ②
A340–500 WV102	373 200 kg (822 775 lb)	41 150 kg (90 725 lb)	22% MAC (b)	58 580 kg (129 150 lb)	118 440 kg (261 125 lb)	36.4% MAC	108 840kg (239 950 lb)	36.4% MAC (a)	39 740 kg (87 600 lb) ① 36 520 kg (80 525 lb) ②	94 750 kg (208 900 lb) ① 87 070 kg (191 950 lb) ②
A340–500 WV103	373 200 kg (822 775 lb)	41 150 kg (90 725 lb)	22% MAC (b)	58 580 kg (129 150 lb)	118 440 kg (261 125 lb)	36.4% MAC	108 840kg (239 950 lb)	36.4% MAC (a)	39 740 kg (87 600 lb) ① 36 520 kg (80 525 lb) ②	94 750 kg (208 900 lb) ① 87 070 kg (191 950 lb) ②

NOTE:

① ② BRAKED MAIN GEAR

① ② BRAKED CENTER GEAR

(a) LOADS CALCULATED USING AIRCRAFT AT MRW

(b) LOADS CALCULATED USING AIRCRAFT AT 349 200 kg (769 853 lb)

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Maximum Pavement Loads
(Sheet 2 of 2)
FIGURE-7-3-0-991-013-A01

7-4-0 Landing Gear Loading on Pavement

**ON A/C A340-500WV0xx A340-500WV1xx A340-600WV0xx A340-600WV1xx

Landing Gear Loading on Pavement

1. This section gives 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 max aft CG) the lowest MLG load and the highest MLG load of each A/C type.

2. MLG Loading on Pavement
   Example, see FIGURE 7---0-99--009-A (sheet 1), calculation of the total weight on the MLG for:
   - An aircraft with a MRW of 369 200kg (813 950 lb),
   - The aircraft gross weight is 280 000 kg (617 300 lb),
   - A percentage of weight on MLG of 92,7% (percentage of weight on MLG at MRW and CG max aft).

   The total weight on the MLG group is 259 530 kg (572 175 lb).

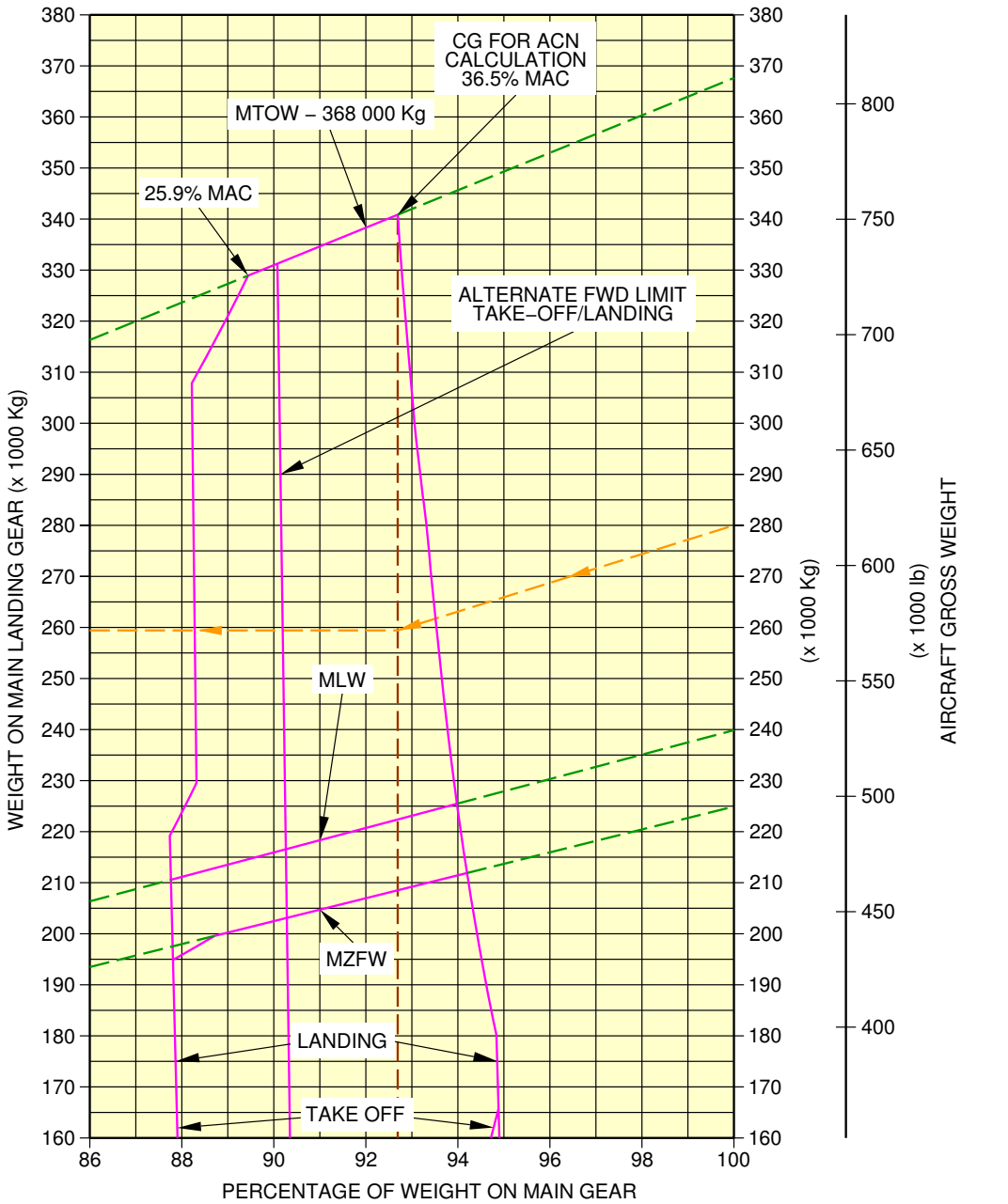
3. Main Gear and Center Gear Loading on Pavement
   The MLG Group consists of two main gears (4 wheel bogies) plus one center gear (4 wheel bogies).

   Example, see FIGURE 7---0-99--009-A (sheet 2), calculation of the total weight on the MLG for:
   - An aircraft with a MRW of 369 200kg (813 950 lb),
   - The aircraft gross weight is 280 000 kg (617 290 lb).

   The load on the two main gears is 178 450 kg (393 430 lb) and the load on the center gear is 81 000 kg (178 570 lb).
   The total weight on the MLG group is 259 530 kg (572 175 lb).

   NOTE : The CG in the figure title is the CG used for ACN / LCN calculation

**ON A/C A340-500WV0xx A340-500WV1xx



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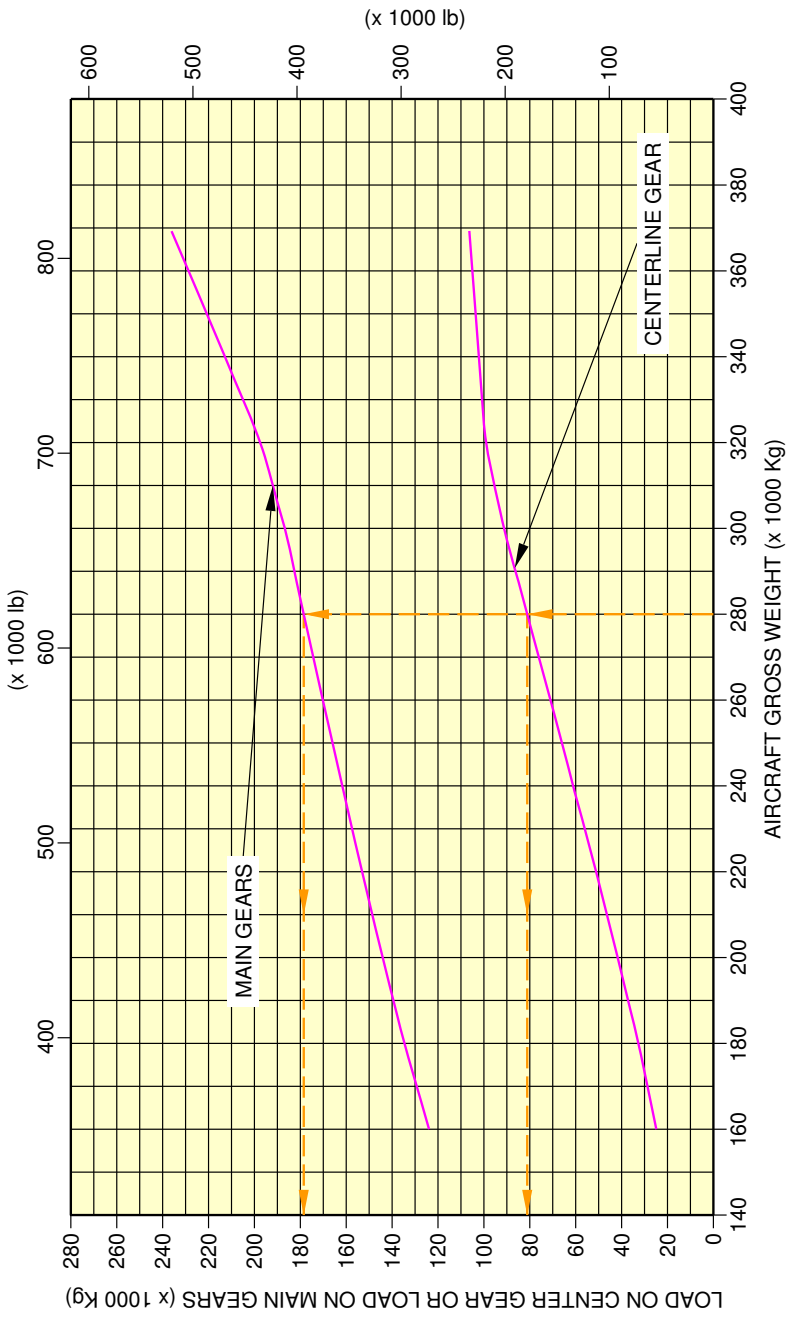
Landing Gear Loading on Pavement
WV000, MRW 369 200 kg (Sheet 1 of 2)
FIGURE-7-4-0-991-009-A01

**ON A/C A340-500WV0xx A340-500WV1xx



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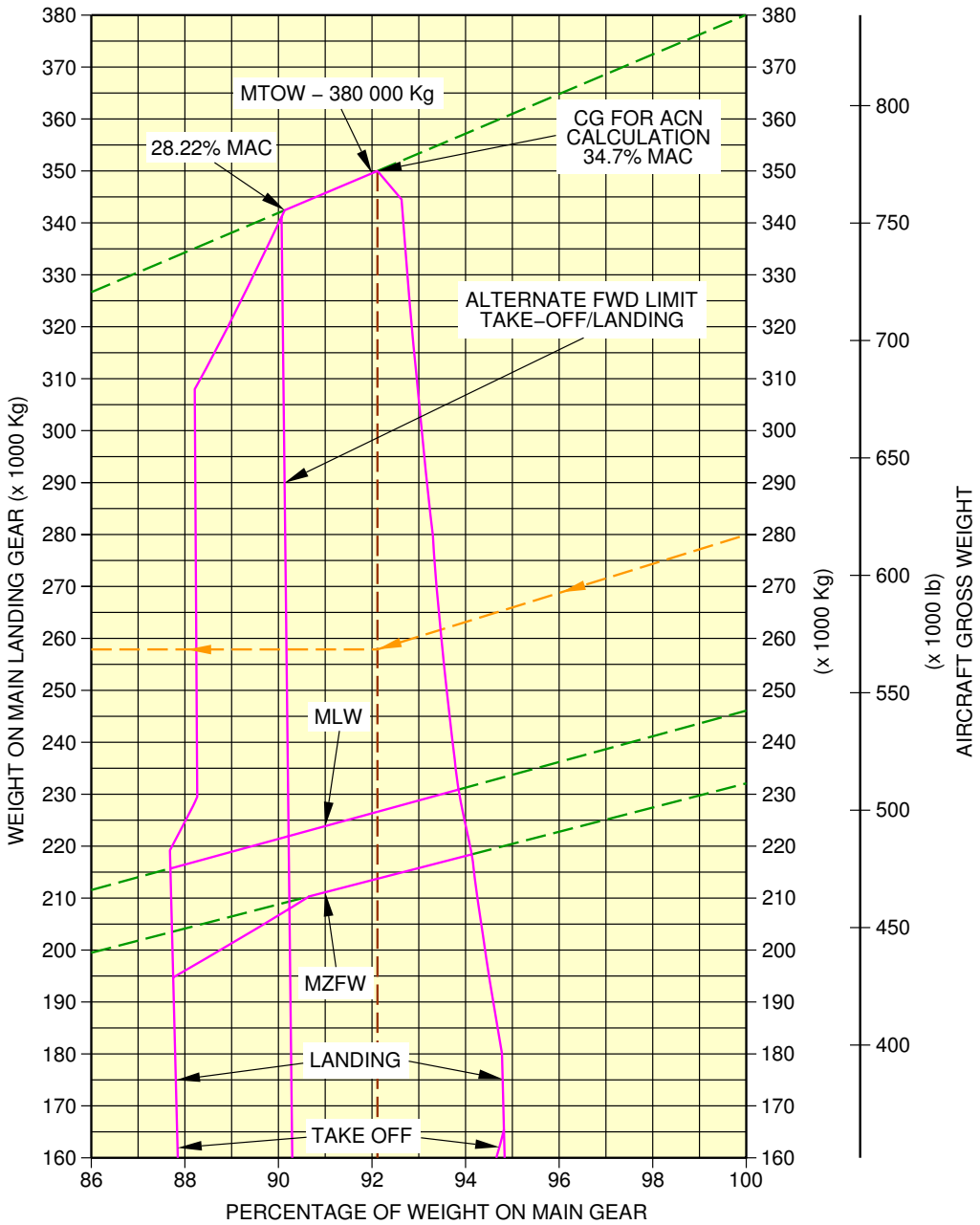
Landing Gear Loading on Pavement
WV000, MRW 369 200 kg, CG 36.5 % (Sheet 2 of 2)
FIGURE-7-4-0-991-009-A01

**ON A/C A340-500WV0xx A340-500WV1xx



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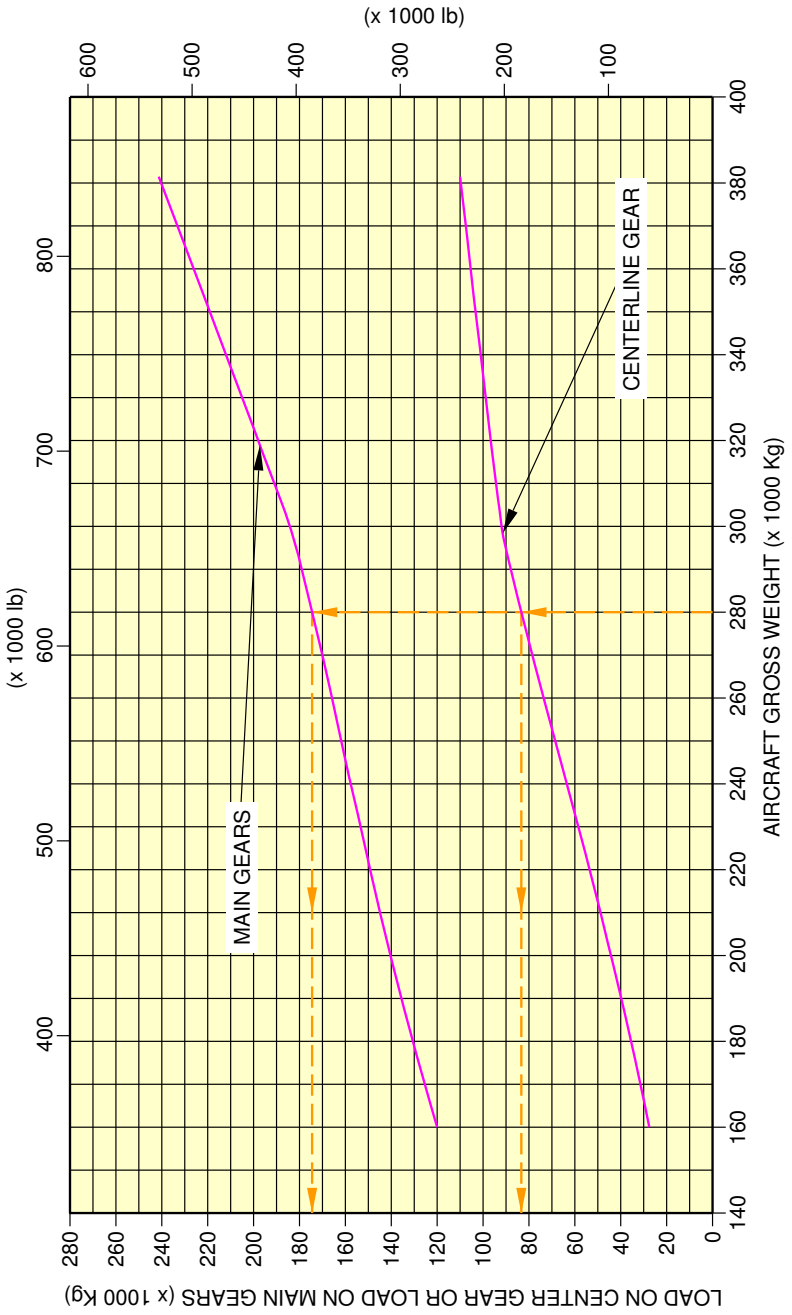
Landing Gear Loading on Pavement
WV101, MRW 381 200 kg (Sheet 1 of 2)
FIGURE-7-4-0-991-010-A01

**ON A/C A340-500WV0xx A340-500WV1xx



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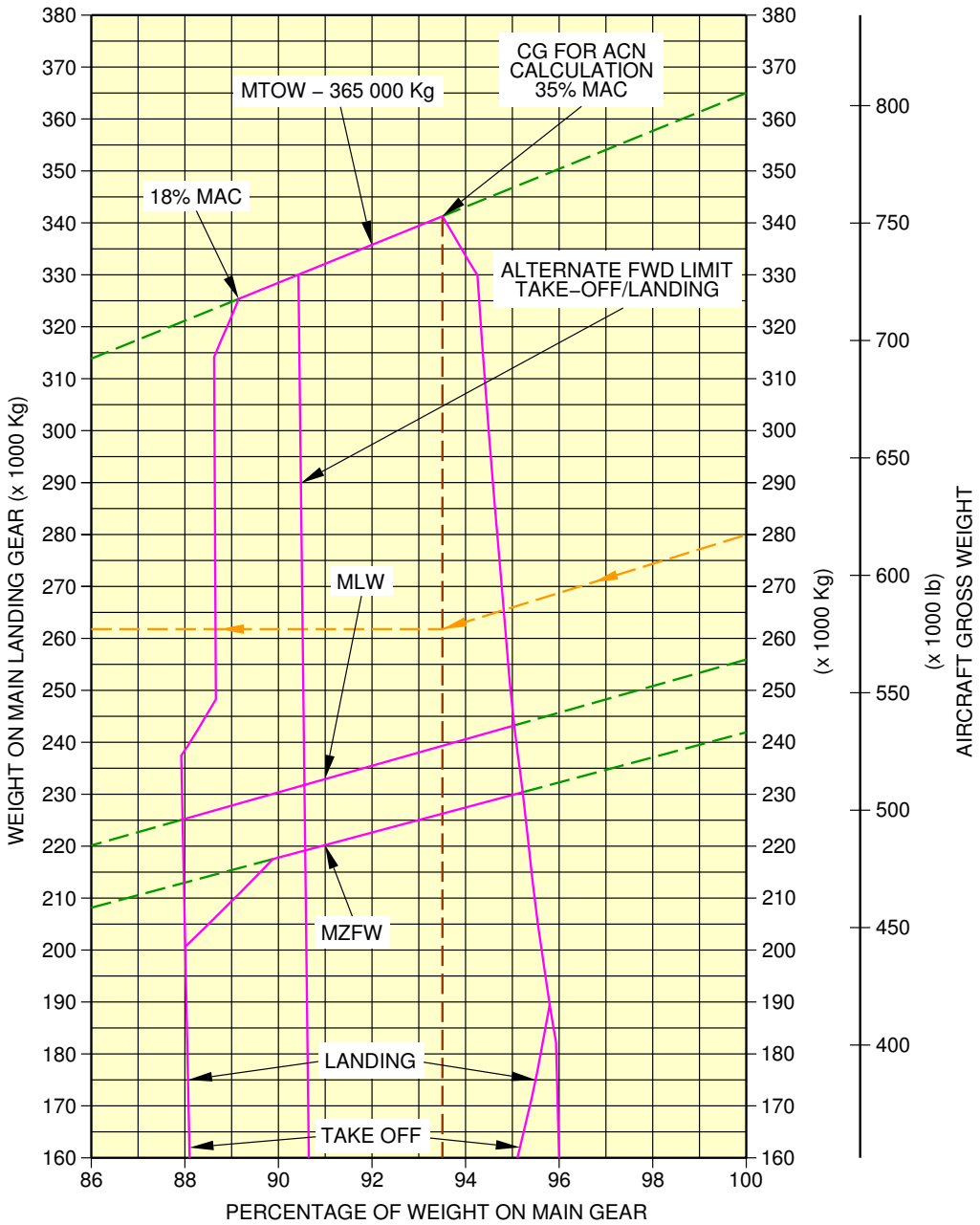
Landing Gear Loading on Pavement
WV101, MRW 381 200 kg, CG 34.7 % (Sheet 2 of 2)
FIGURE-7-4-0-991-010-A01

**ON A/C A340-600WV0xx A340-600WV1xx



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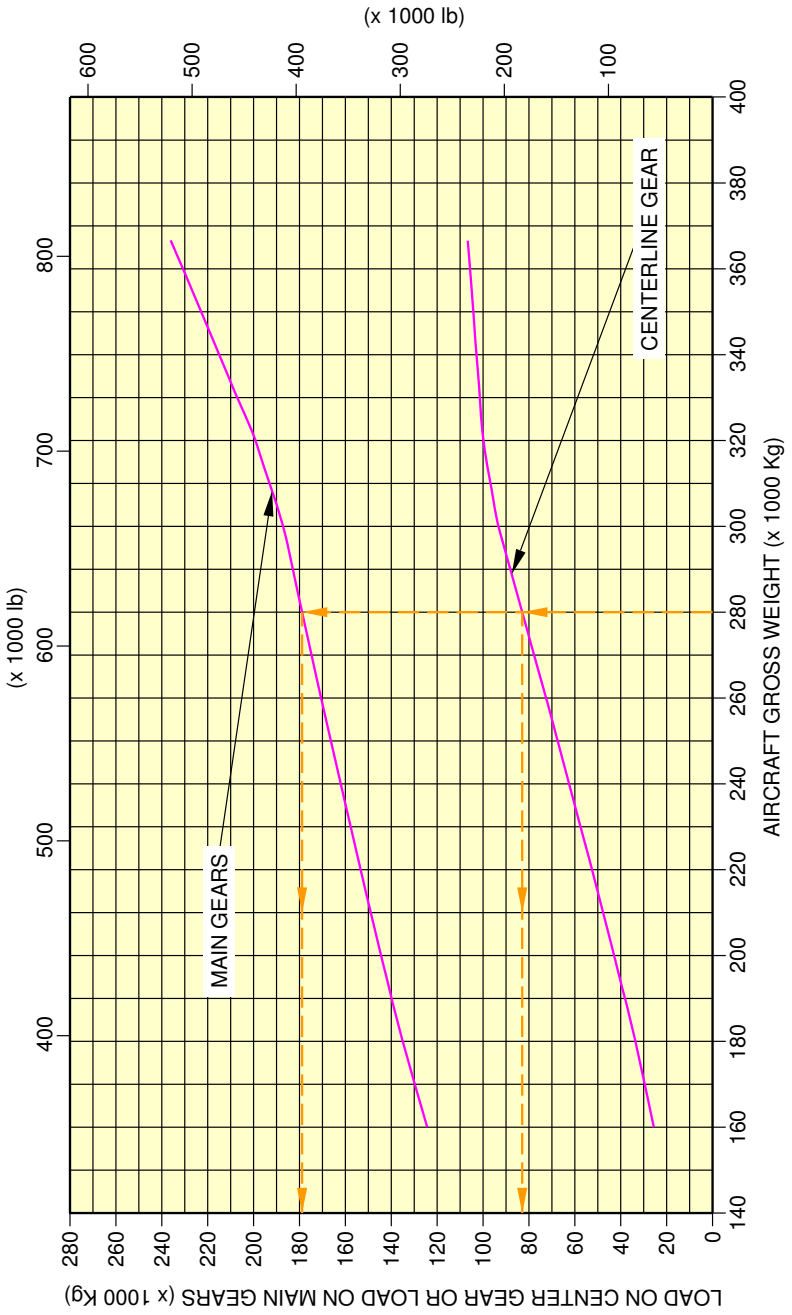
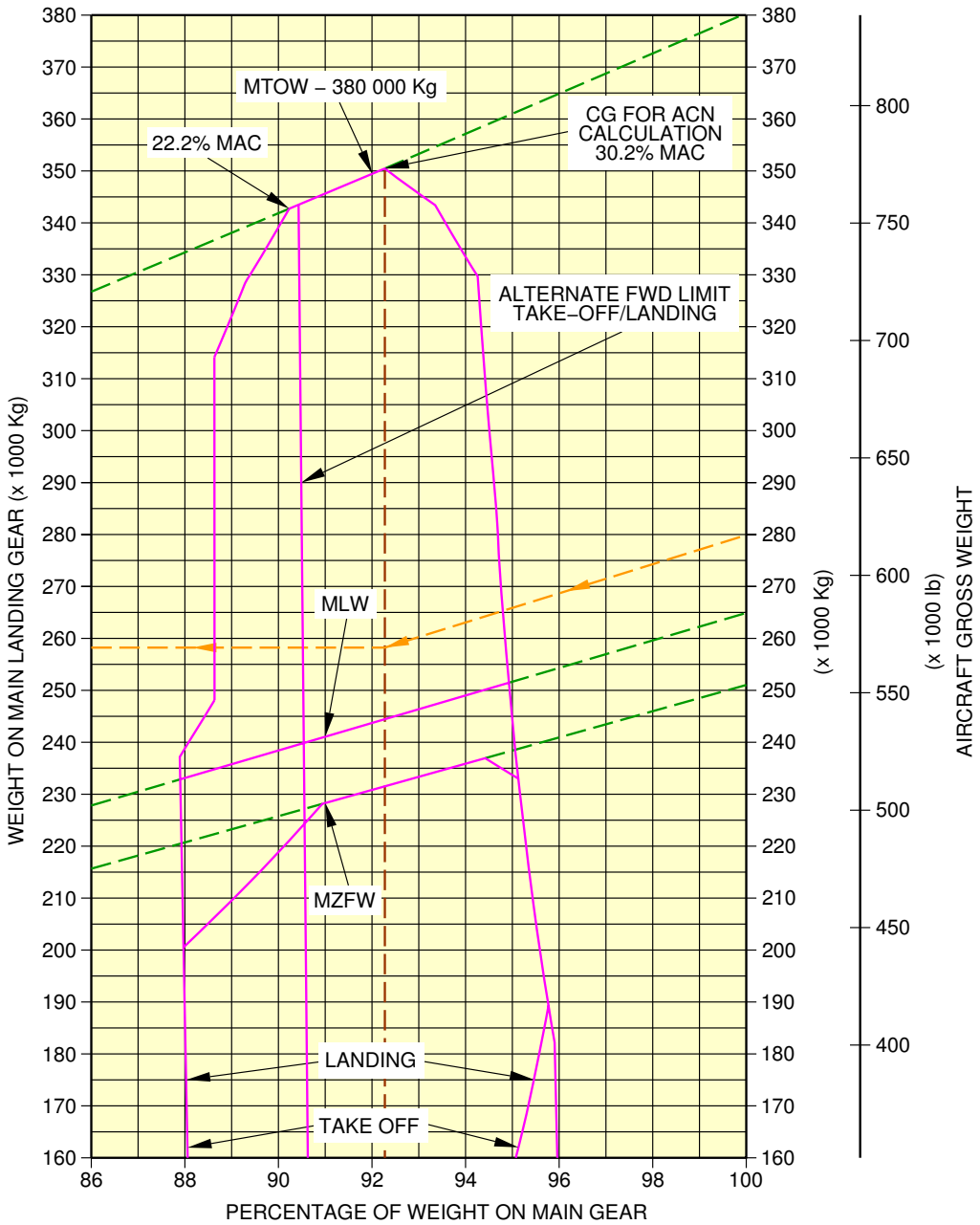
Landing Gear Loading on Pavement
WV000, MRW 366 200 kg (Sheet 1 of 2)
FIGURE-7-4-0-991-011-A01

**ON A/C A340-600WV0xx A340-600WV1xx



Landing Gear Loading on Pavement
WV000, MRW 366 200 kg, CG 35 % (Sheet 2 of 2)
FIGURE-7-4-0-991-011-A01

**ON A/C A340-600WV0xx A340-600WV1xx



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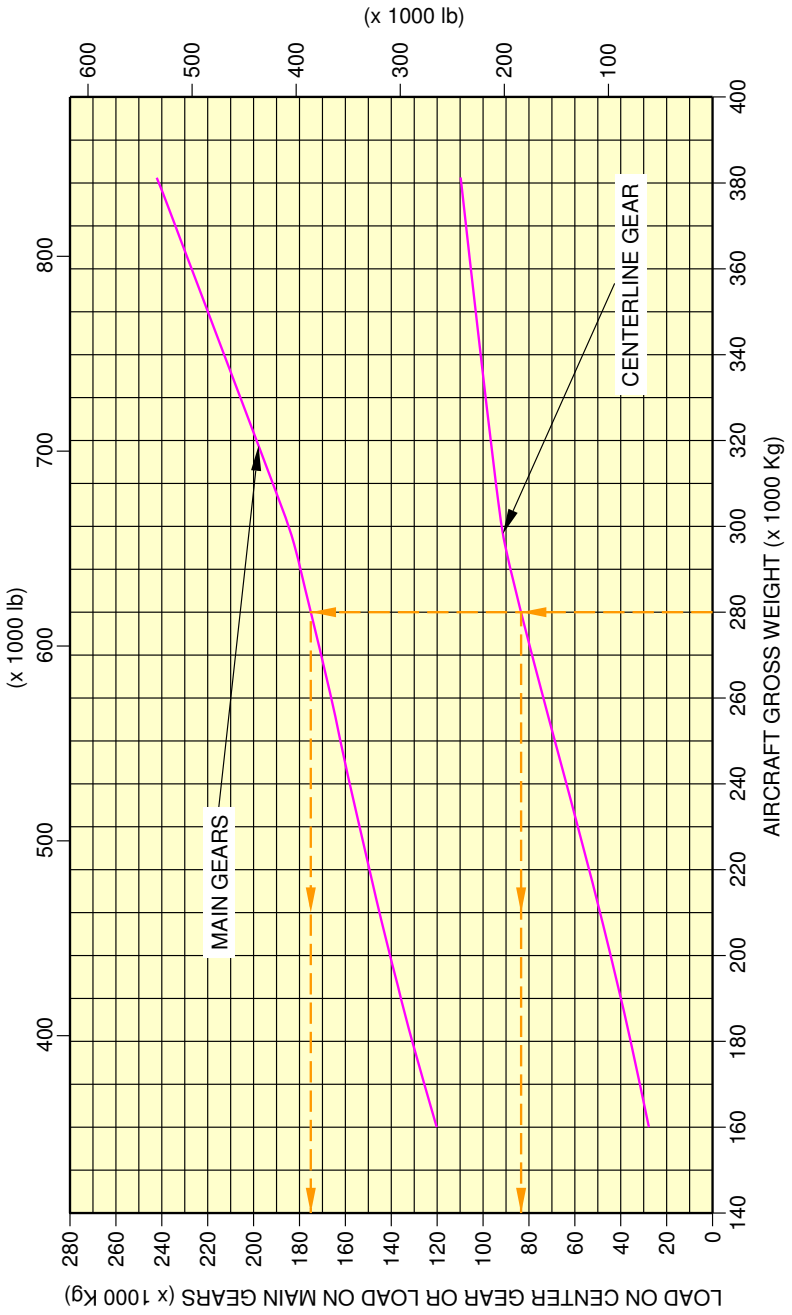
Landing Gear Loading on Pavement
WV101, MRW 381 200 kg (Sheet 1 of 2)
FIGURE-7-4-0-991-012-A01

**ON A/C A340-600WV0xx A340-600WV1xx



Landing Gear Loading on Pavement
WV101, MRW 381 200 kg, CG 30.2 % (Sheet 2 of 2)
FIGURE-7-4-0-991-012-A01

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

**ON A/C A340-500WV0xx A340-500WV1xx A340-600WV0xx A340-600WV1xx

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

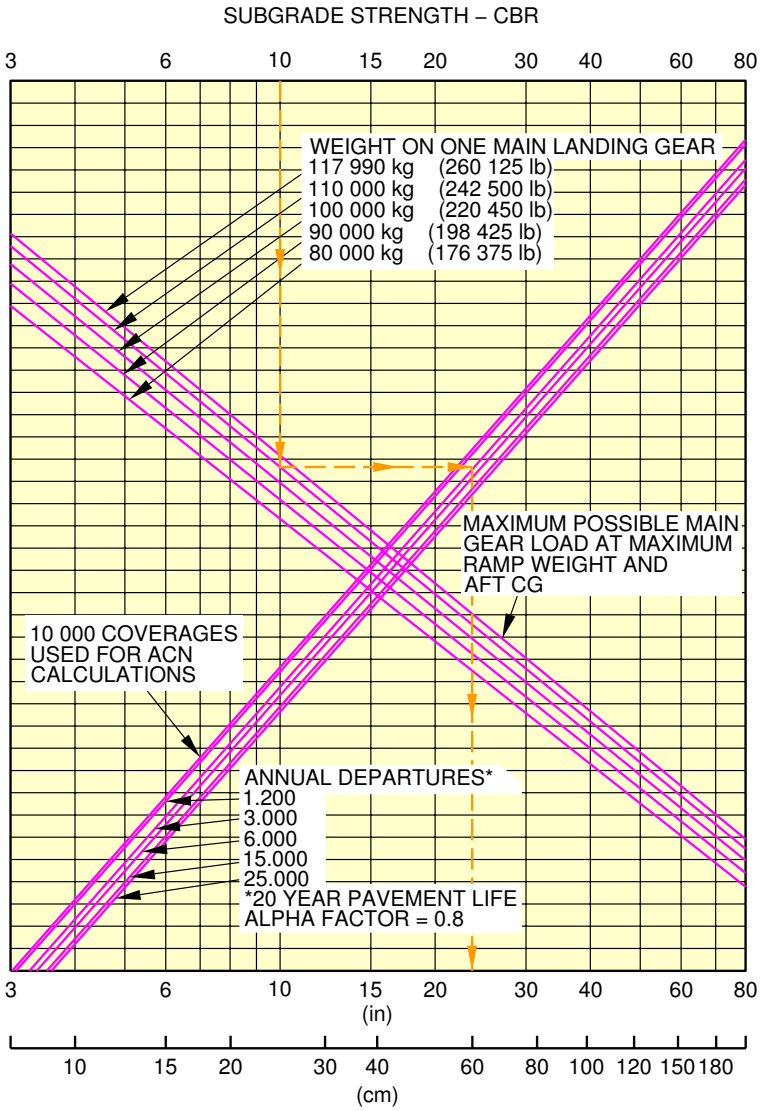
1. This section gives data about the flexible pavement requirements.
   The flexible pavement requirements graphs are given at standard tire pressure for the weight variants that produce (at the MRW and max aft CG) the lowest main MLG and the highest MLG load of each A/C type.
   They are calculated 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---0-99--007-A, calculation of the thickness of the flexible pavement for:
   - 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 60.0 cm (24 in).

