A340-200/-300

AIRCRAFT CHARACTERISTICS
AIRPORT AND MAINTENANCE PLANNING

AC

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

HIGHLIGHTS

Revision No. 20 - 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 02-01-00	D	
Subject 2-1-1	R	
General Aircraft Characteristics Data	R	DESCRIPTION TITLE UPDATED
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	ILLUSTRATION REVISED
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	R	ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Ground Clearances - Spoilers Extended	R	ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Ground Clearances - Slats Fully Extended	N	ILLUSTRATION ADDED
FIGURE Ground Clearances - Flaps Fully Extended	N	ILLUSTRATION ADDED
FIGURE Ground Clearances - Flaps-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
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
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 Lower Deck Cargo Compartments - Loading Combinations	R	ILLUSTRATION REVISED
FIGURE Lower Deck Cargo Compartments - 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	
Antennas and Probes Location	N	
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	
Engine and Nacelle	N	
FIGURE Engine and Nacelle - Engine Dimensions - CFM 56-5C	N	ILLUSTRATION ADDED
FIGURE Engine and Nacelle - Nacelle Dimensions - CFM 56-5C	N	ILLUSTRATION ADDED
FIGURE Engine and Nacelle - Fan Cowls - CFM 56-5C	N	ILLUSTRATION ADDED
FIGURE Engine and Nacelle - Thrust Reverser Cowls - CFM 56-5C	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
FIGURE Jacking for Maintenance - Wing Jacking Points	N	ILLUSTRATION ADDED
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 - Jacking of the CLG	N	ILLUSTRATION ADDED
FIGURE Jacking for Wheel Change - MLG Jacking Point Loads	N	ILLUSTRATION ADDED
FIGURE Jacking for Wheel Change - MLG Jacking Point Loads	N	ILLUSTRATION ADDED
FIGURE Jacking for Wheel Change - NLG Jacking Point Loads	N	ILLUSTRATION ADDED
FIGURE Jacking for Wheel Change - NLG Jacking Point Loads	N	ILLUSTRATION ADDED
FIGURE Jacking for Wheel Change - CLG Jacking Point Loads	N	ILLUSTRATION ADDED

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE Jacking for Wheel Change - CLG Jacking Point Loads	N	ILLUSTRATION ADDED
Subject 2-14-2	N	
Support of Aircraft	N	
FIGURE Support of Aircraft - Location of Shoring Cradles	N	ILLUSTRATION ADDED
FIGURE Support of Aircraft - Location of Shoring Cradles	N	ILLUSTRATION ADDED
CHAPTER 3	R	
Section 3-5	R	
Subject 3-5-0		
Final Approach Speed	N	
Subject 03-05-01	D	
CHAPTER 4		
Section 4-2		
Subject 4-2-0		
FIGURE Turning Radii - (Sheet 1)	R	
FIGURE Turning Radii - (Sheet 2)	R	ILLUSTRATION REVISED
FIGURE Turning Radii - (Sheet 2)	R	ILLUSTRATION REVISED
Section 4-3		
Subject 4-3-0		
FIGURE Minimum Turning Radii	R	
FIGURE Minimum Turning Radii	R	
Section 4-4		
Subject 4-4-0		
Visibility from Cockpit in Static Position	R	
FIGURE Visibility from Cockpit in Static Position	R	
FIGURE Binocular Visibility Through Windows from Captain Eye Position	N	ILLUSTRATION ADDED
Section 4-5		

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
Subject 4-5-3		
FIGURE 180° Turn on a Runway	R	
FIGURE 180° Turn on a Runway	R	
FIGURE 180° Turn on a Runway	R	
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	
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

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
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	
FIGURE Minimum Servicing Turn-Round Time	N	ILLUSTRATION ADDED
Subject 05-03-01	D	
Section 5-4	R	
Subject 05-04-00	D	
Subject 5-4-1		
Ground Service Connections Layout	R	
FIGURE Ground Service Connections Layout	R	ILLUSTRATION REVISED
Subject 5-4-3		
Hydraulic System	R	PART EFFECTIVITY ADDED/REVISED/DELETED
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		

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
Electrical System	R	PART EFFECTIVITY ADDED/REVISED/DELETED NOTE AMENDED
FIGURE Ground Service Connections - Electrical Service Panel	N	ILLUSTRATION ADDED
Subject 5-4-5		
Oxygen System	R	PART EFFECTIVITY ADDED/REVISED/DELETED NOTE AMENDED
FIGURE Ground Service Connections - Oxygen System	N	ILLUSTRATION ADDED
Subject 5-4-6		
Fuel System	R	
Subject 5-4-7		
Pneumatic System	R	PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Ground Service Connections - LP and HP Ground Connectors	N	ILLUSTRATION ADDED
Subject 5-4-8		
Potable Water System	N	
FIGURE Ground Service Connections - Potable-Water Ground Service Panels	N	ILLUSTRATION ADDED
Potable Water System	N	
FIGURE Ground Service Connections - Potable-Water Ground Service Panels	N	ILLUSTRATION ADDED
Subject 5-4-9		
APU Oil System	R	ADDED ACCESS DOORS FOR "APU OIL SERVICING".
FIGURE Ground Service Connections - APU Oil Servicing	R	
Subject 5-4-10		
Vacuum Toilet System	R	PART EFFECTIVITY ADDED/REVISED/DELETED

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE Ground Service Connections - Waste Water Ground Service Panel	N	ILLUSTRATION ADDED
Section 5-5	R	
Subject 5-5-0		
Engine Starting Pneumatic Requirements	R	ADDED PERFORMANCE REQUIREMENTS FOR PNEUMATIC ENGINE STARTING. CROSS REFERENCED DOCUMENTARY UNIT ADDED/REVISED/DELETED
FIGURE Example for Use of the Charts	R	ILLUSTRATION REVISED
FIGURE Engine Starting Pneumatic Requirements - CFM56-5C2 Series	N	ILLUSTRATION ADDED
Subject 05-05-01	D	
Subject 05-05-02	D	
Subject 05-05-03	D	
Section 5-6	R	
Subject 5-6-0		
Ground Pneumatic Power Requirements	N	ADDED PERFORMANCE REQUIREMENTS OF THE GROUND PNEUMATIC SERVICE EQUIPMENT FOR HEATING AND COOLING OF THE CABIN.
FIGURE Ground Pneumatic Power Requirements - Heating	N	ILLUSTRATION ADDED
FIGURE Ground Pneumatic Power Requirements - Cooling	N	ILLUSTRATION ADDED
Subject 05-06-01	D	
Subject 05-06-02	D	
Section 5-7		
Subject 5-7-0		
Preconditioned Airflow Requirements	R	UPDATED REQUIREMENTS FOR PRECONDITIONED AIRFLOW AT THE GROUND CONNECTION.
FIGURE Preconditioned Airflow Requirements	R	
Section 5-8		

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
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	
De-Icing and External Cleaning	N	
CHAPTER 7		
Section 7-1		
Subject 7-1-0		
General Information	N	TEXT UPDATED
Section 7-2		
Subject 7-2-0		
Landing Gear Footprint	R	ILLUSTRATIONS UPDATED
FIGURE Landing Gear Footprint	R	ILLUSTRATION REVISED
FIGURE Landing Gear Footprint	R	
Section 7-3		
Subject 7-3-0		
Maximum Pavement Loads	R	ILLUSTRATIONS UPDATED
FIGURE Maximum Pavement Loads	R	ILLUSTRATION REVISED
FIGURE Maximum Pavement Loads	R	
Section 7-4	R	
Subject 7-4-0		

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
Landing Gear Loading on Pavement	R	ILLUSTRATIONS AND EXAMPLE UPDATED.
FIGURE Landing Gear Loading on Pavement - WV000, MRW 254 400 kg	N	ILLUSTRATION ADDED
FIGURE Landing Gear Loading on Pavement - WV021, MRW 275 900 kg	N	ILLUSTRATION ADDED
FIGURE Landing Gear Loading on Pavement - WV000, MRW 254 400 kg	N	ILLUSTRATION ADDED
FIGURE Landing Gear Loading on Pavement - WV028, MRW 277 400 kg	N	ILLUSTRATION ADDED
Subject 07-04-01	D	
Subject 07-04-02	D	
Subject 07-04-03	D	
Section 7-5	R	
Subject 7-5-0		
Flexible Pavement Requirements - US Army Corps of Engineers Design Method S-77-1	R	ILLUSTRATIONS AND EXAMPLE UPDATED. DESCRIPTION TITLE UPDATED
FIGURE Flexible Pavement Requirements - WV000, MRW 254 400 kg, CG 37.7 %	N	ILLUSTRATION ADDED
FIGURE Flexible Pavement Requirements - WV000, MRW 254 400 kg, CG 38.18 %	N	ILLUSTRATION ADDED
Subject 07-05-01	D	
Section 7-6	R	
Subject 7-6-0		
Flexible Pavement Requirements - LCN Conversion	R	TEXT, ILLUSTRATIONS AND EXAMPLE UPDATED.
FIGURE Flexible Pavement Requirements - LCN table	N	ILLUSTRATION ADDED
FIGURE Flexible Pavement Requirements - LCN - WV000, MRW 254 400 kg, CG 37.7 %	N	ILLUSTRATION ADDED
FIGURE Flexible Pavement Requirements - LCN table	N	ILLUSTRATION ADDED

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE Flexible Pavement Requirements - LCN - WV000, MRW 254 400 kg, CG 38.18 %	N	ILLUSTRATION ADDED
Subject 07-06-01	D	
Section 7-7	R	
Subject 7-7-0		
Rigid Pavement Requirements - Portland Cement Association Design Method	R	TEXT, ILLUSTRATIONS AND EXAMPLE UPDATED. NOTE AMENDED
FIGURE Rigid Pavement Requirements - WV000, MRW 254 400 kg, CG 37.7 %	N	ILLUSTRATION ADDED
FIGURE Rigid Pavement Requirements - WV000, MRW 254 400 kg, CG 38.18 %	N	ILLUSTRATION ADDED
Subject 07-07-01	D	
Section 7-8	R	
Subject 7-8-0		
Rigid Pavement Requirements - LCN Conversion	R	TEXT, ILLUSTRATIONS AND EXAMPLE UPDATED.
FIGURE Rigid Pavement Requirements - LCN table	N	ILLUSTRATION ADDED
FIGURE Rigid Pavement Requirements - LCN table	N	ILLUSTRATION ADDED
FIGURE Radius of Relative Stiffness (L)	N	ILLUSTRATION ADDED
FIGURE Rigid Pavement Requirements - LCN - WV000, MRW 254 400 kg, CG 37.7 %	N	ILLUSTRATION ADDED
FIGURE Rigid Pavement Requirements - LCN - WV021, MRW 275 900 kg, CG 37 %	N	ILLUSTRATION ADDED
FIGURE Rigid Pavement Requirements - LCN - WV000, MRW 254 400 kg, CG 38.18 %	N	ILLUSTRATION ADDED
FIGURE Rigid Pavement Requirements - LCN - WV028, MRW 277 400 kg, CG 35 %	N	ILLUSTRATION ADDED

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE Radius of Relative Stiffness (Effect E and μ ON "L" values)	N	ILLUSTRATION ADDED
Subject 07-08-01	D	
Subject 07-08-02	D	
Subject 07-08-03	D	
Subject 07-08-04	D	
Section 7-9	R	
Subject 7-9-0		
Aircraft Classification Number - Flexible and Rigid Pavements	R	TEXT, ILLUSTRATIONS AND EXAMPLE UPDATED. DESCRIPTION TITLE UPDATED
FIGURE Aircraft Classification Number - ACN Table	N	ILLUSTRATION ADDED
FIGURE Aircraft Classification Number - Flexible Pavement - WV000, MRW 254 400 kg, CG 37.7 %	N	ILLUSTRATION ADDED
FIGURE Aircraft Classification Number - Flexible Pavement - WV021, MRW 275 900 kg, CG 37 %	N	ILLUSTRATION ADDED
FIGURE Aircraft Classification Number - ACN Table	N	ILLUSTRATION ADDED
FIGURE Aircraft Classification Number - Flexible Pavement - WV000, MRW 254 400 kg, CG 38.18 %	N	ILLUSTRATION ADDED
FIGURE Aircraft Classification Number - Flexible Pavement - WV028, MRW 277 400 kg, CG 35 %	N	ILLUSTRATION ADDED
Subject 07-09-01	D	
Subject 07-09-02	D	
CHAPTER 8	R	
Section 8-0	N	
Subject 8-0-0	N	
Scaled Drawings	N	
FIGURE Scaled Drawing	N	ILLUSTRATION ADDED

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE Scaled Drawing	N	ILLUSTRATION ADDED
Section 08-01	D	
CHAPTER 10	N	
Section 10-0	N	
Subject 10-0-0	N	
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
FIGURE Ground Lock Safety Devices	N	ILLUSTRATION ADDED
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

LIST OF EFFECTIVE CONTENT

Revision No. 20 - Apr 01/13

CONTENT	CHG CODE	LAST REVISION DATE
CHAPTER 1		
Subject 1-1-0		
Purpose	R	Apr 01/13
Subject 1-2-1		
Glossary	N	Apr 01/13
CHAPTER 2		
Subject 2-1-1		
General Aircraft Characteristics Data	R	Apr 01/13
Subject 2-2-0		
General Aircraft Dimensions	R	Apr 01/13
FIGURE General Aircraft Dimensions	R	Apr 01/13
FIGURE General Aircraft Dimensions	R	Apr 01/13
Subject 2-3-0		
Ground Clearances	R	Apr 01/13
FIGURE Ground Clearances	R	Apr 01/13
FIGURE Ground Clearances	N	Apr 01/13
FIGURE Ground Clearances - Ailerons Up	R	Apr 01/13
FIGURE Ground Clearances - Ailerons Down	R	Apr 01/13
FIGURE Ground Clearances - Spoilers Extended	R	Apr 01/13
FIGURE Ground Clearances - Slats Fully Extended	N	Apr 01/13
FIGURE Ground Clearances - Flaps Fully Extended	N	Apr 01/13
FIGURE Ground Clearances - Flaps-Tracks Fully Extended	N	Apr 01/13
Subject 2-4-1		
Interior Arrangements - Plan View	R	Apr 01/13
FIGURE Interior Arrangements - Plan View - Typical Configuration	R	Apr 01/13
FIGURE Interior Arrangements - Plan View - Typical Configuration	R	Apr 01/13

CONTENT	CHG CODE	LAST REVISION DATE
FIGURE Interior Arrangements - Plan View - Typical Configuration	R	Apr 01/13
Subject 2-5-0		
Interior Arrangements - Cross Section	R	Apr 01/13
FIGURE Interior Arrangements - Cross Section - Typical Configuration	R	Apr 01/13
Subject 2-6-1		
Lower Deck Cargo Compartments	R	Apr 01/13
FIGURE Lower Deck Cargo Compartments - Location and Dimensions	R	Apr 01/13
FIGURE Lower Deck Cargo Compartments - Loading Combinations	R	Apr 01/13
FIGURE Lower Deck Cargo Compartments - Loading Combinations	N	Apr 01/13
Subject 2-7-0		
Door Clearances	N	Apr 01/13
FIGURE Door Identification and Location - Door Identification	N	Apr 01/13
FIGURE Door Identification and Location - Door Identification	N	Apr 01/13
Subject 2-7-1		
Forward Passenger / Crew Door		May 01/07
FIGURE Forward Passenger / Crew Doors		May 01/07
Subject 2-7-2		
Mid Passenger / Crew Door		May 01/07
FIGURE Mid Passenger / Crew Door		May 01/07
Subject 2-7-3		
Emergency Exits		May 01/07
FIGURE Emergency Exits		May 01/07
Subject 2-7-4		
Aft Passenger / Crew Doors		May 01/07
FIGURE Aft Passenger / Crew Doors		May 01/07
Subject 2-7-5		
Forward Cargo Compartment Doors		May 01/07
FIGURE Forward Cargo Compartment Doors		May 01/07

CONTENT	CHG CODE	LAST REVISION DATE
Subject 2-7-6		
Aft Cargo Compartment Doors		May 01/07
FIGURE Aft Cargo Compartment Doors		May 01/07
Subject 2-7-7		
Bulk Cargo Compartment Doors		May 01/07
FIGURE Bulk Cargo Compartment Doors		May 01/07
Subject 2-7-8		
Main Landing Gear Doors		May 01/07
FIGURE Main and Center Landing Gear Doors		May 01/07
Subject 2-7-9		
Radome		May 01/07
FIGURE Radome		May 01/07
Subject 2-7-10		
APU and Nose Landing Gear Doors		May 01/07
FIGURE APU and Nose Landing Gear Doors		May 01/07
FIGURE APU and Nose Landing Gear Doors		May 01/07
Subject 2-8-0		
Escape Slides	N	Apr 01/13
FIGURE Escape Slides - Location	N	Apr 01/13
FIGURE Escape Slides - Location	N	Apr 01/13
Subject 2-9-0		
Landing Gear Maintenance Pits	N	Apr 01/13
FIGURE Landing Gear Maintenance Pits - Maintenance Pit Envelopes	N	Apr 01/13
FIGURE Landing Gear Maintenance Pits - Maintenance Pit Envelopes	N	Apr 01/13
Landing Gear	N	Apr 01/13
FIGURE Main Landing Gear - General	N	Apr 01/13
FIGURE Centerline Landing Gear - General	N	Apr 01/13
FIGURE Nose Landing Gear - General	N	Apr 01/13
Subject 2-10-0		

CONTENT	CHG CODE	LAST REVISION DATE
FIGURE Jacking for Maintenance - Jacking Dimensions	N	Apr 01/13
FIGURE Jacking for Maintenance - Load at the Aircraft Jacking Points	N	Apr 01/13
FIGURE Jacking for Maintenance - Load at the Aircraft Jacking Points	N	Apr 01/13
Subject 2-14-1		
Jacking for Wheel Change	N	Apr 01/13
FIGURE Jacking for Wheel Change - MLG Jacking Point Heights	N	Apr 01/13
FIGURE Jacking for Wheel Change - Jacking of the NLG	N	Apr 01/13
FIGURE Jacking for Wheel Change - Jacking of the CLG	N	Apr 01/13
FIGURE Jacking for Wheel Change - MLG Jacking Point Loads	N	Apr 01/13
FIGURE Jacking for Wheel Change - MLG Jacking Point Loads	N	Apr 01/13
FIGURE Jacking for Wheel Change - NLG Jacking Point Loads	N	Apr 01/13
FIGURE Jacking for Wheel Change - NLG Jacking Point Loads	N	Apr 01/13
FIGURE Jacking for Wheel Change - CLG Jacking Point Loads	N	Apr 01/13
FIGURE Jacking for Wheel Change - CLG Jacking Point Loads	N	Apr 01/13
Subject 2-14-2		
Support of Aircraft	N	Apr 01/13
FIGURE Support of Aircraft - Location of Shoring Cradles	N	Apr 01/13
FIGURE Support of Aircraft - Location of Shoring Cradles	N	Apr 01/13
CHAPTER 3		
Subject 3-1-0		
General Information		May 01/07
Subject 3-2-0		
Payload / Range		May 01/07
Subject 3-2-1		
ISA Conditions		May 01/07
FIGURE PAYLOAD / RANGE - CFM56-5C2 engine		May 01/07
FIGURE PAYLOAD / RANGE - CFM56-5C2 engine		May 01/07

CONTENT	CHG CODE	LAST REVISION DATE
FIGURE PAYLOAD / RANGE - CFM56-5C3 engine		May 01/07
FIGURE PAYLOAD / RANGE - CFM56-5C3 engine		May 01/07
FIGURE PAYLOAD / RANGE - CFM56-5C4 engine		May 01/07
FIGURE PAYLOAD / RANGE - CFM56-5C4 engine		May 01/07
FIGURE PAYLOAD / RANGE - CFM56-5C4 engine		May 01/07
Subject 3-3-0		
FAR / JAR Takeoff Weight Limitation		May 01/07
Subject 3-3-1		
FAR / JAR Takeoff Weight Limitation		May 01/07
FIGURE FAR / JAR Takeoff Weight Limitation - ISA Conditions – CFM56-5C2 engine		May 01/07
FIGURE FAR / JAR Takeoff Weight Limitation - ISA Conditions – CFM56-5C2 engine		May 01/07
FIGURE FAR / JAR Takeoff Weight Limitation - ISA Conditions – CFM56-5C3 engine		May 01/07
FIGURE FAR / JAR Takeoff Weight Limitation - ISA Conditions – CFM56-5C3 engine		May 01/07
FIGURE FAR / JAR Takeoff Weight Limitation - ISA Conditions – CFM56-5C4 engine		May 01/07
FIGURE FAR / JAR Takeoff Weight Limitation - ISA Conditions – CFM56-5C4 engine		May 01/07
Subject 3-3-2		
ISA +15°C (ISA +27°F) Conditions		May 01/07
FIGURE FAR / JAR Takeoff Weight Limitation - ISA +15°C (ISA +27°F) Conditions – CFM56-5C2 engine		May 01/07
FIGURE FAR / JAR Takeoff Weight Limitation - ISA +15°C (ISA +27°F) Conditions – CFM56-5C2 engine		May 01/07
FIGURE FAR / JAR Takeoff Weight Limitation - ISA +15°C (ISA +27°F) Conditions – CFM56-5C3 engine		May 01/07
FIGURE FAR / JAR Takeoff Weight Limitation - ISA +15°C (ISA +27°F) Conditions – CFM56-5C3 engine		May 01/07

CONTENT	CHG CODE	LAST REVISION DATE
FIGURE FAR / JAR Takeoff Weight Limitation - ISA +15°C (ISA +27°F) Conditions – CFM56-5C4 engine		May 01/07
FIGURE FAR / JAR Takeoff Weight Limitation - ISA +15°C (ISA +27°F) Conditions – CFM56-5C4 engine		May 01/07
Subject 3-4-0		
Landing Field Length		May 01/07
Subject 3-4-1		
ISA Conditions All series engine		May 01/07
FIGURE FAR / JAR Landing Field Length - ISA Conditions – CFM56-5C2 engine		May 01/07
FIGURE FAR / JAR Landing Field Length - ISA Conditions – CFM56-5C2 engine		May 01/07
FIGURE FAR / JAR Landing Field Length - ISA Conditions – CFM56-5C3 engine		May 01/07
FIGURE FAR / JAR Landing Field Length - ISA Conditions – CFM56-5C3 engine		May 01/07
FIGURE FAR / JAR Landing Field Length - ISA Conditions – CFM56-5C4 engine		May 01/07
FIGURE FAR / JAR Landing Field Length - ISA Conditions – CFM56-5C4 engine		May 01/07
Subject 3-5-0		
Final Approach Speed	N	Apr 01/13
CHAPTER 4		
Subject 4-1-0		
General Information		May 01/07
Subject 4-2-0		
Turning Radii		Jan 01/11
FIGURE Turning Radii - (Sheet 1)	R	Apr 01/13
FIGURE Turning Radii - (Sheet 2)	R	Apr 01/13
FIGURE Turning Radii - (Sheet 2)	R	Apr 01/13
Subject 4-3-0		