   NOTE : The CG in the figure title is the CG used for ACN / LCN calculation

**ON A/C A340-500WV0xx A340-500WV1xx



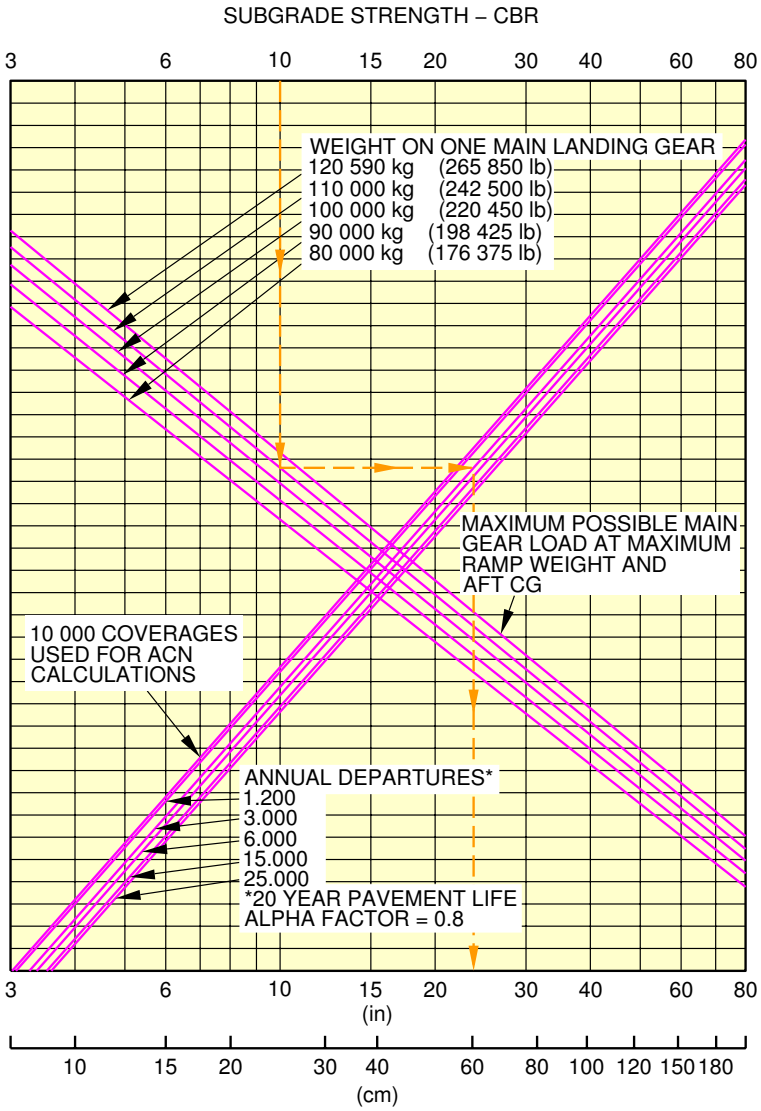
FLEXIBLE PAVEMENT THICKNESS

1400x530R23 TIRES
TIRE PRESSURE CONSTANT AT 16.1 bar (234 psi)

F_AC_070500_1_0070101_01_00

Flexible Pavement Requirements
WV000, MRW 369 200 kg, CG 36.5 %
FIGURE-7-5-0-991-007-A01

**ON A/C A340-500WV0xx A340-500WV1xx



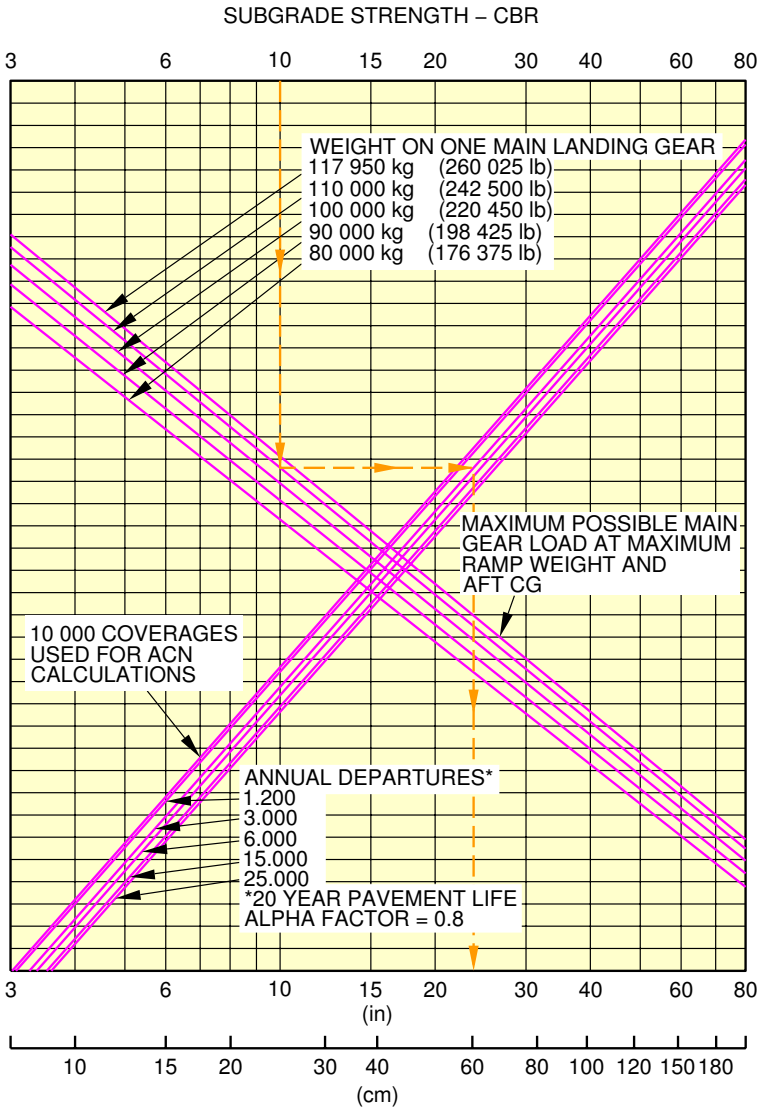
FLEXIBLE PAVEMENT THICKNESS

1400x530R23 TIRES
TIRE PRESSURE CONSTANT AT 16.1 bar (234 psi)

F_AC_070500_1_0080101_01_00

Flexible Pavement Requirements
WV101, MRW 381 200 kg, CG 34.7 %
FIGURE-7-5-0-991-008-A01

**ON A/C A340-600WV0xx A340-600WV1xx



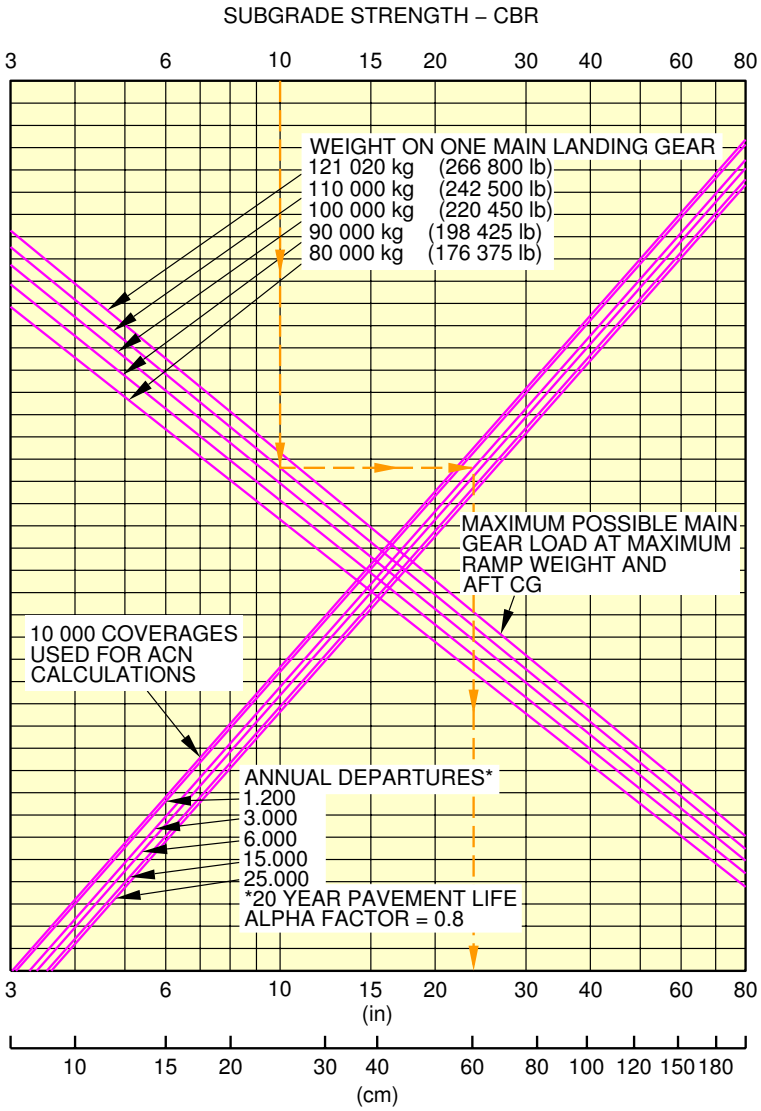
FLEXIBLE PAVEMENT THICKNESS

1400x530R23 TIRES
TIRE PRESSURE CONSTANT AT 16.1 bar (234 psi)

F_AC_070500_1_0090101_01_00

Flexible Pavement Requirements
WV000, MRW 366 200 kg, CG 35 %
FIGURE-7-5-0-991-009-A01

**ON A/C A340-600WV0xx A340-600WV1xx



FLEXIBLE PAVEMENT THICKNESS

1400x530R23 TIRES
TIRE PRESSURE CONSTANT AT 16.1 bar (234 psi)

F_AC_070500_1_0100101_01_00

Flexible Pavement Requirements
WV101, MRW 381 200 kg, CG 30.2 %
FIGURE-7-5-0-991-010-A01

7-6-0 Flexible Pavement Requirements - LCN Conversion

**ON A/C A340-500WV0xx A340-500WV1xx A340-600WV0xx A340-600WV1xx

Flexible Pavement Requirements - LCN Conversion

1. This section gives data about the flexible pavement requirements for Load Classification Number (LCN) conversion.
   The flexible pavement requirements graphs are given at standard tire pressure for the weight variants producing (at the MRW and max aft CG) the lowest MLG load and the highest MLG load of each A/C type.
   To find the aircraft weight that a flexible pavement can support, you must know the LCN of the pavement and the thickness.

   Example, see FIGURE 7---0-99--006-A, calculation of the thickness of the flexible pavement for:
   - An aircraft with a MRW of 369 200 kg (813 950 lb),
   - The flexible pavement thickness is 1397 mm (55 in) with a related LCN of 169.

   The weight on one MLG is 110 000 kg (242 500 lb).
2. Flexible Pavement Requirements - LCN table
   The following table provides LCN data in tabular format similar to the one used by ICAO in the "Aerodrome Design Manual Part 3, Pavements - Edition 1977". In order to use the system accurately you should know the total pavement thickness for flexible pavement.
   However, the pavement thickness for a particular runway are not frequently published in the standard airport information sources (Jeppesen, AERAD, DOD, etc.).
   Therefore it is common practice to use a standard thickness (20 in) when determining the LCN and the ESWL of the aircraft.

   If the LCN for an intermediate weight between MRW and the empty weight of the aircraft is required or if the real thickness is known, refer to figures that follow.

   NOTE : The CG in the figure title is the CG used for ACN / LCN calculation

**ON A/C A340-500WV0xx A340-500WV1xx

AIRCRAFT TYPE	ALL UP MASS (kg)	LOAD ON ONE MAIN GEAR LEG (%)	TIRE PRESSURE (Mpa)	FLEXIBLE PAVEMENT		
				ESWL		LCN
				x 1000 kg	x 1000 lb	
				h = 510 mm (20 in)		
A340–500 WV000	369 200	32.0	1.61	30	66	110
	180 000	37.4		17	37	67
A340–500 WV001	373 200	32.0	1.61	30	67	111
	180 000	37.4		17	37	67
A340–500 WV002	373 200	32.0	1.61	31	68	112
	180 000	37.4		16	36	66
A340–500 WV003	375 200	31.9	1.61	30	66	110
	180 000	37.3		16	36	66
A340–500 WV004	375 200	31.9	1.61	30	66	110
	180 000	37.3		16	36	66
A340–500 WV101	381 200	31.6	1.61	30	67	111
	180 000	36.3		17	37	67
A340–500 WV102	373 200	31.7	1.61	30	66	110
	180 000	36.4		17	37	68
A340–500 WV103	373 200	31.7	1.61	30	67	111
	180 000	36.4		17	37	68

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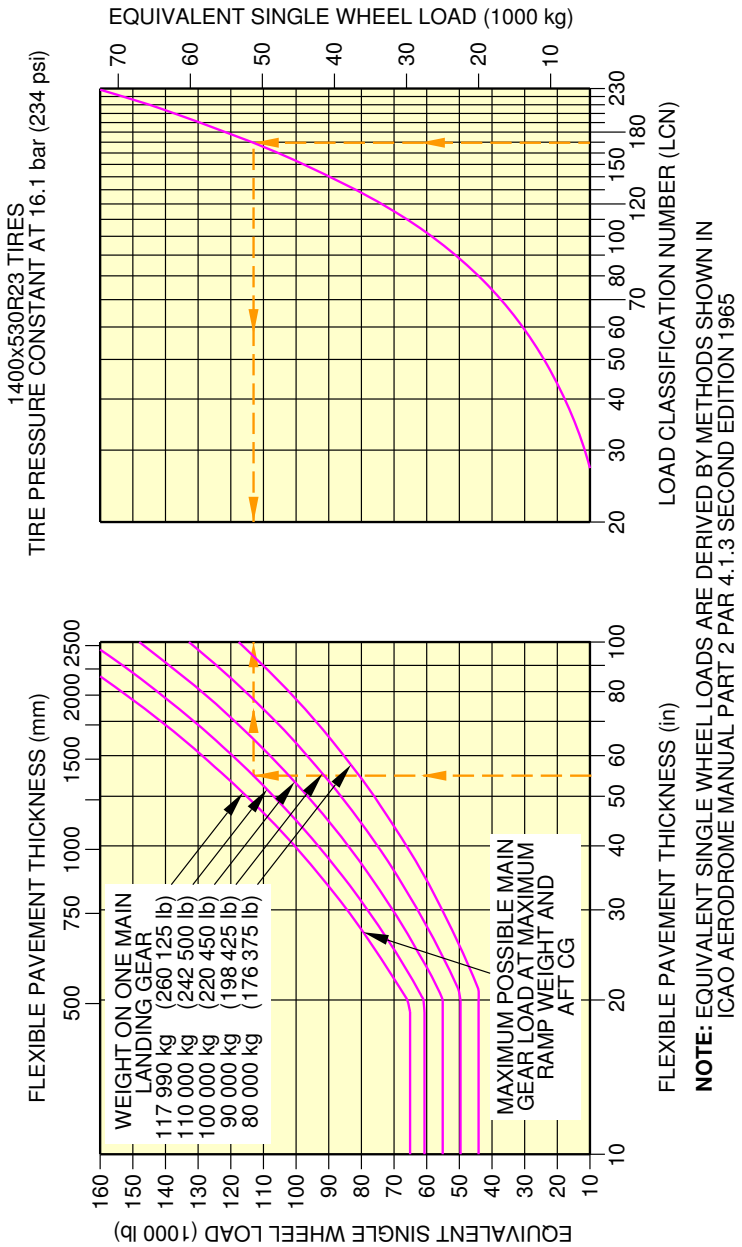
Flexible Pavement Requirements
LCN table
FIGURE-7-6-0-991-015-A01

**ON A/C A340-500WV0xx A340-500WV1xx



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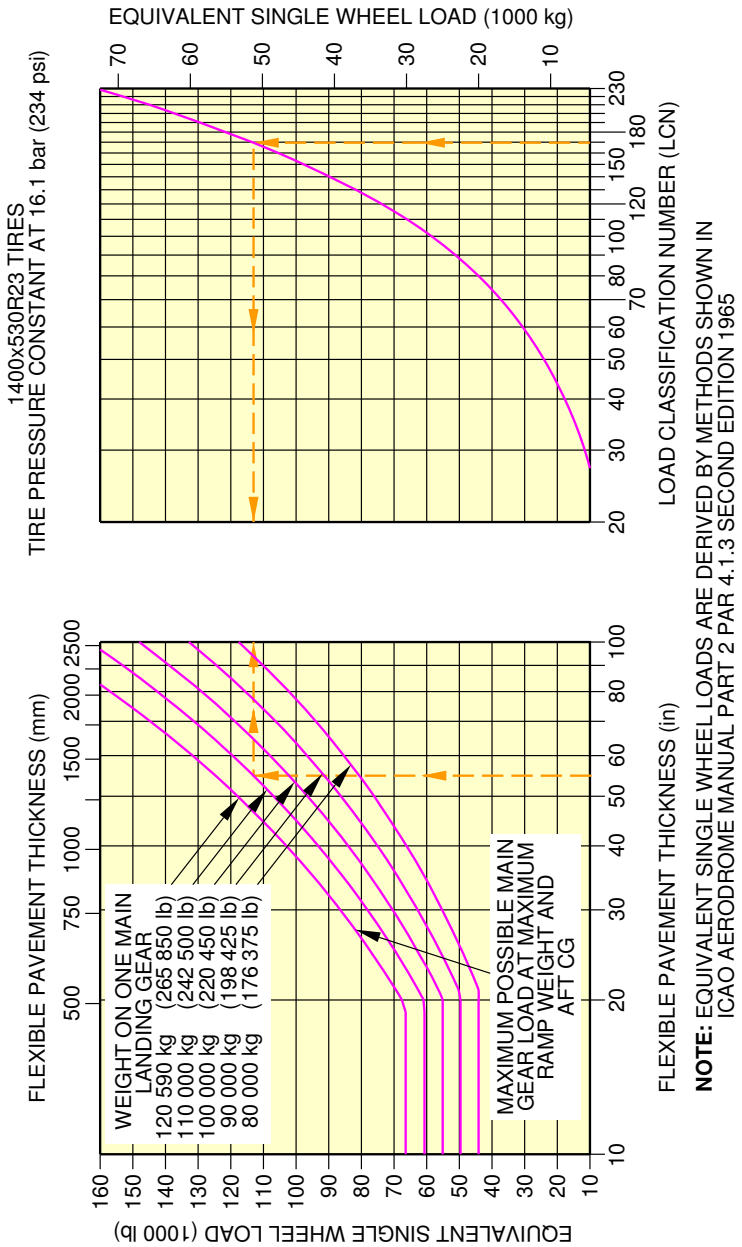
Flexible Pavement Requirements - LCN
WV000, MRW 369 200 kg, CG 36.5 %
FIGURE-7-6-0-991-006-A01

**ON A/C A340-500WV0xx A340-500WV1xx



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Flexible Pavement Requirements - LCN
WV101, MRW 381 200 kg, CG 34.7 %
FIGURE-7-6-0-991-007-A01

**ON A/C A340-600WV0xx A340-600WV1xx

AIRCRAFT TYPE	ALL UP MASS (kg)	LOAD ON ONE MAIN GEAR LEG (%)	TIRE PRESSURE (Mpa)	FLEXIBLE PAVEMENT		
				ESWL		LCN
				x 1000 kg	x 1000 lb	
				h = 510 mm (20 in)		
A340–600 WV000	366 200	32.2	1.61	30	67	111
	180 000	37.5		17	37	67
A340–600 WV001	369 200	32.2	1.61	31	68	112
	180 000	37.5		16	36	66
A340–600 WV101	381 200	31.7	1.61	30	67	111
	180 000	36.3		17	37	67
A340–600 WV102	369 200	32.0	1.61	30	66	110
	180 000	36.6		16	36	66
A340–600 WV103	366 200	32.0	1.61	30	65	109
	180 000	36.6		16	36	66

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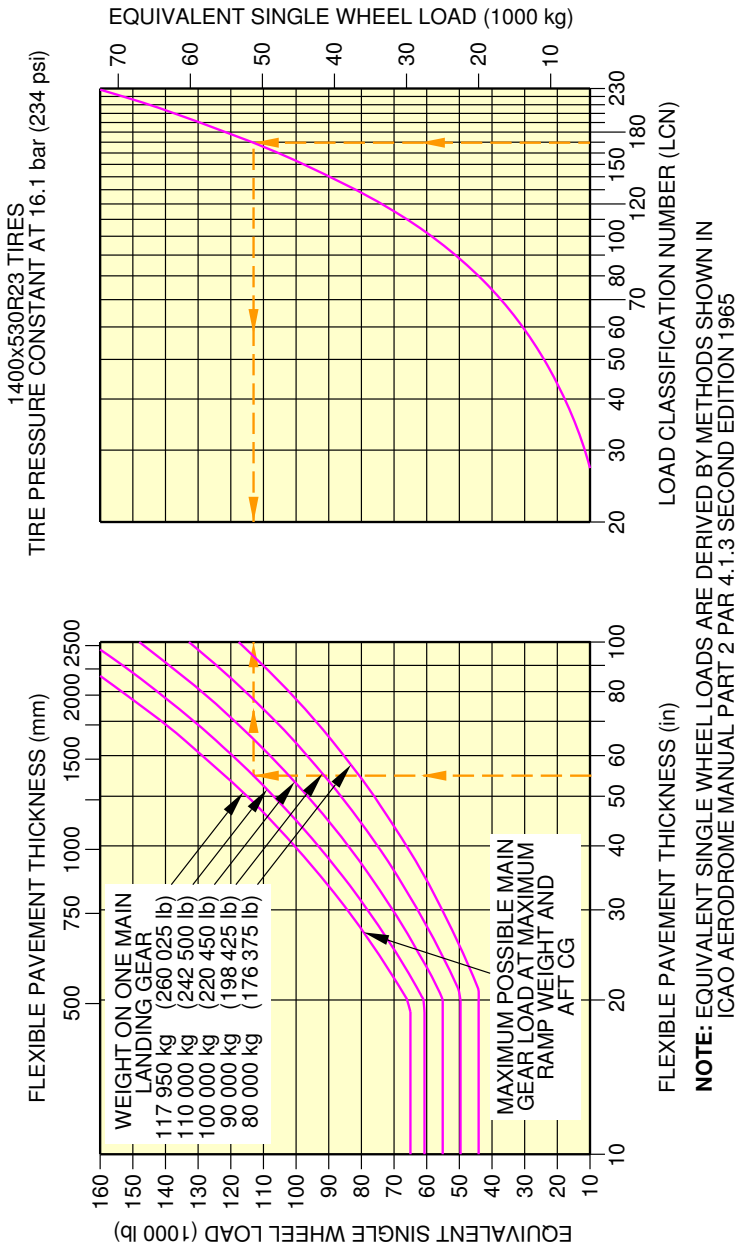
Flexible Pavement Requirements
LCN table
FIGURE-7-6-0-991-016-A01

**ON A/C A340-600WV0xx A340-600WV1xx



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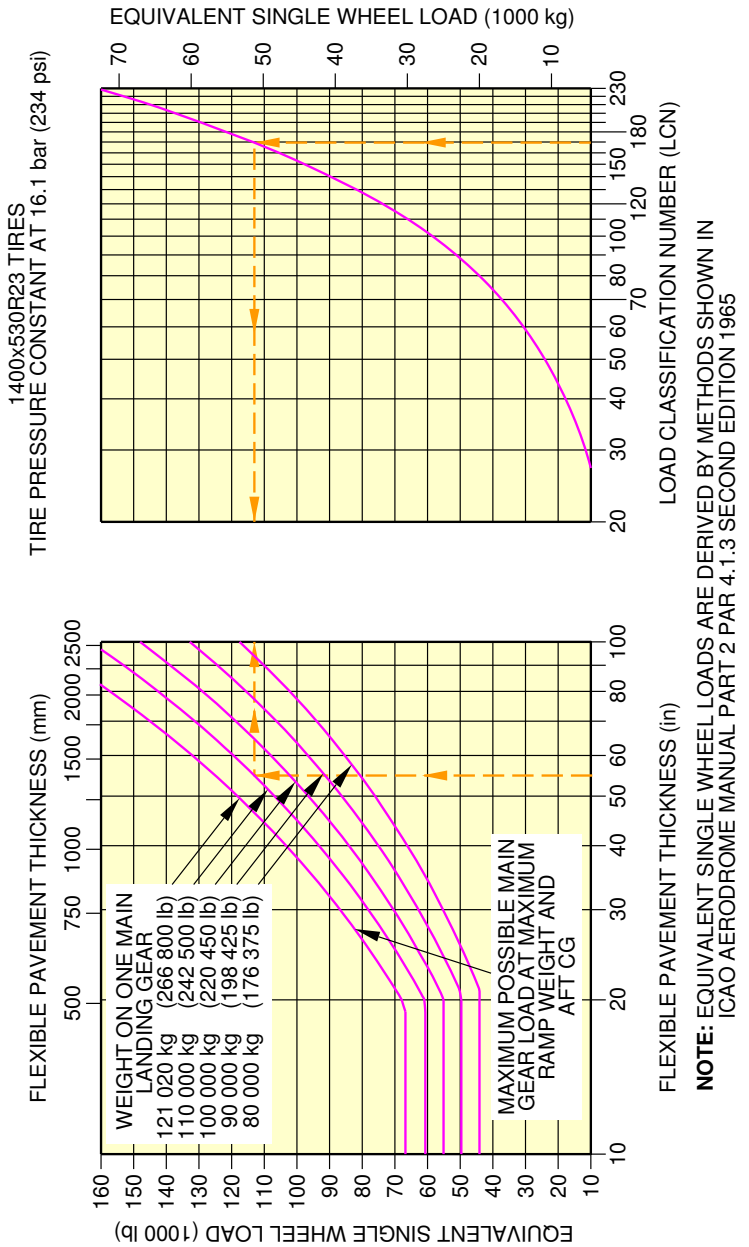
Flexible Pavement Requirements - LCN
WV000, MRW 366 200 kg, CG 35 %
FIGURE-7-6-0-991-008-A01

**ON A/C A340-600WV0xx A340-600WV1xx



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Flexible Pavement Requirements - LCN
WV101, MRW 381 200 kg, CG 30.2 %
FIGURE-7-6-0-991-009-A01

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

**ON A/C A340-500WV0xx A340-500WV1xx A340-600WV0xx A340-600WV1xx

Rigid Pavement Requirements - Portland Cement Association Design Method

1. This section gives data about the rigid pavement requirements for the PCA (Portland Cement Association) design method.
   The rigid pavement requirements graphs are given at standard tire pressure for the weight variants producing (at the MRW and max aft CG) the lowest MLG load and the highest MLG load of each A/C type.
   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 weight on the MLG are made based on the curve for k= 80MN/m3 already shown on the graph.