CONTENT	CHG CODE	LAST REVISION DATE
FIGURE Airplane Parking - Steering Geometry		May 01/07
FIGURE Airplane Parking - Minimum Parking Space Requirements		May 01/07
CHAPTER 5		
Subject 5-0-0		
TERMINAL SERVICING		Jan 01/10
Subject 5-1-0		
Airplane Servicing Arrangements		Jan 01/10
Subject 5-1-1		
Symbols Used on Servicing Diagrams	R	Apr 01/13
Subject 5-1-2		
Typical Ramp Layout - Open Apron	R	Apr 01/13
FIGURE Typical Ramp Layout - Open Apron	R	Apr 01/13
FIGURE Typical Ramp Layout - Open Apron	R	Apr 01/13
Subject 5-1-3		
Typical Ramp Layout - Gate	R	Apr 01/13
FIGURE Typical Ramp Layout - Gate	R	Apr 01/13
FIGURE Typical Ramp Layout - Gate	R	Apr 01/13
Subject 5-2-0		
Terminal Operations - Full Servicing Turn Round Time	N	Apr 01/13
FIGURE Full Servicing Turn Round Time Chart	N	Apr 01/13
Terminal Operations - Full Servicing Turn Round Time	N	Apr 01/13
FIGURE Full Servicing Turn Round Time Chart	N	Apr 01/13
Subject 5-3-0		
Terminal Operations - Minimum Servicing Turn-Round Time	N	Apr 01/13
FIGURE Minimum Servicing Turn-Round Time	N	Apr 01/13
Terminal Operations - Minimum Servicing Turn-Round Time	N	Apr 01/13
FIGURE Minimum Servicing Turn-Round Time	N	Apr 01/13
Subject 5-4-1		
Ground Service Connections Layout	R	Apr 01/13

CONTENT	CHG CODE	LAST REVISION DATE
CHAPTER 6		
Subject 6-1-0		
Engine Exhaust Velocities and Temperatures		May 01/07
Subject 6-1-1		
Engine Exhaust Velocities Contours - Ground Idle Power		May 01/07
FIGURE Engine Exhaust Velocities - Ground Idle Power - CFM56-5C series engine		May 01/07
Subject 6-1-2		
Engine Exhaust Temperatures Contours - Ground Idle Power		May 01/07
FIGURE Engine Exhaust Temperatures - Ground Idle Power - CFM56-5C series engine		May 01/07
Subject 6-1-3		
Engine Exhaust Velocities Contours - Breakaway Power		May 01/07
FIGURE Engine Exhaust Velocities - Breakaway Power - CFM56-5C series engine		May 01/07
Subject 6-1-4		
Engine Exhaust Temperatures Contours - Breakaway Power		May 01/07
FIGURE Engine Exhaust Temperatures - Breakaway Power - CFM56-5C series engine		May 01/07
Subject 6-1-5		
Engine Exhaust Velocities Contours - Takeoff Power		May 01/07
FIGURE Engine Exhaust Velocities - Takeoff Power - CFM56-5C series engine		May 01/07
Subject 6-1-6		
Engine Exhaust Temperatures Contours - Takeoff Power		May 01/07
FIGURE Engine Exhaust Temperatures - Takeoff Power - CFM56-5C series engine		May 01/07
Subject 6-2-0		
Airport and Community Noise Data		May 01/07
Subject 6-2-1		
Noise Data		May 01/07

CONTENT	CHG CODE	LAST REVISION DATE
Subject 7-4-0		
Landing Gear Loading on Pavement	R	Apr 01/13
FIGURE Landing Gear Loading on Pavement - WV000, MRW 254 400 kg	N	Apr 01/13
FIGURE Landing Gear Loading on Pavement - WV021, MRW 275 900 kg	N	Apr 01/13
FIGURE Landing Gear Loading on Pavement - WV000, MRW 254 400 kg	N	Apr 01/13
FIGURE Landing Gear Loading on Pavement - WV028, MRW 277 400 kg	N	Apr 01/13
Subject 7-5-0		
Flexible Pavement Requirements - US Army Corps of Engineers Design Method S-77-1	R	Apr 01/13
FIGURE Flexible Pavement Requirements - WV000, MRW 254 400 kg, CG 37.7 %	N	Apr 01/13
FIGURE Flexible Pavement Requirements - WV000, MRW 254 400 kg, CG 38.18 %	N	Apr 01/13
Subject 7-6-0		
Flexible Pavement Requirements - LCN Conversion	R	Apr 01/13
FIGURE Flexible Pavement Requirements - LCN table	N	Apr 01/13
FIGURE Flexible Pavement Requirements - LCN - WV000, MRW 254 400 kg, CG 37.7 %	N	Apr 01/13
FIGURE Flexible Pavement Requirements - LCN table	N	Apr 01/13
FIGURE Flexible Pavement Requirements - LCN - WV000, MRW 254 400 kg, CG 38.18 %	N	Apr 01/13
Subject 7-7-0		
Rigid Pavement Requirements - Portland Cement Association Design Method	R	Apr 01/13
FIGURE Rigid Pavement Requirements - WV000, MRW 254 400 kg, CG 37.7 %	N	Apr 01/13
FIGURE Rigid Pavement Requirements - WV000, MRW 254 400 kg, CG 38.18 %	N	Apr 01/13
Subject 7-8-0		

CONTENT	CHG CODE	LAST REVISION DATE
Rigid Pavement Requirements - LCN Conversion	R	Apr 01/13
FIGURE Rigid Pavement Requirements - LCN table	N	Apr 01/13
FIGURE Rigid Pavement Requirements - LCN table	N	Apr 01/13
FIGURE Radius of Relative Stiffness (L)	N	Apr 01/13
FIGURE Rigid Pavement Requirements - LCN - WV000, MRW 254 400 kg, CG 37.7 %	N	Apr 01/13
FIGURE Rigid Pavement Requirements - LCN - WV021, MRW 275 900 kg, CG 37 %	N	Apr 01/13
FIGURE Rigid Pavement Requirements - LCN - WV000, MRW 254 400 kg, CG 38.18 %	N	Apr 01/13
FIGURE Rigid Pavement Requirements - LCN - WV028, MRW 277 400 kg, CG 35 %	N	Apr 01/13
FIGURE Radius of Relative Stiffness (Effect E and μ ON "L" values)	N	Apr 01/13
Subject 7-9-0		
Aircraft Classification Number - Flexible and Rigid Pavements	R	Apr 01/13
FIGURE Aircraft Classification Number - ACN Table	N	Apr 01/13
FIGURE Aircraft Classification Number - Flexible Pavement - WV000, MRW 254 400 kg, CG 37.7 %	N	Apr 01/13
FIGURE Aircraft Classification Number - Flexible Pavement - WV021, MRW 275 900 kg, CG 37 %	N	Apr 01/13
FIGURE Aircraft Classification Number - ACN Table	N	Apr 01/13
FIGURE Aircraft Classification Number - Flexible Pavement - WV000, MRW 254 400 kg, CG 38.18 %	N	Apr 01/13
FIGURE Aircraft Classification Number - Flexible Pavement - WV028, MRW 277 400 kg, CG 35 %	N	Apr 01/13
CHAPTER 8		
Subject 8-0-0		
Scaled Drawings	N	Apr 01/13
FIGURE Scaled Drawing	N	Apr 01/13
FIGURE Scaled Drawing	N	Apr 01/13
CHAPTER 10		

CONTENT	CHG CODE	LAST REVISION DATE
Subject 10-0-0		
Aircraft Rescue and Fire Fighting	N	Apr 01/13
FIGURE Front Page	N	Apr 01/13
FIGURE Highly Flammable and Hazardous Materials and Components	N	Apr 01/13
FIGURE Crew Rest Compartments Location	N	Apr 01/13
FIGURE Wheel/Brake Overheat - Wheel Safety Area	N	Apr 01/13
FIGURE Composite Materials Location	N	Apr 01/13
FIGURE Ground Lock Safety Devices	N	Apr 01/13
FIGURE Emergency Evacuation Devices	N	Apr 01/13
FIGURE Pax/Crew Doors and Emergency Exits	N	Apr 01/13
FIGURE FWD and AFT Lower Deck Cargo Doors	N	Apr 01/13
FIGURE Control Panels	N	Apr 01/13
FIGURE APU Compartment Access	N	Apr 01/13
FIGURE Ground Clearances	N	Apr 01/13
FIGURE Structural Break-in Points	N	Apr 01/13

TABLE OF CONTENTS

SCOPE

1-1-0 Purpose

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

Purpose

1. General

The A340-200/-300 AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING (AC) manual is issued for the A340-200 and A340-300 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 A340-200 A340-300**

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.

2-1-1 General Aircraft Characteristics Data

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

General Aircraft Characteristics Data

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

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

Aircraft Characteristics					
	WV000	WV001	WV002	WV003	WV004
Maximum Taxi Weight (MTW) Maximum Ramp Weight (MRW)	254 400 kg (560 856 lb)	257 900 kg (568 572 lb)	260 900 kg (575 186 lb)	257 900 kg (568 572 lb)	260 900 kg (575 186 lb)
Maximum Take-Off Weight (MTOW)	253 500 kg (558 872 lb)	257 000 kg (566 588 lb)	260 000 kg (573 202 lb)	257 000 kg (566 588 lb)	260 000 kg (573 202 lb)
Maximum Landing Weight (MLW)	186 000 kg (410 060 lb)	186 000 kg (410 060 lb)	186 000 kg (410 060 lb)	188 000 kg (414 469 lb)	188 000 kg (414 469 lb)
Maximum Zero Fuel Weight (MZFW)	174 000 kg (383 604 lb)	174 000 kg (383 604 lb)	174 000 kg (383 604 lb)	178 000 kg (392 423 lb)	178 000 kg (392 423 lb)

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

Aircraft Characteristics				
	WV026	WV027	WV028	WV029
Maximum Taxi Weight (MTW) Maximum Ramp Weight (MRW)	275 900 kg (608 255 lb)	271 900 kg (599 437 lb)	277 400 kg (611 562 lb)	260 900 kg (575 186 lb)

Aircraft Characteristics				
	WV026	WV027	WV028	WV029
Maximum Take-Off Weight (MTOW)	275 000 kg (606 271 lb)	271 000 kg (597 453 lb)	276 500 kg (609 578 lb)	260 000 kg (573 202 lb)
Maximum Landing Weight (MLW)	192 000 kg (423 287 lb)	192 000 kg (423 287 lb)	190 000 kg (418 878 lb)	188 000 kg (414 469 lb)
Maximum Zero Fuel Weight (MZFW)	181 000 kg (399 037 lb)	178 000 kg (392 423 lb)	178 000 kg (392 423 lb)	178 000 kg (392 423 lb)

Aircraft Characteristics					
	WV050	WV051	WV052	WV053	WV054
Maximum Taxi Weight (MTW) Maximum Ramp Weight (MRW)	275 900 kg (608 255 lb)	275 900 kg (608 255 lb)	277 400 kg (611 562 lb)	277 400 kg (611 562 lb)	275 900 kg (608 255 lb)
Maximum Take-Off Weight (MTOW)	275 000 kg (606 271 lb)	275 000 kg (606 271 lb)	276 500 kg (609 578 lb)	276 500 kg (609 578 lb)	275 000 kg (606 271 lb)
Maximum Landing Weight (MLW)	192 000 kg (423 287 lb)	192 000 kg (423 287 lb)	192 000 kg (423 287 lb)	192 000 kg (423 287 lb)	192 000 kg (423 287 lb)
Maximum Zero Fuel Weight (MZFW)	180 000 kg (396 832 lb)	181 000 kg (399 037 lb)	181 000 kg (399 037 lb)	183 000 kg (403 446 lb)	183 000 kg (403 446 lb)

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

Aircraft Characteristics	
Standard Seating Capacity	335
Usable Fuel Capacity (density = 0.785 kg/l)	140 640 l (37 153 US gal)
	110 402 kg (243 395 lb)
Pressurized Fuselage Volume (A/C non equipped)	1 056 m^3 (37 292 ft^3)
Passenger Compartment Volume	372 m^3 (13 137 ft^3)
Cockpit Volume	12 m^3 (424 ft^3)
Usable Volume, FWD CC (Based on LD3)	78 m^3 (2 754 ft^3)

Aircraft Characteristics	
Usable Volume, AFT CC (Based on LD3)	60.7 m^3 (2 142 ft^3)
Usable Volume, Bulk CC	19.7 m^3 (695 ft^3)
Water Volume, FWD CC	107 m^3 (3 789 ft^3)
Water Volume, AFT CC	85.7 m^3 (3 026 ft^3)
Water Volume, Bulk CC	22.7 m^3 (802 ft^3)

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

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

Aircraft Characteristics				
	WV000	WV001	WV002	WV021
Maximum Taxi Weight (MTW) Maximum Ramp Weight (MRW)	254 400 kg (560 856 lb)	257 900 kg (568 572 lb)	260 900 kg (575 186 lb)	275 900 kg (608 255 lb)
Maximum Take-Off Weight (MTOW)	253 500 kg (558 872 lb)	257 000 kg (566 588 lb)	260 000 kg (573 202 lb)	275 000 kg (606 271 lb)
Maximum Landing Weight (MLW)	181 000 kg (399 037 lb)	181 000 kg (399 037 lb)	181 000 kg (399 037 lb)	185 000 kg (407 855 lb)
Maximum Zero Fuel Weight (MZFW)	169 000 kg (372 581 lb)	169 000 kg (372 581 lb)	169 000 kg (372 581 lb)	173 000 kg (381 400 lb)

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

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

Aircraft Characteristics	
Passenger Compartment Volume	345 m^3 (12 184 ft^3)
Cockpit Volume	12 m^3 (424 ft^3)
Usable Volume, FWD CC (Based on LD3)	60.7 m^3 (2 142 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	84.6 m^3 (2 988 ft^3)
Water Volume, AFT CC	71.1 m^3 (2 511 ft^3)
Water Volume, Bulk CC	22.7 m^3 (802 ft^3)

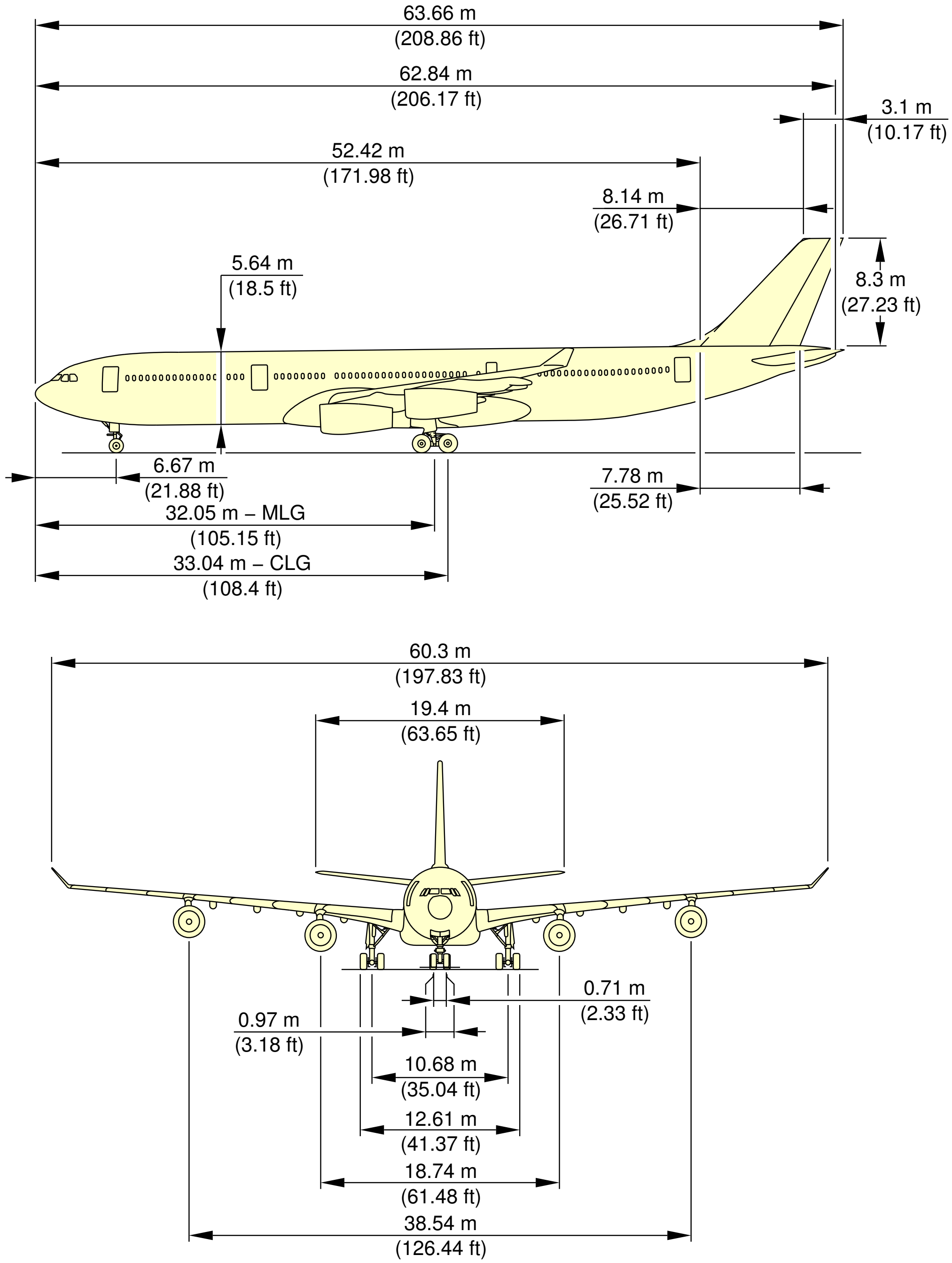
2-2-0 General Aircraft Dimensions

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

General Aircraft Dimensions

1. This section provides General Aircraft Dimensions.

**ON A/C A340-300



NOTE:
RELATED TO AIRCRAFT ATTITUDE AND WEIGHT.

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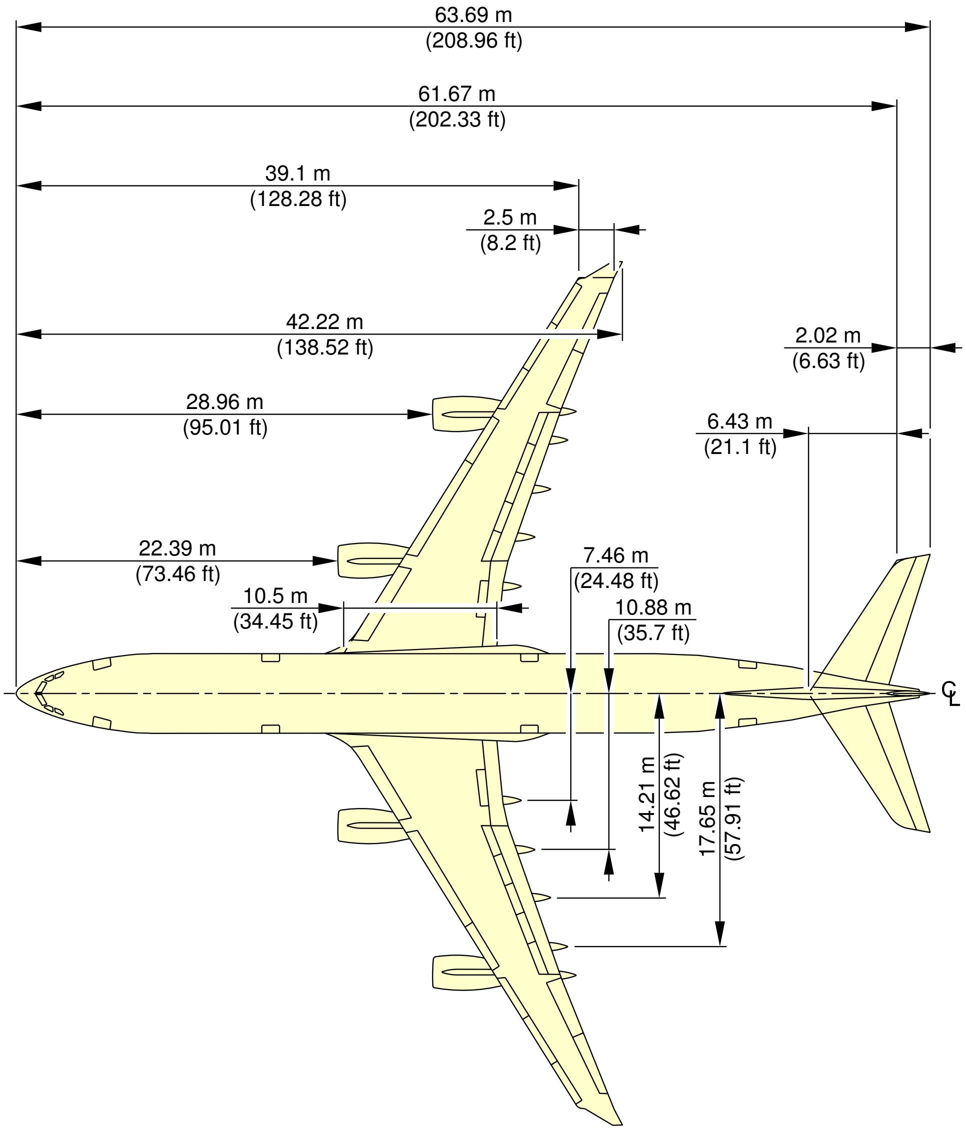
General Aircraft Dimensions
(Sheet 1 of 2)
FIGURE-2-2-0-991-007-A01

**ON A/C A340-300



NOTE:
RELATED TO AIRCRAFT ATTITUDE AND WEIGHT.

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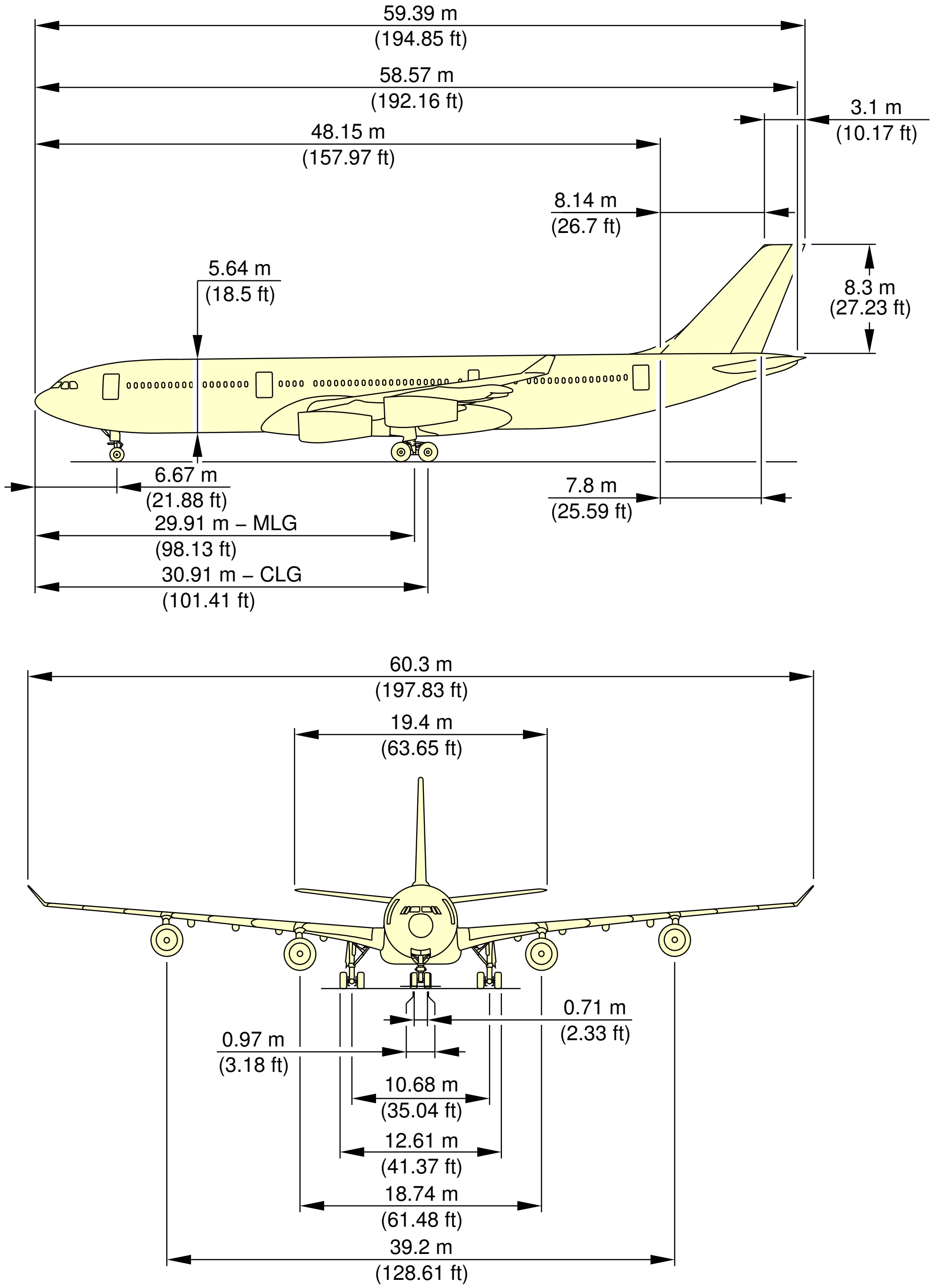
General Aircraft Dimensions
(Sheet 2 of 2)
FIGURE-2-2-0-991-007-A01

**ON A/C A340-200



NOTE:
RELATED TO AIRCRAFT ATTITUDE AND WEIGHT.

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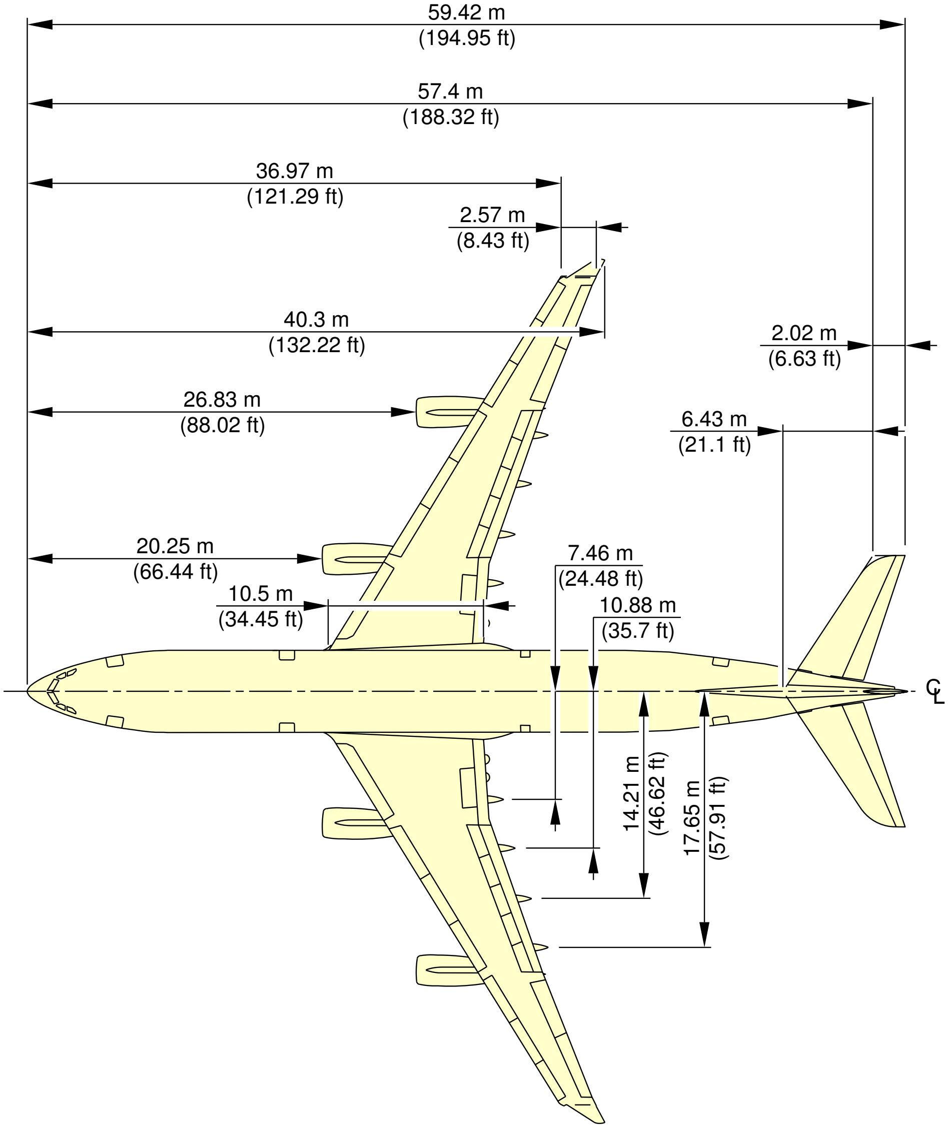
General Aircraft Dimensions
(Sheet 1 of 2)
FIGURE-2-2-0-991-008-A01

**ON A/C A340-200



NOTE:
RELATED TO AIRCRAFT ATTITUDE AND WEIGHT.

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General Aircraft Dimensions
(Sheet 2 of 2)
FIGURE-2-2-0-991-008-A01

2-3-0 Ground Clearances

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

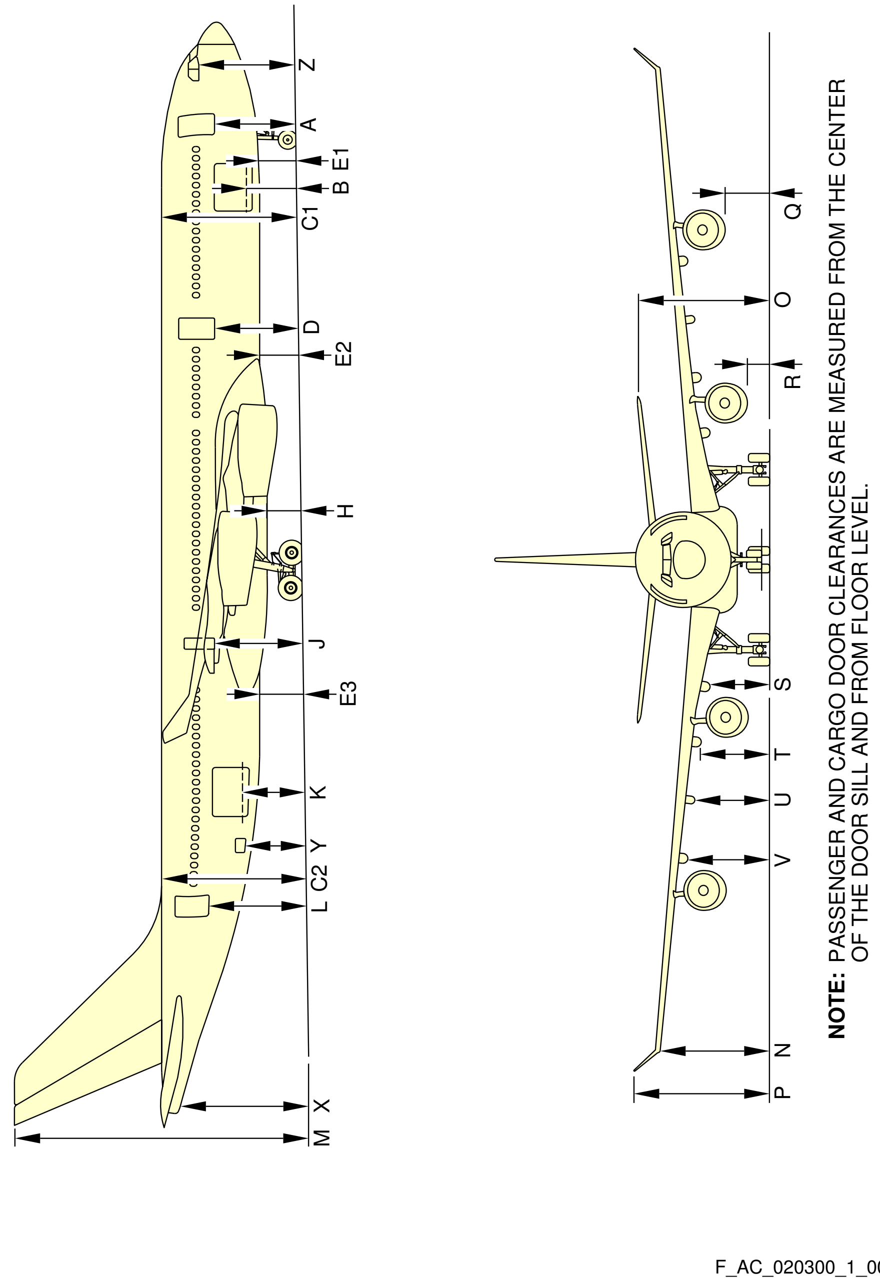
Ground Clearances

1. This section gives the height of various points of the aircraft, above the ground, for different aircraft configurations.
   Dimensions in the tables are approximate and will vary with tire type, 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 6.5 m (21.33 ft).

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

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



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Ground Clearances
(Sheet 1 of 2)
FIGURE-2-3-0-991-005-A01

**ON A/C A340-300

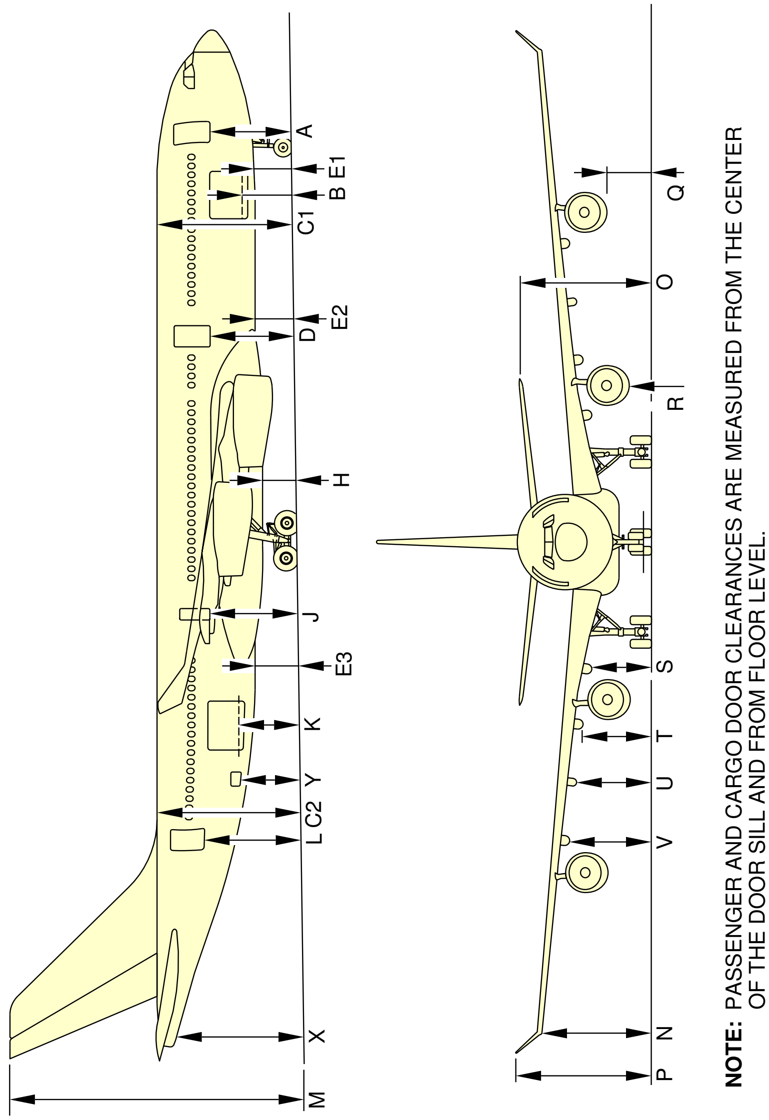
	125 000 kg CG 31.9%		MRW 254 400 kg CG 20.7%		MRW 254 400 kg CG 38.2%		MRW 271 900 kg CG 20.7%		MRW 271 900 kg CG 38.2%		AIRCRAFT ON JACKS	
	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft
A	4.59	15.05	4.45	14.59	4.52	14.8	4.45	14.59	4.60	15.09	6.32	20.7
B	2.73	8.95	2.54	8.33	2.58	8.62	2.58	8.46	2.71	8.88	4.14	13.5
C1	7.76	25.45	7.58	24.86	7.60	25.09	7.54	24.73	7.66	25.12	9.32	30.5
C2	8.42	27.62	8.25	27.06	8.20	26.73	8.30	27.23	8.18	26.83	9.32	30.5
D	4.84	15.87	4.65	15.25	4.67	15.41	4.72	15.5	4.79	15.71	6.32	20.7
E1	2.13	6.98	1.94	6.36	1.96	6.59	1.84	6.03	1.98	6.49	3.68	12
E2	2.27	7.44	2.09	6.85	2.10	6.95	2.06	6.75	2.13	6.98	3.68	12
E3	2.37	7.77	2.49	8.17	2.46	7.97	2.45	8.03	2.39	7.83	3.68	12
H	2.02	6.62	1.84	6.03	1.83	6	1.82	5.97	1.83	6	3.26	10.7
J	5.31	17.42	5.12	16.80	5.10	16.73	5.14	16.86	5.10	16.73	6.32	20.73
K	3.44	11.28	3.26	10.69	3.23	10.49	3.27	10.73	3.18	10.43	4.24	13.9
L	5.70	18.69	5.52	18.10	5.47	17.74	5.49	18.01	5.36	17.58	6.53	21.4
M	16.99	55.72	16.82	55.17	16.73	54.61	16.88	55.36	16.67	54.68	17.62	57.8
N	6.35	20.83	6.01	19.71	5.98	19.55	6	19.6	5.94	19.48	7.55	24.7
O	8.14	26.70	7.96	26.11	7.88	25.58	8.04	26.37	7.83	25.68	9.23	30.2
P	7.91	25.94	7.57	24.83	7.53	24.60	7.55	24.76	7.48	24.54	8.96	29.4
Q	2.59	8.49	2.35	7.71	2.34	7.67	2.35	7.70	2.35	7.70	3.98	13
R	1.42	4.65	1.23	4.03	1.24	4.10	1.25	4.10	1.28	4.20	2.79	9.1
S	3.85	12.63	3.67	12.04	3.65	11.94	3.66	12.01	3.64	11.94	5.25	17.2
T	4.31	14.14	4.12	13.51	4.10	13.45	4.12	13.51	4.10	13.45	5.70	18.7
U	4.59	15.05	4.38	14.37	4.36	14.23	4.37	14.33	4.33	14.20	6	19.6
V	4.90	16.07	4.66	15.28	4.64	15.15	4.66	15.28	4.61	15.12	6.30	20.6
X	7.30	23.94	7.12	23.35	7.05	22.83	7.19	23.58	6.98	22.89	8.10	26.5
Y	3.58	11.74	3.39	11.12	3.35	10.86	3.43	11.15	3.32	10.89	4.39	14.4
Z							5.23	17.15	5.41	17.74	7.10	23.3

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

F_AC_020300_1_0050102_01_00

Ground Clearances
(Sheet 2 of 2)
FIGURE-2-3-0-991-005-A01

**ON A/C A340-200



F_AC_020300_1_0050201_01_00

Ground Clearances
(Sheet 1 of 2)
FIGURE-2-3-0-991-005-B01

**ON A/C A340-200

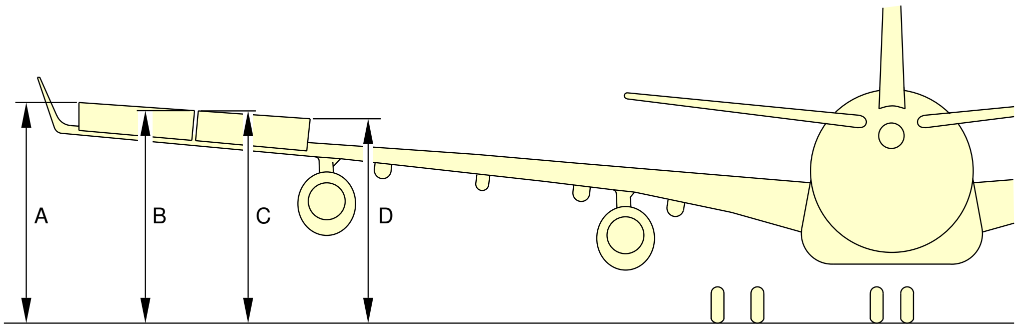
	124 000 kg CG 31.9%		MRW 254 400 kg CG 20.7%		MRW 254 400 kg CG 38.2%		MRW 275 900 kg CG 20.7%		MRW 275 900 kg CG 38.2%		AIRCRAFT ON JACKS	
	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft
A	4.58	15.02	4.40	14.43	4.50	14.76	4.44	14.56	4.56	14.95	6.32	20.7
B	2.73	8.95	2.54	8.33	2.63	8.62	2.58	8.46	2.68	8.79	4.14	13.5
C1	7.78	25.52	7.56	24.80	7.63	25.03	7.54	24.73	7.64	25.06	9.32	30.5
C2	8.43	27.65	8.24	27.02	8.16	26.76	8.29	27.19	8.19	26.86	9.32	30.5
D	4.86	15.94	4.67	15.31	4.71	15.45	4.71	15.45	4.77	15.65	6.32	20.7
E1	2.14	7.02	1.93	6.33	1.99	6.53	1.83	6	1.95	6.40	3.68	12
E2	2.26	7.41	2.07	6.78	2.10	6.89	2.08	6.82	2.13	6.98	3.68	12
E3	2.66	8.72	2.47	8.10	2.42	7.94	2.46	8.06	2.41	7.90	3.68	12
H	2.02	6.62	1.84	6.03	1.83	6	1.86	6.10	1.85	6.07	3.26	10.7
J	5.32	17.45	5.13	16.83	5.09	16.70	5.13	16.83	5.10	16.73	6.32	20.73
K	3.45	11.31	3.25	10.66	3.19	10.46	3.41	11.18	3.18	10.43	4.24	13.9
L	5.70	18.69	5.51	18.07	5.41	17.74	5.49	18.01	5.38	17.64	6.53	21.4
M	17.03	55.86	16.84	55.23	16.68	54.71	16.90	55.43	16.72	54.85	17.62	57.8
N	6.37	20.89	6.03	19.78	5.98	19.61	6.01	19.71	5.96	19.55	7.55	24.7
O	8.18	26.83	7.99	26.21	7.88	25.85	8.05	26.41	7.88	25.84	9.23	30.2
P	7.95	26.08	7.59	24.89	7.53	24.70	7.57	24.83	7.50	24.60	8.96	29.4
Q	2.60	8.53	2.35	7.70	2.34	7.67	2.34	7.67	2.34	7.67	3.98	13
R	1.41	4.62	1.22	4	1.24	4.06	1.22	4	1.26	4.13	2.79	9.1
S	3.86	12.66	3.67	12.04	3.65	11.97	3.66	12.01	3.64	11.94	5.25	17.2
T	4.33	14.20	4.12	13.51	4.10	13.45	4.11	13.48	4.10	13.45	5.70	18.7
U	4.60	15.09	4.38	14.37	4.35	14.27	4.37	14.33	4.34	14.23	6	19.6
V	4.93	16.17	4.68	15.35	4.63	15.19	4.66	15.28	4.62	15.15	6.30	20.6
X	7.33	24.04	7.14	23.42	6.98	22.89	7.20	23.61	7.02	23.02	8.10	26.5
Y	3.58	11.74	3.39	11.12	3.31	10.86	3.41	11.18	3.33	10.92	4.39	14.4
Z							5.21	17.09	5.36	17.58	7.10	23.3

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

F_AC_020300_1_0050202_01_00

Ground Clearances
(Sheet 2 of 2)
FIGURE-2-3-0-991-005-B01

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

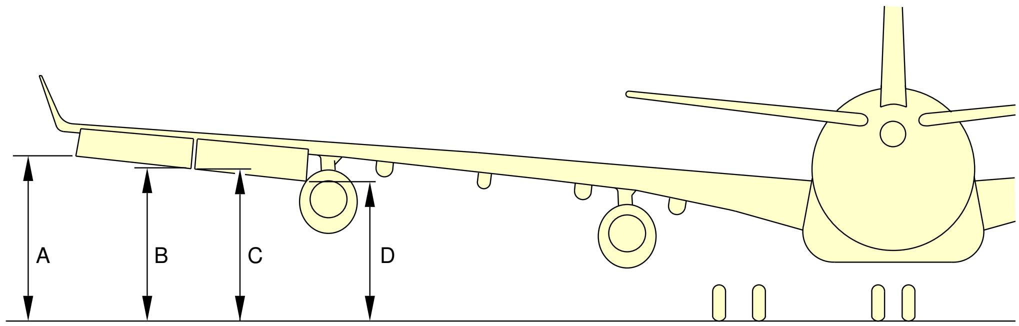


	A/C IN MAINTENANCE CONFIGURATION MID CG 31.9%		MAXIMUM RAMP WEIGHT CG 23.1%		MAXIMUM RAMP WEIGHT CG 35.0%	
	m	ft	m	ft	m	ft
A	6.70	21.97	6.36	20.86	6.30	20.68
B	6.46	21.20	6.15	20.18	6.10	20.03
C	6.46	21.20	6.15	20.18	6.10	20.02
D	6.28	20.61	5.99	19.65	5.95	19.52

F_AC_020300_1_0080101_01_02

Ground Clearances
Ailerons Up
FIGURE-2-3-0-991-008-A01

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

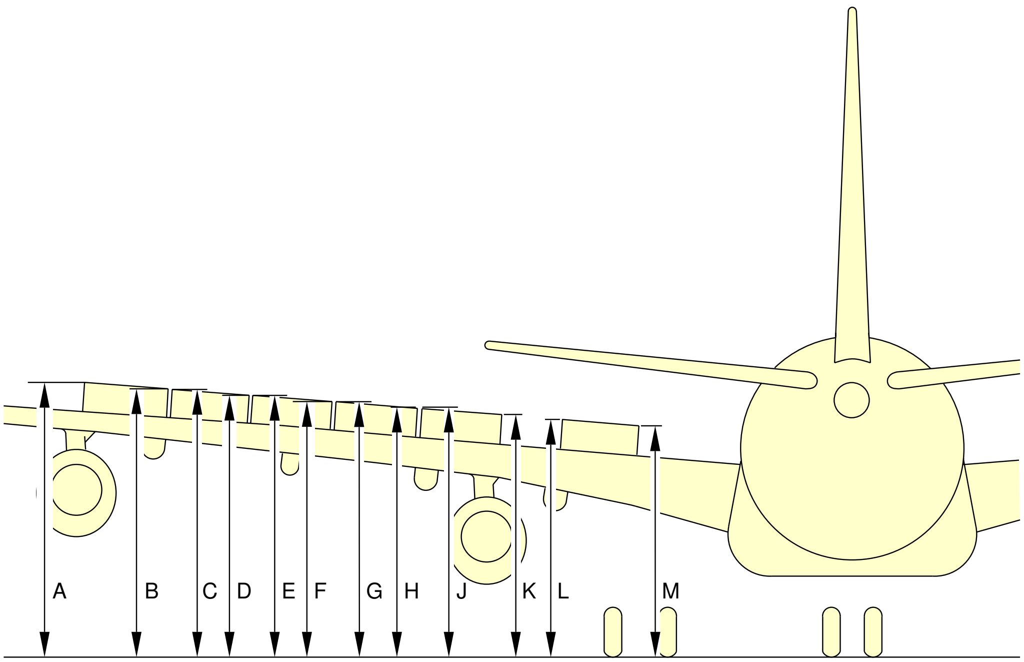


	A/C IN MAINTENANCE CONFIGURATION MID CG 31.9%		MAXIMUM RAMP WEIGHT CG 23.1%		MAXIMUM RAMP WEIGHT CG 35.0%	
	m	ft	m	ft	m	ft
A	6.15	20.16	5.80	19.04	5.75	18.86
B	5.71	18.73	5.40	17.70	5.35	17.55
C	5.71	18.72	5.40	17.70	5.35	17.55
D	5.37	17.61	5.08	16.65	5.04	16.52