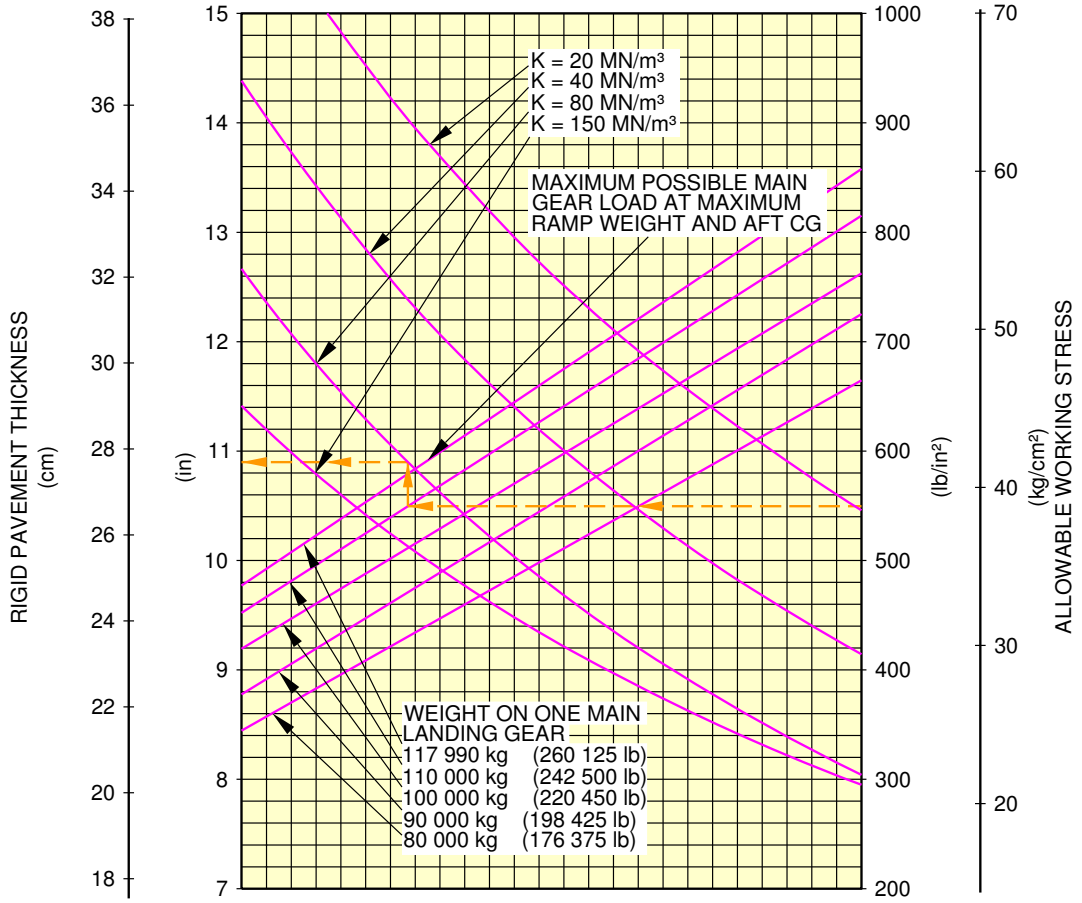
   Example, see FIGURE 7---0-99--006-A ,calculation of the thickness of the rigid pavement for:
   - An aircraft with a MRW of 369 200 kg (813 950 lb),
   - A k value of 80 MN/m3 (300 lbf/in3),
   - A permitted working stress of 38.67 kg/cm2 (550 lb/in2),
   - The load on one MLG is 110 000 kg (242 500 lb).

   The required rigid pavement thickness is 277 mm (11 in).

   NOTE : The CG in the figure title is the CG used for ACN / LCN calculation

**ON A/C A340-500WV0xx A340-500WV1xx

1400x530R23 TIRES
TIRE PRESSURE CONSTANT AT 16.1 bar (234 psi)



NOTES:
THE VALUES OBTAINED BY USING THE MAXIMUM LOAD REFERENCE LINE AND ANY VALUES FOR K ARE EXACT.
FOR LOADS LESS THAN MAXIMUM, THE CURVES ARE EXACT FOR K = 80 MN/m³ BUT DEVIATE SLIGHTLY FOR ANY OTHER VALUES OF K.

REFERENCE:
"DESIGN OF CONCRETE AIRPORT PAVEMENTS" AND "COMPUTER PROGRAM FOR AIRPORT PAVEMENT DESIGN – PROGRAM PDILB" PORTLAND CEMENT ASSOCIATION.

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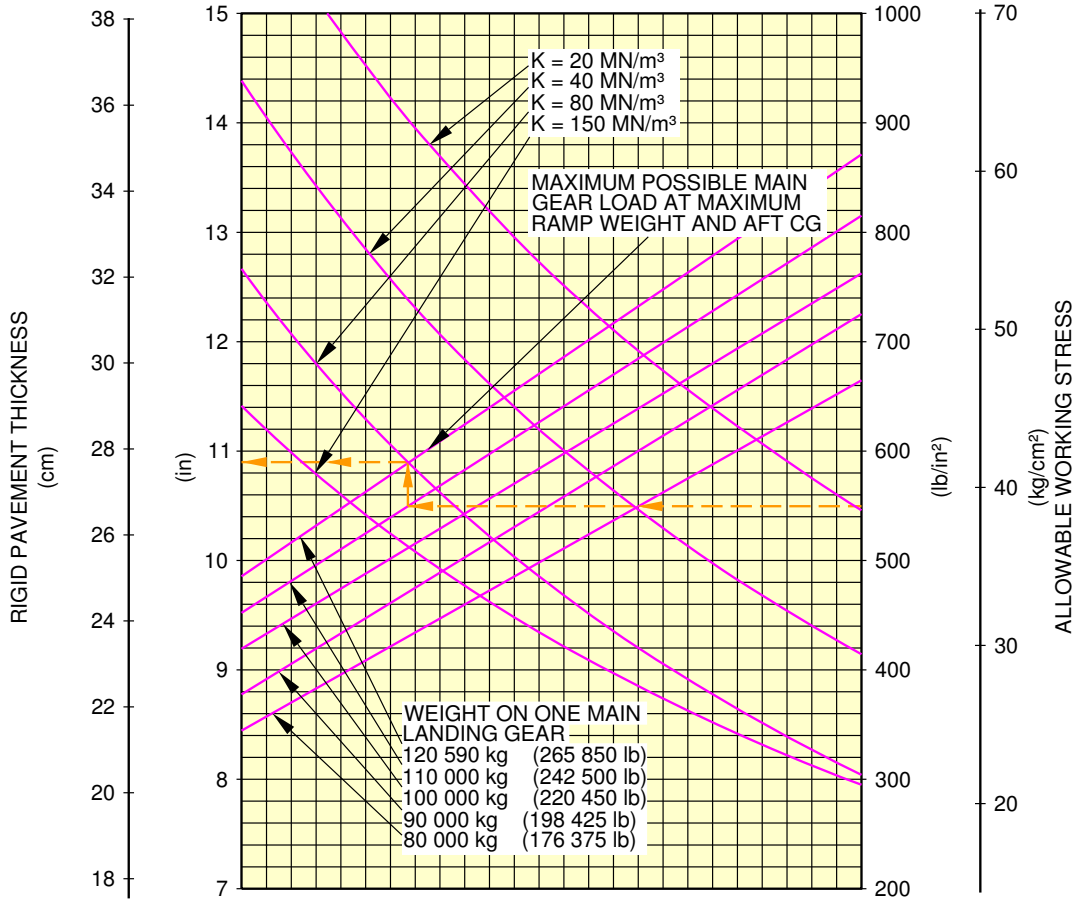
Rigid Pavement Requirements
WV000, MRW 369 200 kg, CG 36.5 %
FIGURE-7-7-0-991-006-A01

**ON A/C A340-500WV0xx A340-500WV1xx

1400x530R23 TIRES
TIRE PRESSURE CONSTANT AT 16.1 bar (234 psi)



NOTES:
THE VALUES OBTAINED BY USING THE MAXIMUM LOAD REFERENCE LINE AND ANY VALUES FOR K ARE EXACT.
FOR LOADS LESS THAN MAXIMUM, THE CURVES ARE EXACT FOR K = 80 MN/m³ BUT DEVIATE SLIGHTLY FOR ANY OTHER VALUES OF K.

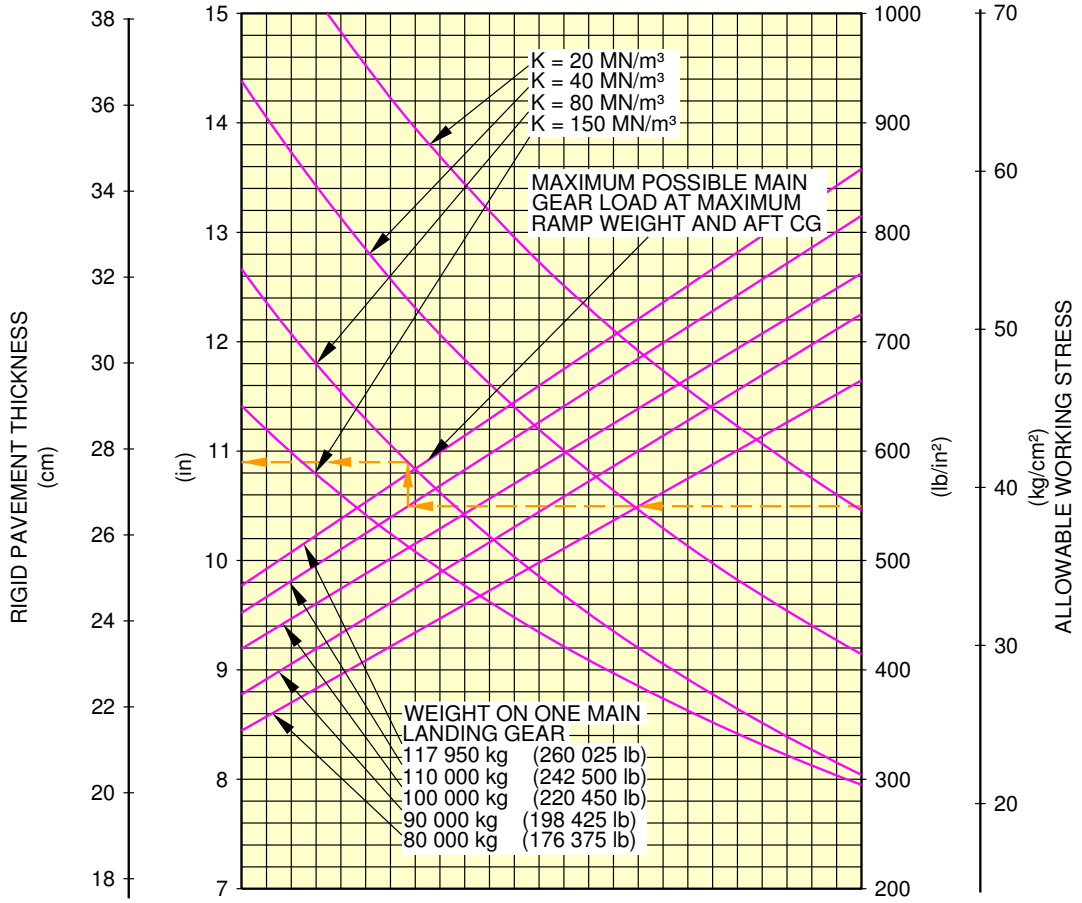
REFERENCE:
"DESIGN OF CONCRETE AIRPORT PAVEMENTS" AND "COMPUTER PROGRAM FOR AIRPORT PAVEMENT DESIGN – PROGRAM PDILB" PORTLAND CEMENT ASSOCIATION.

F_AC_070700_1_0070101_01_00

Rigid Pavement Requirements
WV101, MRW 381 200 kg, CG 34.7 %
FIGURE-7-7-0-991-007-A01

**ON A/C A340-600WV0xx A340-600WV1xx

1400x530R23 TIRES
TIRE PRESSURE CONSTANT AT 16.1 bar (234 psi)



NOTES:
THE VALUES OBTAINED BY USING THE MAXIMUM LOAD REFERENCE LINE AND ANY VALUES FOR K ARE EXACT.
FOR LOADS LESS THAN MAXIMUM, THE CURVES ARE EXACT FOR K = 80 MN/m³ BUT DEVIATE SLIGHTLY FOR ANY OTHER VALUES OF K.

REFERENCE:
"DESIGN OF CONCRETE AIRPORT PAVEMENTS" AND "COMPUTER PROGRAM FOR AIRPORT PAVEMENT DESIGN – PROGRAM PDILB" PORTLAND CEMENT ASSOCIATION.

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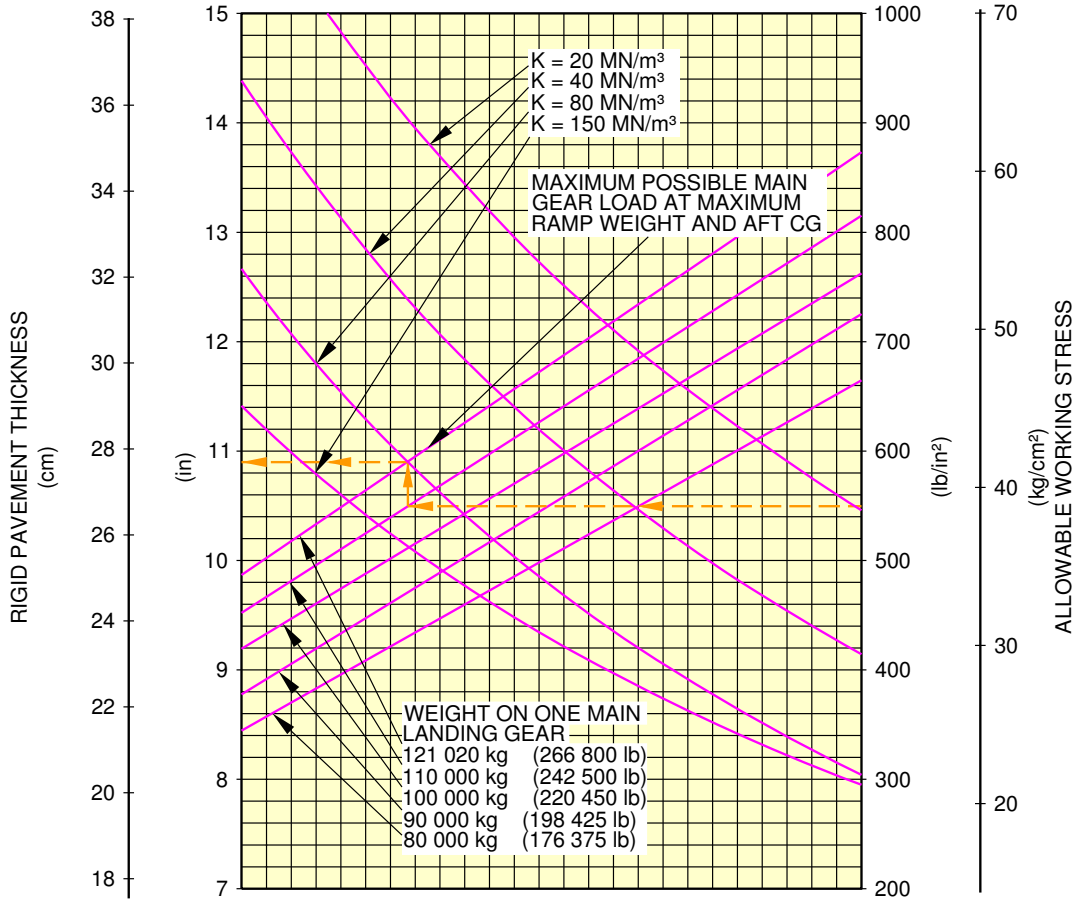
Rigid Pavement Requirements
WV000, MRW 366 200 kg, CG 35 %
FIGURE-7-7-0-991-008-A01

**ON A/C A340-600WV0xx A340-600WV1xx

1400x530R23 TIRES
TIRE PRESSURE CONSTANT AT 16.1 bar (234 psi)



NOTES:
THE VALUES OBTAINED BY USING THE MAXIMUM LOAD REFERENCE LINE AND ANY VALUES FOR K ARE EXACT.
FOR LOADS LESS THAN MAXIMUM, THE CURVES ARE EXACT FOR K = 80 MN/m³ BUT DEVIATE SLIGHTLY FOR ANY OTHER VALUES OF K.

REFERENCE:
"DESIGN OF CONCRETE AIRPORT PAVEMENTS" AND "COMPUTER PROGRAM FOR AIRPORT PAVEMENT DESIGN – PROGRAM PDILB" PORTLAND CEMENT ASSOCIATION.

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Rigid Pavement Requirements
WV101, 381 200 kg, CG 30.2 %
FIGURE-7-7-0-991-009-A01

7-8-0 Rigid Pavement Requirements - LCN Conversion

**ON A/C A340-500WV0xx A340-500WV1xx A340-600WV0xx A340-600WV1xx

Rigid Pavement Requirements - LCN Conversion

1. This section gives data about the rigid pavement requirements for the Load Classification Number (LCN) conversion (radius of relative stiffness).
   The rigid pavement requirements graphs are given at standard tire pressure for the weight variants producing (at the MRW and max aft CG) the lowest MLG load and the highest MLG load of each A/C type.
   To find the aircraft weight that a rigid pavement can support, you must know the LCN of the pavement and the radius of relative stiffness (L).
   The calculation of the radius of relative stiffness (L) is done with the formula and the table given in "Radius of Relative Stiffness" (L values based on Young's Modulus (E) of 4 000 000 psi and Poisson's Ratio (μ) of 0.15), see FIGURE 7---0-99--003-A.

   Example, see FIGURE 7---0-99--010-A, calculation of the aircraft weight through the radius of relative stiffness (L) of the rigid pavement for:
   - An aircraft with a MRW of 369 200 kg (813 950 lb),
   - The radius of relative stiffness is shown at 1397 mm (55 in) with a related LCN of 127.

   The weight on one MLG is 110 000 kg (242 500 lb).

   The following table provides LCN data in tabular format similar to the one used by ICAO in the "Aerodrome Design Manual Part 3, Pavements - Edition 1977". In order to use the system accurately you should know the total pavement radius of relative stiffness (L-value) for rigid pavement.
   However, the pavement radius of relative stiffness for a particular runway are not frequently published in the standard airport information sources (Jeppesen, AERAD, DOD, etc.).
   Therefore it is common practice to use a standard radius of relative stiffness (30 inches) when determining the LCN and the ESWL of the aircraft.
   If the LCN for an intermediate weight between maximum ramp weight and the empty weight of the aircraft is required or if the real thickness is known, refer to figures that follows.
2. Radius of Relative Stiffness (Other values of E and μ)
   This section gives data about the rigid pavement requirements for the Load Classification Number (LCN) conversion (radius of relative stiffness with other values of E (Young's modulus) and μ (Poisson's ratio).
   The other values of E and μ have an effect on the radius of relative stiffness value L.
   The effect of E and μ on the radius of relative stiffness value L is shown in the diagrams of FIGURE 7---0-99--016-A.
   The table in FIGURE 7---0-99--003-A Radius of Relative Stiffness (L), shows values L based on a Young's modulus (E) of 4 000 000 psi and a Poisson's ratio (μ) of 0.15.
   To find values L, you must know the values of E and μ.

Example, see FIGURE 7---0-99--016-A, calculation of values L of the rigid pavement for an E of 3 000 000 psi.
The "E" factor is 0.931.
The radius of relative stiffness value L is the value found in the table FIGURE 7---0-99--003-A multiplied by 0.931.

NOTE : The CG in the figure title is the CG used for ACN /LCN calculation

**ON A/C A340-500WV0xx A340-500WV1xx

AIRCRAFT TYPE	ALL UP MASS (kg)	LOAD ON ONE MAIN GEAR LEG (%)	TIRE PRESSURE (Mpa)	RGID PAVEMENT		
				ESWL		LCN
				x 1000 kg	x 1000 lb	
				L = 760 mm (30 in)		
A340–500 WV000	369 200	32.0	1.61	28	62	104
	180 000	37.4		16	35	62
A340–500 WV001	373 200	32.0	1.61	28	62	105
	180 000	37.4		16	35	62
A340–500 WV002	373 200	32.0	1.61	29	63	106
	180 000	37.4		15	34	60
A340–500 WV003	375 200	31.9	1.61	28	62	105
	180 000	37.3		15	34	61
A340–500 WV004	375 200	31.9	1.61	28	62	105
	180 000	37.3		15	34	61
A340–500 WV101	381 200	31.6	1.61	28	62	105
	180 000	36.3		16	35	62
A340–500 WV102	373 200	31.7	1.61	28	61	104
	180 000	36.4		16	35	62
A340–500 WV103	373 200	31.7	1.61	28	62	105
	180 000	36.4		16	35	62

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Rigid Pavement Requirements
LCN table
FIGURE-7-8-0-991-020-A01

**ON A/C A340-600WV0xx A340-600WV1xx

AIRCRAFT TYPE	ALL UP MASS (kg)	LOAD ON ONE MAIN GEAR LEG (%)	TIRE PRESSURE (Mpa)	FLEXIBLE PAVEMENT		
				ESWL		LCN
				x 1000 kg	x 1000 lb	
				L = 760 mm (30 in)		
A340–600 WV000	366 200	32.2	1.61	28	62	105
	180 000	37.5		16	35	62
A340–600 WV001	369 200	32.2	1.61	29	63	106
	180 000	37.5		15	34	60
A340–600 WV101	381 200	31.7	1.61	28	62	105
	180 000	36.3		16	35	62
A340–600 WV102	369 200	32.0	1.61	28	62	104
	180 000	36.6		15	34	61
A340–600 WV103	366 200	32.0	1.61	28	61	104
	180 000	36.6		16	34	61

F_AC_070800_1_0210101_01_00

Rigid Pavement Requirements
LCN table
FIGURE-7-8-0-991-021-A01

**ON A/C A340-500WV0xx A340-500WV1xx A340-600WV0xx A340-600WV1xx

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

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

WHERE E = YOUNG'S MODULUS = 4×10^6 psi
k = SUBGRADE MODULUS, lb/in^3
d = RIGID PAVEMENT THICKNESS, (in)
μ = POISSON'S RATIO = 0.15

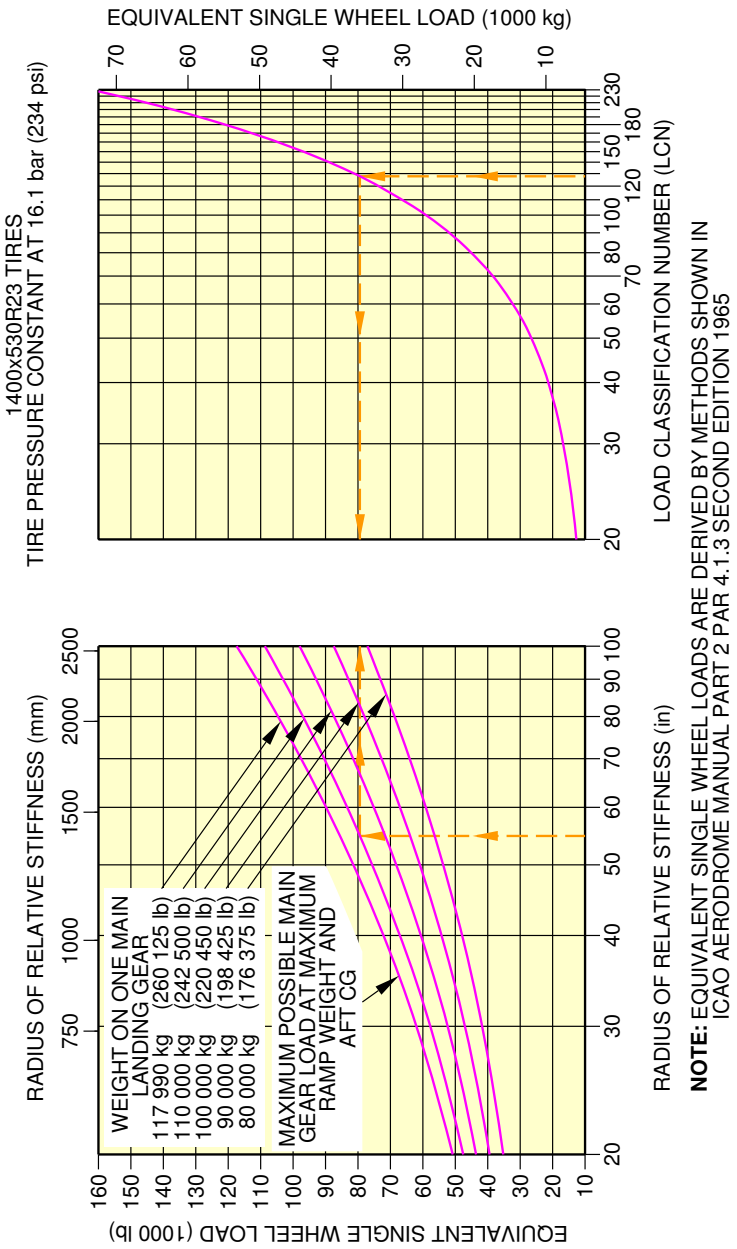
d	k=75	k=100	k=150	k=200	k=250	k=300	k=350	k=400	k=550
6.0	31.48	29.30	26.47	24.63	23.30	22.26	21.42	20.72	19.13
6.5	33.43	31.11	28.11	26.16	24.74	23.64	22.74	22.00	20.31
7.0	35.34	32.89	29.72	27.65	26.15	24.99	24.04	23.25	21.47
7.5	37.22	34.63	31.29	29.12	27.54	26.32	25.32	24.49	22.61
8.0	39.06	36.35	32.85	30.57	28.91	27.62	26.58	25.70	23.74
8.5	40.88	38.04	34.37	31.99	30.25	28.91	27.81	26.90	24.84
9.0	42.67	39.71	35.88	33.39	31.58	30.17	29.03	28.08	25.93
9.5	44.43	41.35	37.36	34.77	32.89	31.42	30.23	29.24	27.00
10.0	46.18	42.97	38.83	36.14	34.17	32.65	31.42	30.39	28.06
10.5	47.90	44.57	40.28	37.48	35.45	33.87	32.59	31.52	29.11
11.0	49.60	46.16	41.71	38.81	36.71	35.07	33.75	32.64	30.14
11.5	51.28	47.72	43.12	40.13	37.95	36.26	34.89	33.74	31.16
12.0	52.94	49.27	44.52	41.43	39.18	37.44	36.02	34.84	32.17
12.5	54.59	50.80	45.90	42.72	40.40	38.60	37.14	35.92	33.17
13.0	56.22	52.32	47.27	43.99	41.61	39.75	38.25	36.99	34.16
13.5	57.83	53.82	48.63	45.26	42.80	40.89	39.35	38.06	35.14
14.0	59.43	55.31	49.98	46.51	43.98	42.02	40.44	39.11	36.12
14.5	61.02	56.78	51.31	47.75	45.16	43.15	41.51	40.15	37.08
15.0	62.59	58.25	52.63	48.98	46.32	44.26	42.58	41.19	38.03
15.5	64.15	59.70	53.94	50.20	47.47	45.36	43.64	42.21	38.98
16.0	65.69	61.13	55.24	51.41	48.62	46.45	44.70	43.23	39.92
16.5	67.23	62.56	56.53	52.61	49.75	47.54	45.74	44.24	40.85
17.0	68.75	63.98	57.81	53.80	50.88	48.61	46.77	45.24	41.78
17.5	70.26	65.38	59.08	54.98	52.00	49.68	47.80	46.23	42.70
18.0	71.76	66.78	60.34	56.15	53.11	50.74	48.82	47.22	43.61
19.0	74.73	69.54	62.84	58.48	55.31	52.84	50.84	49.17	45.41
20.0	77.66	72.27	65.30	60.77	57.47	54.91	52.84	51.10	47.19
21.0	80.55	74.96	67.74	63.04	59.62	56.96	54.81	53.01	48.95
22.0	83.41	77.63	70.14	65.28	61.73	58.98	56.75	54.89	50.69
23.0	86.24	80.26	72.52	67.49	63.83	60.98	58.68	56.75	52.41
24.0	89.04	82.86	74.87	69.68	65.90	62.96	60.58	58.59	54.11
25.0	91.81	85.44	77.20	71.84	67.95	64.92	62.46	60.41	55.79

REFERENCE: PORTLAND CEMENT ASSOCIATION

F_AC_070800_1_0030101_01_00

Radius of Relative Stiffness (L)
FIGURE-7-8-0-991-003-A01

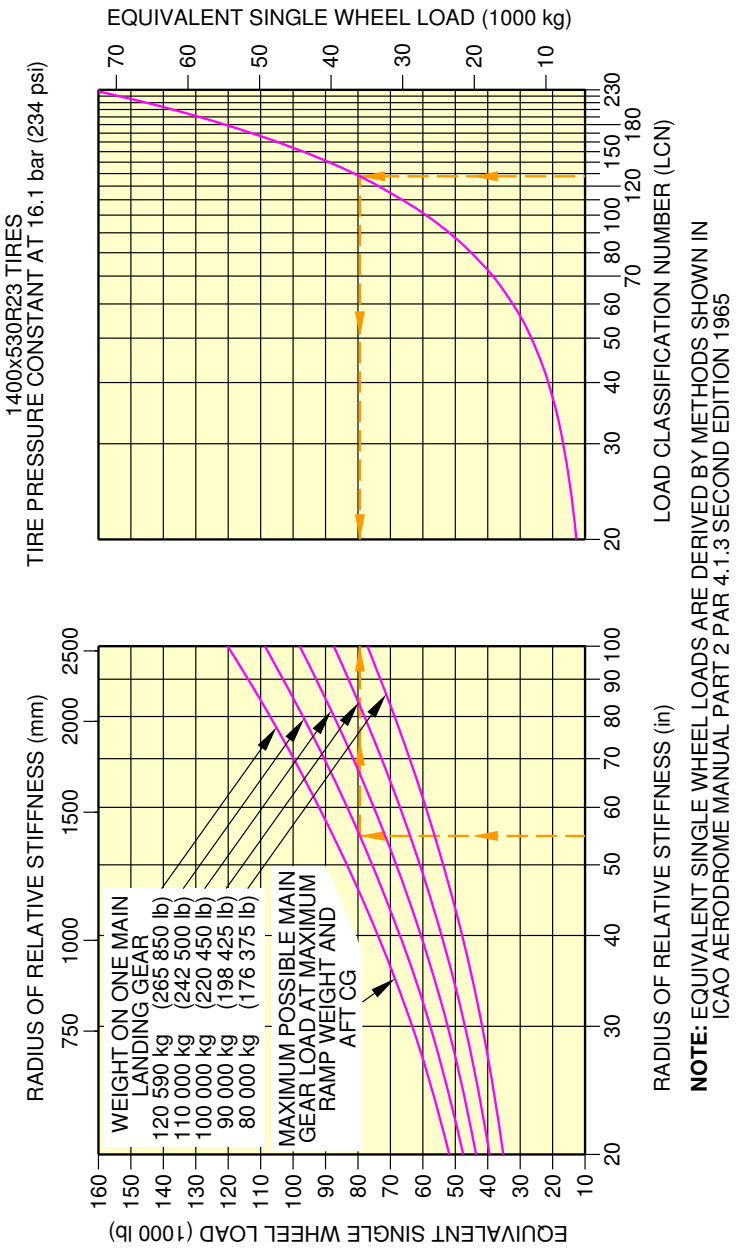
**ON A/C A340-500WV0xx A340-500WV1xx



F_AC_070800_1_0100101_01_00

Rigid Pavement Requirements - LCN
WV000, MRW 369 200 kg, CG 36.5 %
FIGURE-7-8-0-991-010-A01