F_AC_020300_1_0100101_01_02

Ground Clearances
Ailerons Down
FIGURE-2-3-0-991-010-A01

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



	A/C IN MAINTENANCE CONFIGURATION MID CG 31.9%		MAXIMUM RAMP WEIGHT CG 23.1%		MAXIMUM RAMP WEIGHT CG 35.0%	
	m	ft	m	ft	m	ft
A	6.50	21.34	6.22	20.42	6.19	20.32
B	6.37	20.89	6.10	20.02	6.07	19.92
C	6.37	20.88	6.10	20.02	6.07	19.92
D	6.23	20.45	5.98	19.64	5.96	19.55
E	6.23	20.45	5.98	19.64	5.96	19.55
F	6.08	19.95	5.85	19.19	5.82	19.11
G	6.08	19.95	5.85	19.19	5.82	19.11
H	5.90	19.37	5.68	18.65	5.66	18.58
J	5.90	19.36	5.68	18.64	5.66	18.58
K	5.70	18.70	5.49	18.01	5.47	17.95
L	5.30	17.38	5.09	16.69	5.07	16.63
M	4.75	15.60	4.56	14.97	4.55	14.91

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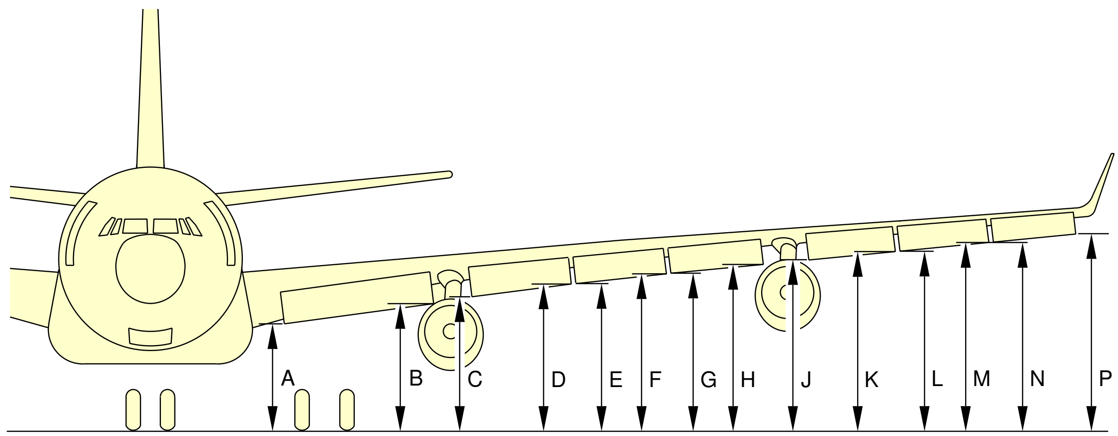
Ground Clearances
Spoilers Extended
FIGURE-2-3-0-991-011-A01

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



	A/C IN MAINTENANCE CONFIGURATION MID CG 32.3%		MAXIMUM RAMP WEIGHT CG 20.7%		MAXIMUM RAMP WEIGHT CG 38.2%	
	m	ft	m	ft	m	ft
A	3.45	11.32	3.26	10.70	3.28	10.76
B	4.26	13.98	4.05	13.29	4.06	13.32
C	4.27	14.01	4.08	13.39	4.09	13.42
D	4.63	15.19	4.43	14.53	4.43	14.53
E	4.63	15.19	4.43	14.53	4.43	14.53
F	4.95	16.24	4.73	15.52	4.72	15.49
G	4.95	16.24	4.73	15.52	4.72	15.49
H	5.24	17.19	5.00	16.40	4.98	16.34
J	5.30	17.39	5.06	16.60	5.03	16.50
K	5.57	18.27	5.30	17.39	5.27	17.29
L	5.58	18.31	5.30	17.39	5.27	17.29
M	5.83	19.13	5.53	18.14	5.49	18.01
N	5.83	19.13	5.53	18.14	5.49	18.01
P	6.06	19.88	5.73	18.80	5.68	18.64

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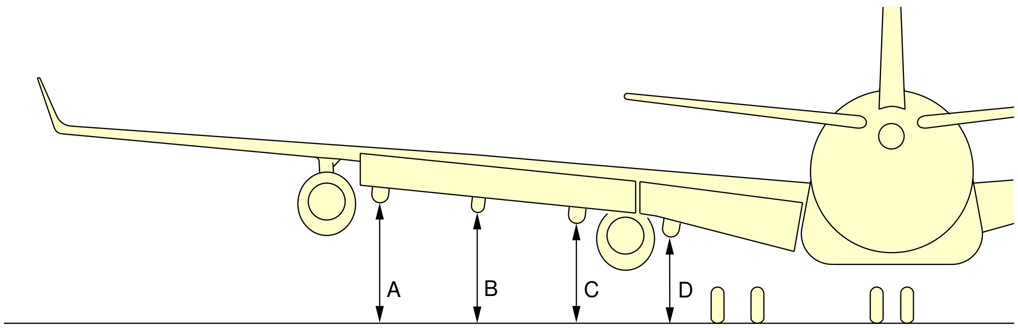
Ground Clearances
Slats Fully Extended
FIGURE-2-3-0-991-021-A01

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



	A/C IN MAINTENANCE CONFIGURATION MID CG 31.9%		MAXIMUM RAMP WEIGHT CG 23.1%		MAXIMUM RAMP WEIGHT CG 35.0%	
	m	ft	m	ft	m	ft
A	3.98	13.07	3.79	12.44	3.75	12.30
B	3.66	12.01	3.47	11.38	3.43	11.26
C	3.44	11.29	3.25	10.66	3.22	10.55
D	2.92	9.58	2.73	8.95	2.70	8.86

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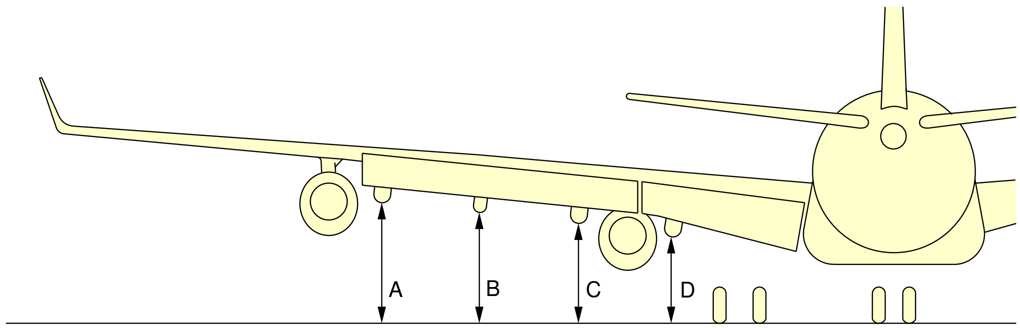
Ground Clearances
Flaps Fully Extended
FIGURE-2-3-0-991-022-A01

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



	A/C IN MAINTENANCE CONFIGURATION MID CG 31.9%		MAXIMUM RAMP WEIGHT CG 23.1%		MAXIMUM RAMP WEIGHT CG 35.0%	
	m	ft	m	ft	m	ft
A	3.98	13.07	3.79	12.44	3.75	12.30
B	3.66	12.01	3.47	11.38	3.43	11.26
C	3.44	11.29	3.25	10.66	3.22	10.55
D	2.92	9.58	2.73	8.95	2.70	8.86

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Ground Clearances
Flaps-Tracks Fully Extended
FIGURE-2-3-0-991-023-A01

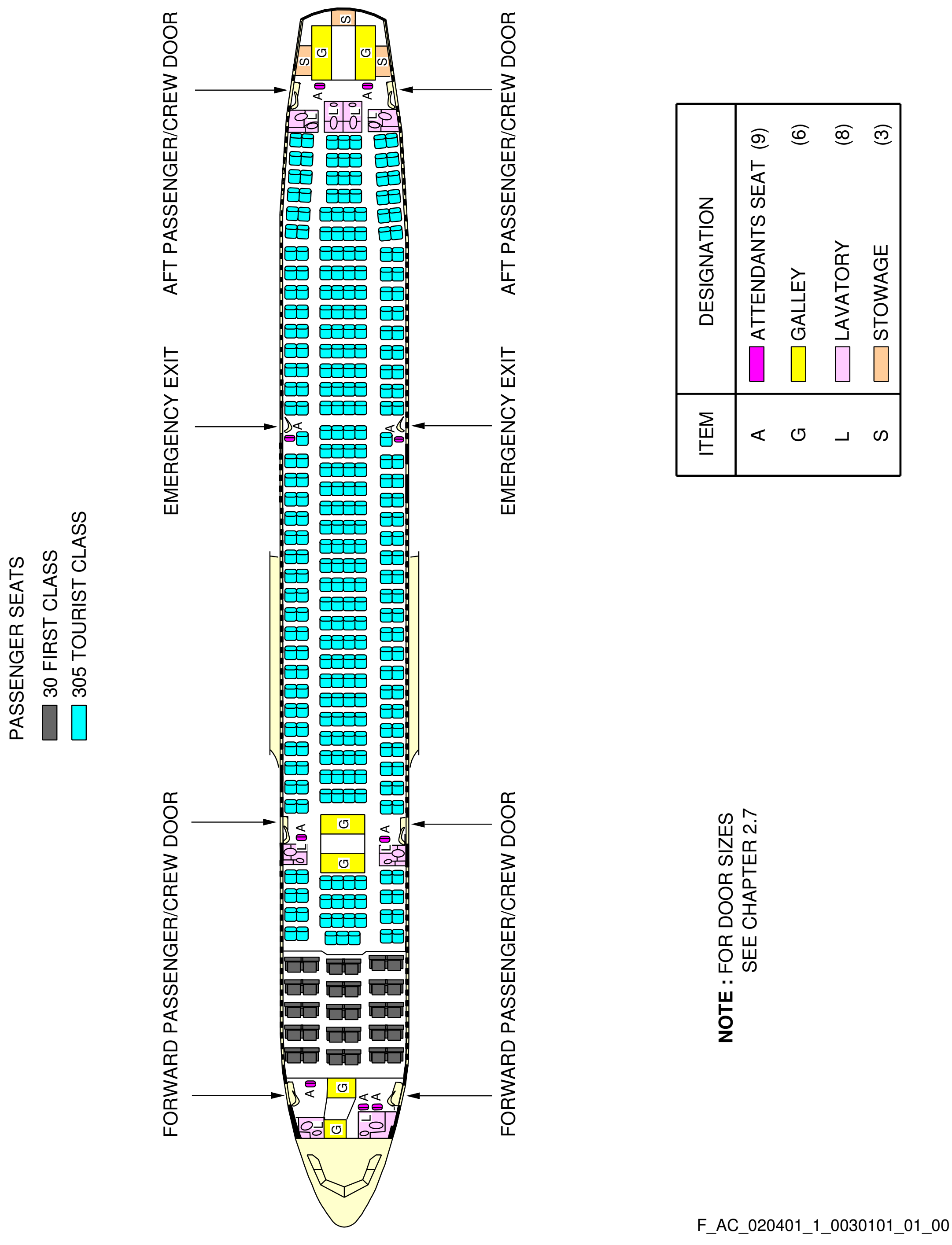
2-4-1 Interior Arrangements - Plan View

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

Interior Arrangements - Plan View

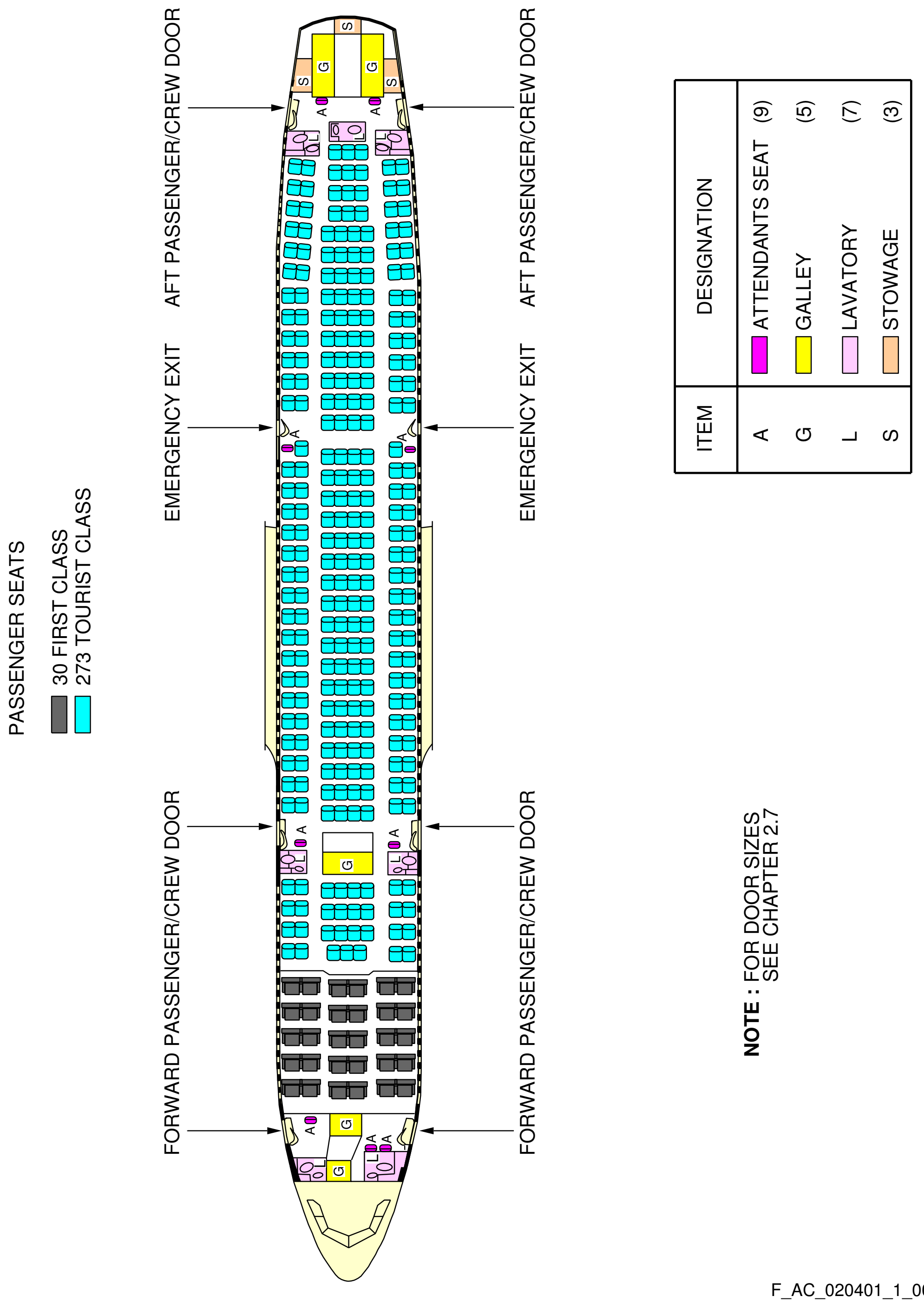
1. This section gives the typical configuration for A340-200 and A340-300.

**ON A/C A340-300



Interior Arrangements - Plan View
Typical Configuration
FIGURE-2-4-1-991-003-A01

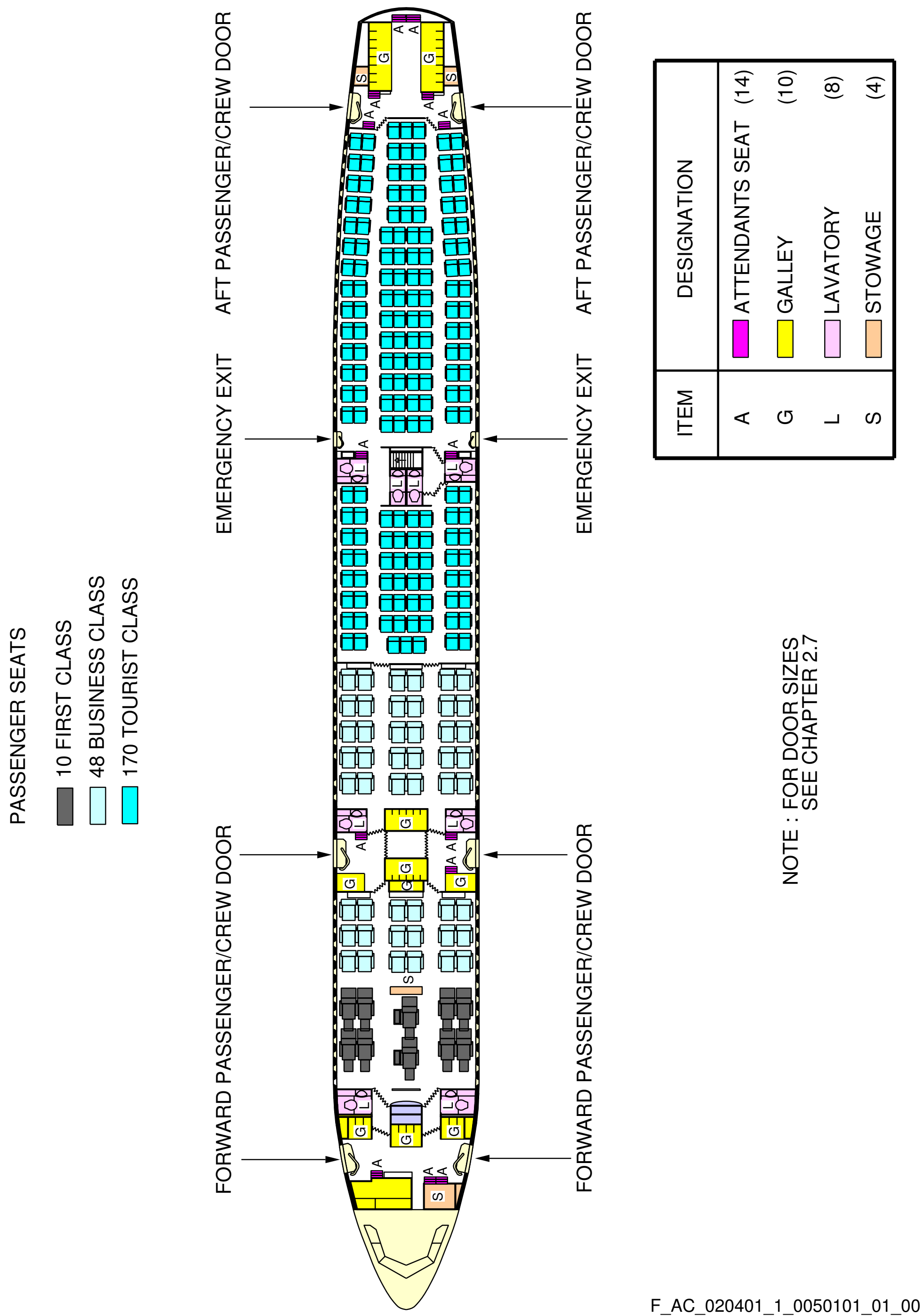
**ON A/C A340-200



F_AC_020401_1_0040101_01_00

Interior Arrangements - Plan View
Typical Configuration
FIGURE-2-4-1-991-004-A01

**ON A/C A340-200



Interior Arrangements - Plan View
Typical Configuration
FIGURE-2-4-1-991-005-A01

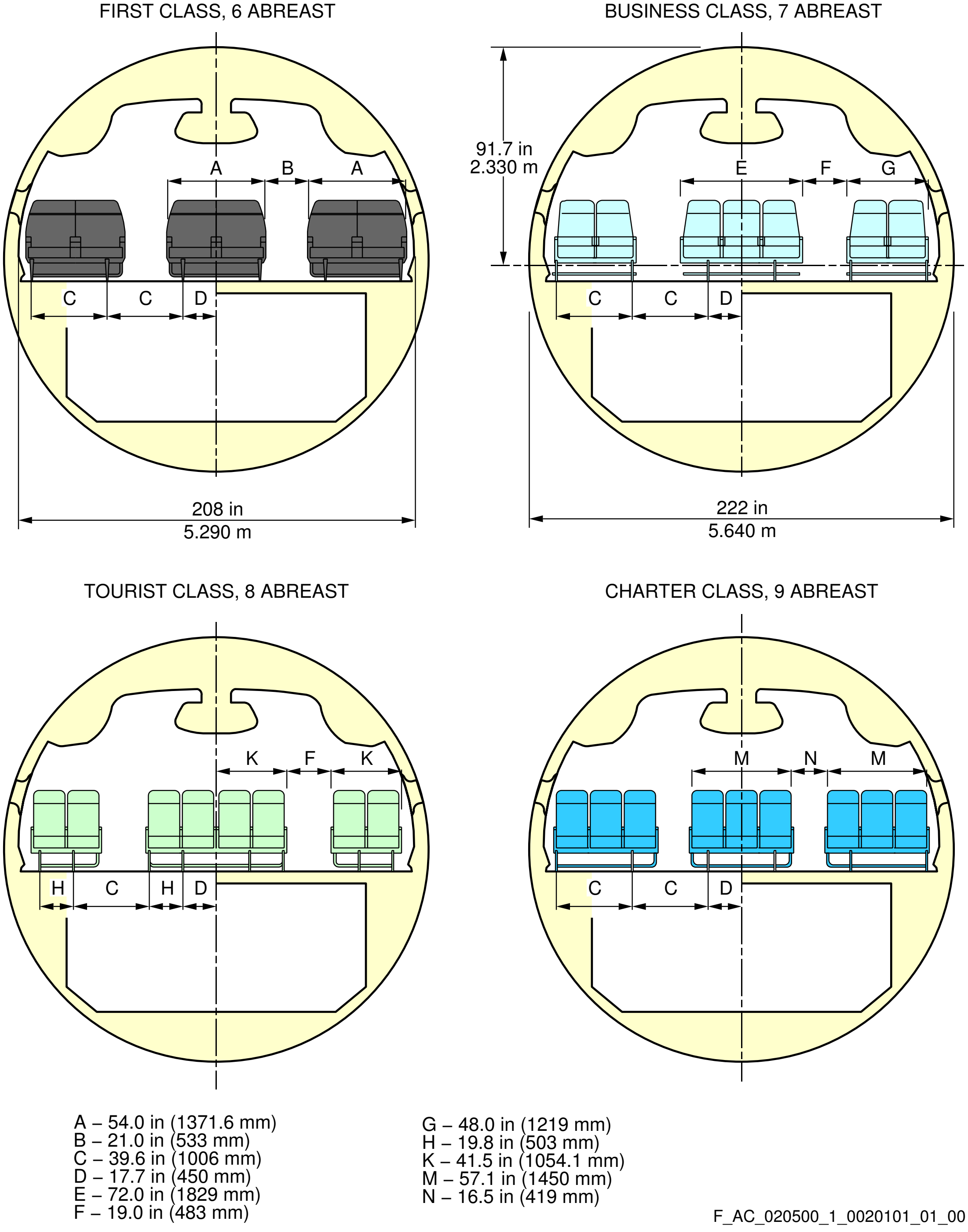
2-5-0 Interior Arrangements - Cross Section

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

Interior Arrangements - Cross Section

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

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



Interior Arrangements - Cross Section
Typical Configuration
FIGURE-2-5-0-991-002-A01