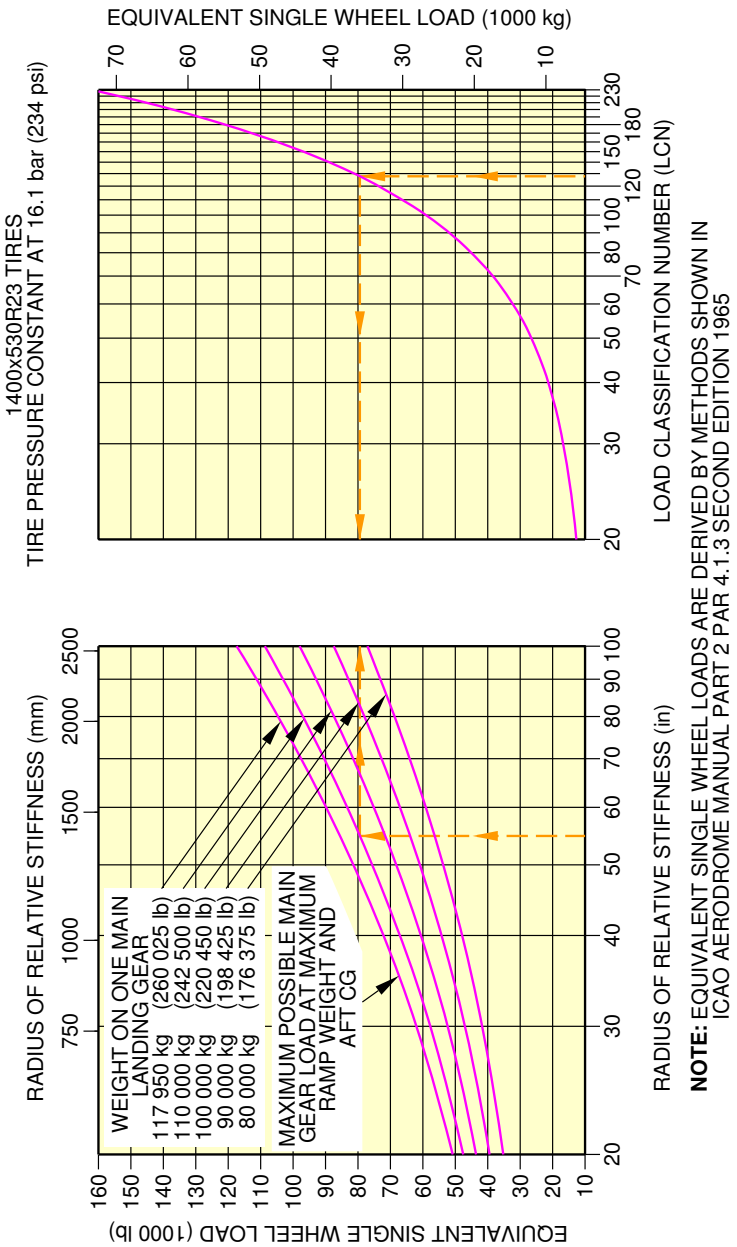
**ON A/C A340-500WV0xx A340-500WV1xx



F_AC_070800_1_0110101_01_00

Rigid Pavement Requirements - LCN
WV101, MRW 381 200 kg, CG 34.7 %
FIGURE-7-8-0-991-011-A01

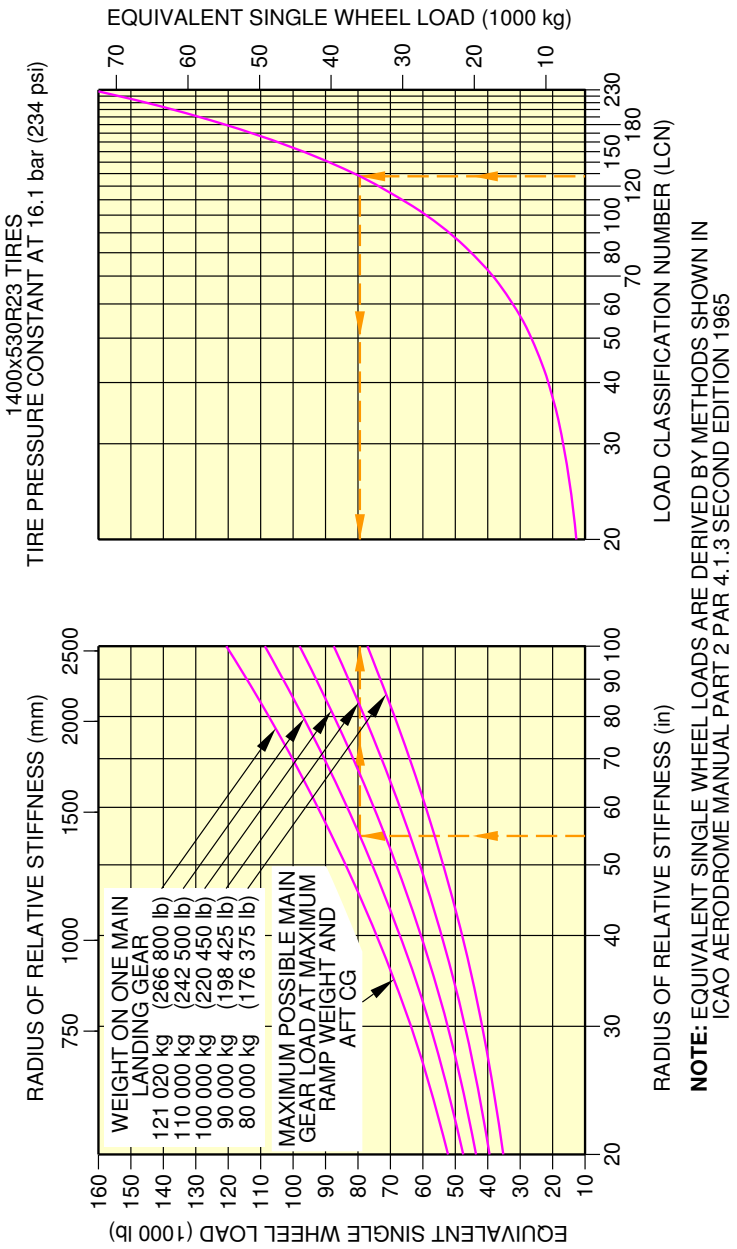
**ON A/C A340-600WV0xx A340-600WV1xx



F_AC_070800_1_0120101_01_00

Rigid Pavement Requirements - LCN
WV000, MRW 366 200 kg, CG 35 %
FIGURE-7-8-0-991-012-A01

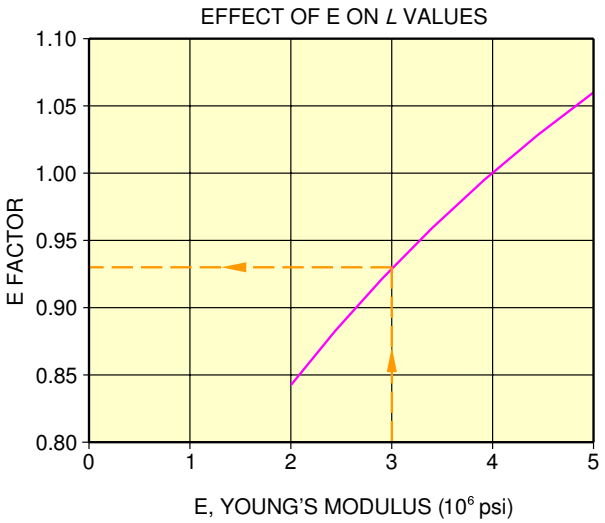
**ON A/C A340-600WV0xx A340-600WV1xx

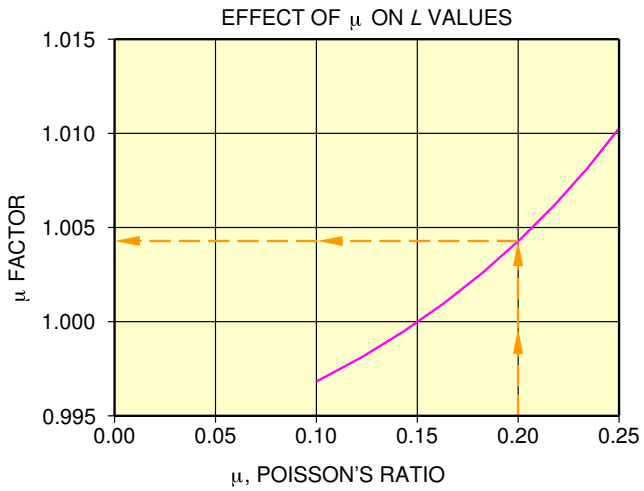


F_AC_070800_1_0130101_01_00

Rigid Pavement Requirements - LCN
WV101, MRW 381 200 kg, CG 30.2 %
FIGURE-7-8-0-991-013-A01

**ON A/C A340-500WV0xx A340-500WV1xx A340-600WV0xx A340-600WV1xx





NOTE: BOTH CURVES ON THIS PAGE ARE USED TO ADJUST THE *L* VALUES OF RADIUS OF RELATIVE STIFFNESS (*L*) TABLE

F_AC_070800_1_0160101_01_00

Radius of Relative Stiffness (Effect E and μ ON "L" values)
FIGURE-7-8-0-991-016-A01

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

**ON A/C A340-500WV0xx A340-500WV1xx A340-600WV0xx A340-600WV1xx

ACN/PCN Reporting System - Flexible and Rigid Pavements

1. This section gives data about the Aircraft Classification Number (ACN) for an aircraft gross weight in relation with a subgrade strength value for flexible and rigid pavement.
The flexible and rigid pavement requirements graphs are given at standard tire pressure for the weight variants producing (at the MRW and max aft CG) the lowest MLG load and the highest MLG load of each A/C type.
To find the ACN of an aircraft on flexible and rigid pavement, you must know the aircraft gross weight and the subgrade strength.

   NOTE : An aircraft with an ACN equal to or less than the reported PCN can operate on that pavement, subject to any limitation on the tire pressure.
   (Ref: ICAO Aerodrome Design Manual, Part 3, Chapter 1, Second Edition 1983).

   Example, see FIGURE 7---0-99--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---0-99--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 table FIGURE 7---0-99--006-A and FIGURE 7---0-99--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". If the ACN for an intermediate weight between MRW and the minimum weight of the aircraft is required, refer to figures that follows.

   NOTE : The CG in the figure title is the CG used for ACN / LCN calculation

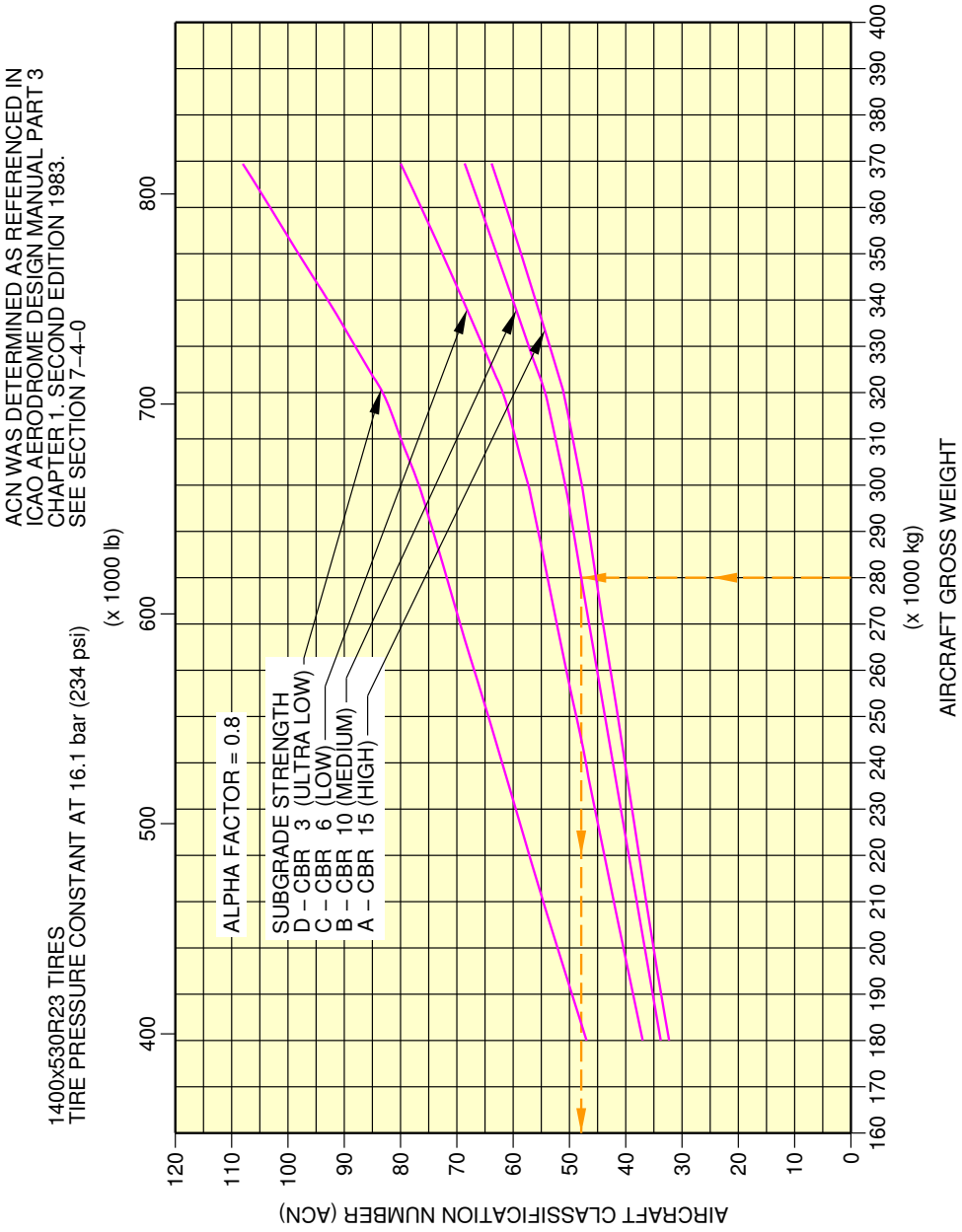
**ON A/C A340-500WV0xx A340-500WV1xx

AIRCRAFT TYPE	ALL UP MASS (kg)	LOAD ON ONE MAIN GEAR LEG (%)	TIRE PRESSURE (Mpa)	ACN FOR RIGID PAVEMENT SUBGRADES – MN/m³				ACN FOR FLEXIBLE PAVEMENT SUBGRADES – CBR			
				High 150	Medium 80	Low 40	Ultral–low 20	High 15	Medium 10	Low 6	Ultral–low 3
A340–500 WV000	369 200	32.0	1.61	62	71	83	96	64	69	80	108
	180 000	37.4		33	35	39	45	32	34	37	47
A340–500 WV001	373 200	32.0	1.61	63	72	85	98	65	70	82	110
	180 000	37.4		33	35	39	45	32	34	37	47
A340–500 WV002	373 200	32.0	1.61	63	72	85	98	65	70	82	110
	180 000	37.4		33	35	39	45	32	34	37	47
A340–500 WV003	375 200	31.9	1.61	63	72	85	98	65	70	82	110
	180 000	37.3		33	35	39	45	32	34	37	47
A340–500 WV004	375 200	31.9	1.61	63	72	85	98	65	70	82	110
	180 000	37.3		33	35	39	45	32	34	37	47
A340–500 WV101	381 200	31.6	1.61	63	73	86	99	66	71	83	111
	180 000	36.3		32	34	38	44	31	33	36	45
A340–500 WV102	373 200	31.7	1.61	62	71	84	97	64	69	80	108
	180 000	36.4		33	34	38	44	31	33	36	45
A340–500 WV103	373 200	31.7	1.61	62	71	84	97	64	69	80	108
	180 000	36.4		33	34	38	44	31	33	36	45

F_AC_070900_1_0060101_01_00

Aircraft Classification Number
ACN Table
FIGURE-7-9-0-991-006-A01

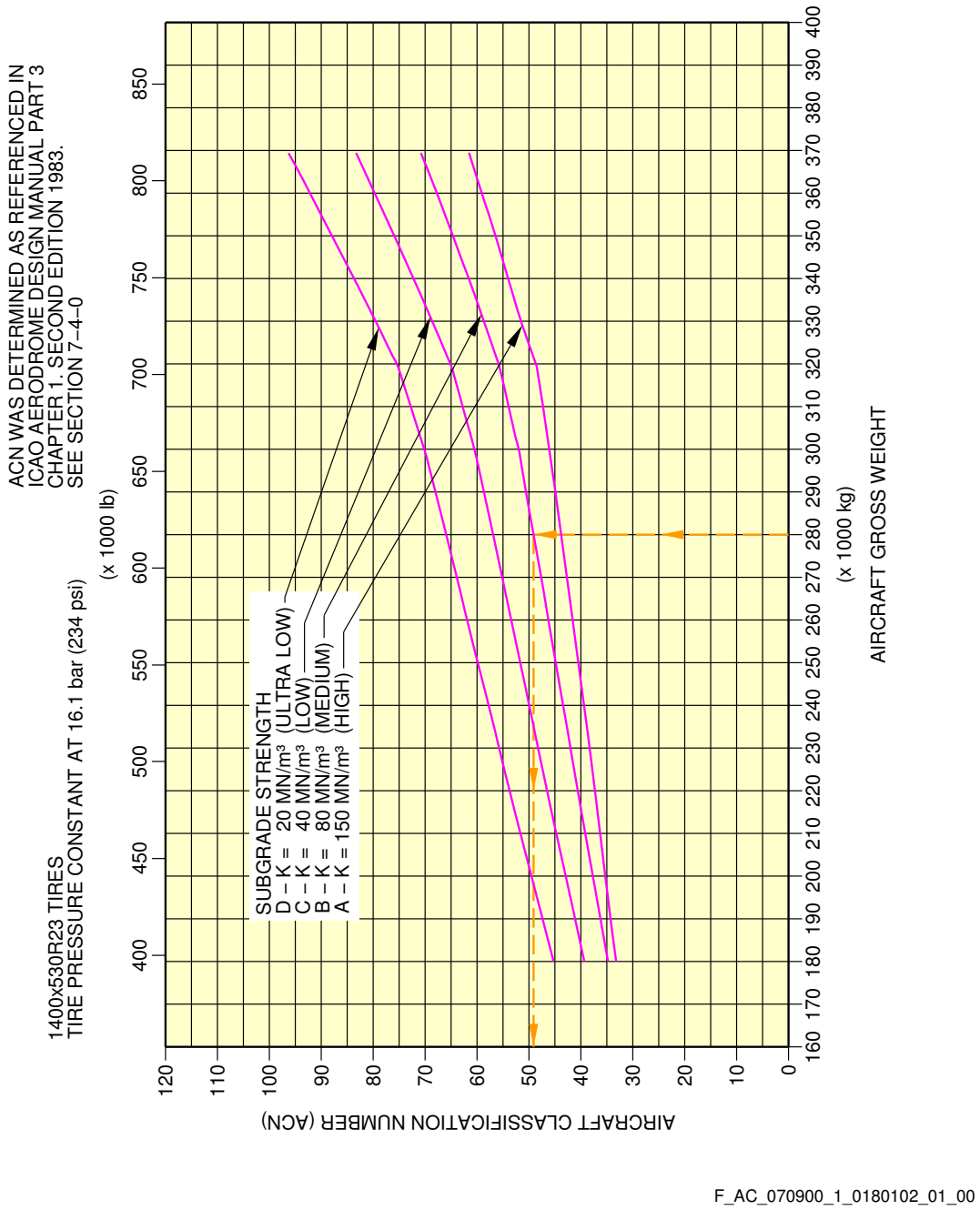
**ON A/C A340-500WV0xx A340-500WV1xx



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

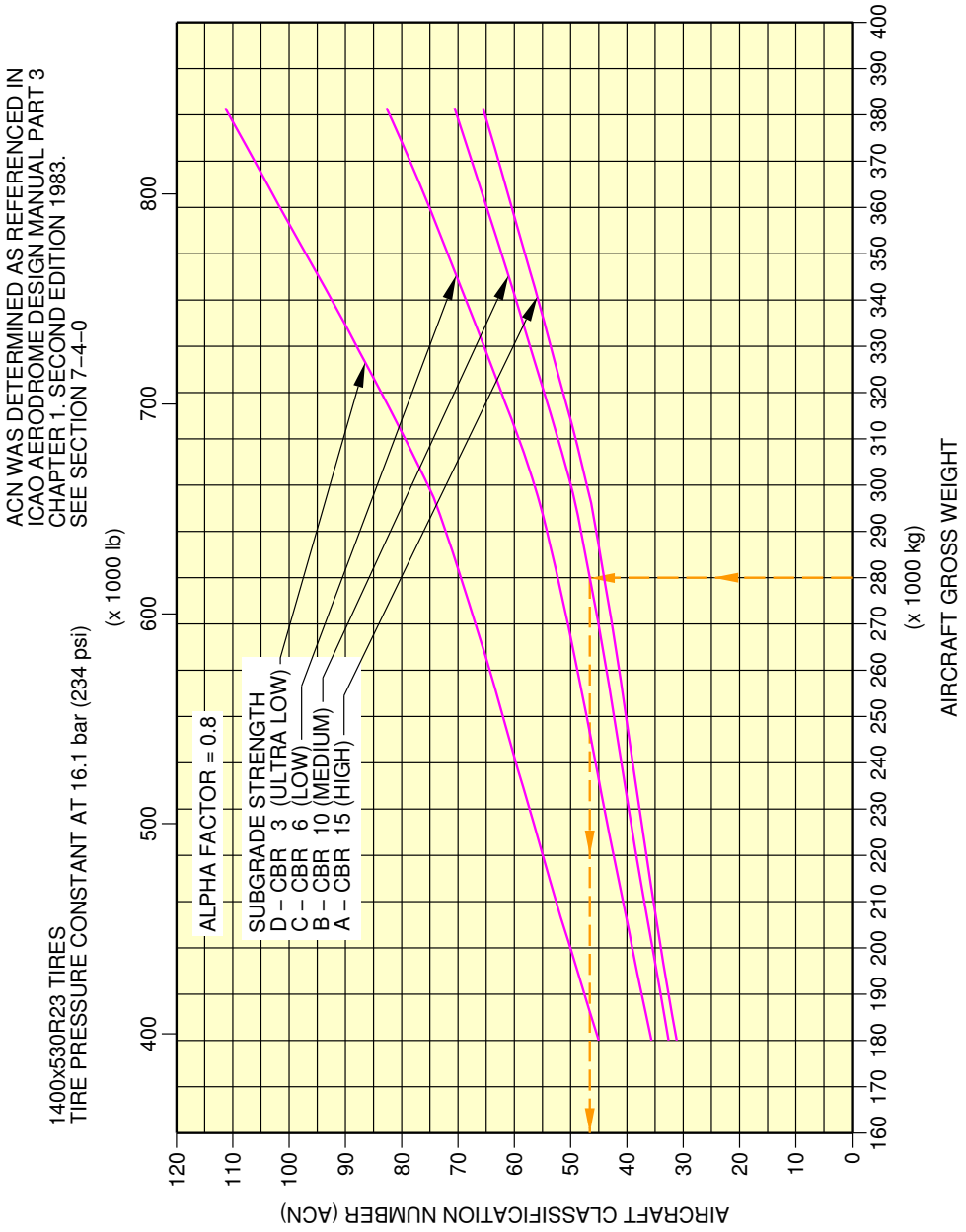
**ON A/C A340-500WV0xx A340-500WV1xx



F_AC_070900_1_0180102_01_00

Aircraft Classification Number
Rigid Pavement - WV000, MRW 369 200 kg, CG 36.5 % (Sheet 2 of 2)
FIGURE-7-9-0-991-018-A01

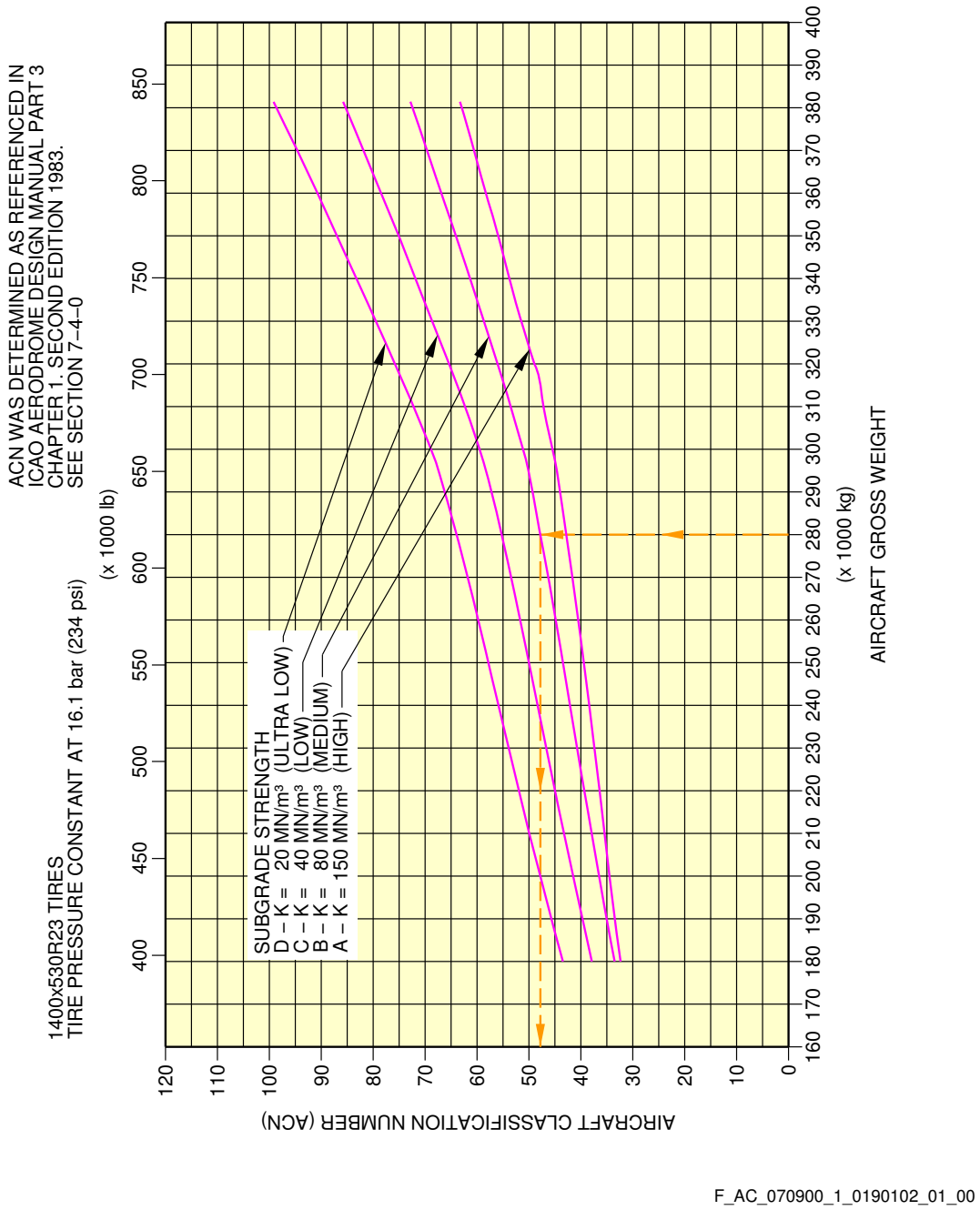
**ON A/C A340-500WV0xx A340-500WV1xx



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

**ON A/C A340-500WV0xx A340-500WV1xx



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

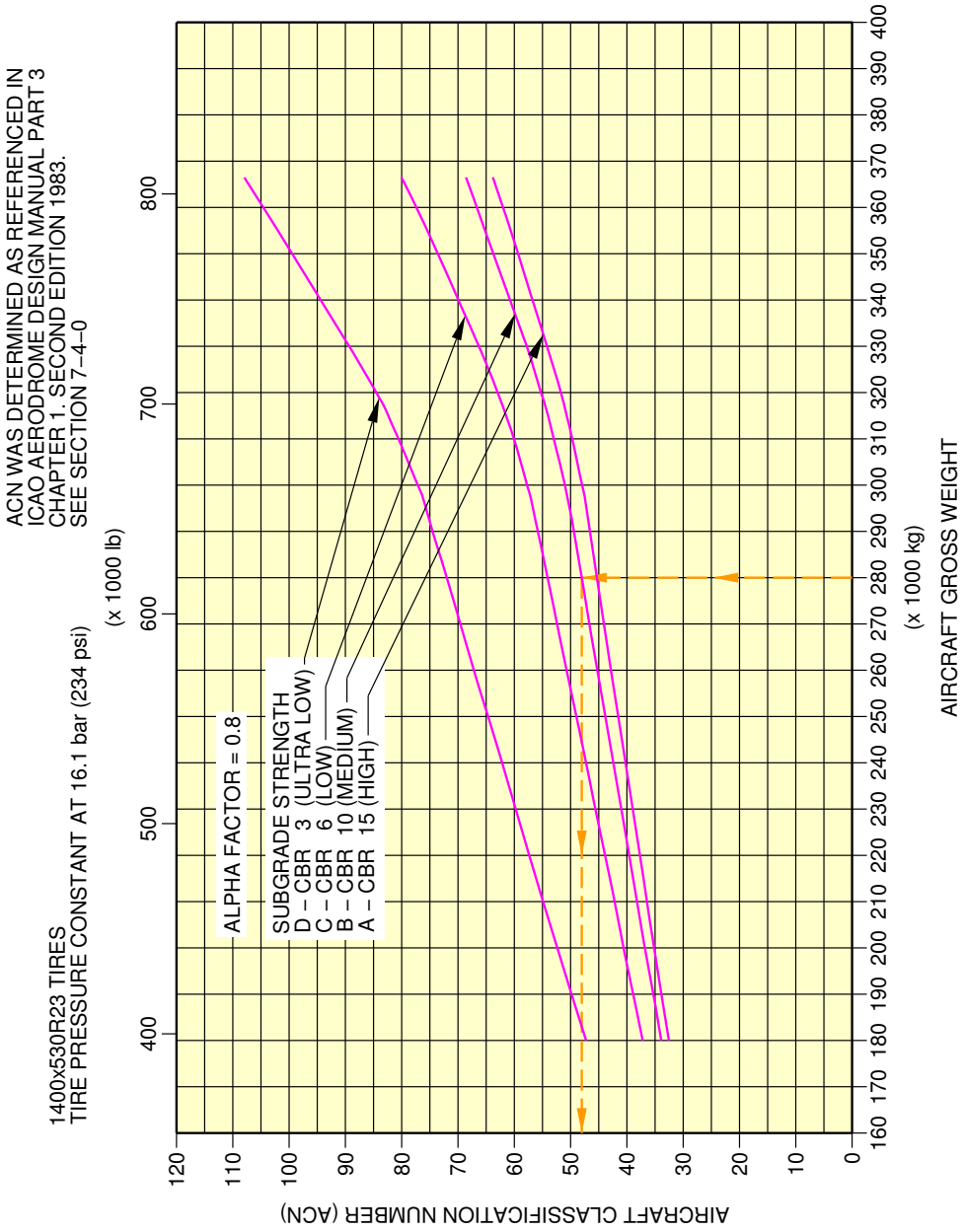
**ON A/C A340-600WV0xx A340-600WV1xx

AIRCRAFT TYPE	ALL UP MASS (kg)	LOAD ON ONE MAIN GEAR LEG (%)	TIRE PRESSURE (Mpa)	ACN FOR RIGID PAVEMENT SUBGRADES – MN/m³				ACN FOR FLEXIBLE PAVEMENT SUBGRADES – CBR			
				High 150	Medium 80	Low 40	Ultral–low 20	High 15	Medium 10	Low 6	Ultral–low 3
A340–600 WV000	366 200	32.2	1.61	61	71	83	96	64	69	80	108
	180 000	37.5		33	35	40	46	33	34	37	47
A340–600 WV001	369 200	32.2	1.61	62	71	84	97	64	69	81	109
	180 000	37.5		33	35	40	45	32	34	37	47
A340–600 WV101	381 200	31.7	1.61	64	73	86	100	66	71	83	112
	180 000	36.3		32	34	38	44	31	33	36	45
A340–600 WV102	369 200	32.0	1.61	62	71	83	96	64	69	80	108
	180 000	36.6		33	34	38	44	32	33	36	46
A340–600 WV103	366 200	32.0	1.61	61	70	83	95	63	68	79	107
	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