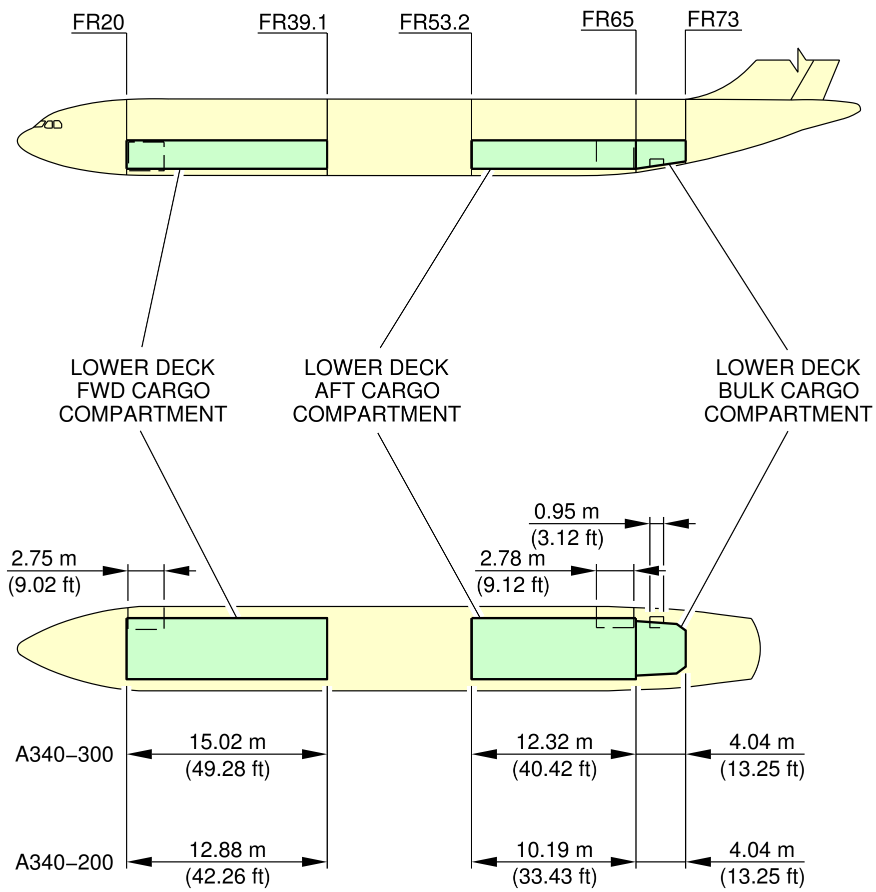
2-6-1 Lower Deck Cargo Compartments

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

Lower Deck Cargo Compartments

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

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

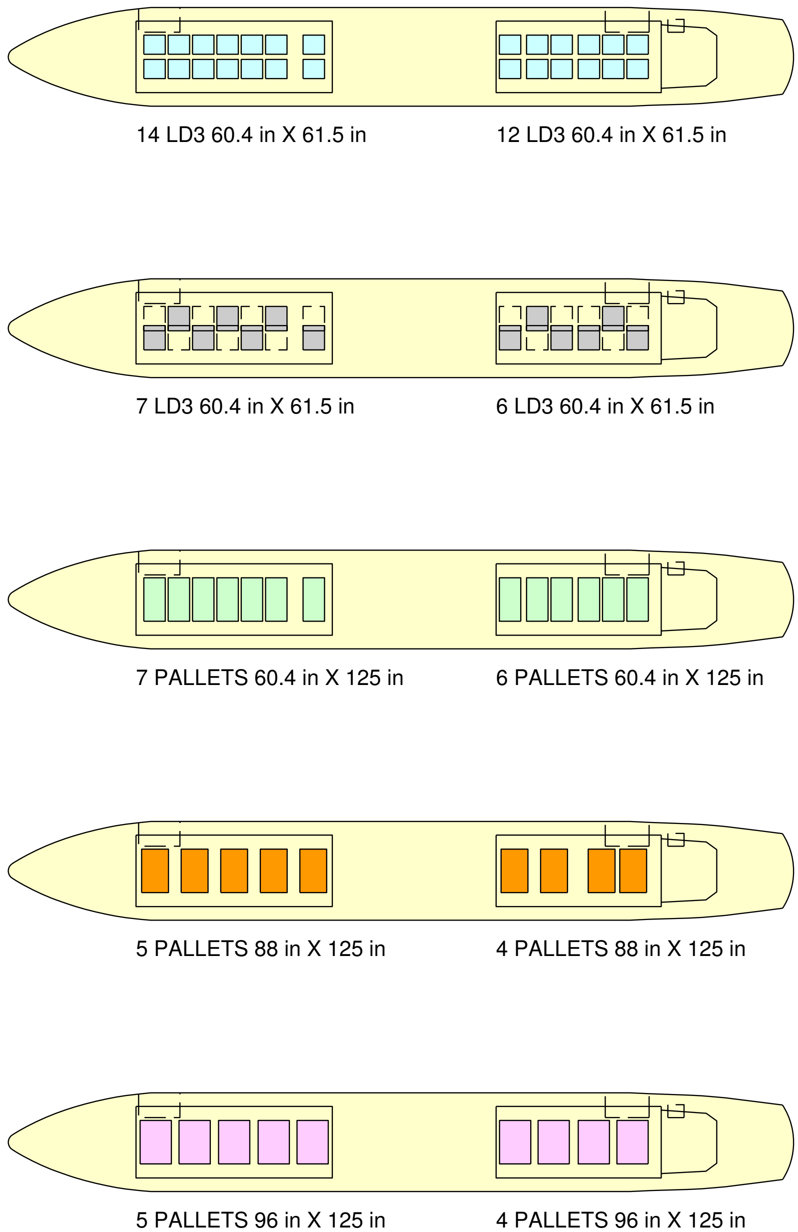


NOTE:
APPROXIMATE DIMENSIONS DEPENDING ON AIRCRAFT CONFIGURATION.

F_AC_020601_1_0050101_01_02

Lower Deck Cargo Compartments
Location and Dimensions
FIGURE-2-6-1-991-005-A01

**ON A/C A340-200



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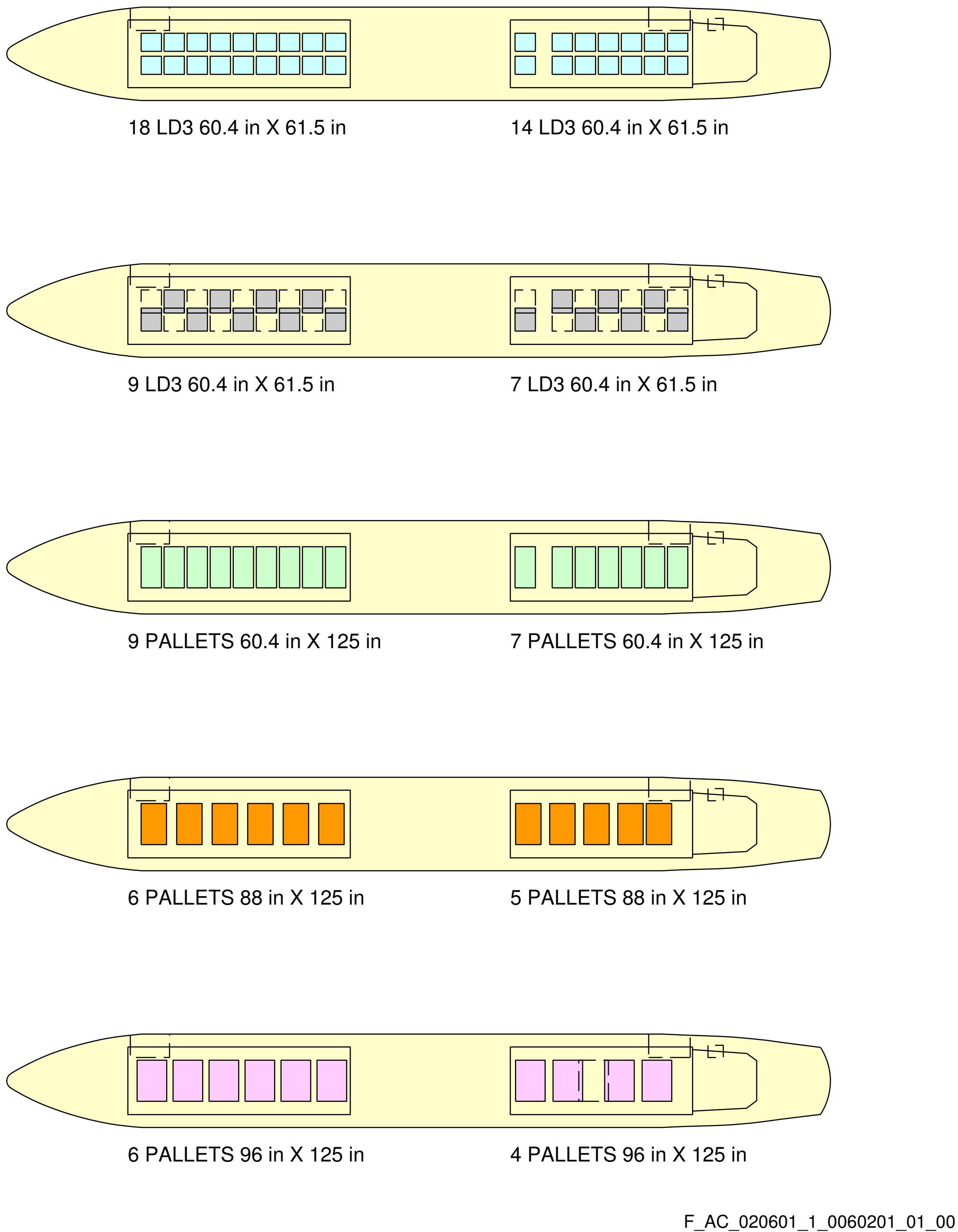
Lower Deck Cargo Compartments
Loading Combinations
FIGURE-2-6-1-991-006-A01

**ON A/C A340-300



Lower Deck Cargo Compartments
Loading Combinations
FIGURE-2-6-1-991-006-B01

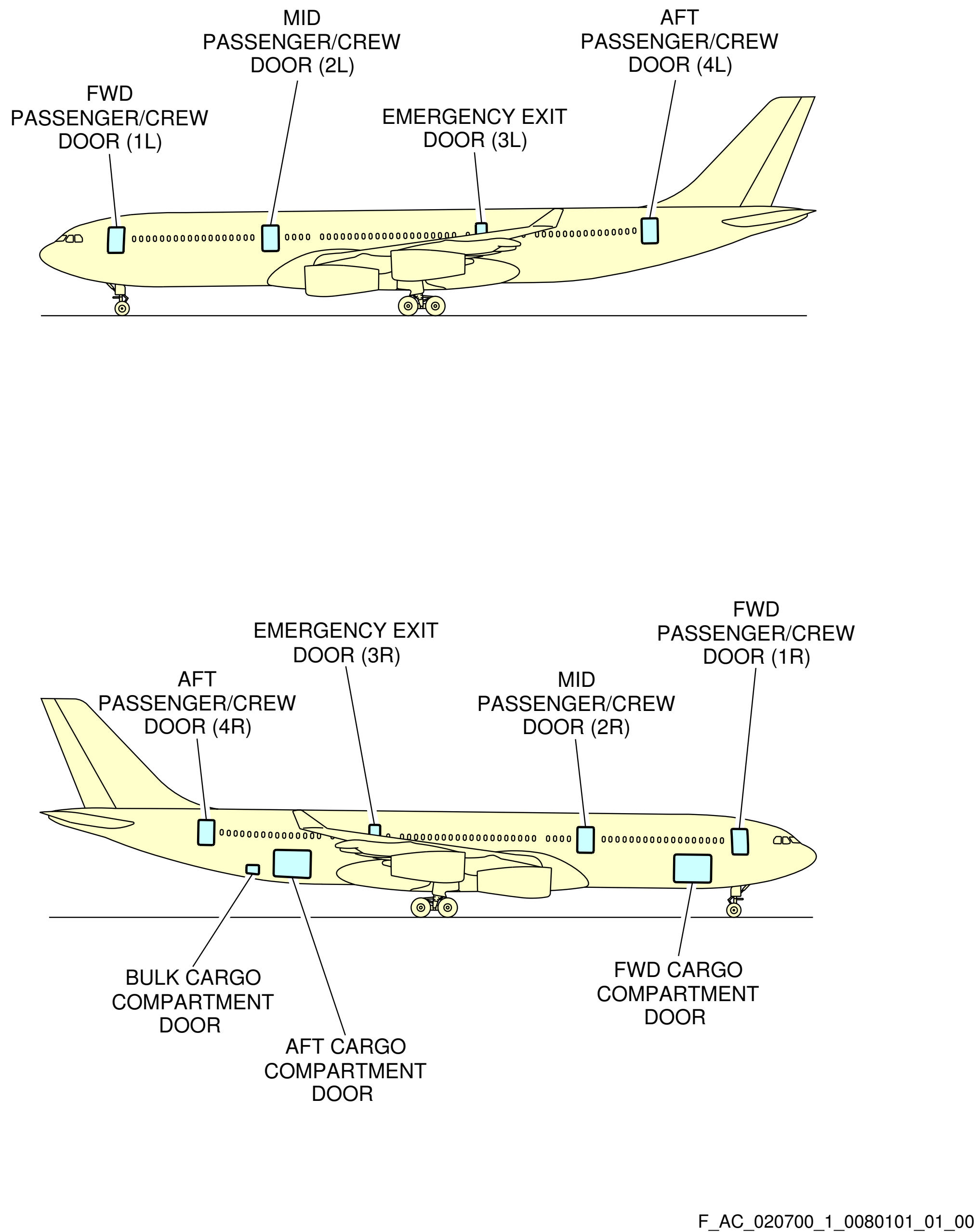
2-7-0 Door Clearances

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

Door Clearances

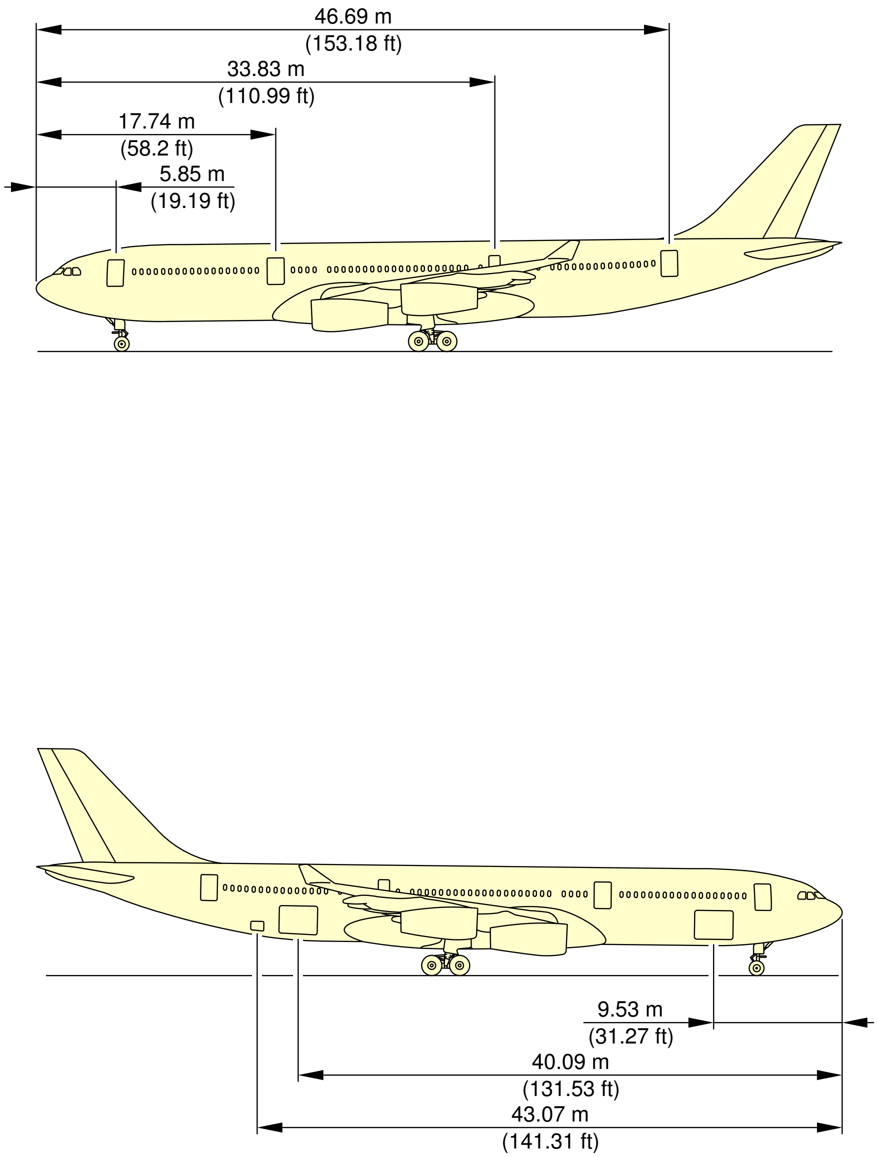
1. This section gives door identification and location.

**ON A/C A340-200



Door Identification and Location
Door Identification (Sheet 1 of 2)
FIGURE-2-7-0-991-008-A01

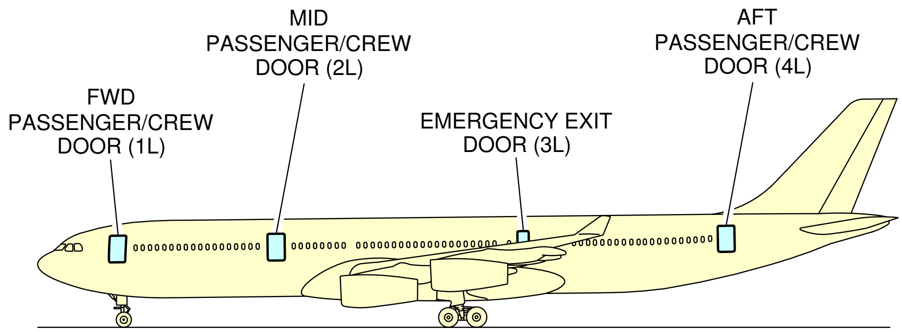
**ON A/C A340-200

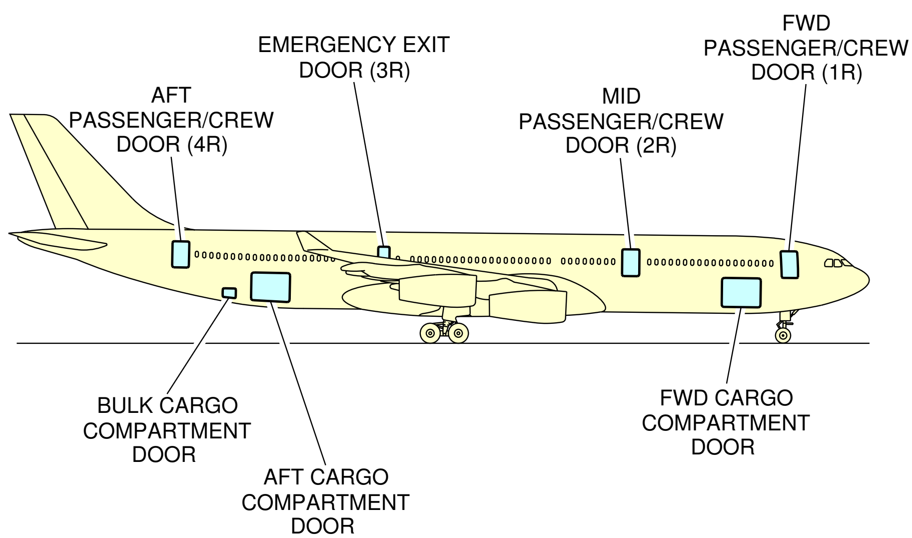


F_AC_020700_1_0080102_01_00

Door Identification and Location
Door Location (Sheet 2 of 2)
FIGURE-2-7-0-991-008-A01

**ON A/C A340-300

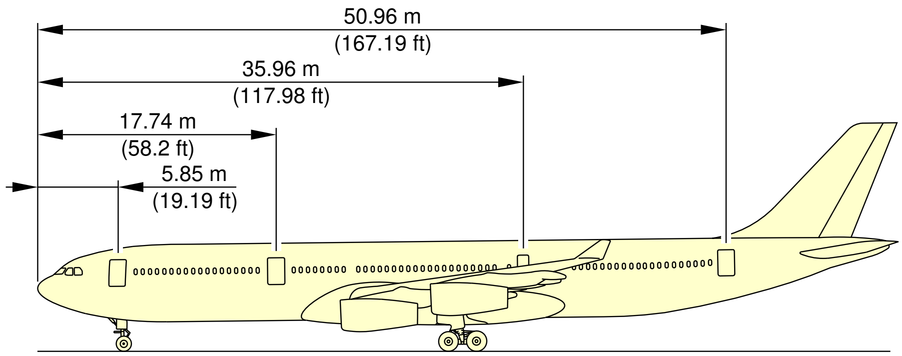


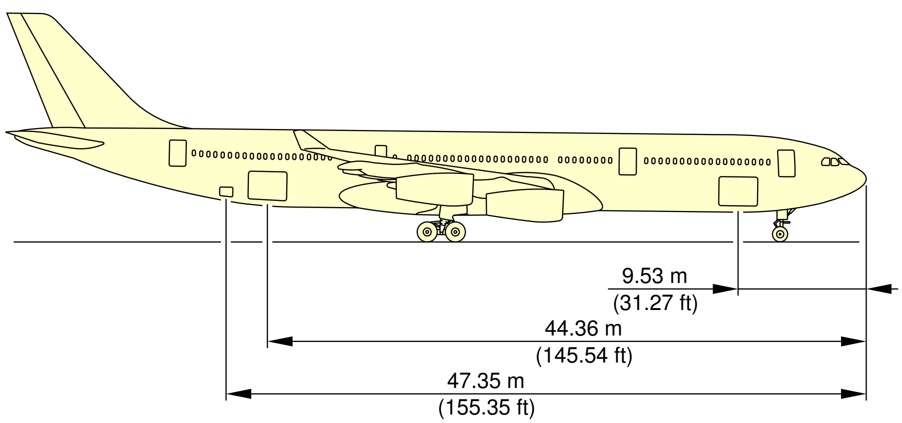


F_AC_020700_1_0080201_01_00

Door Identification and Location
Door Identification (Sheet 1 of 2)
FIGURE-2-7-0-991-008-B01

**ON A/C A340-300





F_AC_020700_1_0080202_01_00

Door Identification and Location
Door Location (Sheet 2 of 2)
FIGURE-2-7-0-991-008-B01