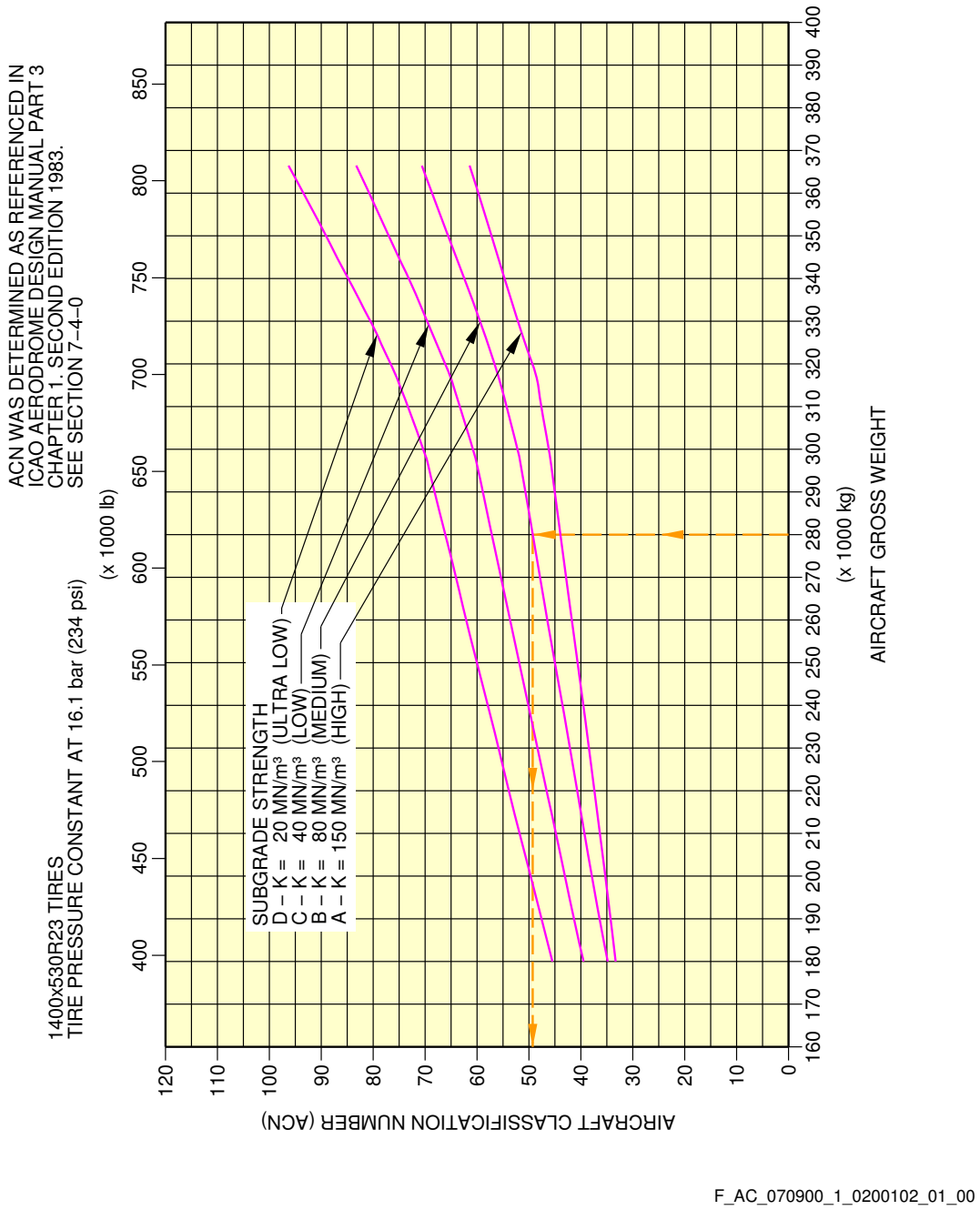
**ON A/C A340-600WV0xx A340-600WV1xx



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

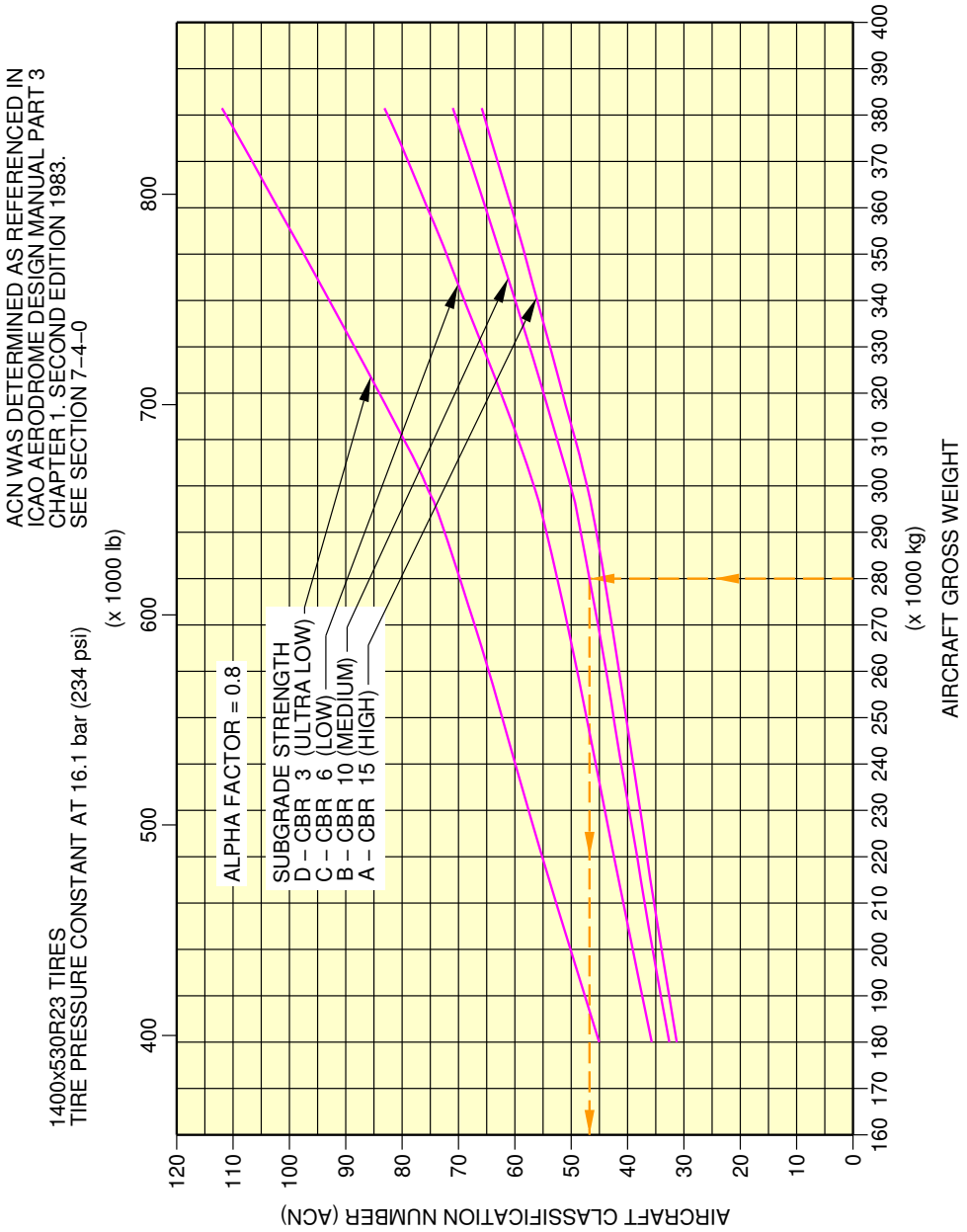
**ON A/C A340-600WV0xx A340-600WV1xx



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

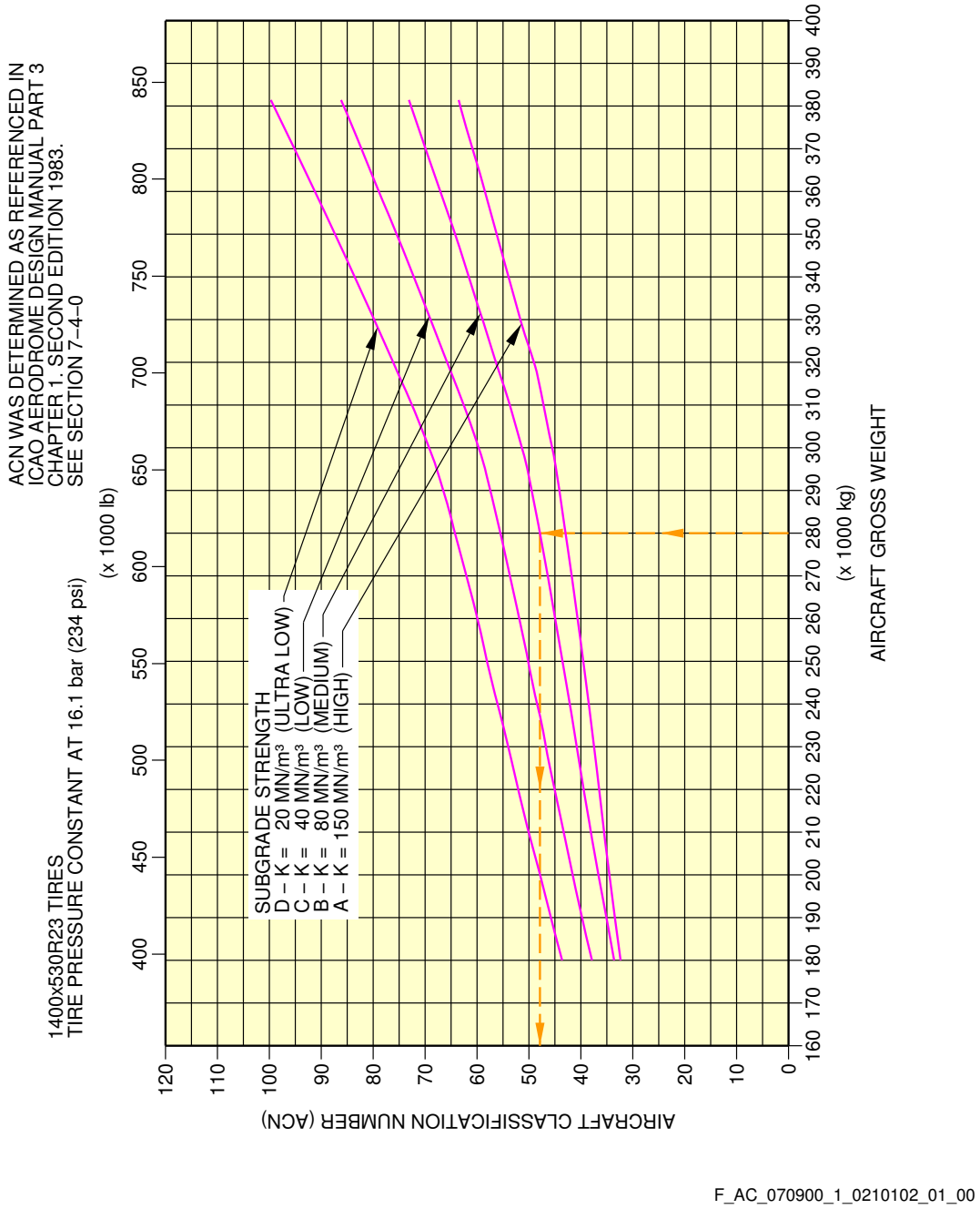
**ON A/C A340-600WV0xx A340-600WV1xx



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

**ON A/C A340-600WV0xx A340-600WV1xx



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

SCALED DRAWINGS

8-0-0 SCALED DRAWINGS

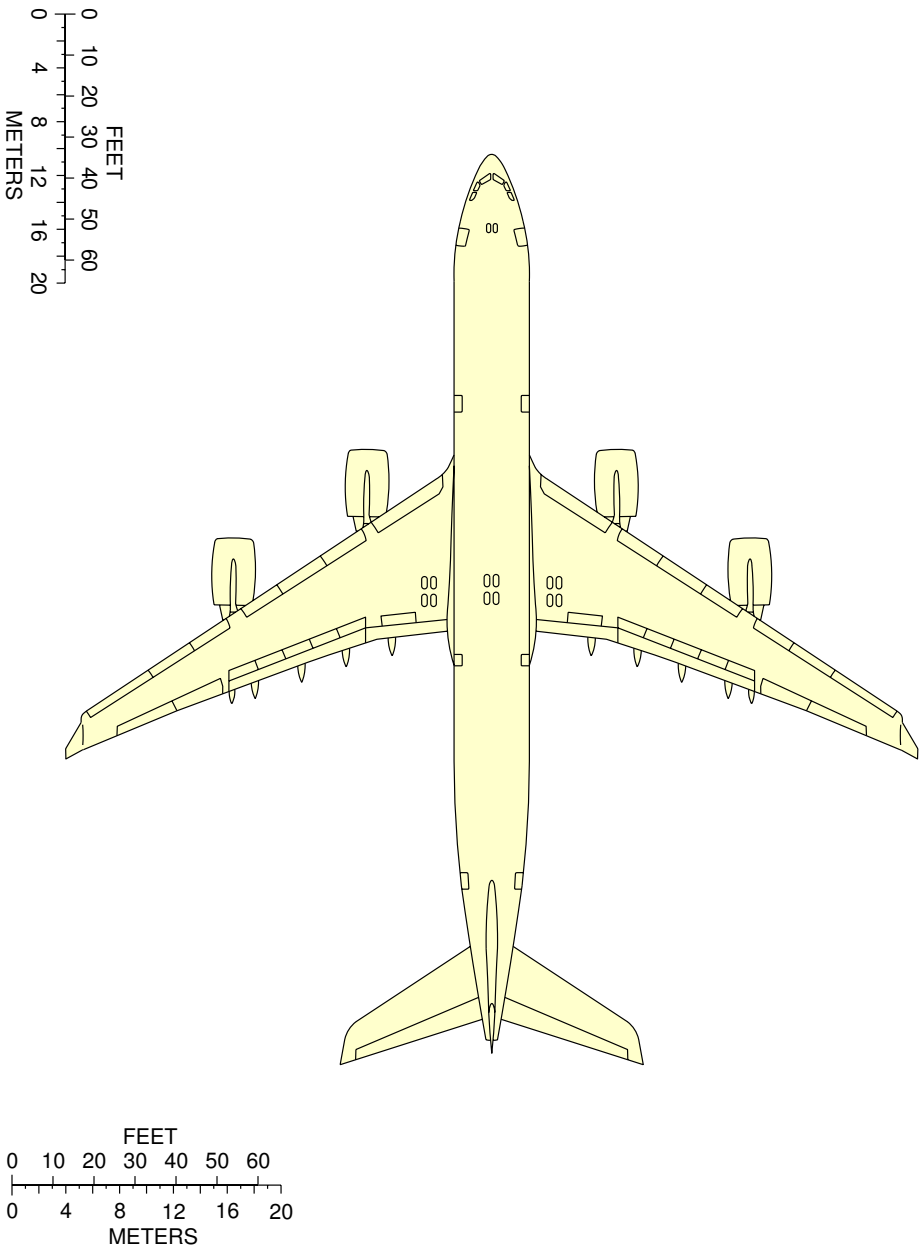
**ON A/C A340-500 A340-600

Scaled Drawings

1. This section provides the scaled drawings.

NOTE : When printing this drawing, make sure to adjust for proper scaling.

**ON A/C A340-500



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

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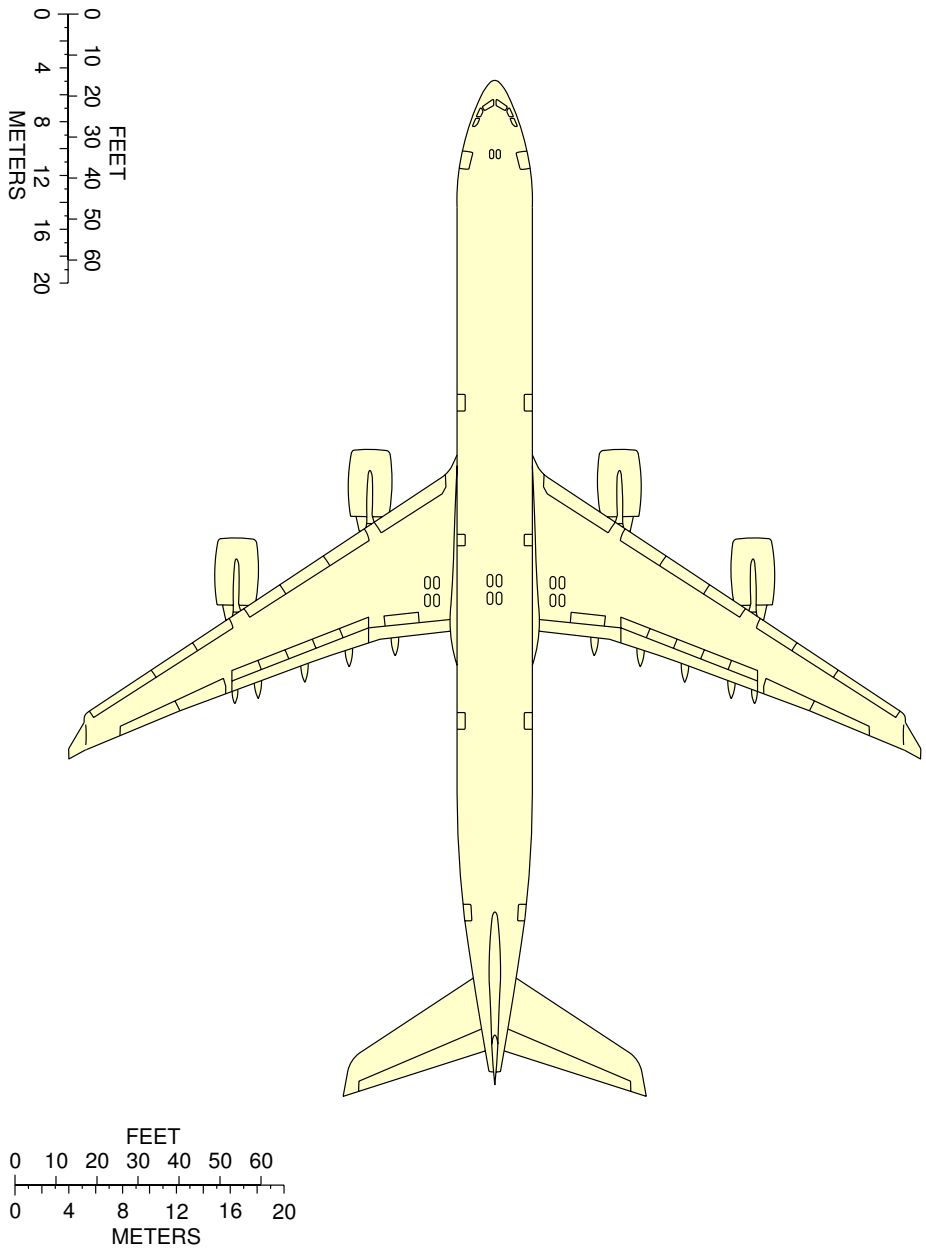
Scaled Drawing
FIGURE-8-0-0-991-004-A01

**ON A/C A340-600



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

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Scaled Drawing
FIGURE-8-0-0-991-004-B01

AIRCRAFT RESCUE AND FIRE FIGHTING

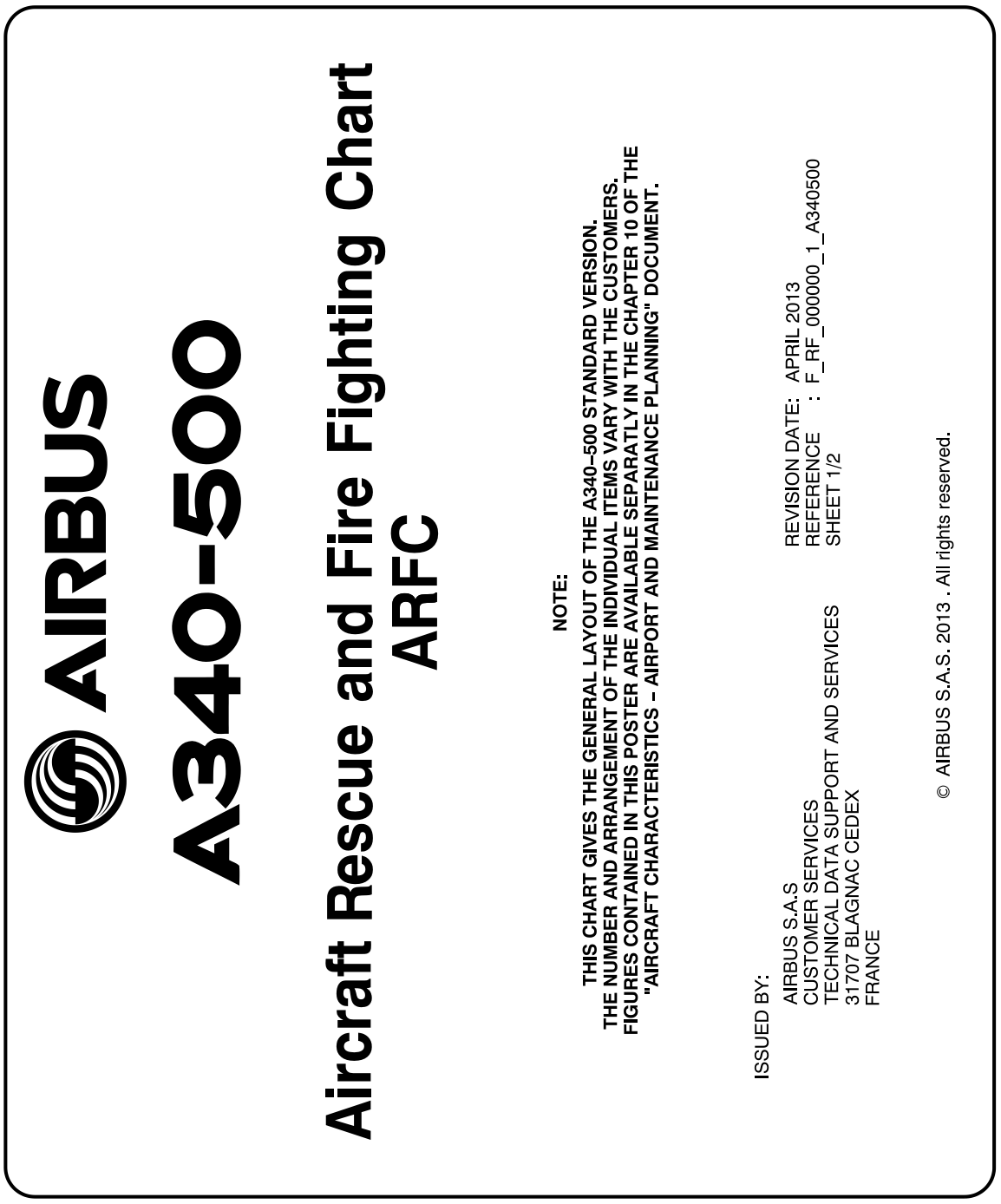
10-0-0 AIRCRAFT RESCUE AND FIRE FIGHTING

**ON A/C A340-500

Aircraft Rescue and Fire Fighting

1. Aircraft Rescue and Fire Fighting Charts
   This sections gives 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 (ARFC) poster available on AIRBUSWorld and the Airbus website.

**ON A/C A340-500



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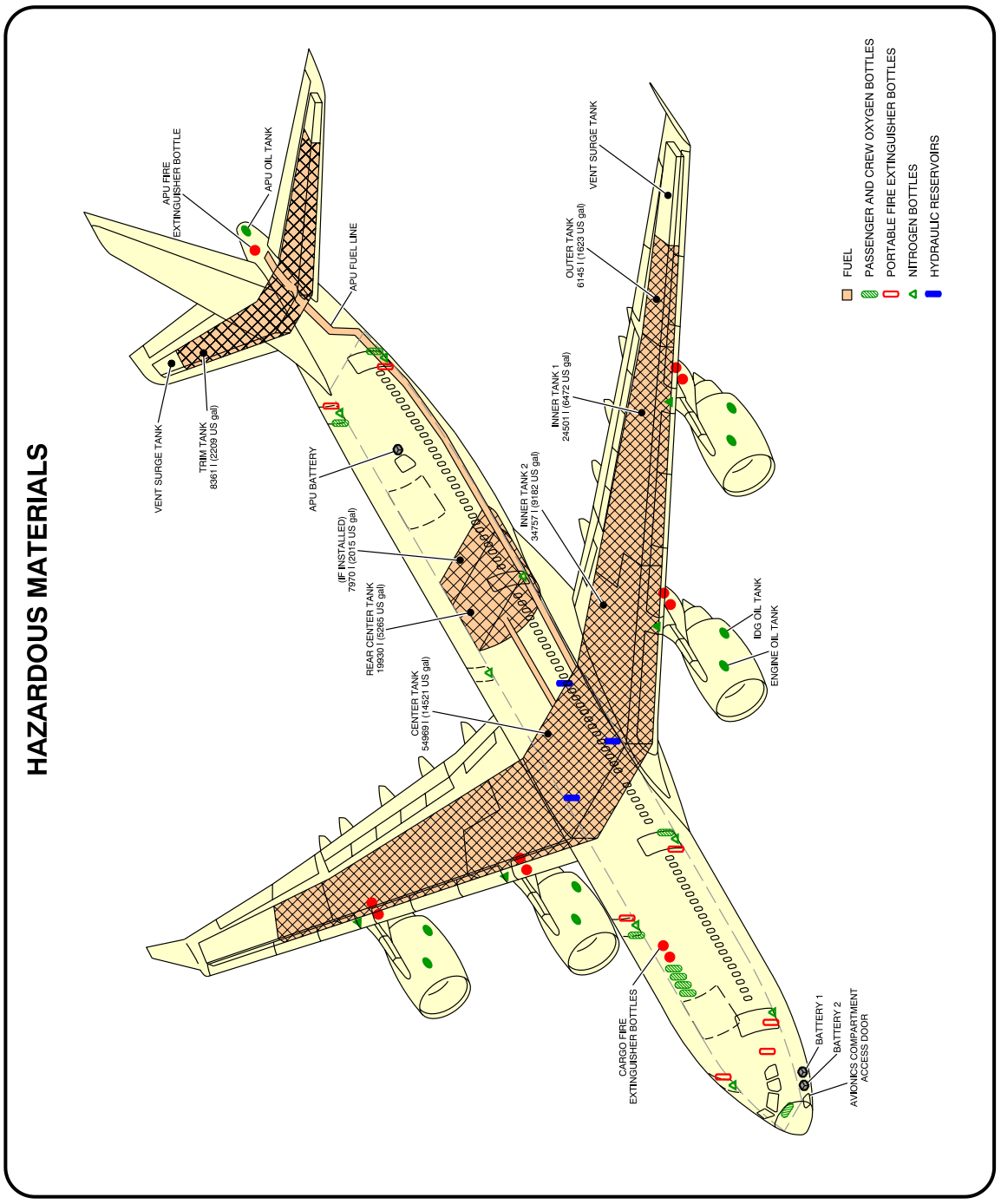
Front Page
FIGURE-10-0-0-991-040-A01