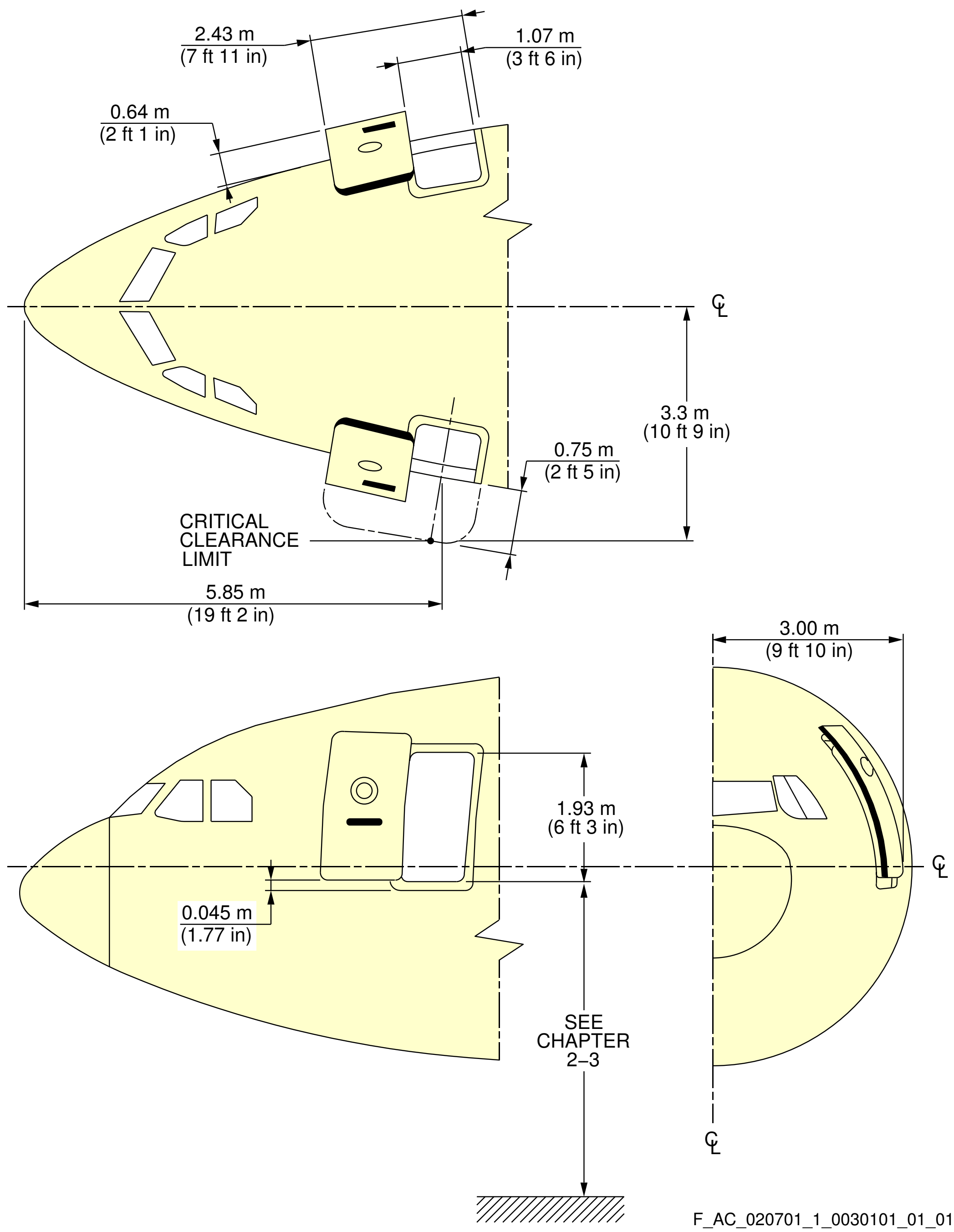
2-7-1 Forward Passenger / Crew Doors

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

Forward Passenger / Crew Door

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

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



Forward Passenger / Crew Doors
FIGURE-2-7-1-991-003-A01

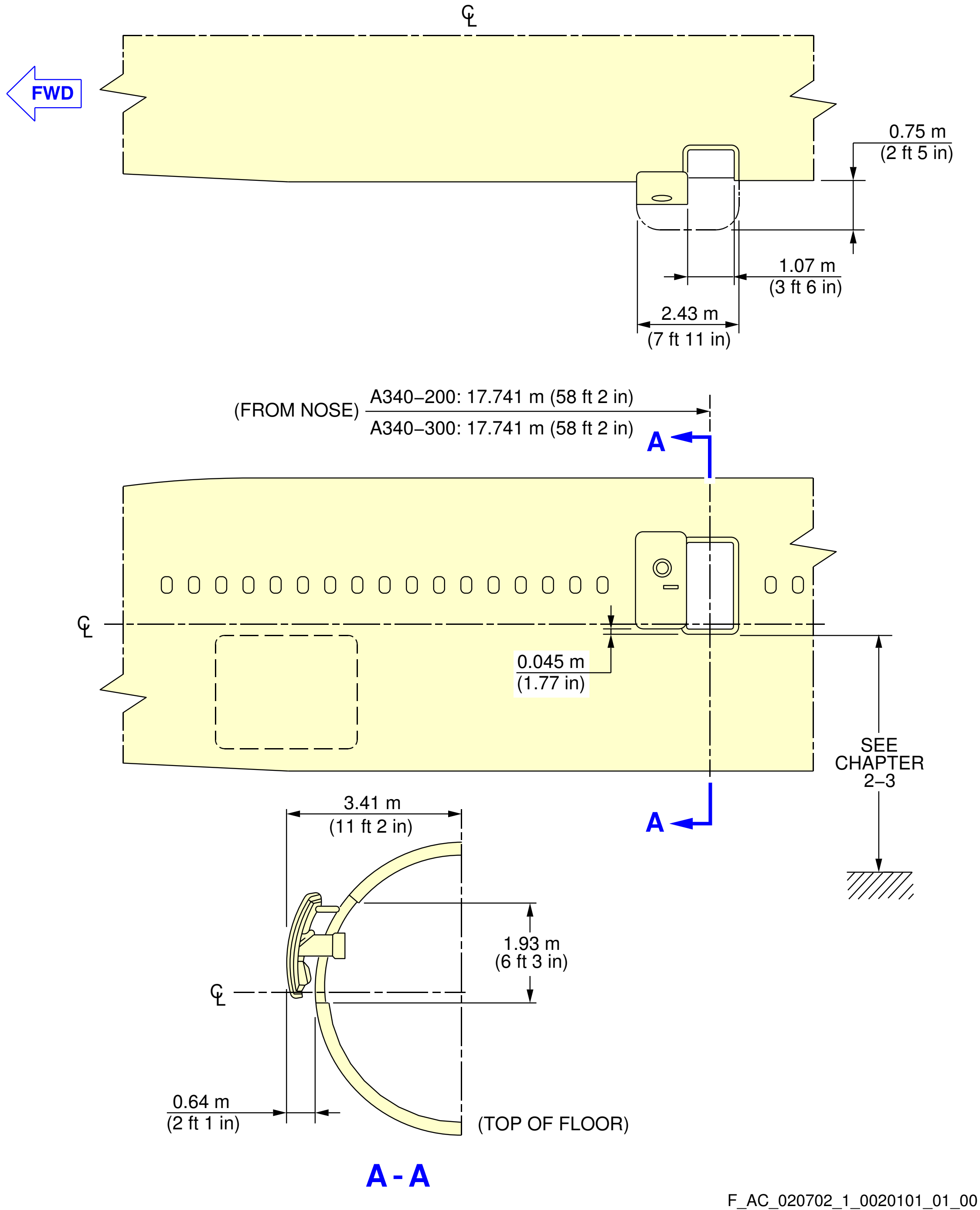
2-7-2 Mid Passenger / Crew Doors

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

Mid Passenger / Crew Door

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

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



Mid Passenger / Crew Door
FIGURE-2-7-2-991-002-A01

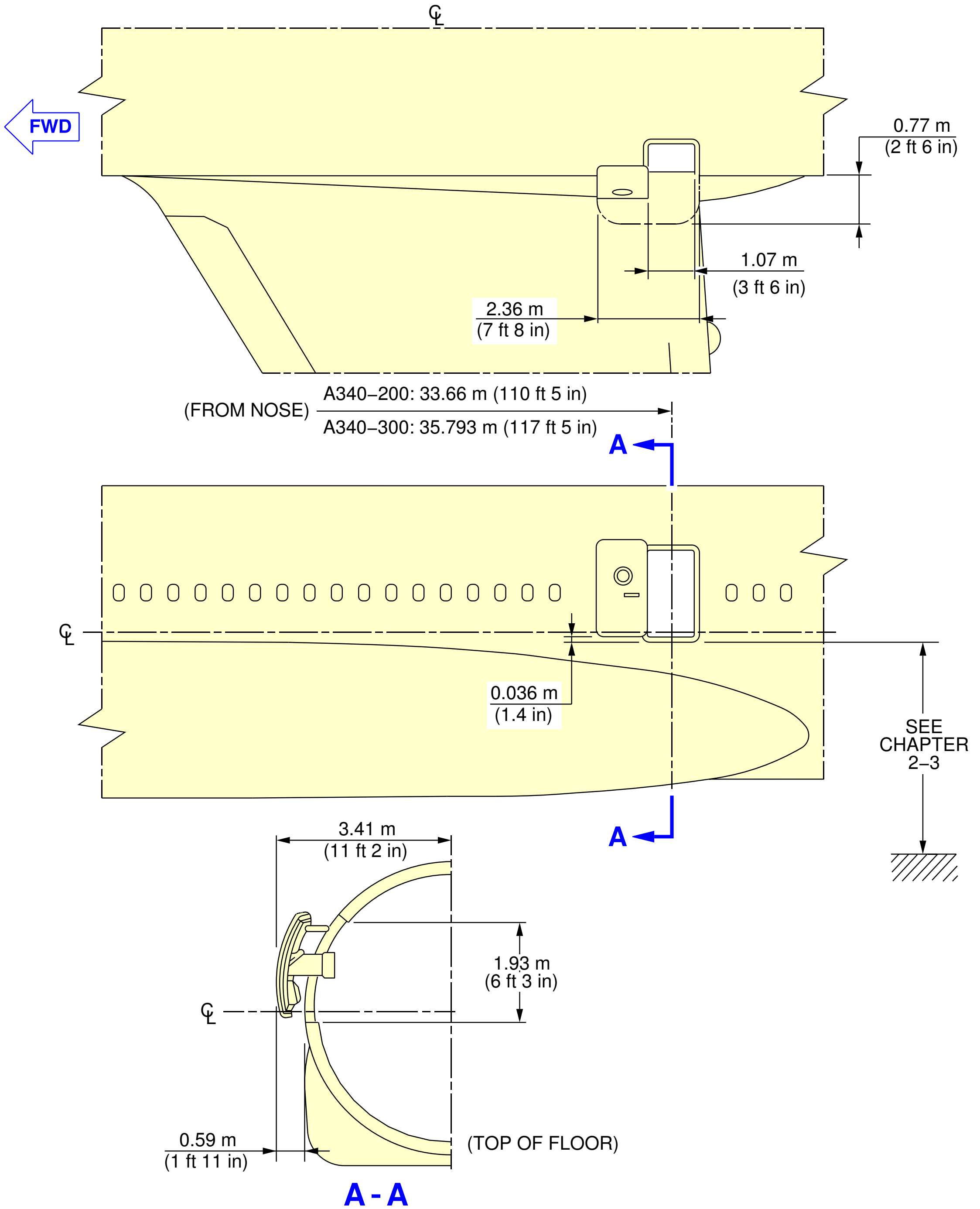
2-7-3 Emergency Exits

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

Emergency Exits

1. This section gives emergency exits doors clearances.

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



Emergency Exits
FIGURE-2-7-3-991-002-A01

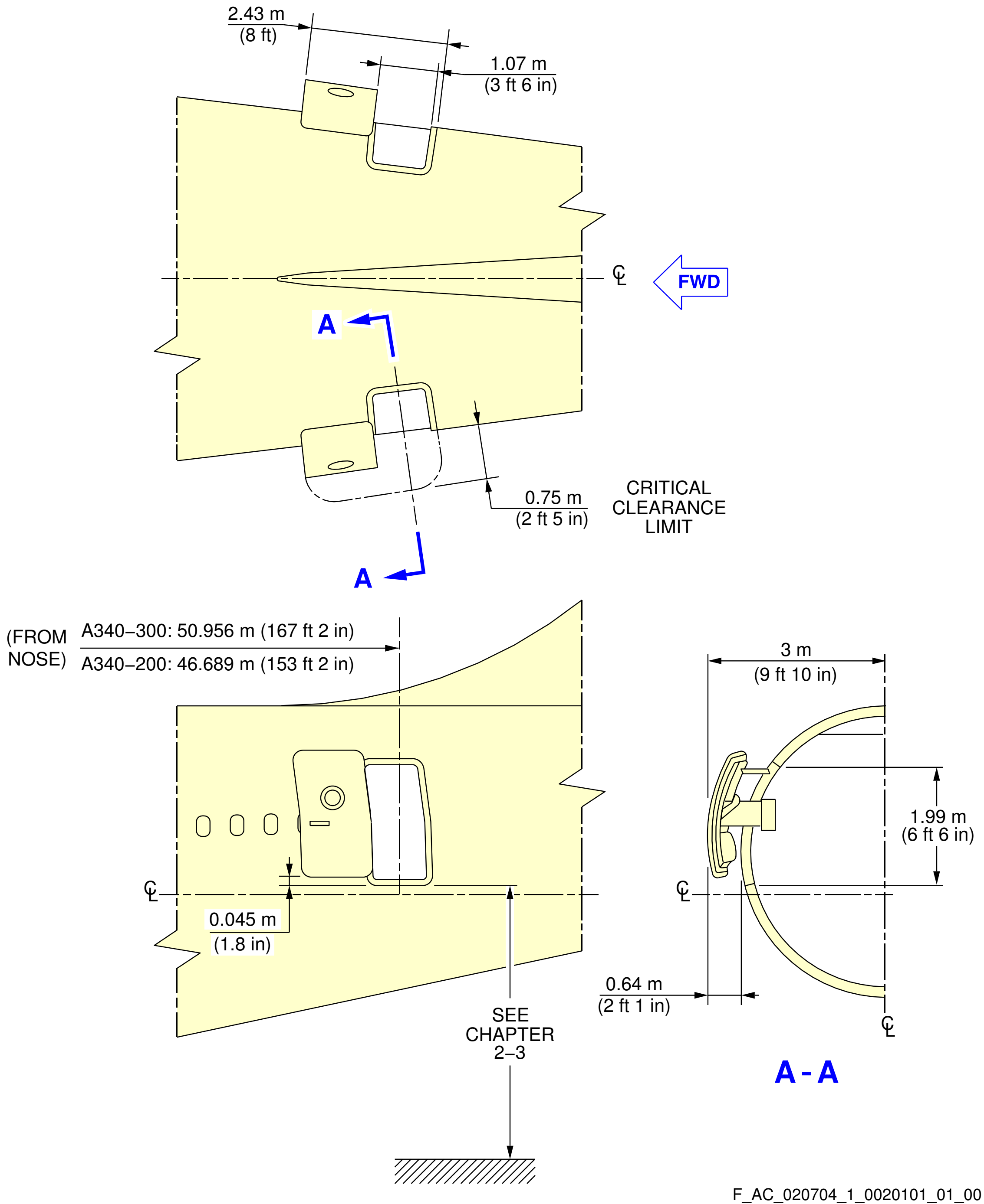
2-7-4 Aft Passenger / Crew Doors

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

Aft Passenger / Crew Doors

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

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



Aft Passenger / Crew Doors
FIGURE-2-7-4-991-002-A01

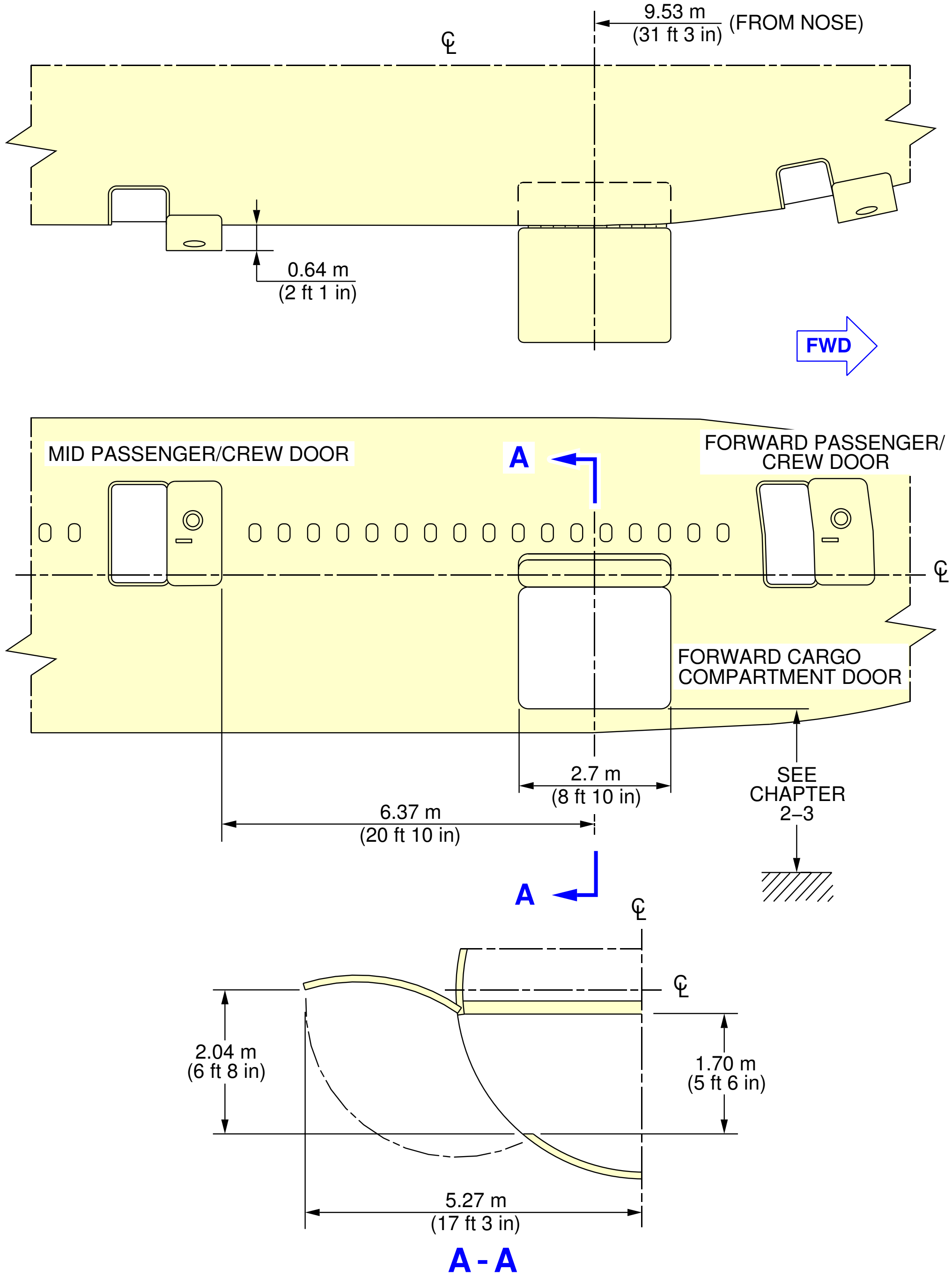
2-7-5 Forward Cargo Compartment Doors

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

Forward Cargo Compartment Doors

1. This section gives forward cargo compartment doors clearances.

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



F_AC_020705_1_0040101_01_00

Forward Cargo Compartment Doors
FIGURE-2-7-5-991-004-A01

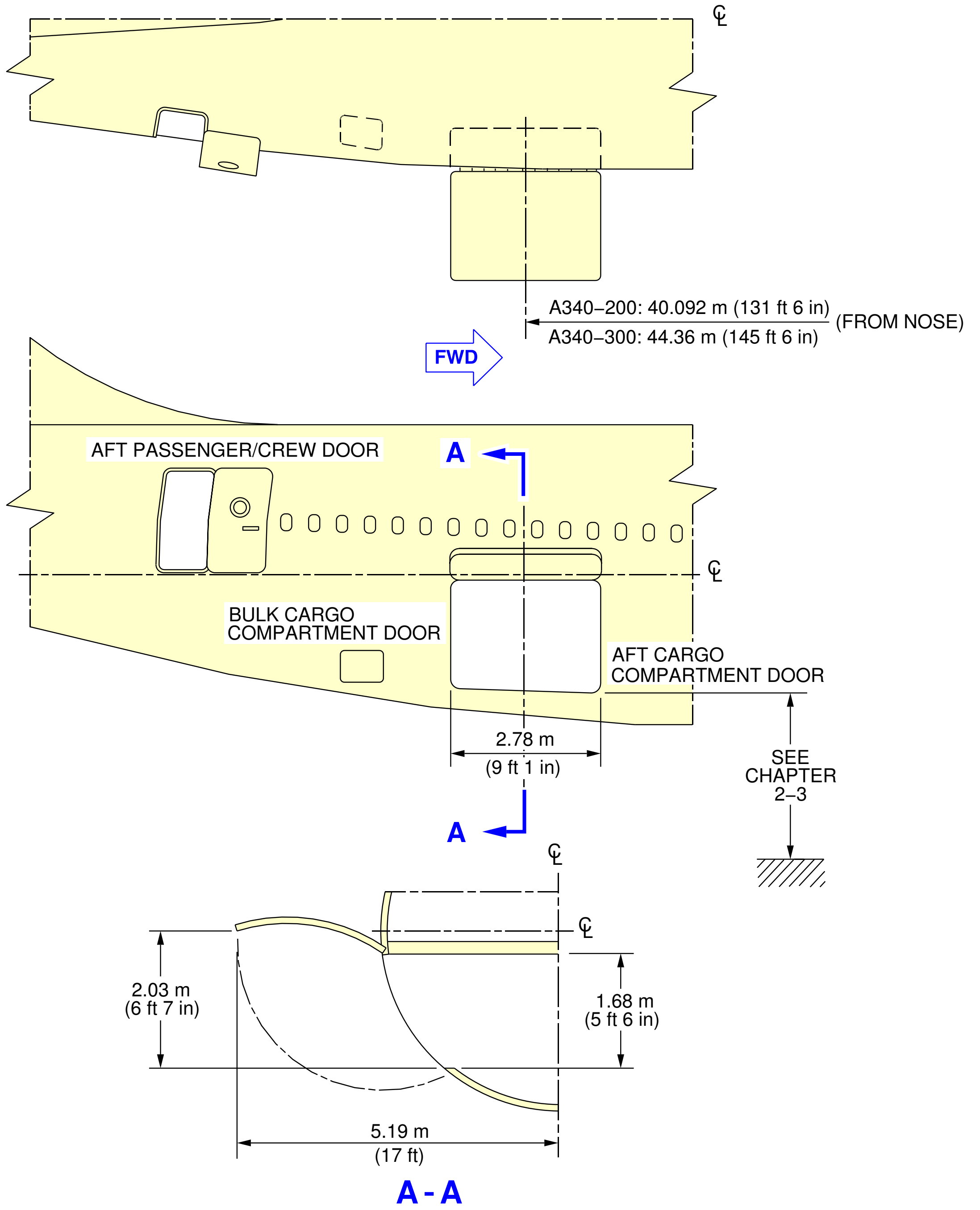
2-7-6 Aft Cargo Compartment Doors

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

Aft Cargo Compartment Doors

1. This section gives Aft cargo compartment doors clearances.

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



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Aft Cargo Compartment Doors
FIGURE-2-7-6-991-004-A01