**ON A/C A340-500



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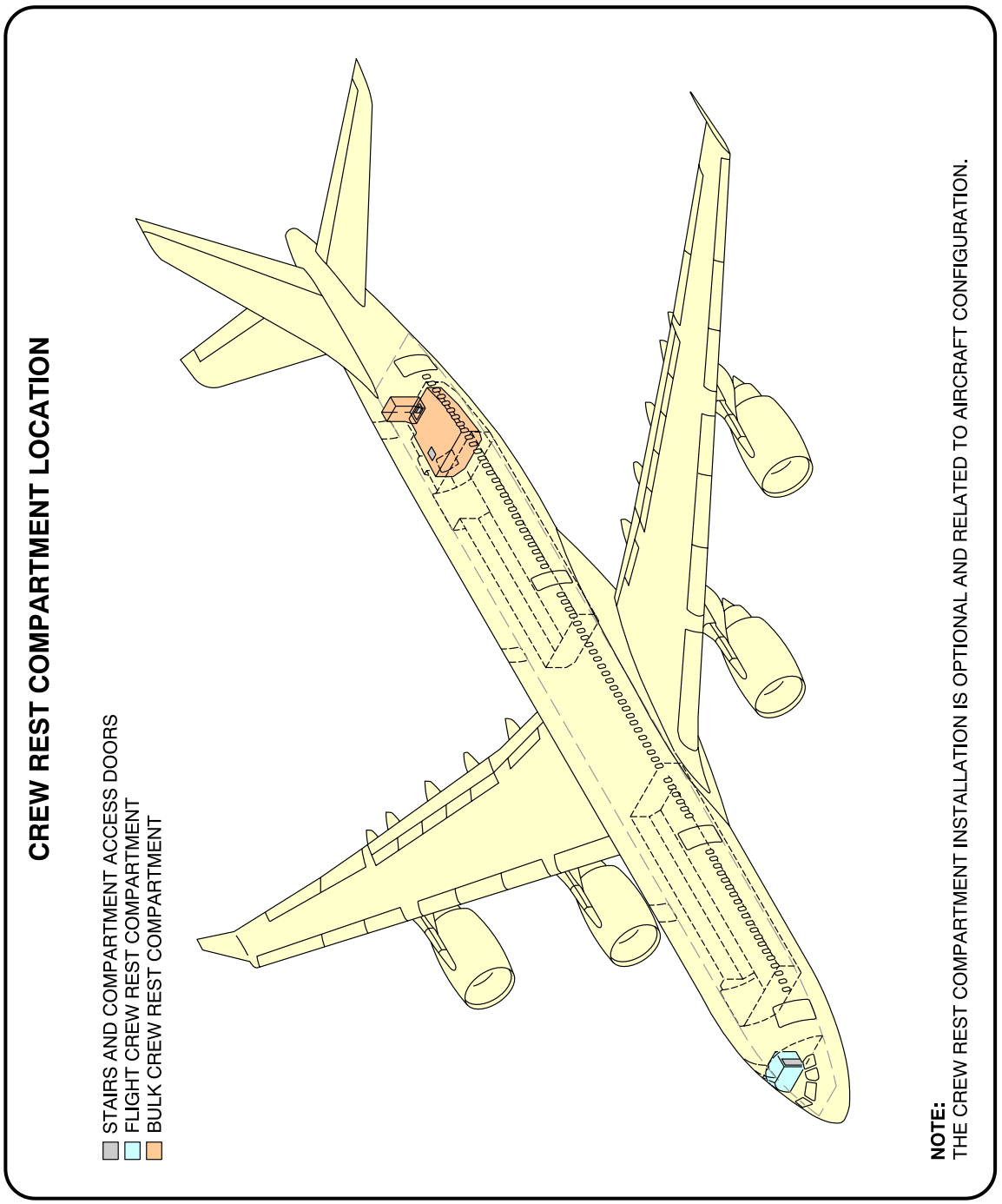
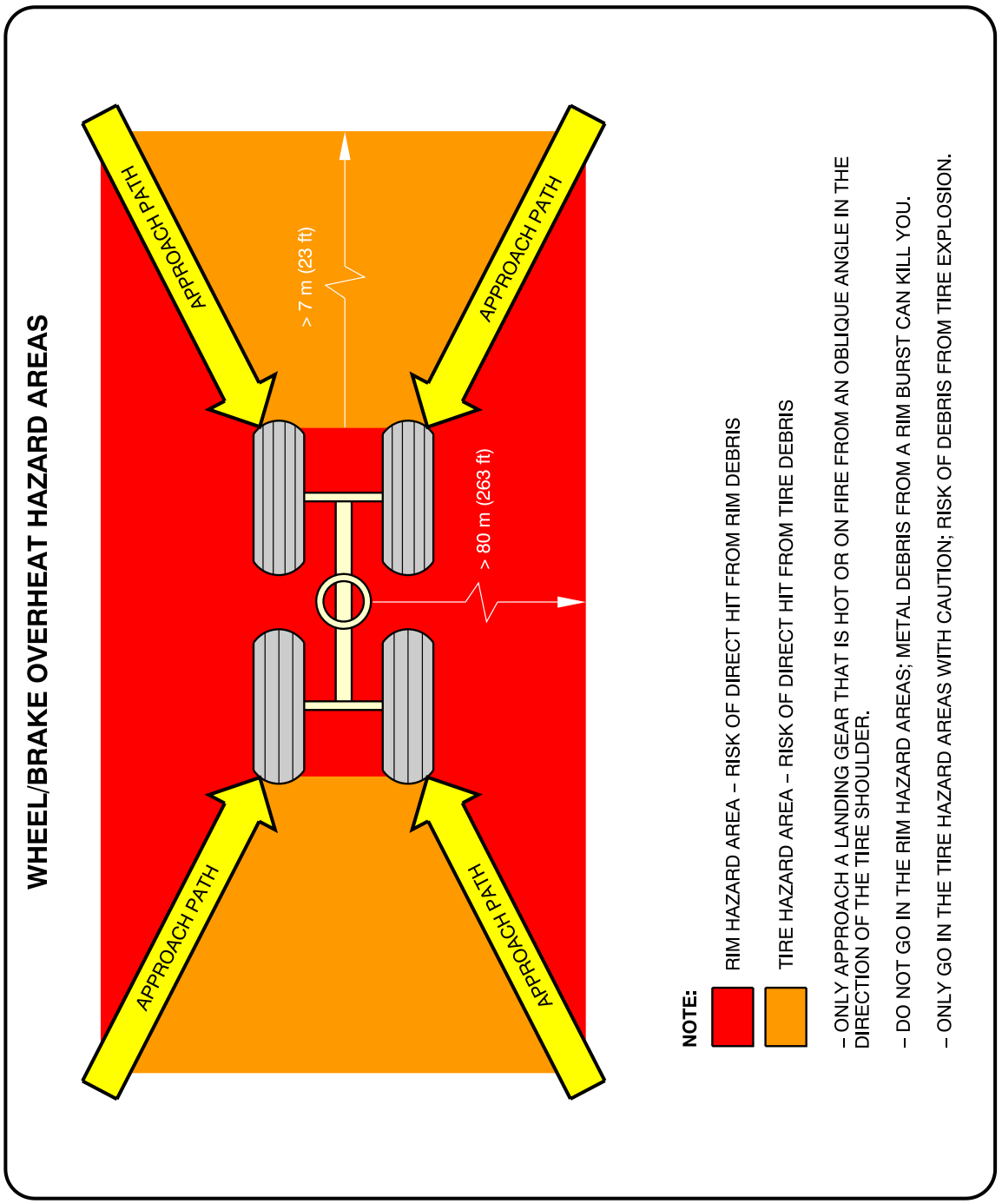
Highly Flammable and Hazardous Materials and Components
FIGURE-10-0-0-991-041-A01

**ON A/C A340-500



Crew Rest Compartments Location
FIGURE-10-0-0-991-042-A01

**ON A/C A340-500



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Wheel/Brake Overheat
Wheel Safety Area (Sheet 1 of 2)
FIGURE-10-0-0-991-043-A01

**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.

BRAKE OVERHEAT:

1 – GET THE BRAKE TEMPERATURE FROM THE COCKPIT OR USE A REMOTE MEASUREMENT TECHNIQUE.
THE REAL TEMPERATURE OF THE BRAKES CAN BE MUCH HIGHER THAN THE TEMPERATURE SHOWN ON THE ECAM.
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.

1 – IMMEDIATELY STOP THE FIRE:

A) APPROACH THE LANDING GEAR WITH EXTREME CAUTION 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.
IF POSSIBLE, STAY IN A VEHICLE.

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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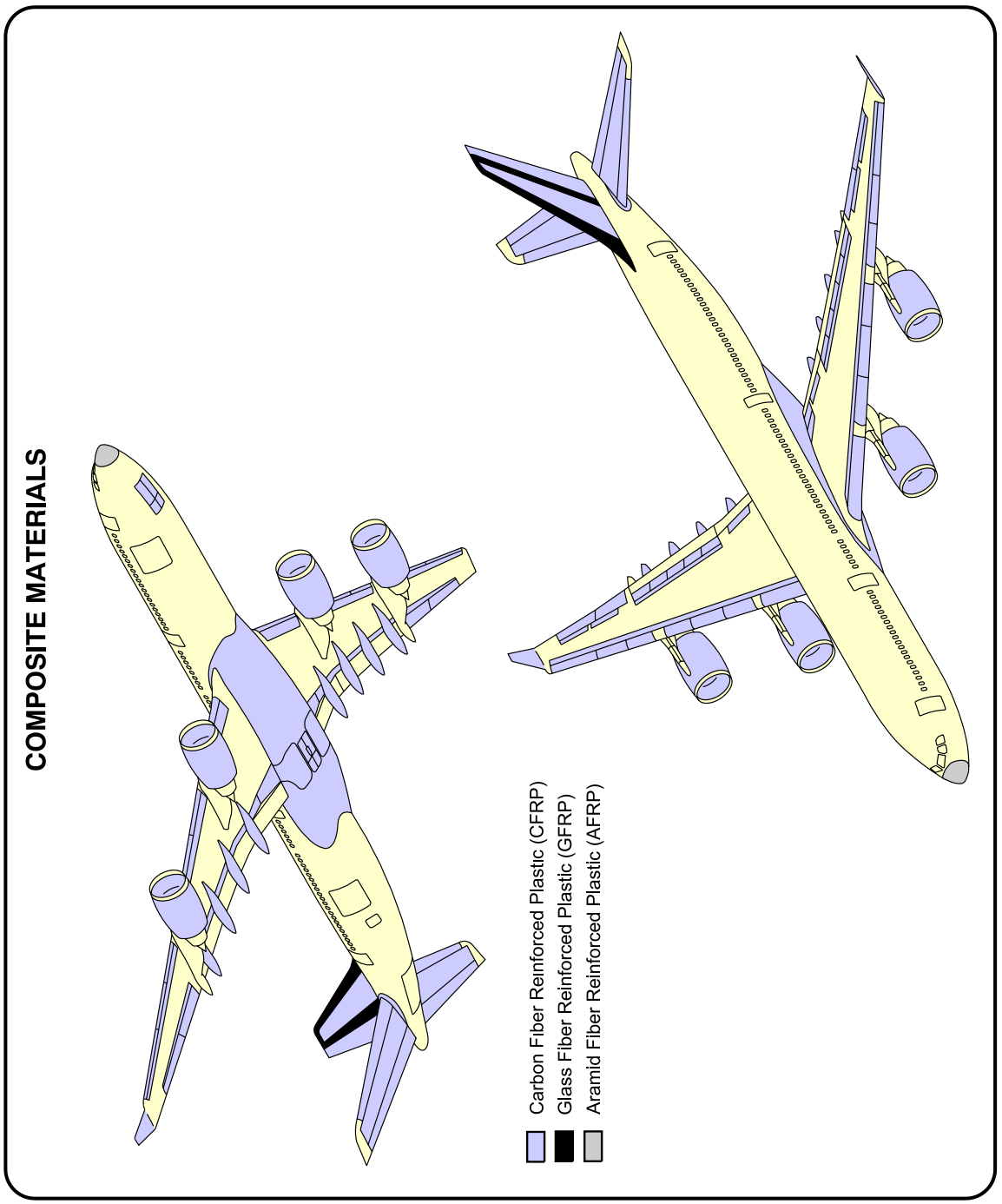
Wheel/Brake Overheat
Recommendations (Sheet 2 of 2)
FIGURE-10-0-0-991-043-A01

**ON A/C A340-500



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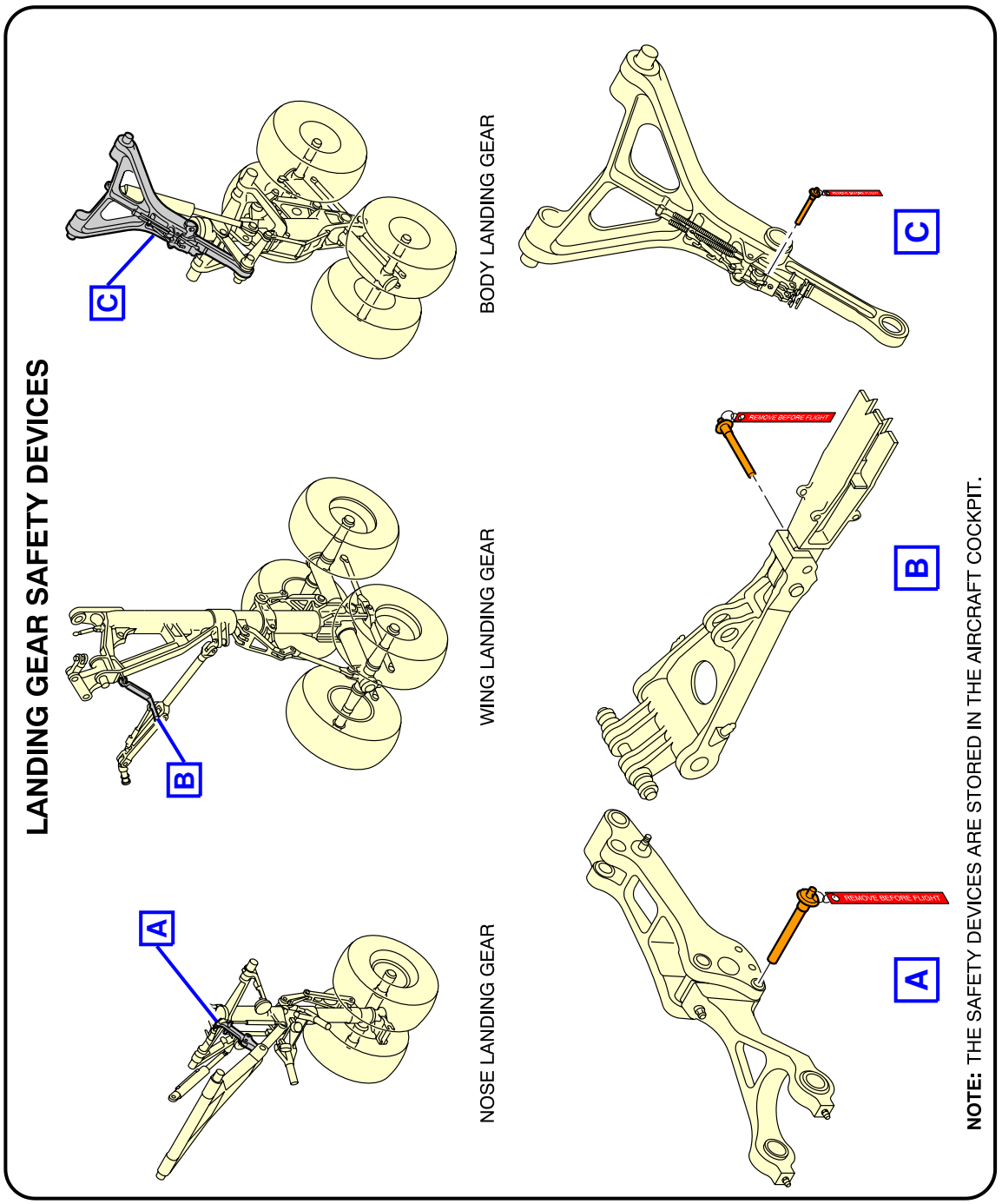
Composite Materials Location
FIGURE-10-0-0-991-044-A01

**ON A/C A340-500



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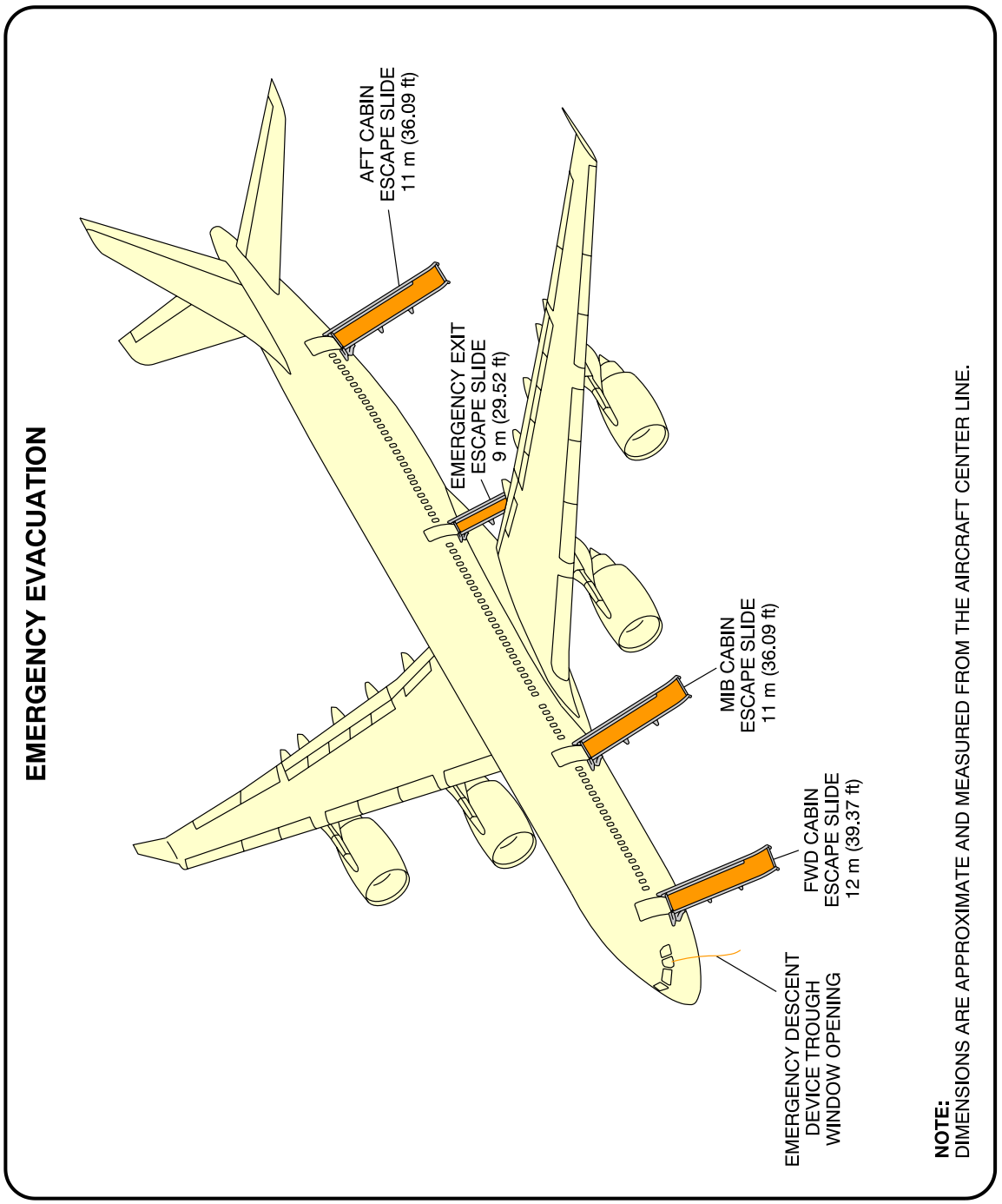
Ground Lock Safety Devices
FIGURE-10-0-0-991-045-A01

**ON A/C A340-500



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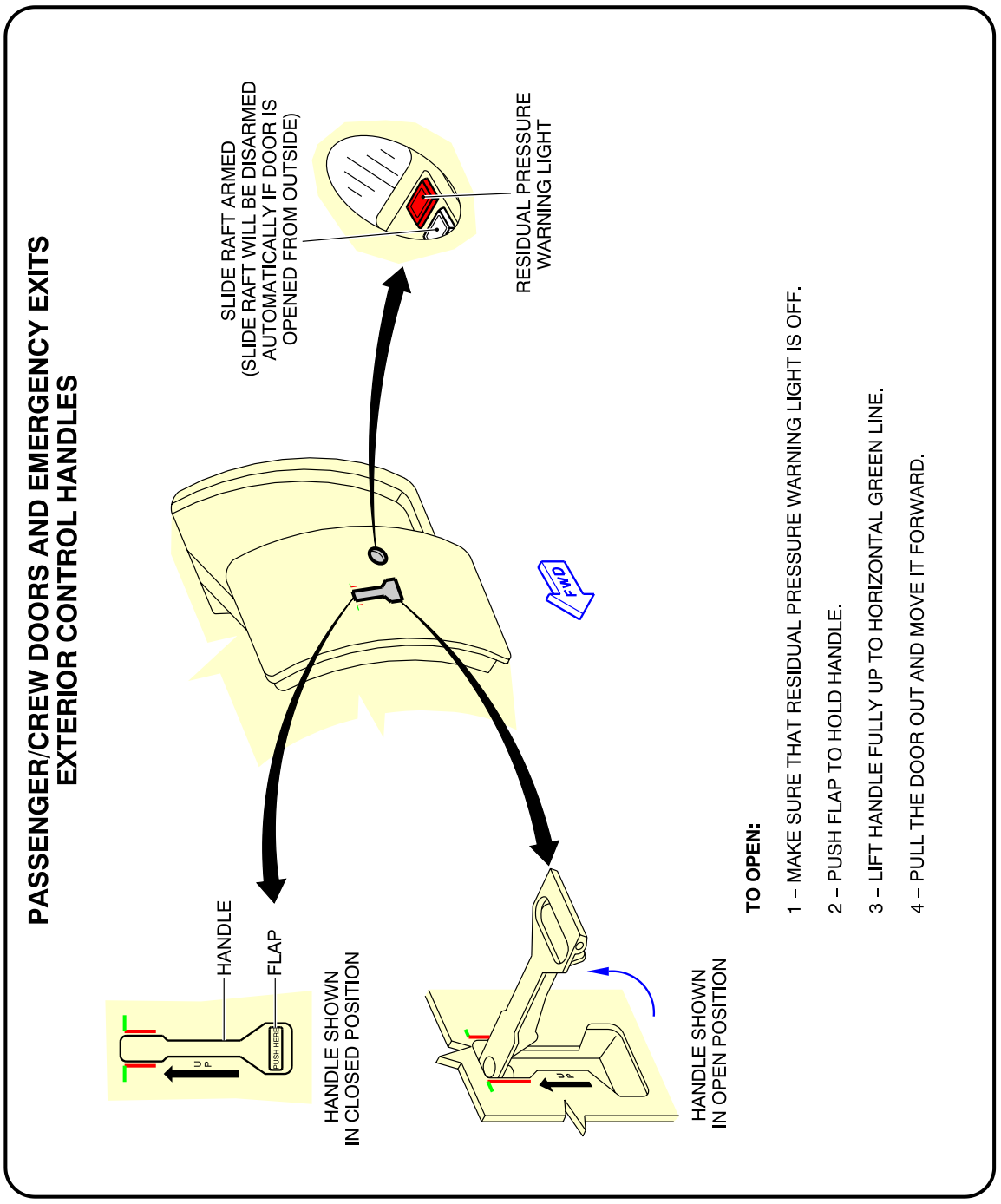
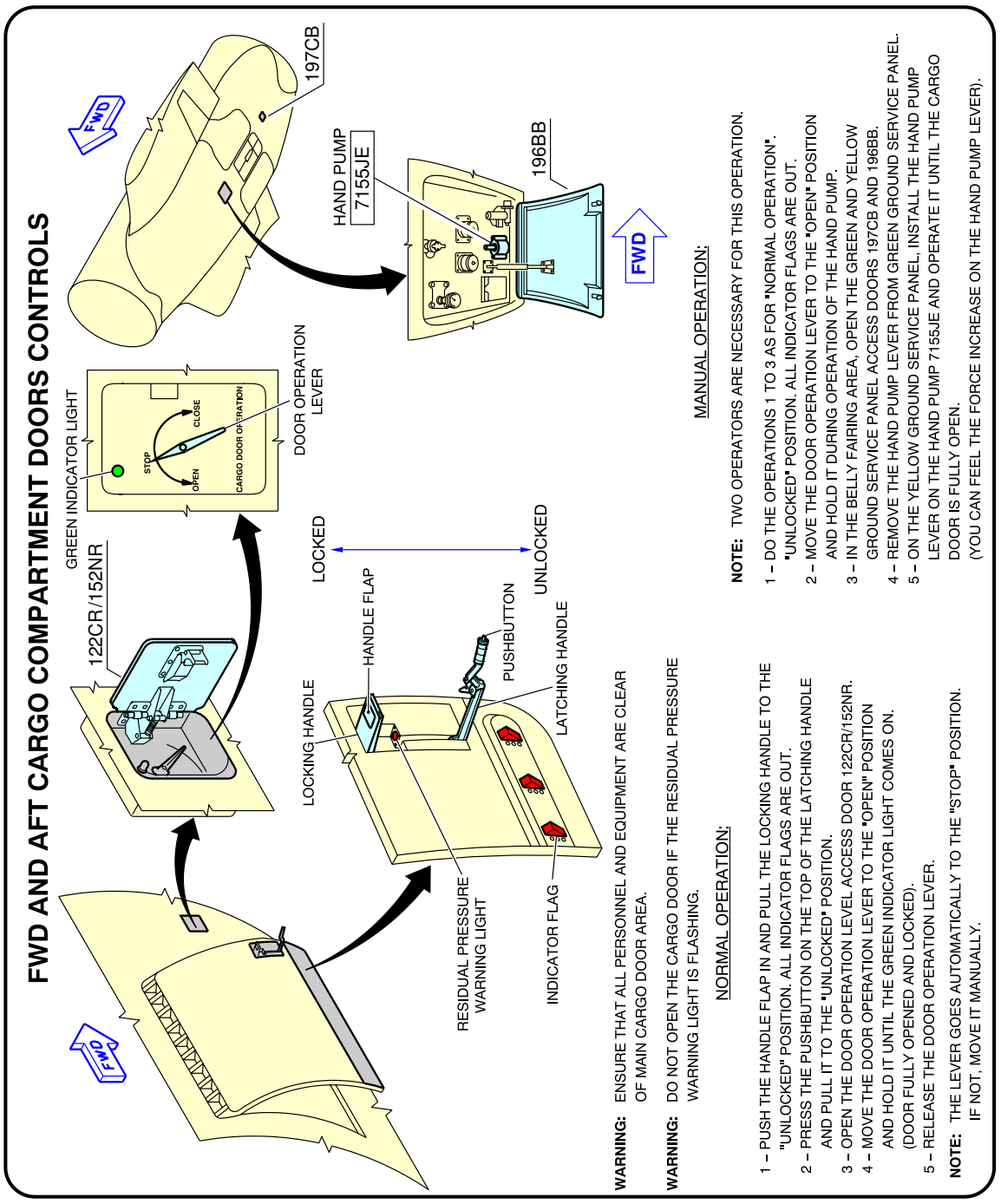
Emergency Evacuation Devices
FIGURE-10-0-0-991-046-A01

**ON A/C A340-500



Pax/Crew Doors and Emergency Exits
FIGURE-10-0-0-991-047-A01

**ON A/C A340-500



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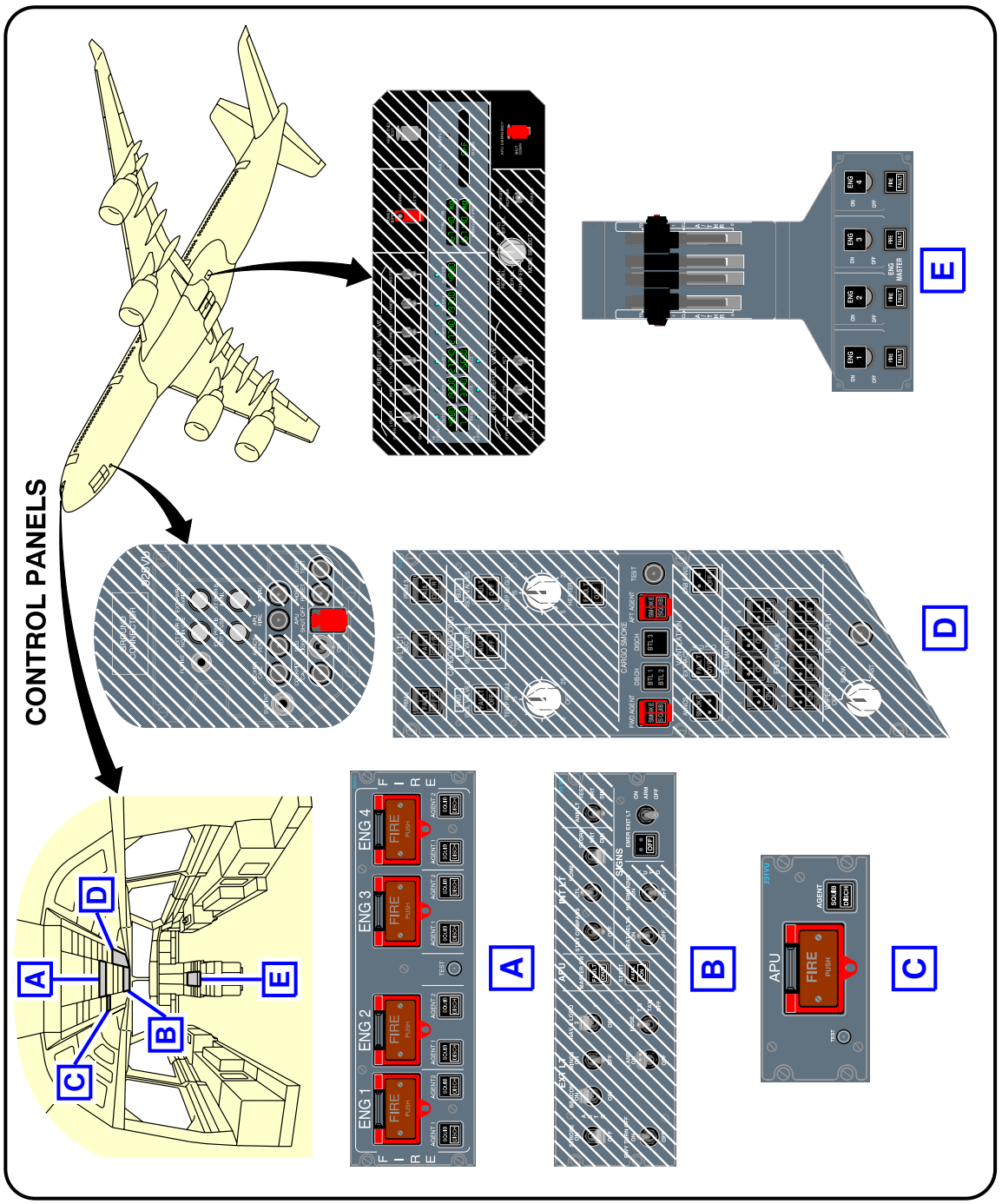
FWD and AFT Lower Deck Cargo Doors
FIGURE-10-0-0-991-048-A01

**ON A/C A340-500



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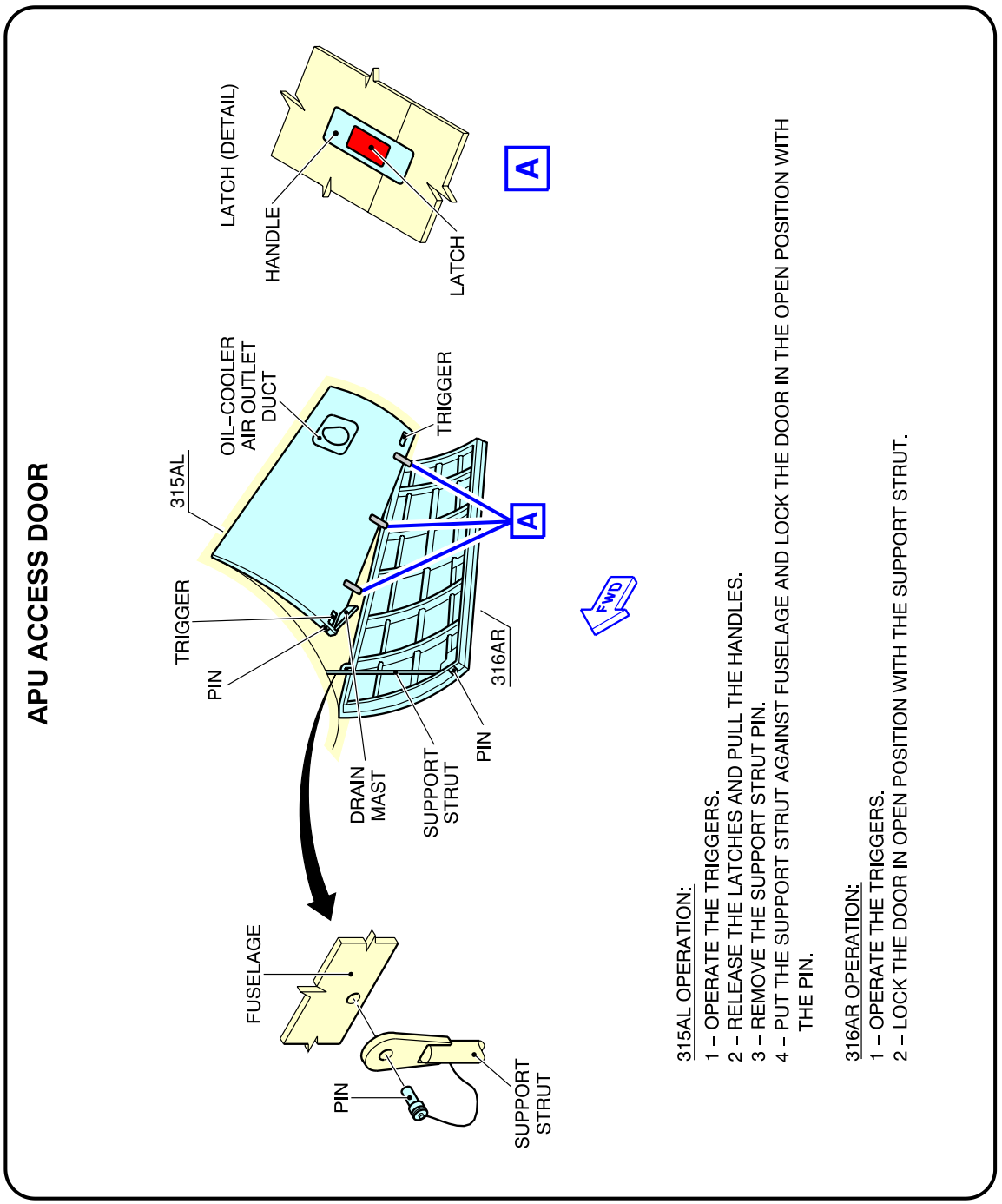
Control Panels
FIGURE-10-0-0-991-049-A01