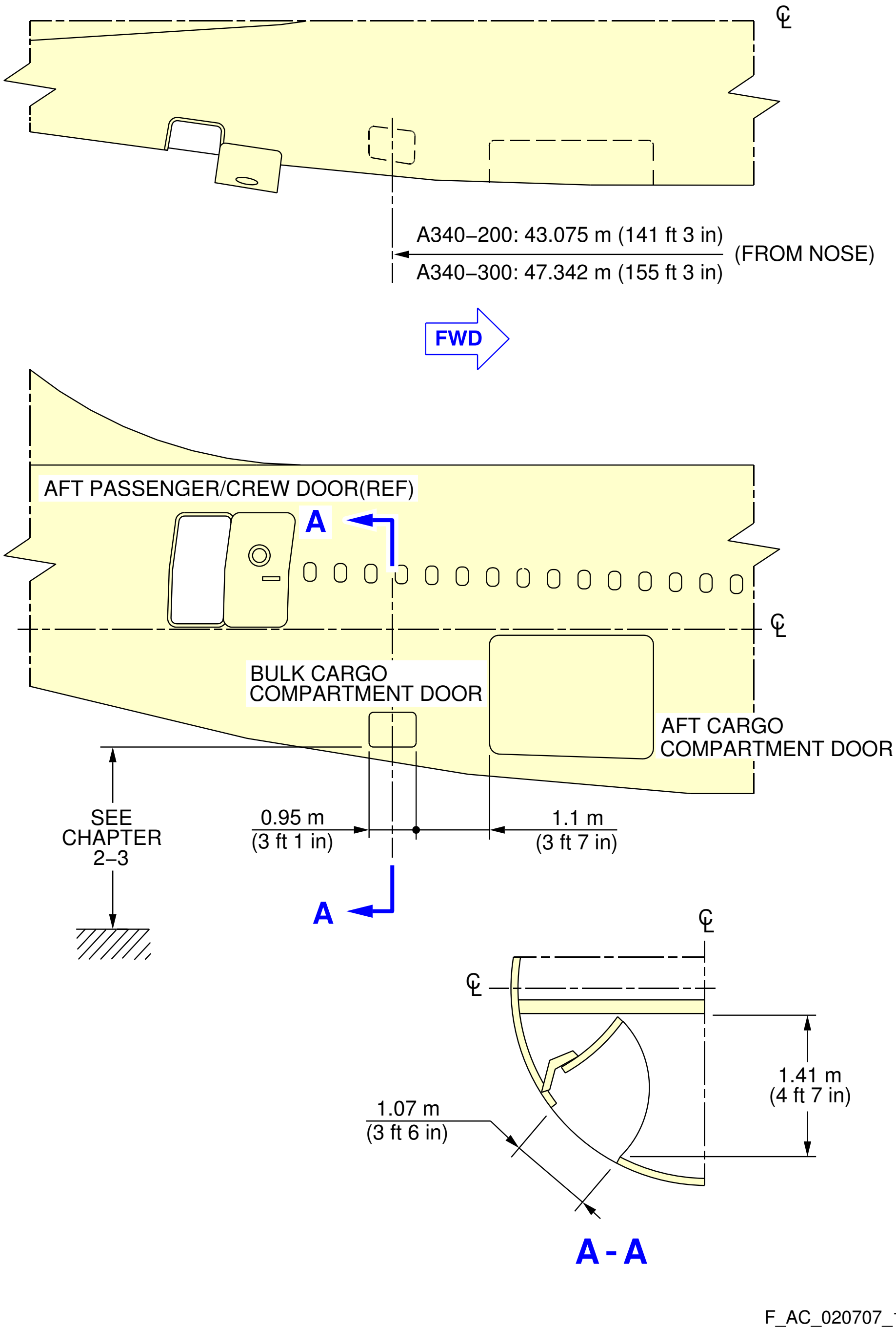
2-7-7 Bulk Cargo Compartment Doors

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

Bulk Cargo Compartment Doors

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

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



Bulk Cargo Compartment Doors
FIGURE-2-7-7-991-003-A01

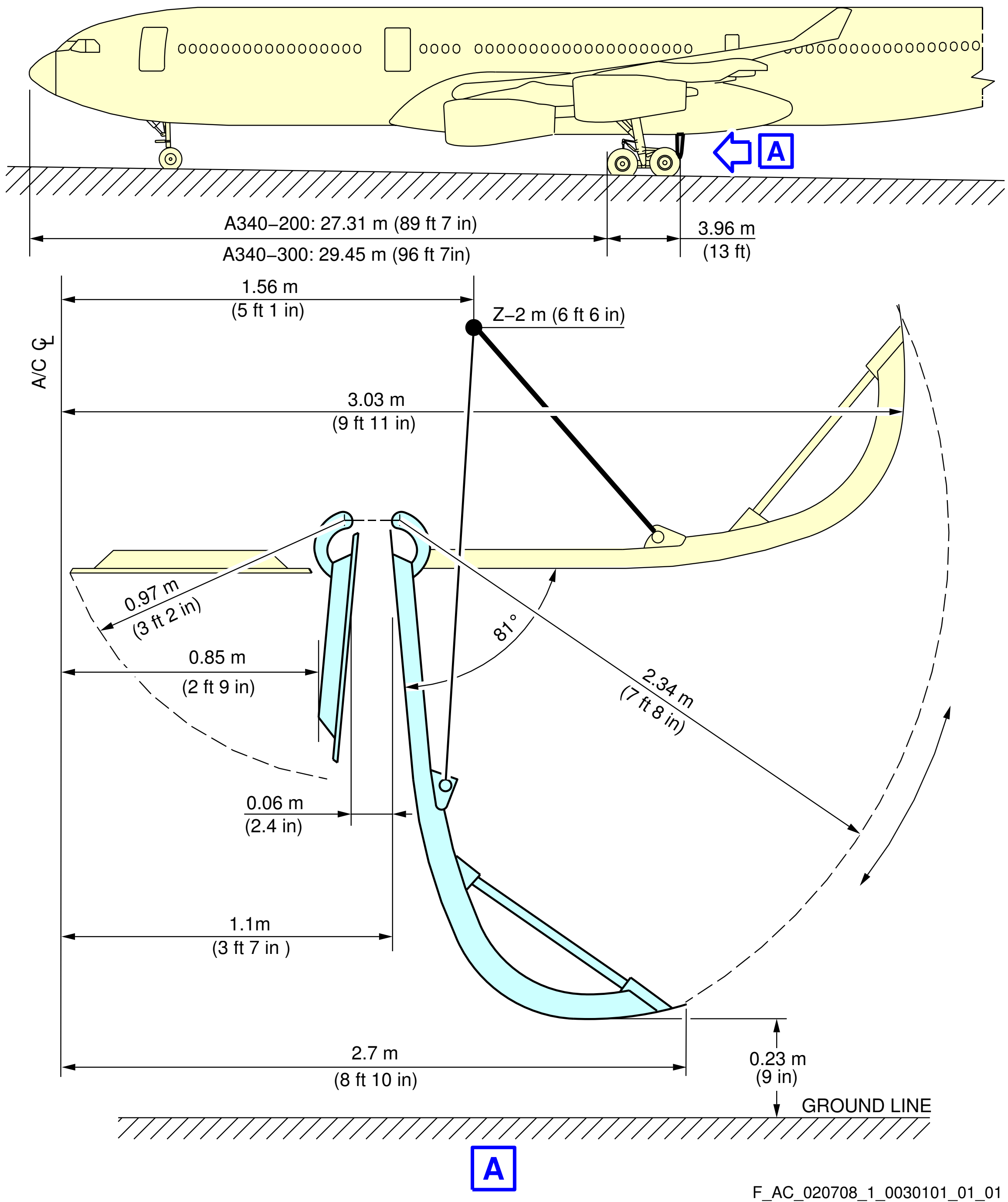
2-7-8 Main and Center Landing Gear Doors

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

Main Landing Gear Doors

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

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



Main and Center Landing Gear Doors
FIGURE-2-7-8-991-003-A01

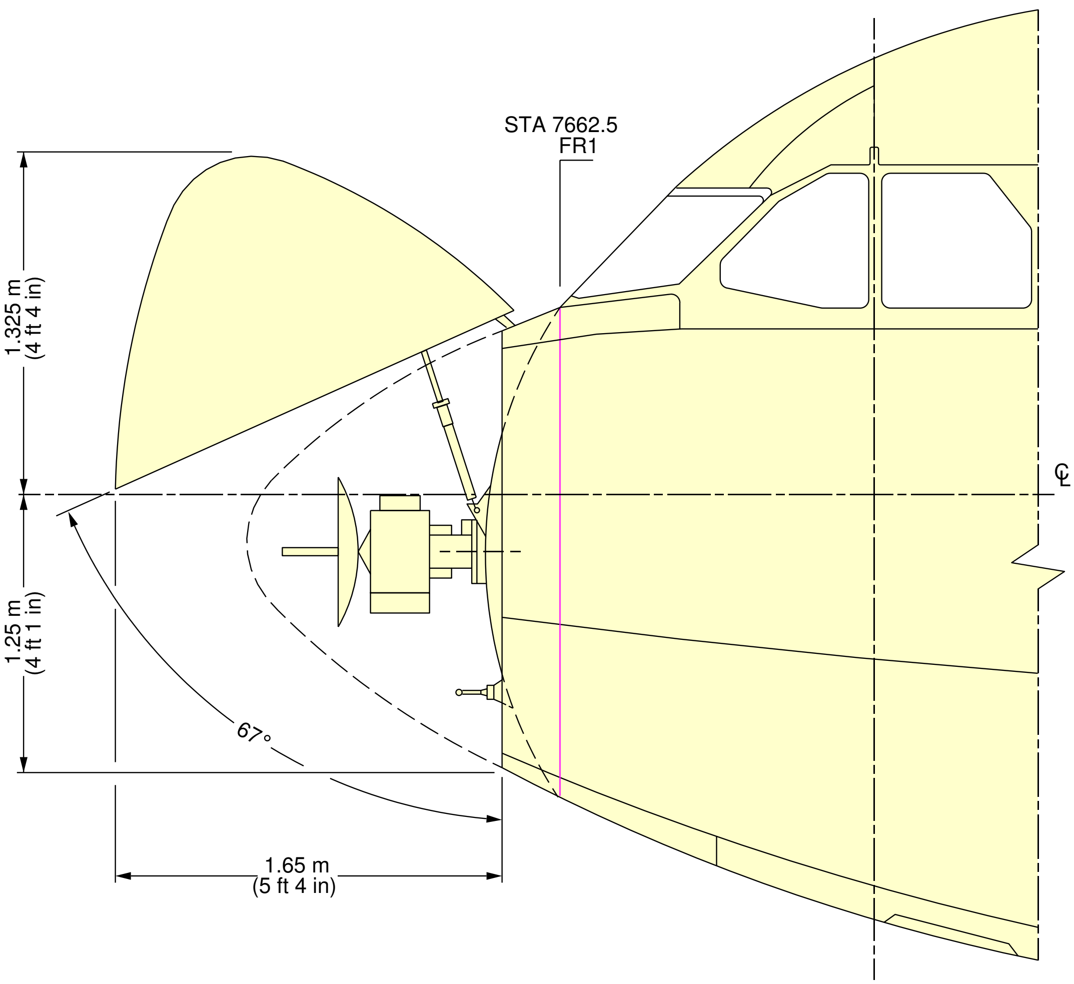
2-7-9 Radome

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

Radome

1. This section gives the radome clearances.

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



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

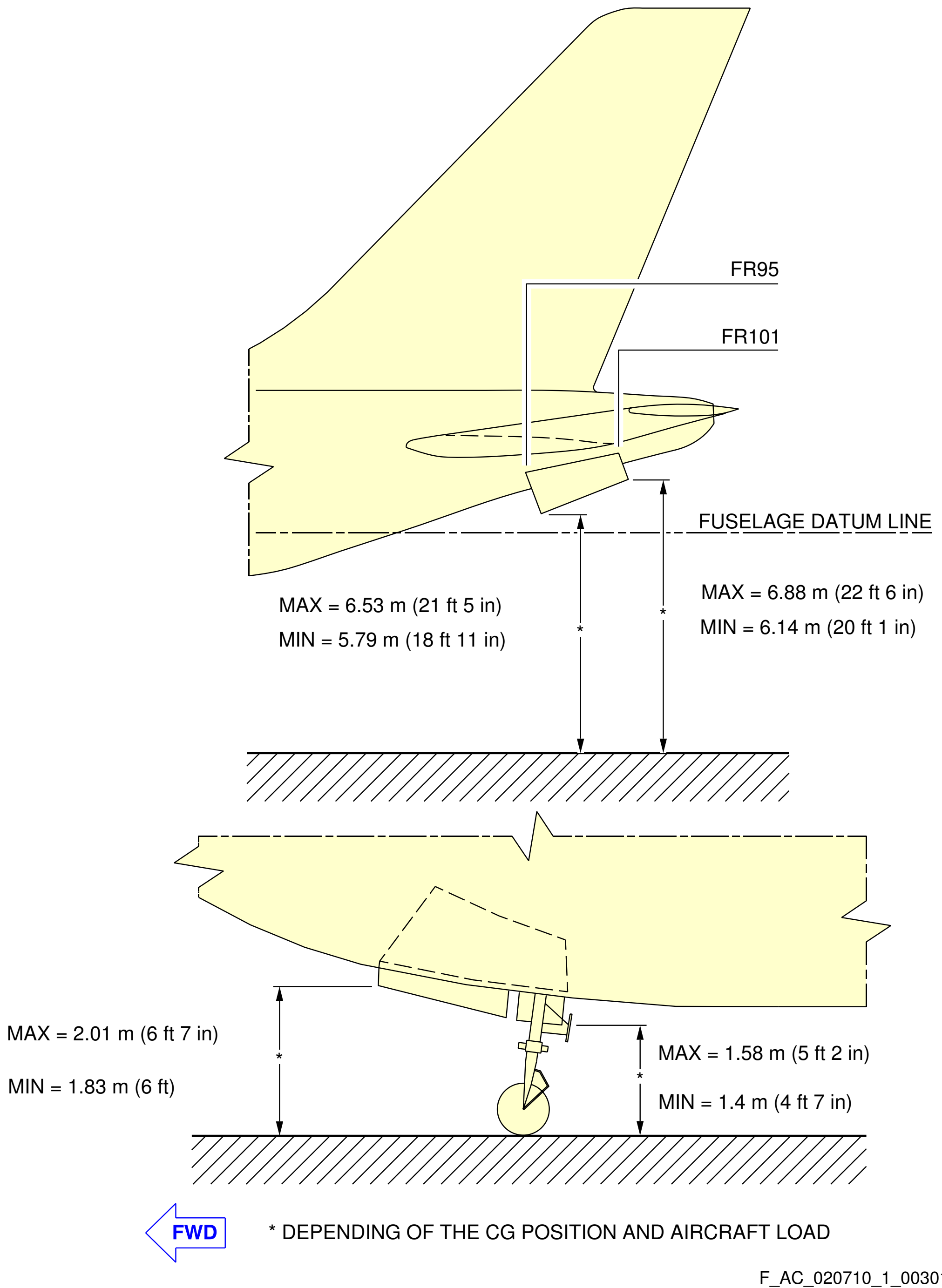
2-7-10 APU and Nose Landing Gear Doors

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

APU and Nose Landing Gear Doors

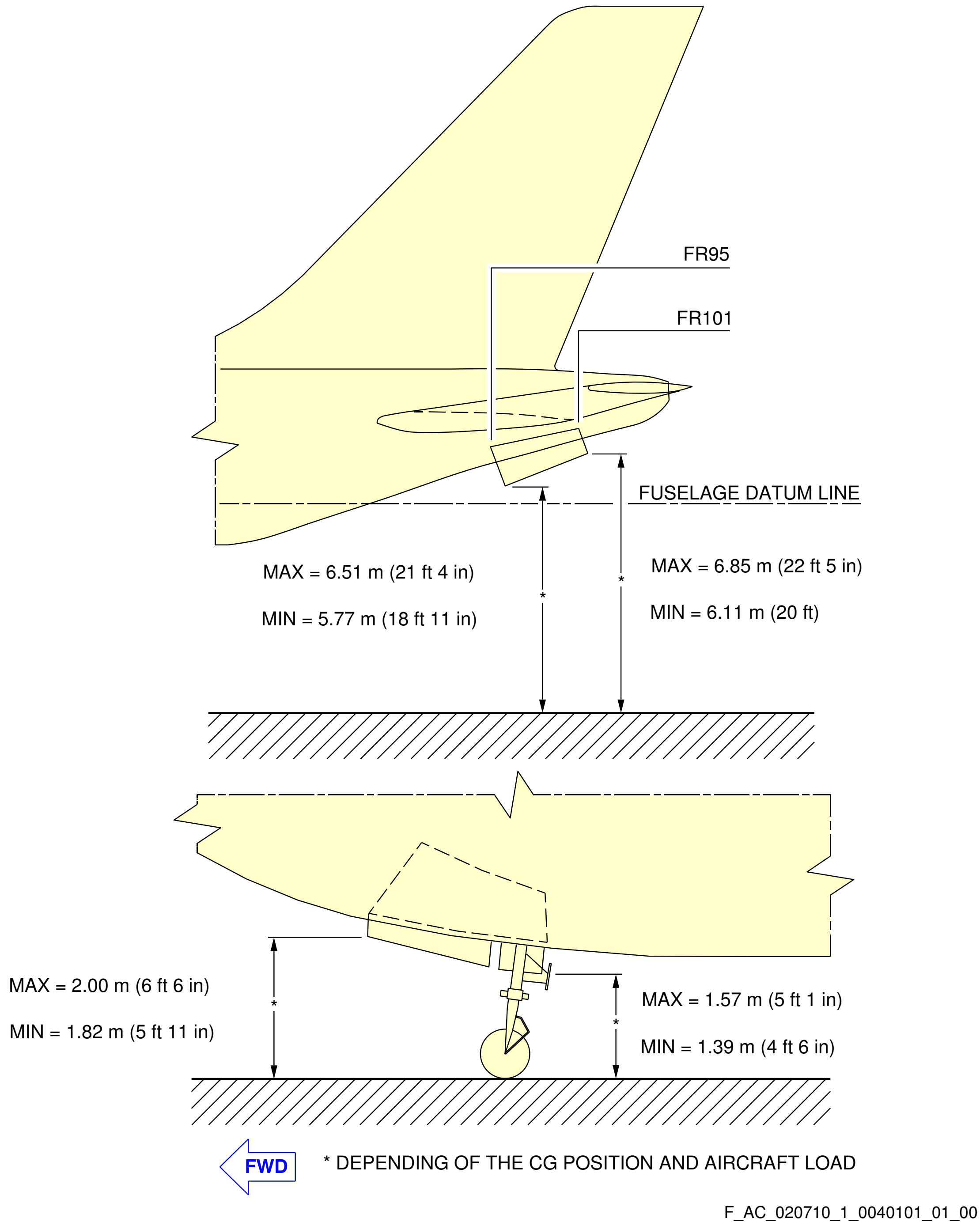
1. This section gives APU and Nose Landing Gear doors clearances.

**ON A/C A340-300



APU and Nose Landing Gear Doors
FIGURE-2-7-10-991-003-A01

**ON A/C A340-200



APU and Nose Landing Gear Doors
FIGURE-2-7-10-991-004-A01

2-8-0 Escape Slides

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

Escape Slides

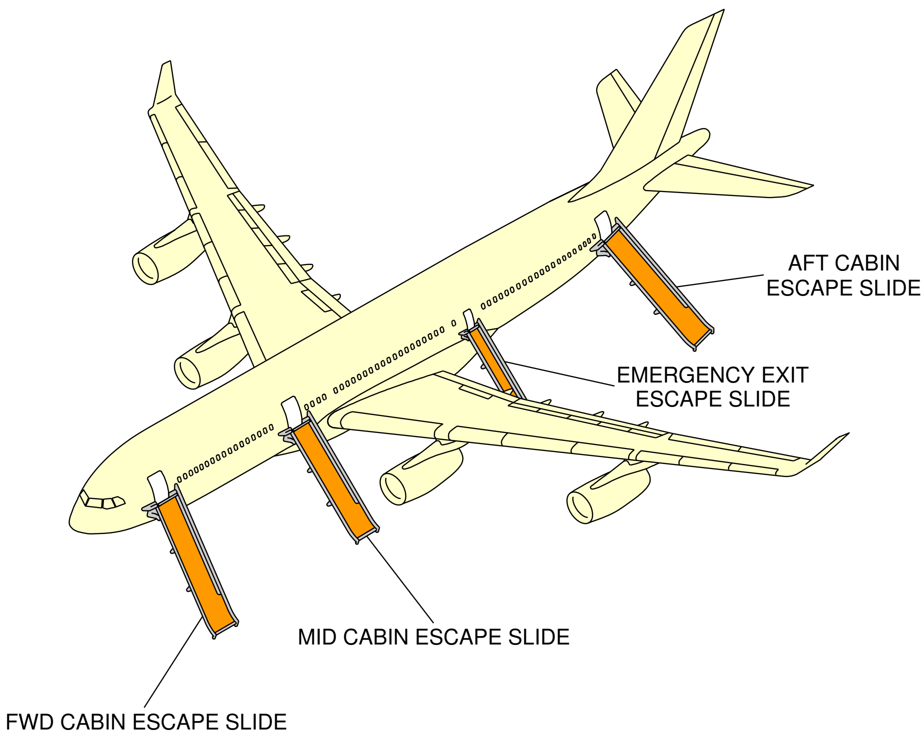
1. General
   This section gives the location of the cabin escape facilities and their related clearances.

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).

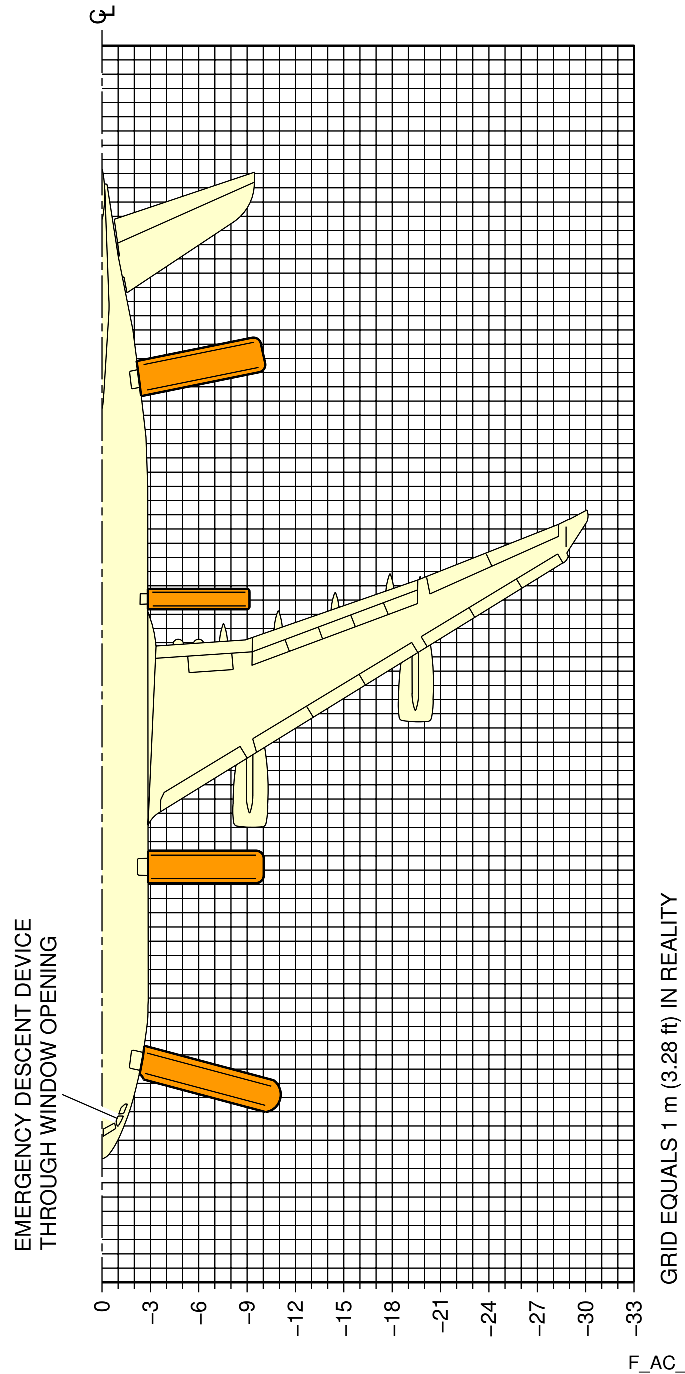
      The slides are installed in a container in the lower part of the door.