**ON A/C A340-500



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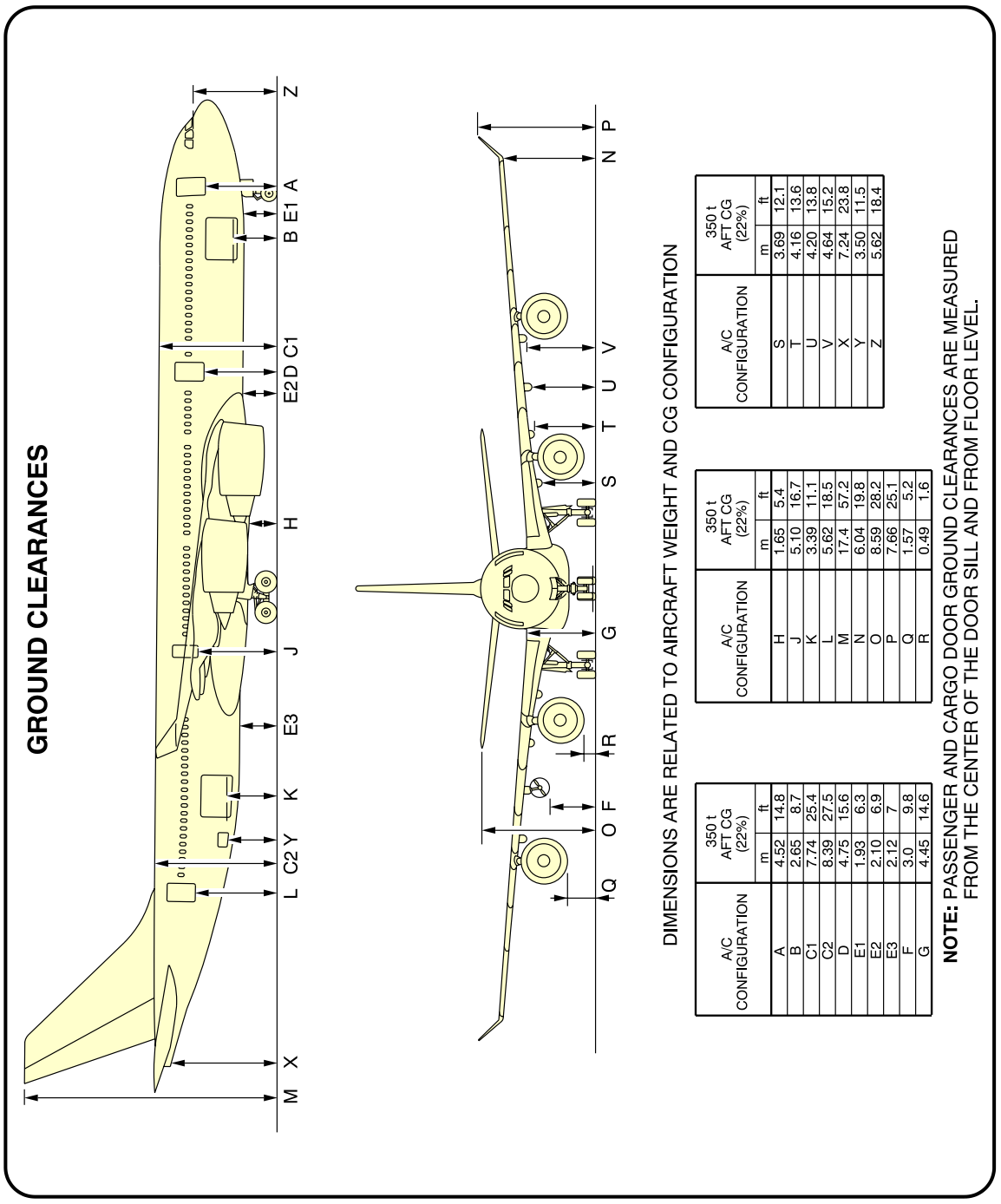
APU Compartment Access
FIGURE-10-0-0-991-050-A01

**ON A/C A340-500



A/C CONFIGURATION	350 t AFT CG (22%) m	350 t AFT CG (22%) ft
A	4.52	14.8
B	2.65	8.7
C1	7.74	25.4
C2	8.39	27.5
D	4.75	15.6
E1	1.93	6.3
E2	2.10	6.9
E3	2.12	7
F	3.0	9.8
G	4.45	14.6

A/C CONFIGURATION	350 t AFT CG (22%) m	350 t AFT CG (22%) ft
H	1.65	5.4
J	5.10	16.7
K	3.39	11.1
L	5.62	18.5
M	17.4	57.2
N	6.04	19.8
O	8.59	28.2
P	7.66	25.1
Q	1.57	5.2
R	0.49	1.6

A/C CONFIGURATION	350 t AFT CG (22%) m	350 t AFT CG (22%) ft
S	3.69	12.1
T	4.16	13.6
U	4.20	13.8
V	4.64	15.2
X	7.24	23.8
Y	3.50	11.5
Z	5.62	18.4

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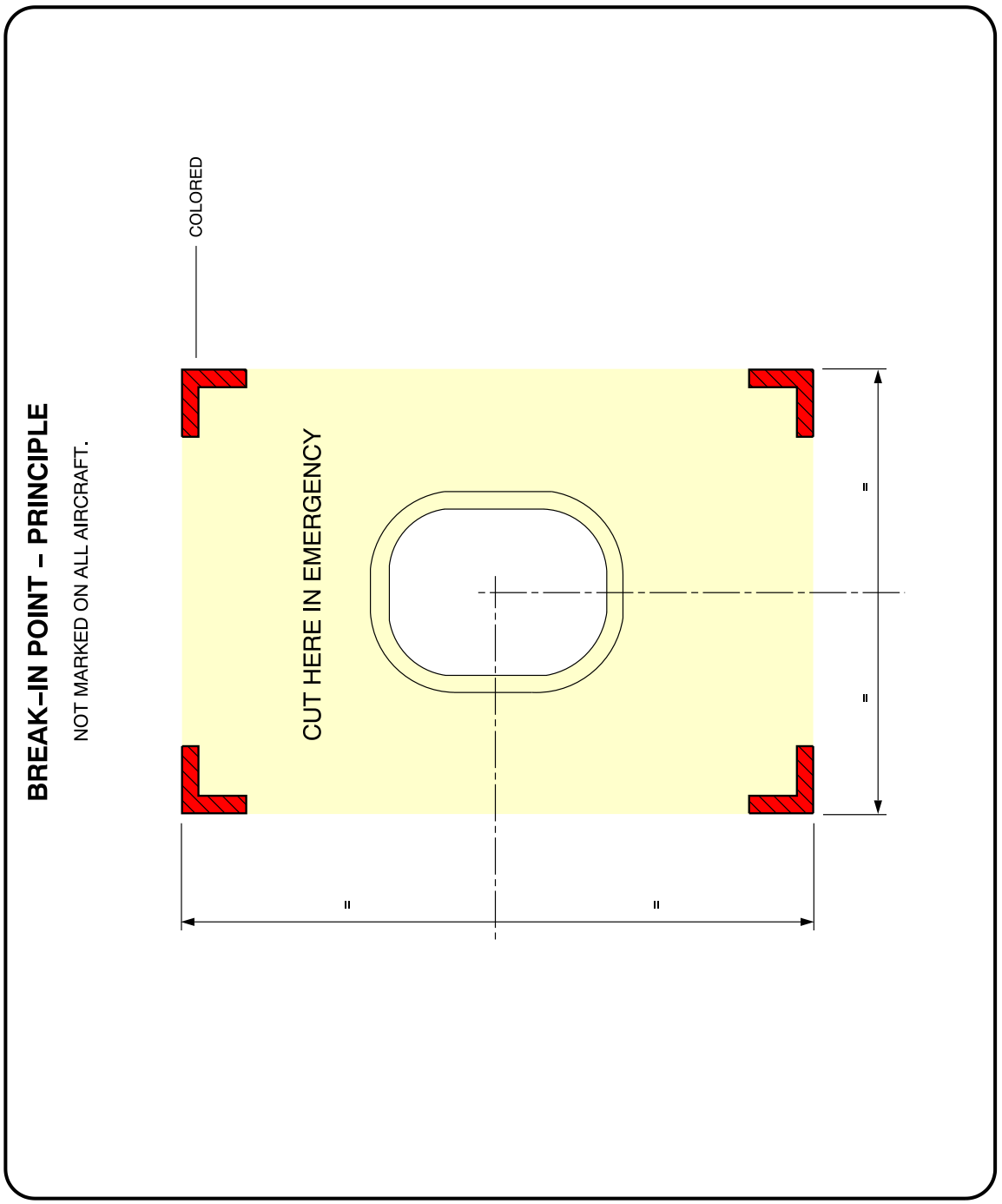
Ground Clearances
FIGURE-10-0-0-991-051-A01

**ON A/C A340-500



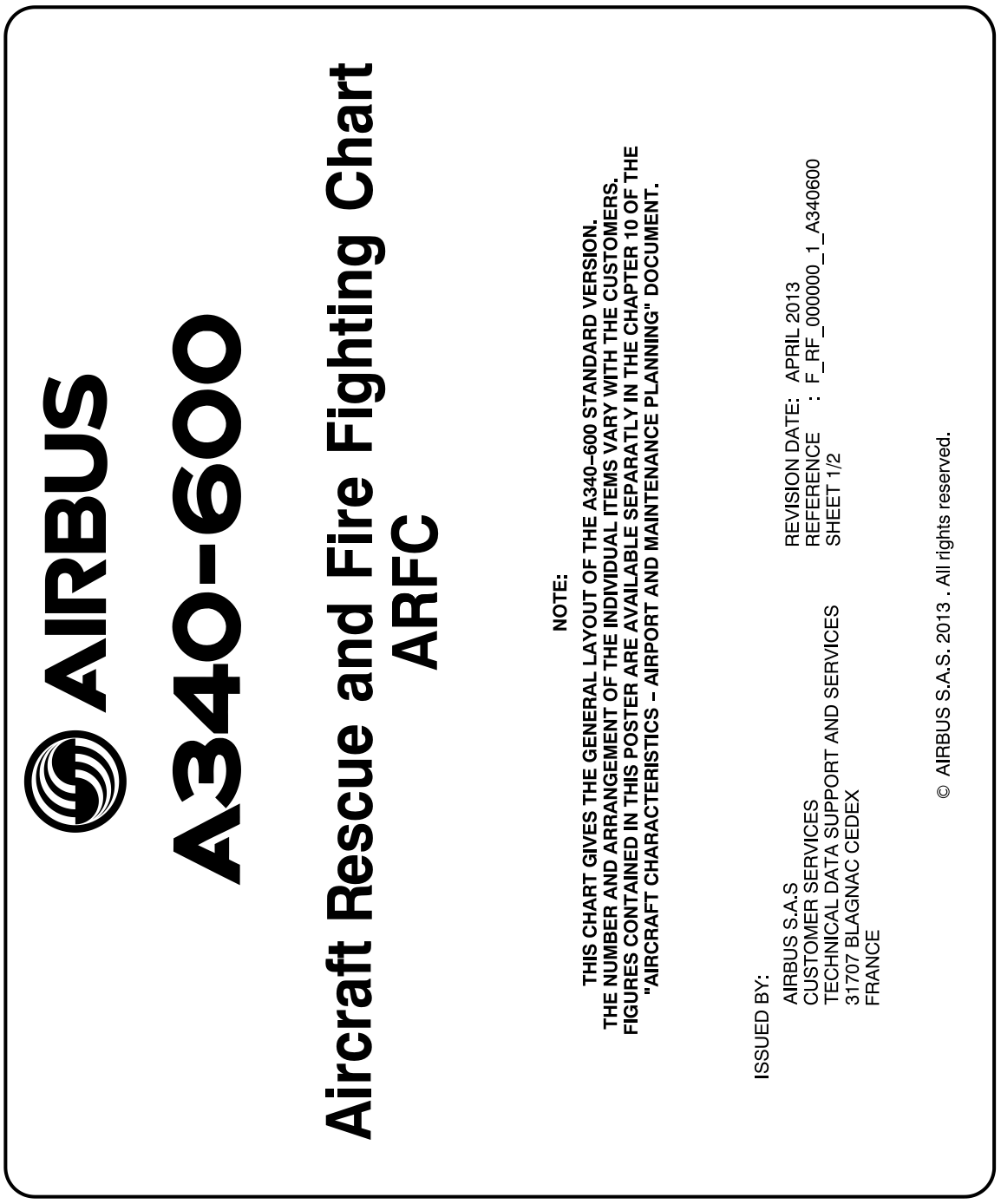
Structural Break-in Points
FIGURE-10-0-0-991-052-A01

**ON A/C A340-600

Aircraft Rescue and Fire Fighting

1. Aircraft Rescue and Fire Fighting Charts
   This sections gives 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 (ARFC) poster available on AIRBUSWorld and the Airbus website.

**ON A/C A340-600



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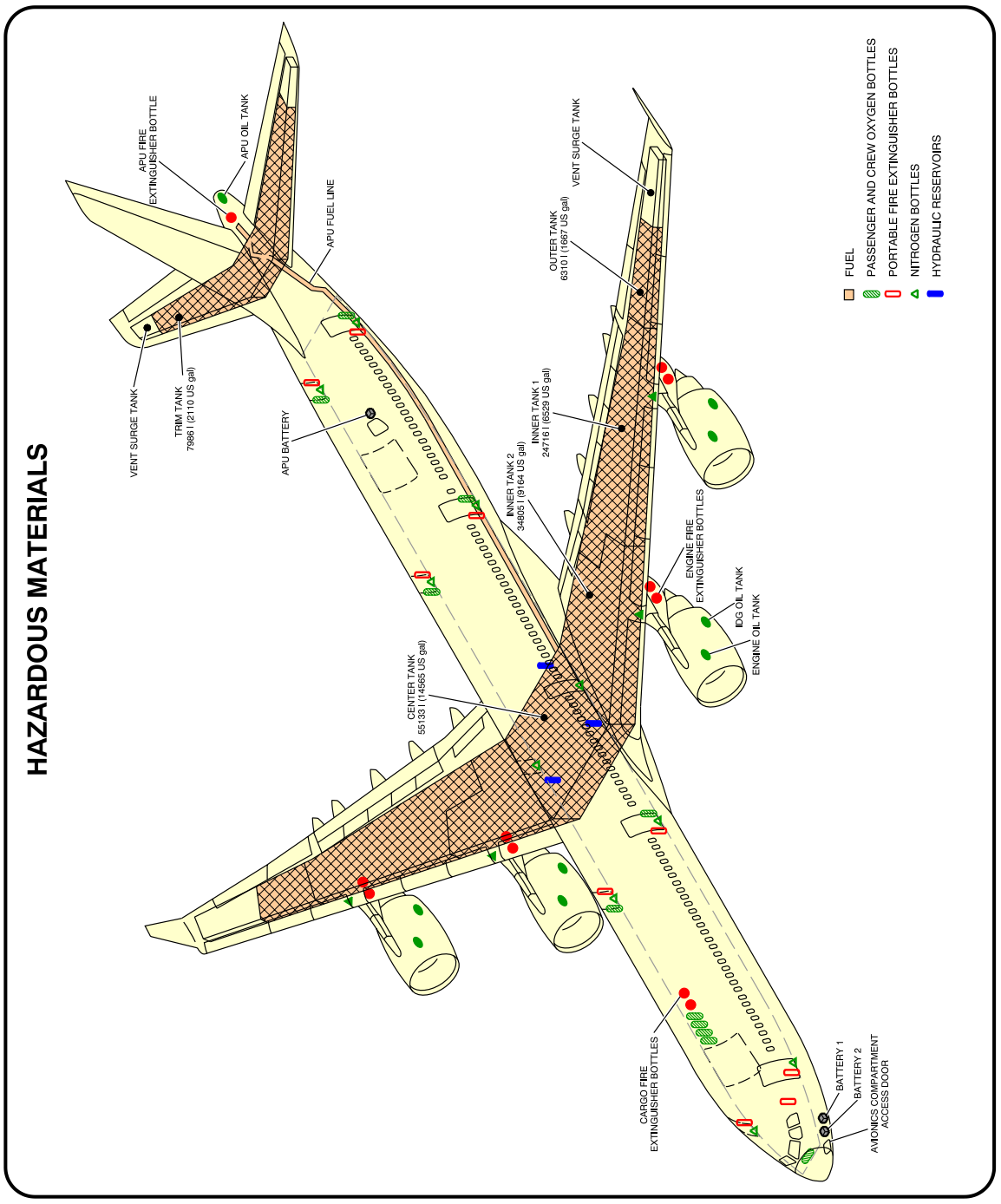
Front Page
FIGURE-10-0-0-991-053-A01

**ON A/C A340-600



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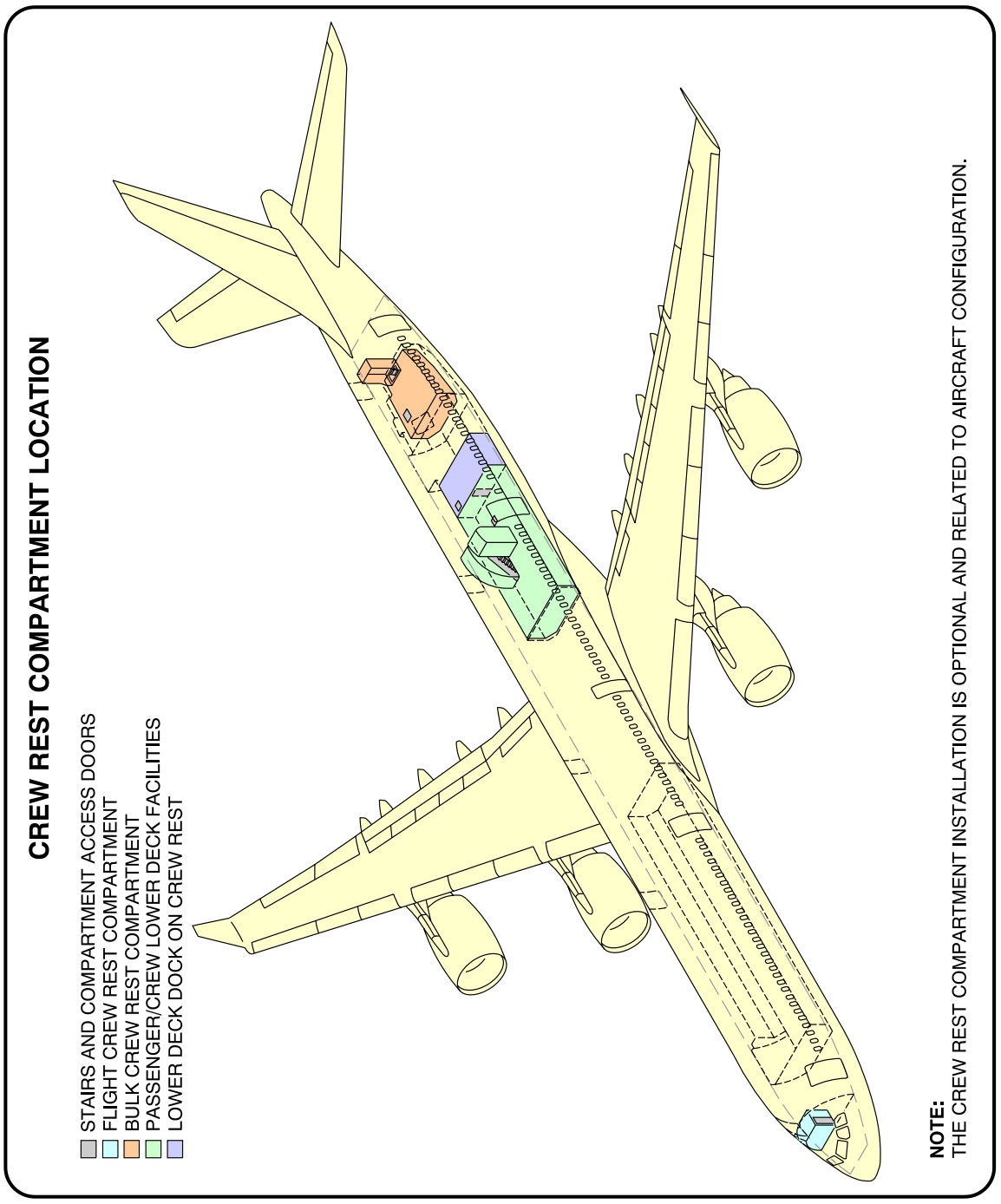
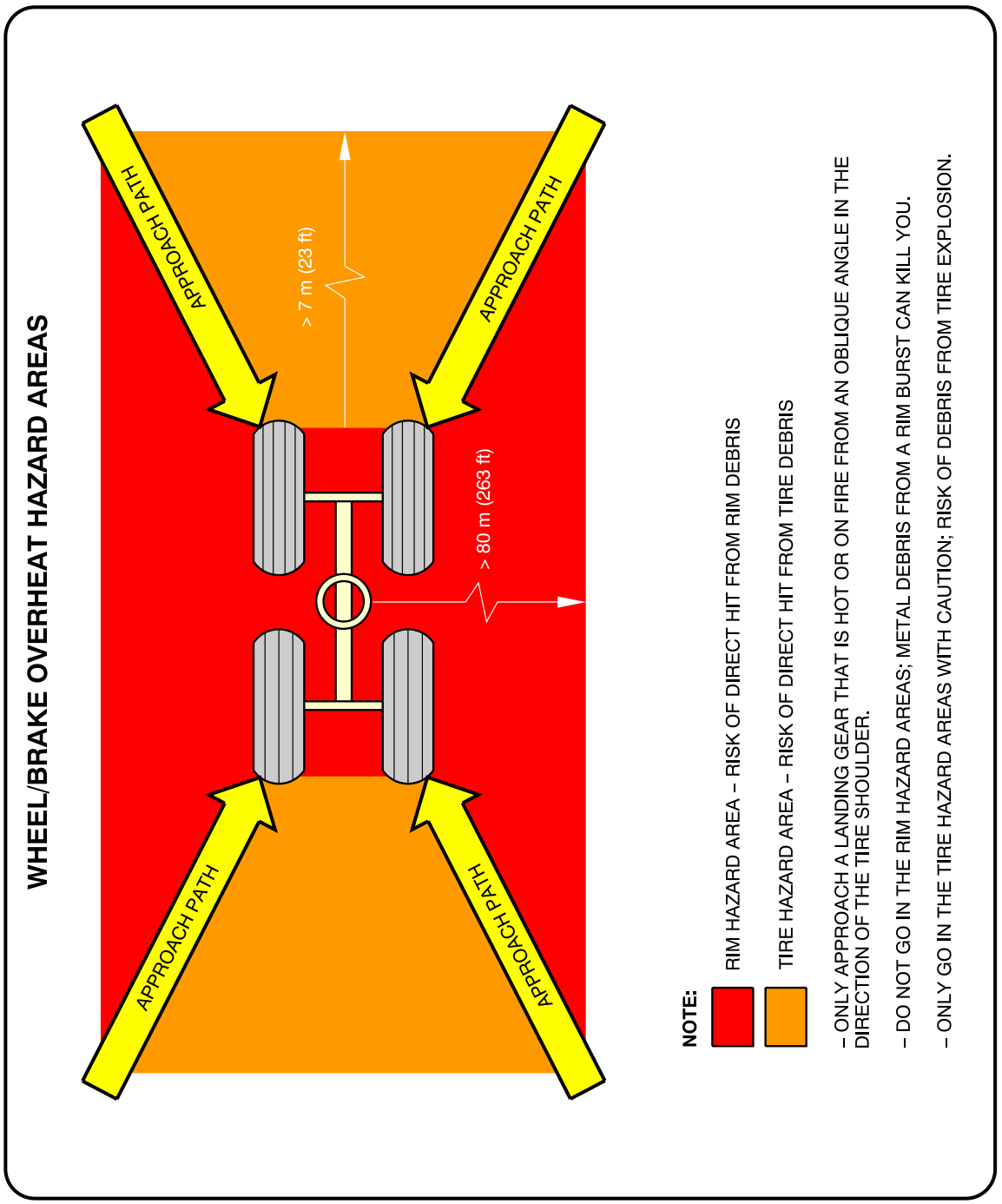
Highly Flammable and Hazardous Materials and Components
FIGURE-10-0-0-991-054-A01

**ON A/C A340-600



Crew Rest Compartments Location
FIGURE-10-0-0-991-055-A01

**ON A/C A340-600



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Wheel/Brake Overheat
Wheel Safety Area (Sheet 1 of 2)
FIGURE-10-0-0-991-056-A01

**ON A/C A340-600

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.

BRAKE OVERHEAT:

1 – GET THE BRAKE TEMPERATURE FROM THE COCKPIT OR USE A REMOTE MEASUREMENT TECHNIQUE.
THE REAL TEMPERATURE OF THE BRAKES CAN BE MUCH HIGHER THAN THE TEMPERATURE SHOWN ON THE ECAM.
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.

1 – IMMEDIATELY STOP THE FIRE:

A) APPROACH THE LANDING GEAR WITH EXTREME CAUTION 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.
IF POSSIBLE, STAY IN A VEHICLE.

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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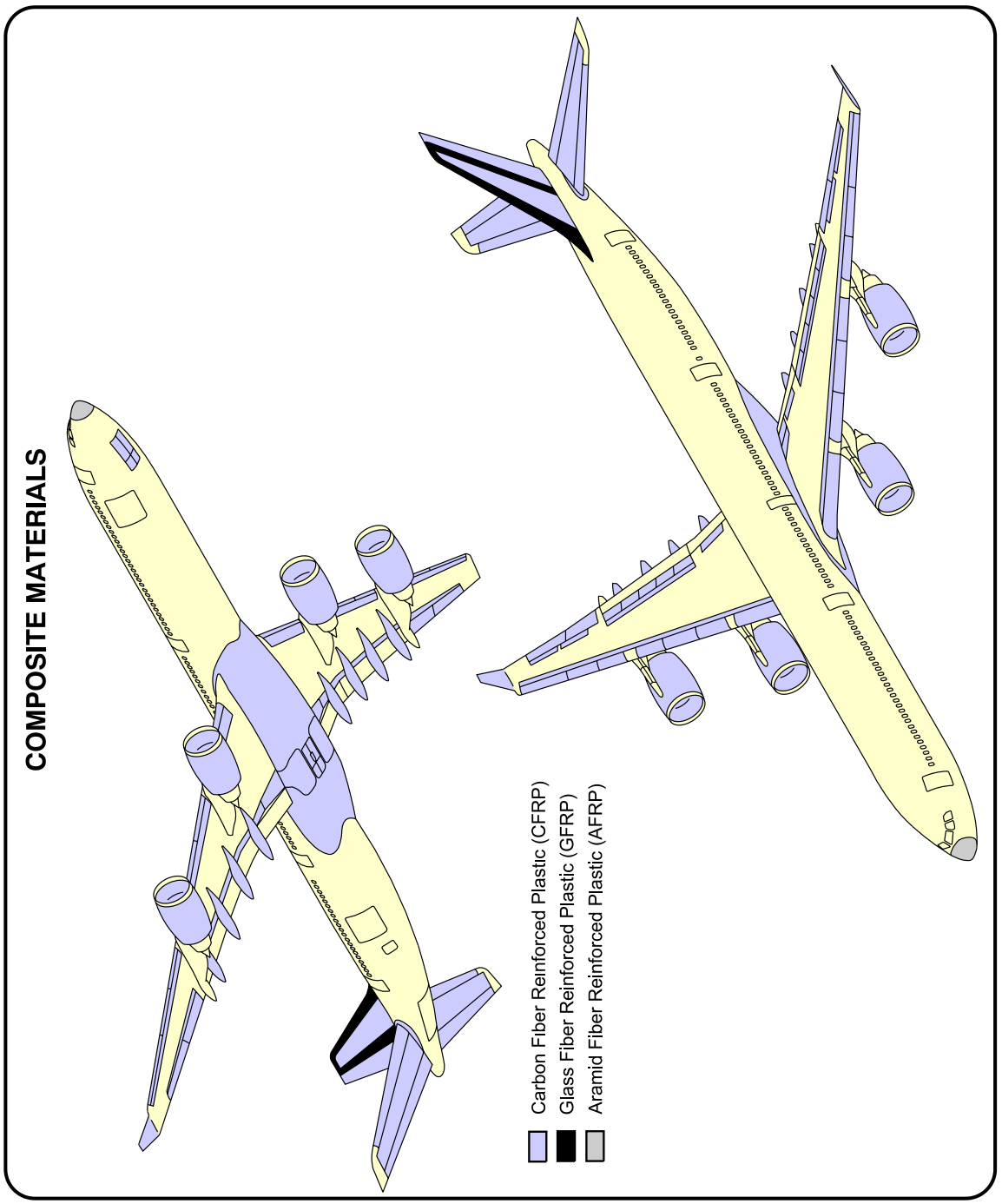
Wheel/Brake Overheat
Recommendations (Sheet 2 of 2)
FIGURE-10-0-0-991-056-A01

**ON A/C A340-600



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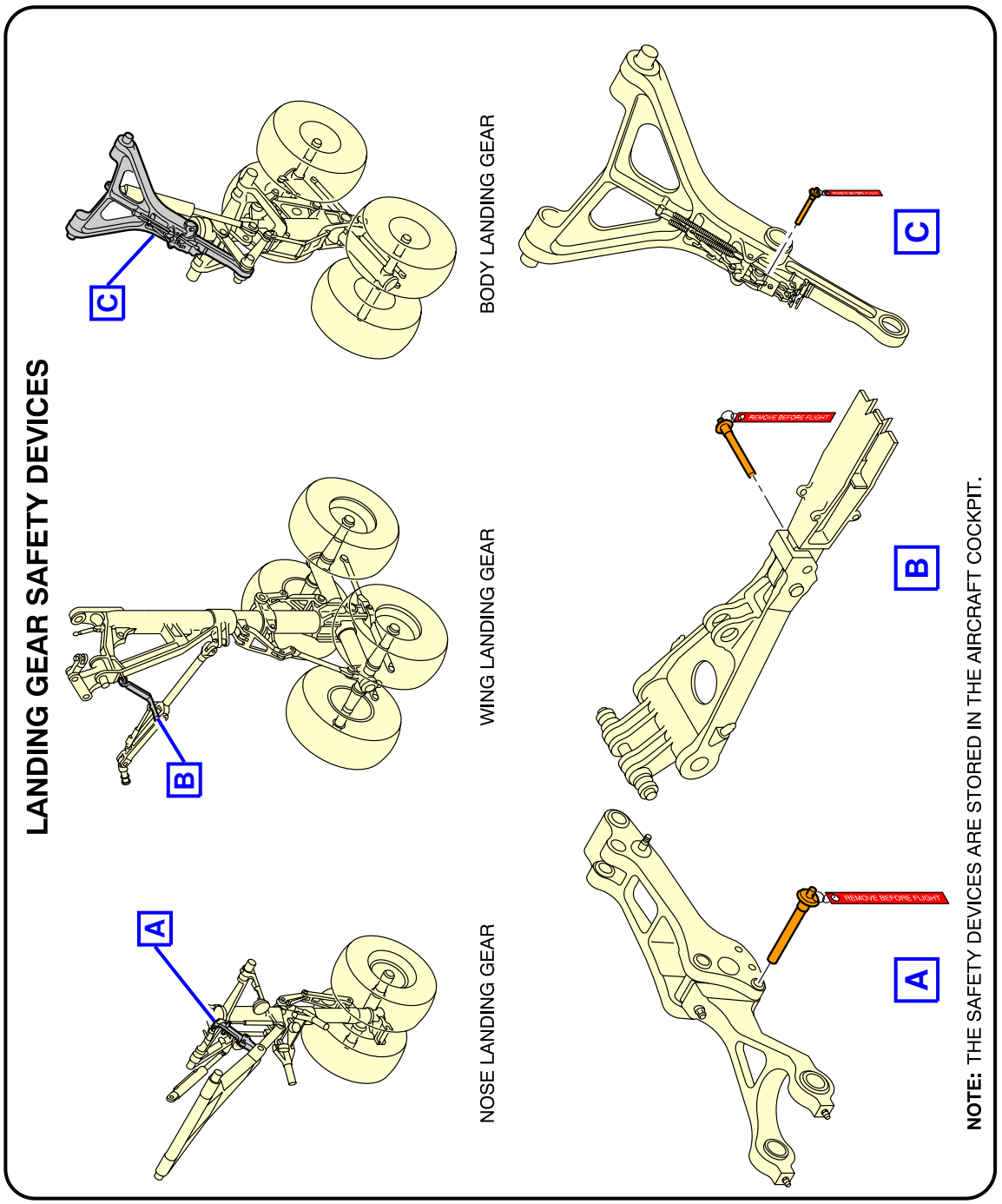
Composite Materials Location
FIGURE-10-0-0-991-057-A01

**ON A/C A340-600



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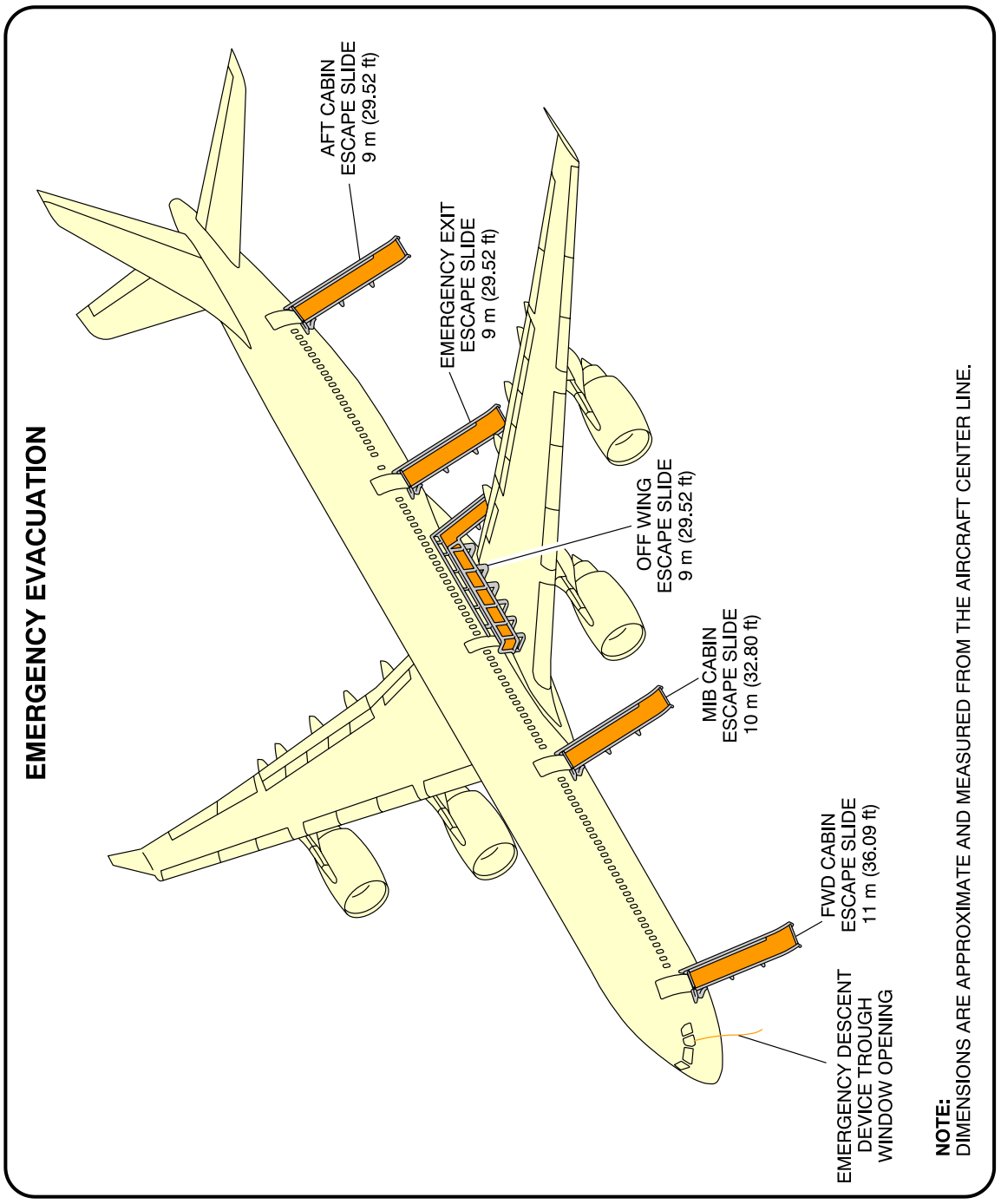
Ground Lock Safety Devices
FIGURE-10-0-0-991-058-A01

**ON A/C A340-600



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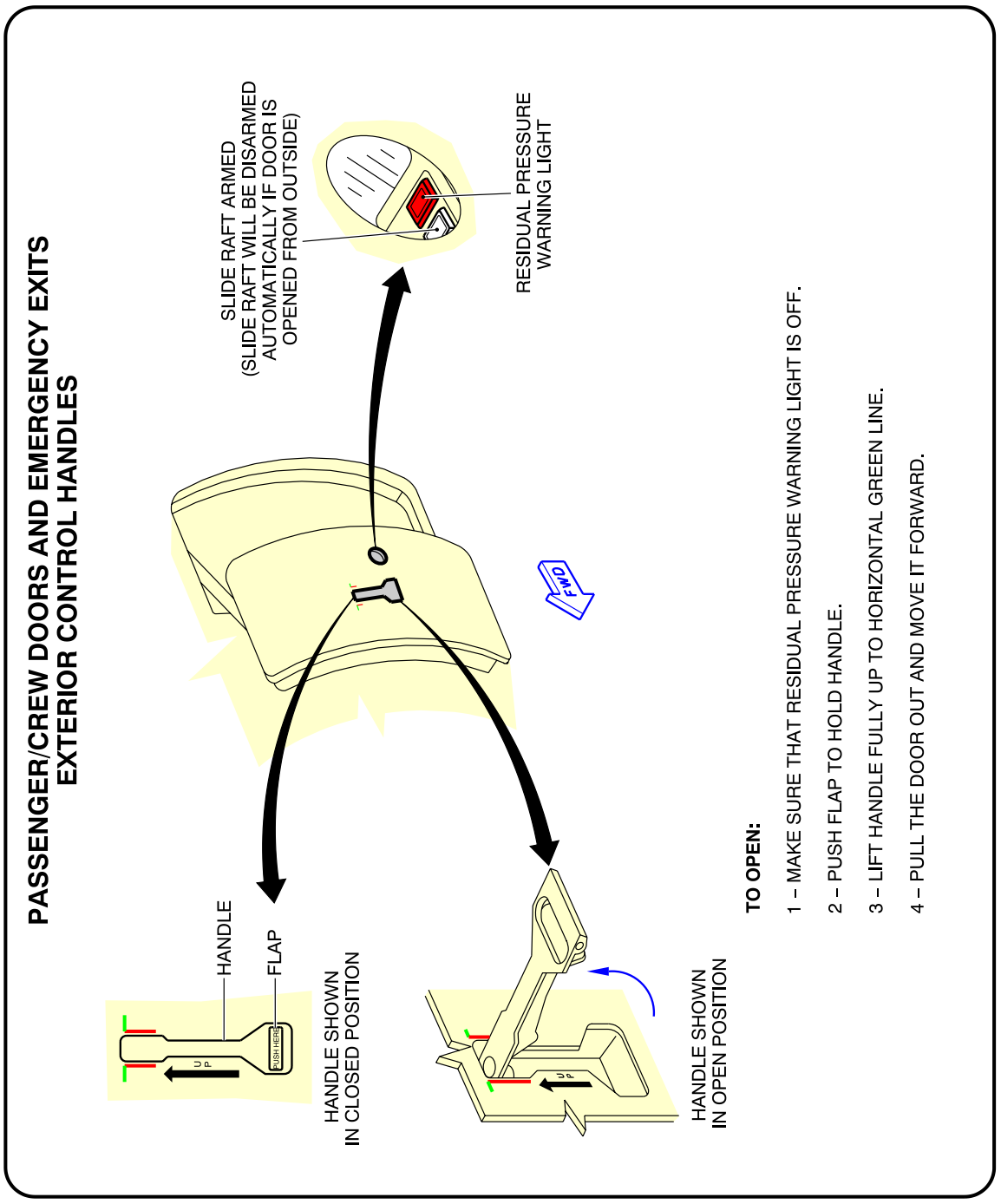
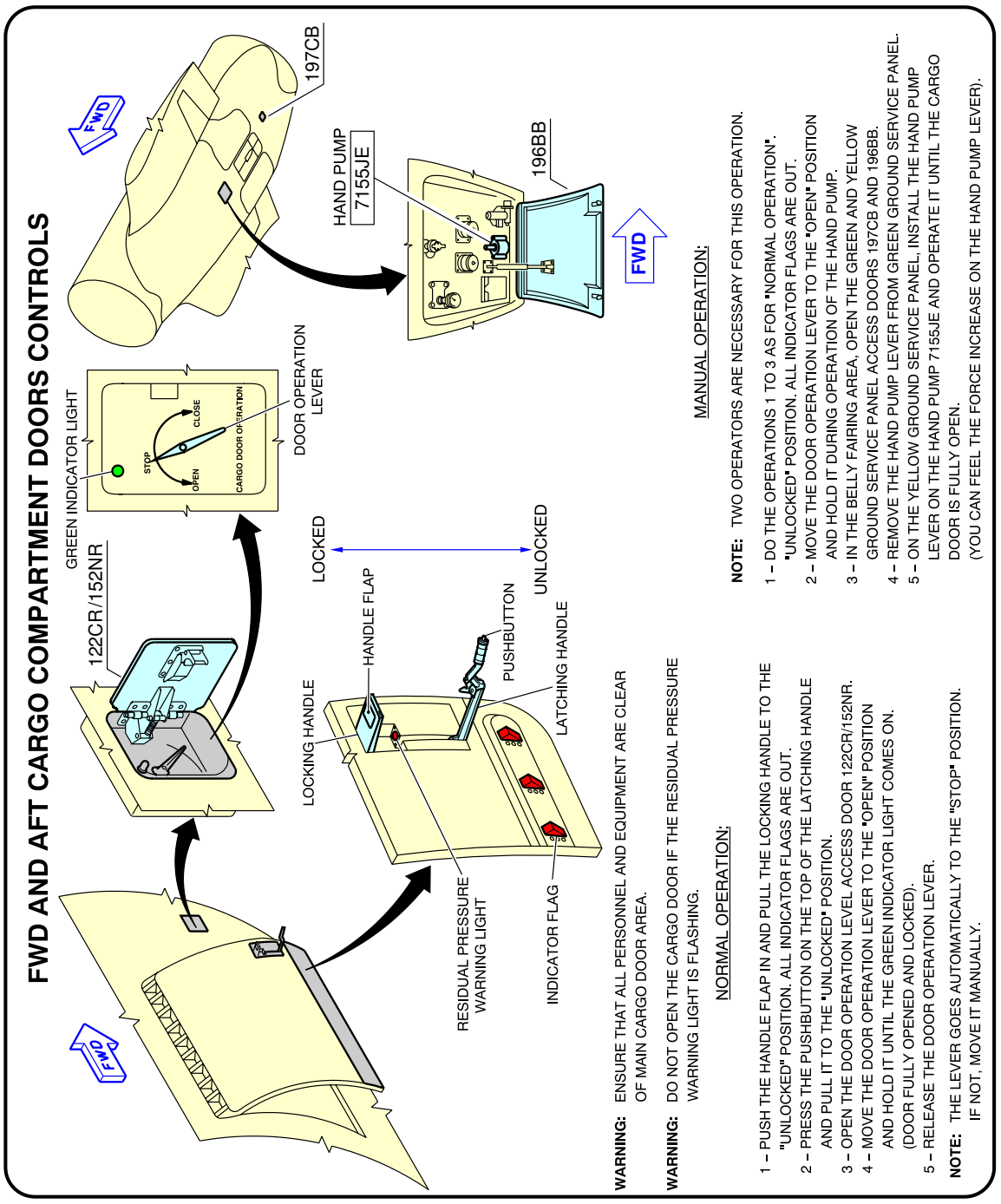
Emergency Evacuation Devices
FIGURE-10-0-0-991-059-A01

**ON A/C A340-600



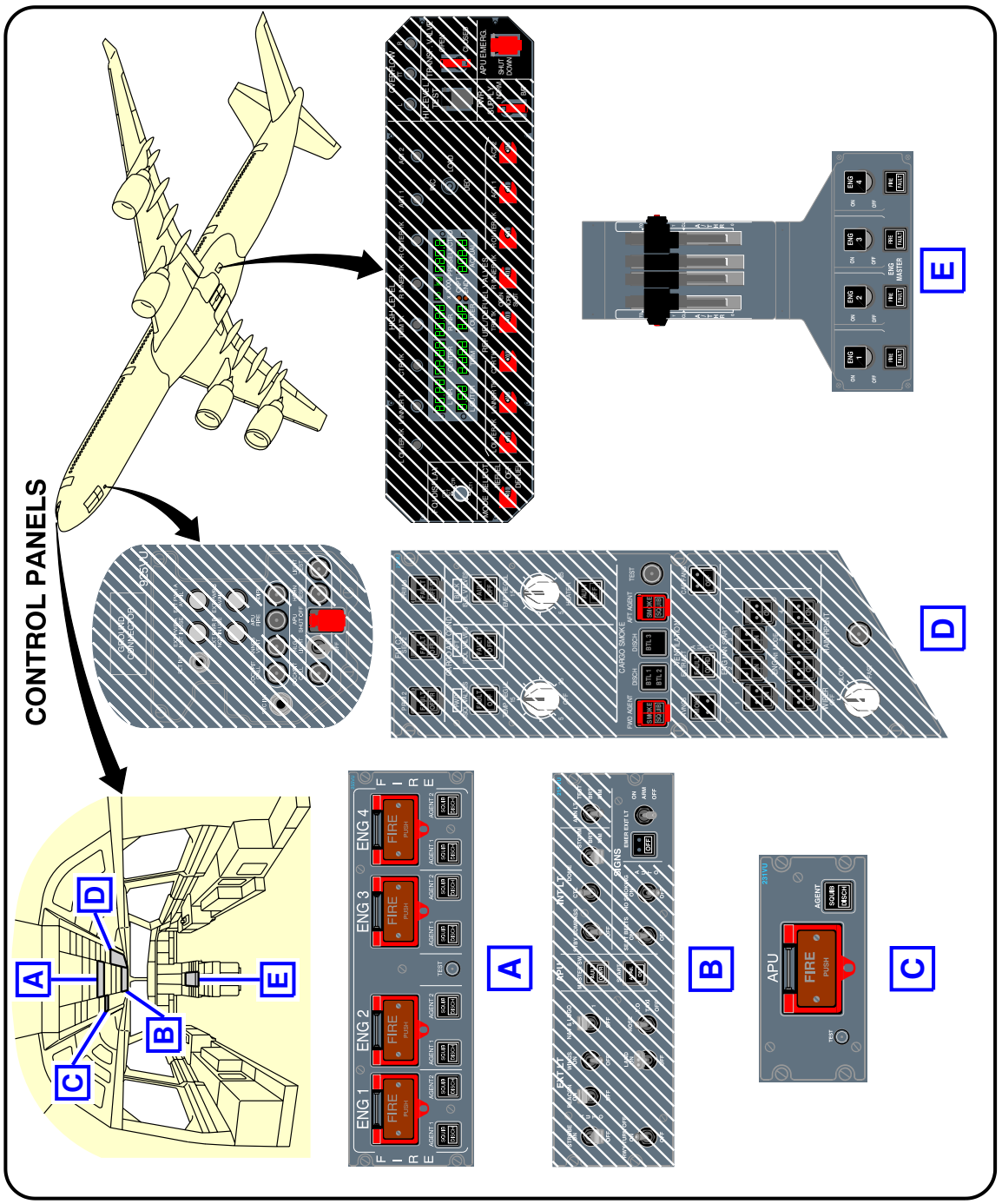
Pax/Crew Doors and Emergency Exits
FIGURE-10-0-0-991-060-A01

**ON A/C A340-600



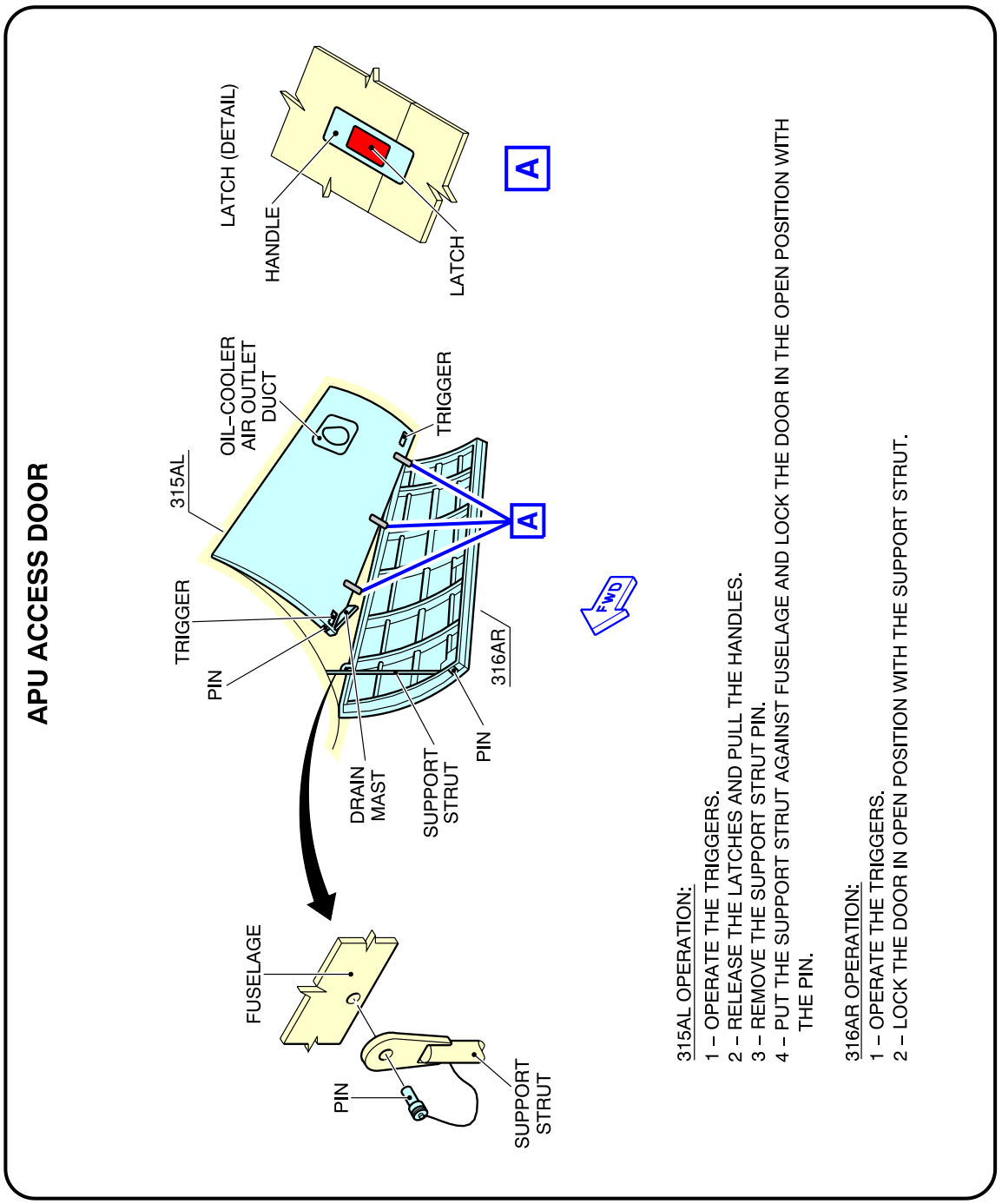
FWD and AFT Lower Deck Cargo Doors
FIGURE-10-0-0-991-061-A01

**ON A/C A340-600



Control Panels
FIGURE-10-0-0-991-062-A01

**ON A/C A340-600



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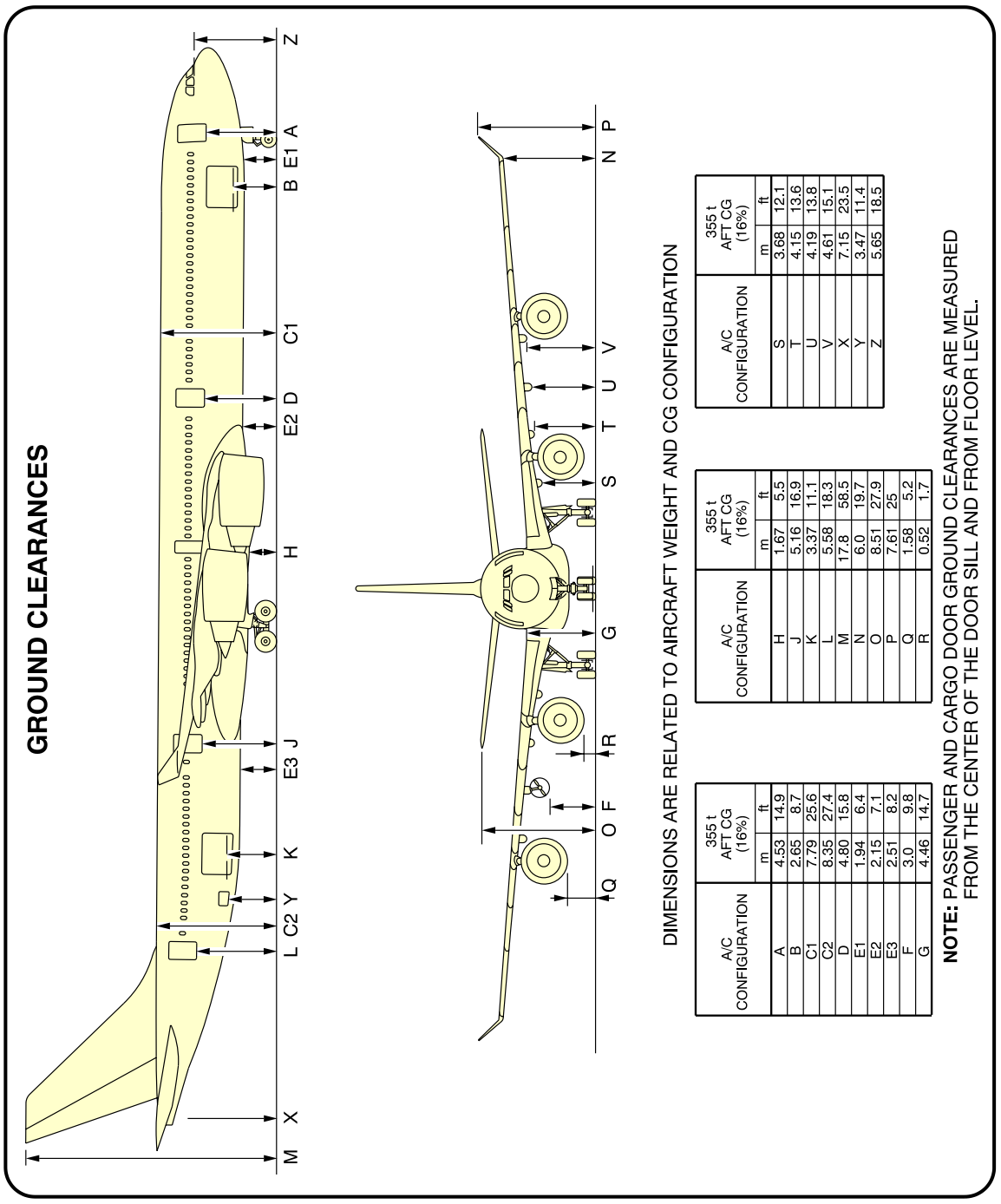
APU Compartment Access
FIGURE-10-0-0-991-063-A01

**ON A/C A340-600



A/C CONFIGURATION	355 t AFT CG (16%)	
	m	ft
A	4.53	14.9
B	2.65	8.7
C1	7.79	25.6
C2	8.35	27.4
D	4.80	15.8
E1	1.94	6.4
E2	2.15	7.1
E3	2.51	8.2
F	3.0	9.8
G	4.46	14.7

A/C CONFIGURATION	355 t AFT CG (16%)	
	m	ft
H	1.67	5.5
J	5.16	16.9
K	3.37	11.1
L	5.58	18.3
M	17.8	58.5
N	6.0	19.7
O	8.51	27.9
P	7.61	25
Q	1.58	5.2
R	0.52	1.7

A/C CONFIGURATION	355 t AFT CG (16%)	
	m	ft
S	3.68	12.1
T	4.15	13.6
U	4.19	13.8
V	4.61	15.1
X	7.15	23.5
Y	3.47	11.4
Z	5.65	18.5

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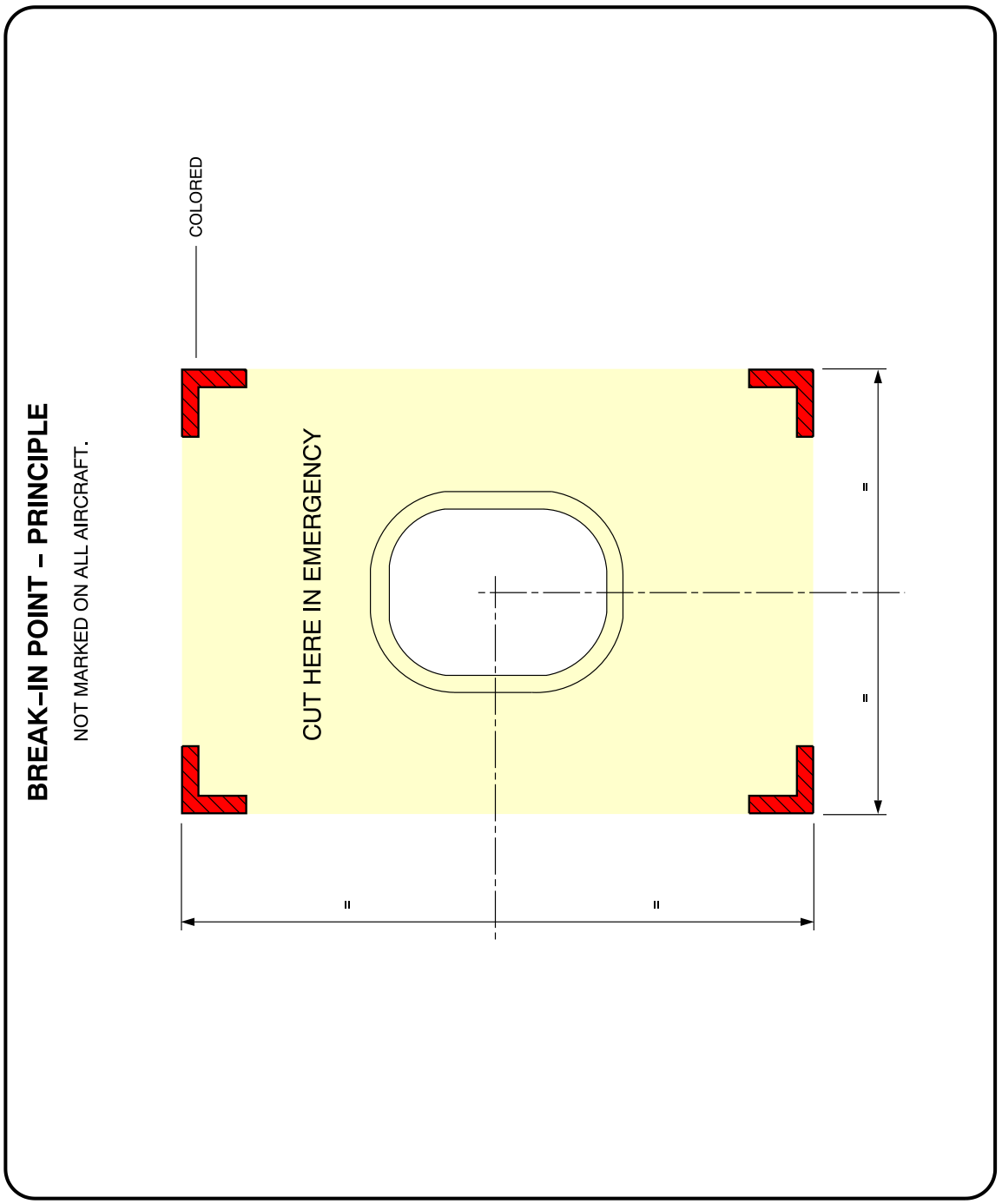
Ground Clearances
FIGURE-10-0-0-991-064-A01

**ON A/C A340-600



Structural Break-in Points
FIGURE-10-0-0-991-065-A01