**ON A/C A340-200



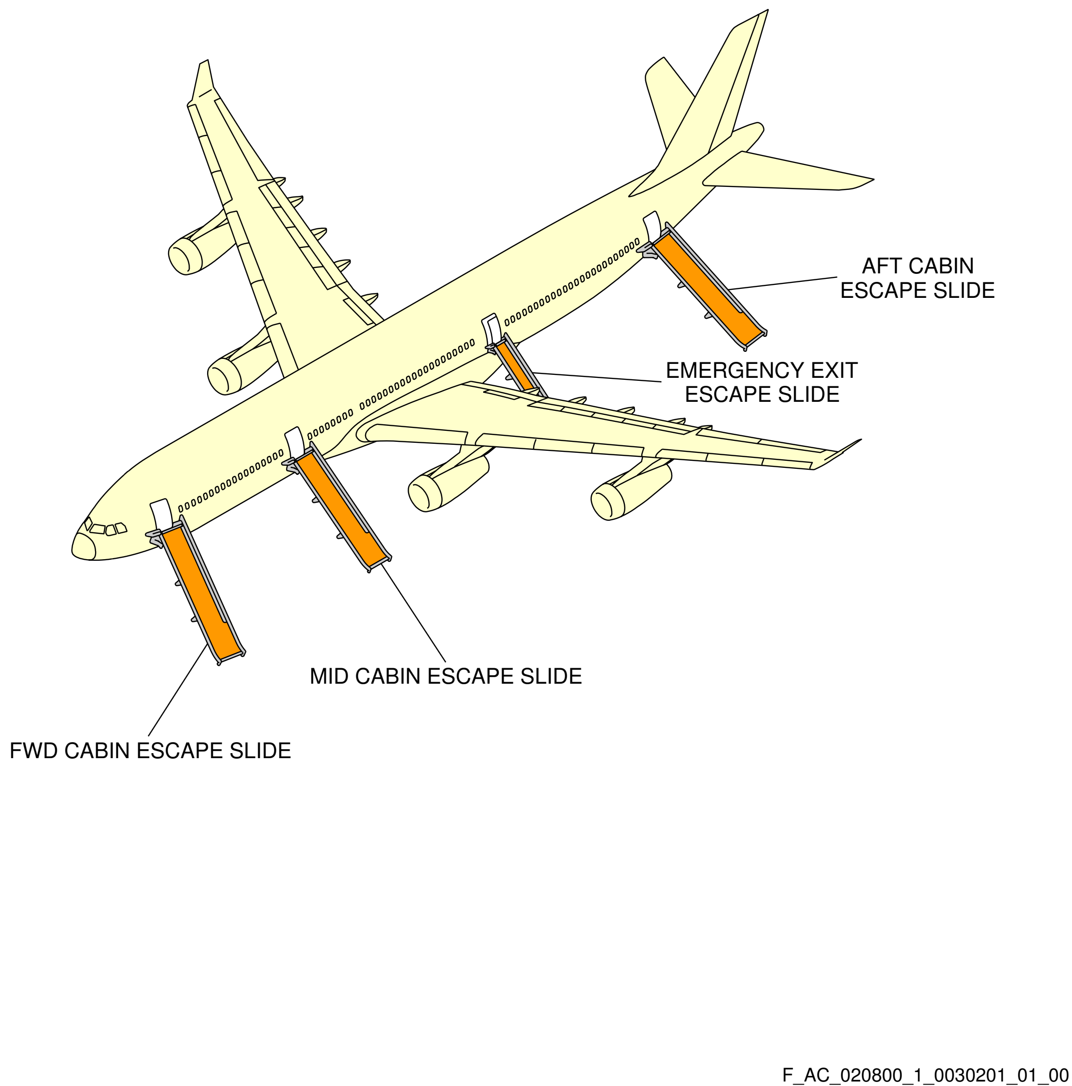
Escape Slides
Location (Sheet 1 of 2)
FIGURE-2-8-0-991-003-A01

**ON A/C A340-200



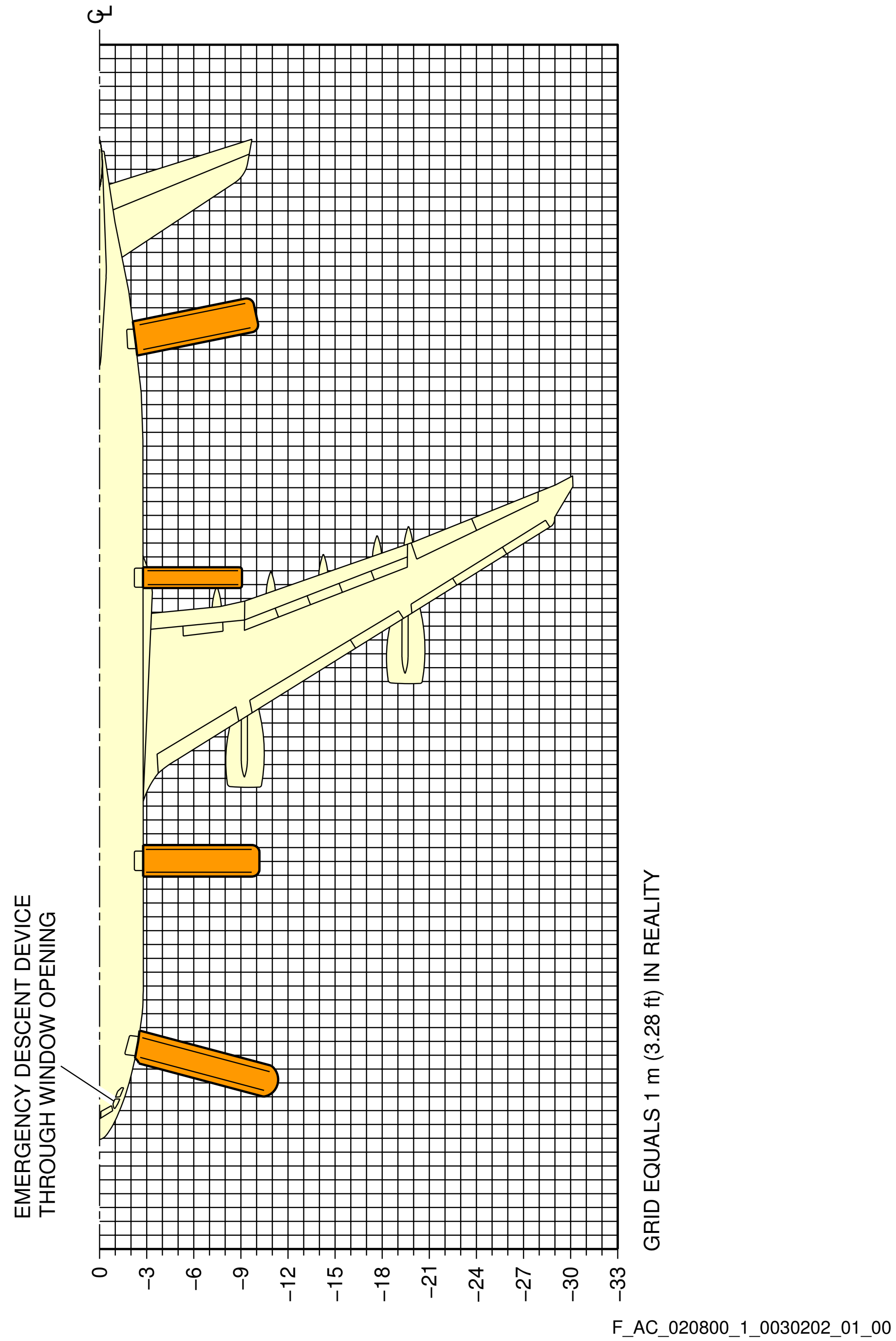
Escape Slides
Dimensions (Sheet 2 of 2)
FIGURE-2-8-0-991-003-A01

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



Escape Slides
Location (Sheet 1 of 2)
FIGURE-2-8-0-991-003-B01

**ON A/C A340-300



Escape Slides
Dimensions (Sheet 2 of 2)
FIGURE-2-8-0-991-003-B01

2-9-0 Landing Gear

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

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.

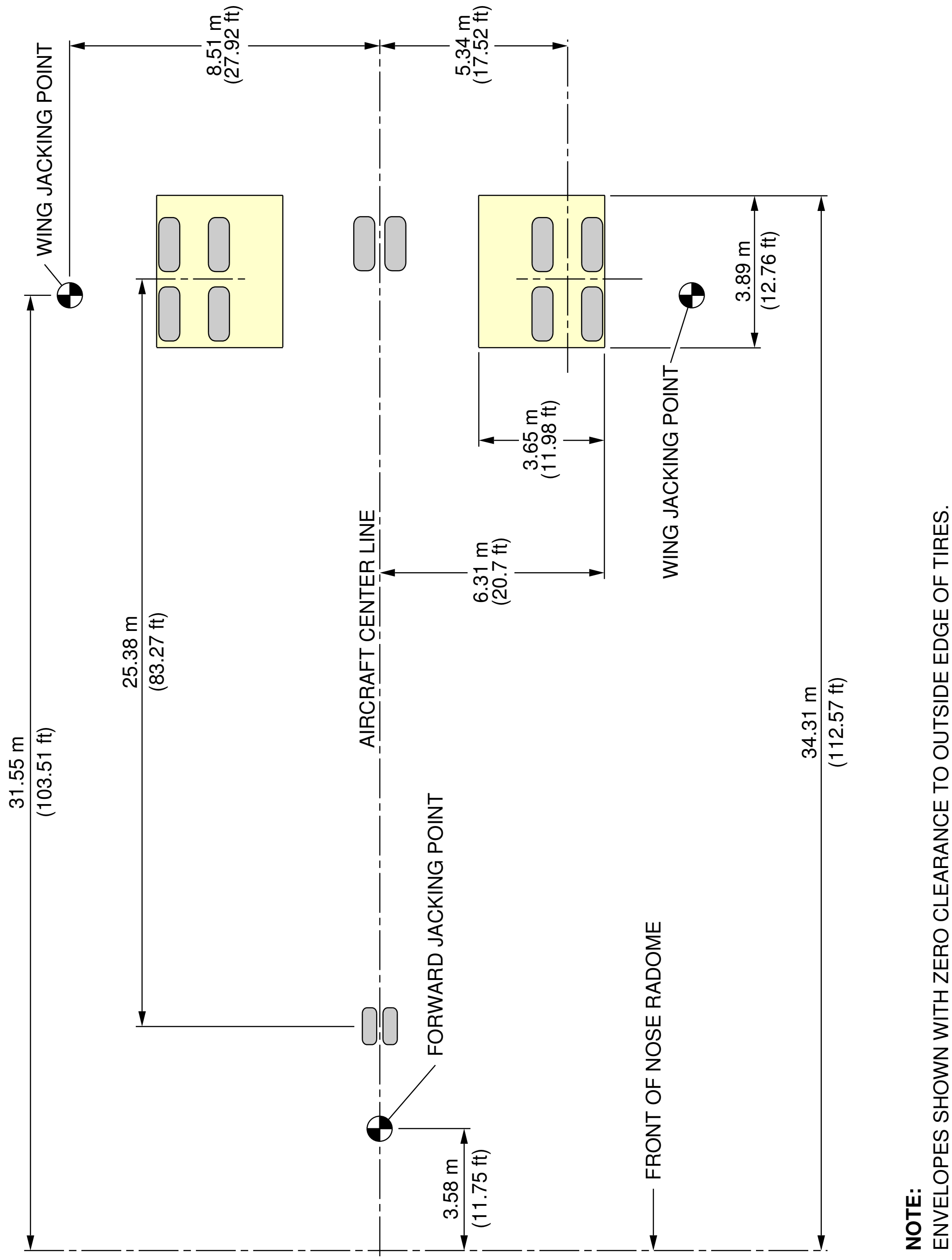
A. Elevators

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 A340-300



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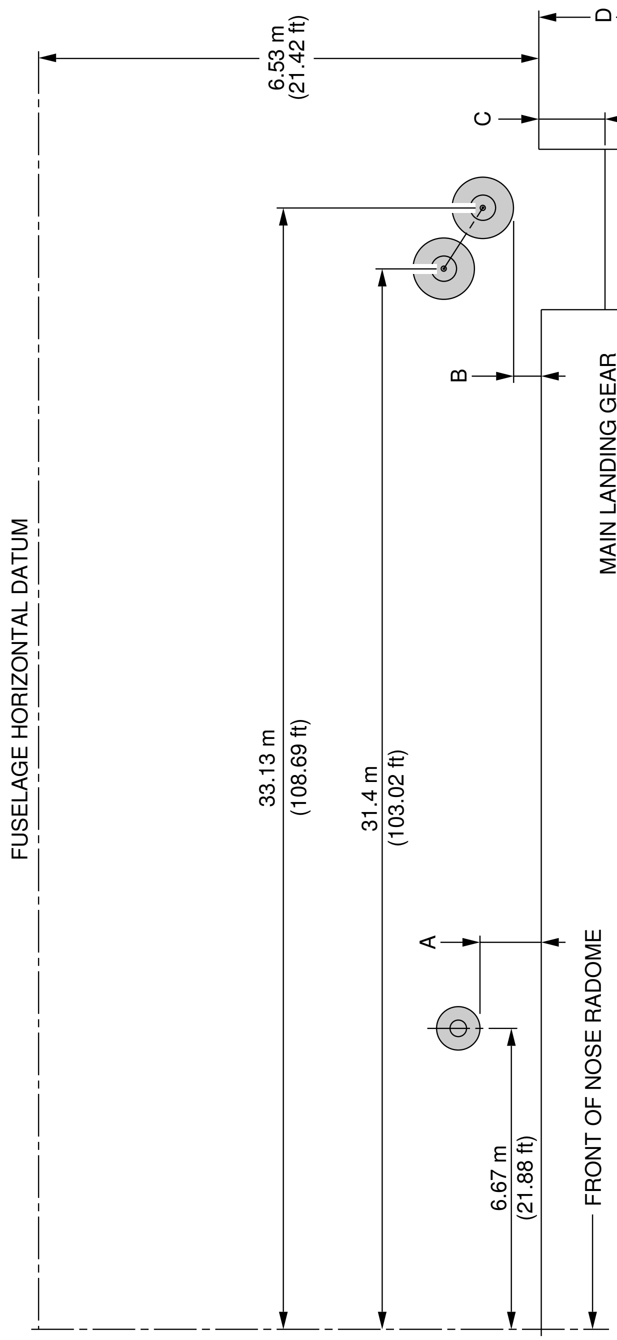
Landing Gear Maintenance Pits
Maintenance Pit Envelopes (Sheet 1 of 2)
FIGURE-2-9-0-991-003-A01

**ON A/C A340-300



DIMENSIONS							
A		B		C		D	
m	ft	m	ft	m	ft	m	ft
1.56	5.12	0.2	0.66	0.81	2.66	1.53	5.02

NOTE:

1. 'A' REPRESENTS POSITION OF NLG WHEEL ABOVE STATIC GROUND LINE WITH AIRCRAFT LEVELLED AND JACKED. A PIT IS NOT REQUIRED FOR THE NLG.
2. 'B' REPRESENTS POSITION OF LOWEST MLG MAIN WHEEL ABOVE STATIC GROUND LINE WITH AIRCRAFT JACKED IN TO POSITION ABOVE HYDRAULIC OR MECHANICAL ELEVATOR, FOR RETRACTION/EXTENSION TESTS.
3. 'C' REPRESENTS POSITION OF HYDRAULIC OR MECHANICAL ELEVATOR WITH THE MLG SHOCK ABSORBER IN THE DEFLATED AND COMPRESSED CONDITION FOR SHOCK ABSORBER REMOVAL.
4. 'D' REPRESENTS POSITION OF HYDRAULIC OR MECHANICAL ELEVATOR WITH THE MLG SHOCK ABSORBER IN THE EXTENDED CONDITION FOR SHOCK ABSORBER REMOVAL.

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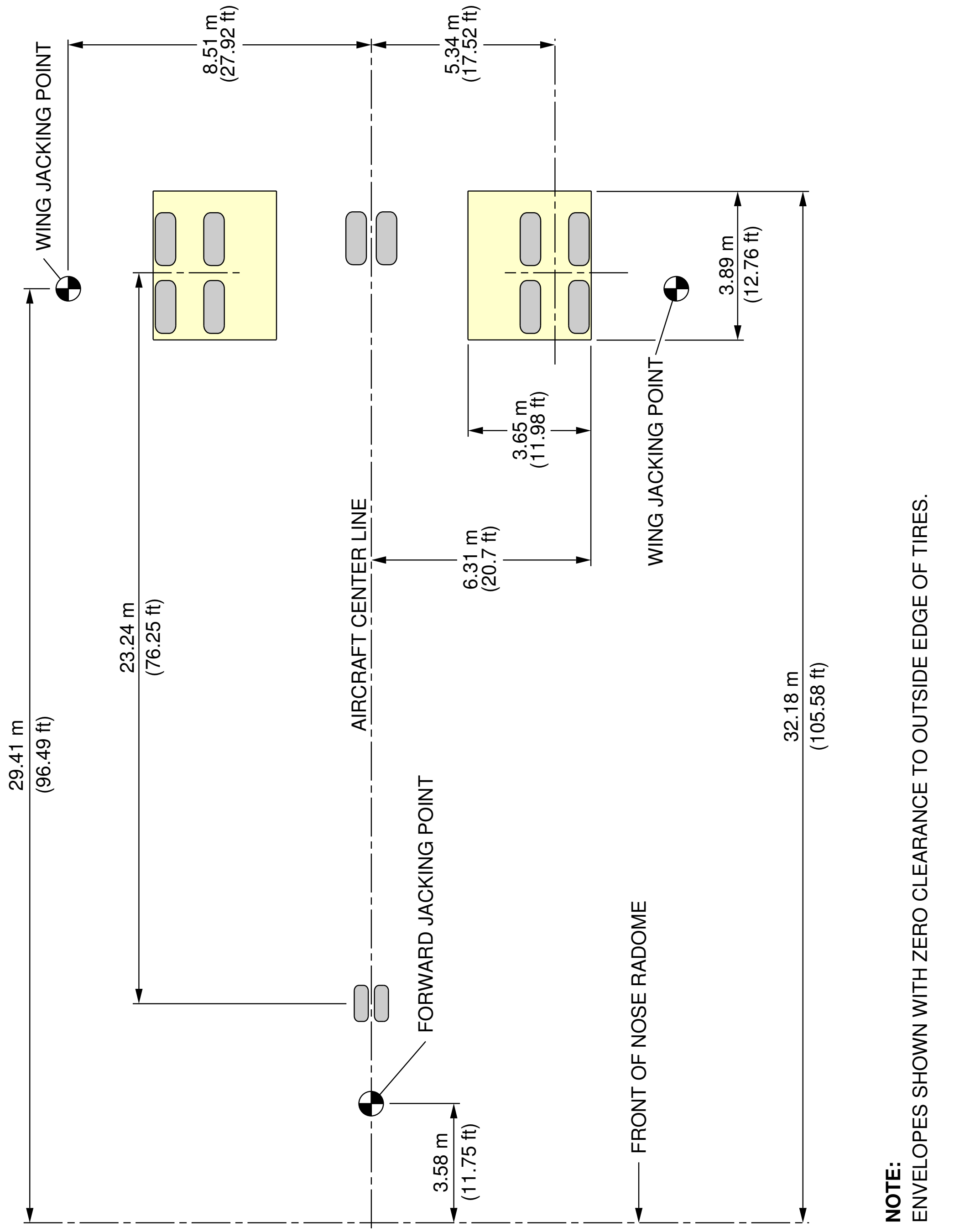
Landing Gear Maintenance Pits
Maintenance Pit Envelopes (Sheet 2 of 2)
FIGURE-2-9-0-991-003-A01

**ON A/C A340-200



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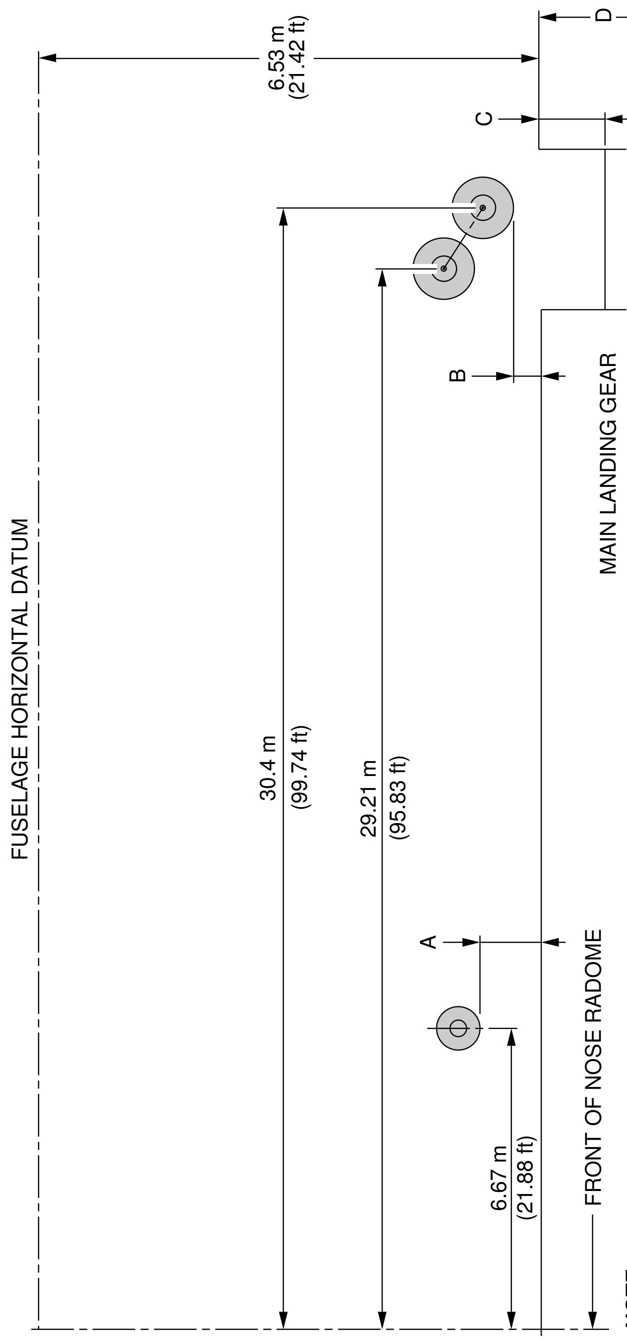
Landing Gear Maintenance Pits
Maintenance Pit Envelopes (Sheet 1 of 2)
FIGURE-2-9-0-991-003-B01

**ON A/C A340-200



NOTE:

1. 'A' REPRESENTS POSITION OF NLG WHEEL ABOVE STATIC GROUND LINE WITH AIRCRAFT LEVELLED AND JACKED. A PIT IS NOT REQUIRED FOR THE NLG.
2. 'B' REPRESENTS POSITION OF LOWEST MLG MAIN WHEEL ABOVE STATIC GROUND LINE WITH AIRCRAFT JACKED IN TO POSITION ABOVE HYDRAULIC OR MECHANICAL ELEVATOR, FOR RETRACTION/EXTENSION TESTS.
3. 'C' REPRESENTS POSITION OF HYDRAULIC OR MECHANICAL ELEVATOR WITH THE MLG SHOCK ABSORBER IN THE DEFLATED AND COMPRESSED CONDITION FOR SHOCK ABSORBER REMOVAL.
4. 'D' REPRESENTS POSITION OF HYDRAULIC OR MECHANICAL ELEVATOR WITH THE MLG SHOCK ABSORBER IN THE EXTENDED CONDITION FOR SHOCK ABSORBER REMOVAL.

DIMENSIONS							
A		B		C		D	
m	ft	m	ft	m	ft	m	ft
1.56	5.12	0.2	0.66	0.81	2.66	1.53	5.02

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Landing Gear Maintenance Pits
Maintenance Pit Envelopes (Sheet 2 of 2)
FIGURE-2-9-0-991-003-B01

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

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 twin wheel assembly and related doors
- A Nose Landing Gear retracts forward into a fuselage compartment below the cockpit.

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 includes a twin-wheel axle 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 FWD doors
- Two mechanically-operated AFT doors
- A fixed fairing door on the CLG leg.

All the doors close when the CLG retracts. When the CLG 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 CLG bay.

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 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 gears and doors are operated by the Green hydraulic system.
In abnormal operation, the landing gears can be extended by the operation of electro-mechanical free-fall system. The related electrical switches in the cockpit disengages the doors and the landing gear uplocks. The landing gears then extend by free-fall and the downlock links of each landing gear (L/G) are locked in position by springs.

8. Braking

A. General

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

The braking system has four braking modes and also 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 wheels before the landing gears go into their related bays.
The wheels of the NLG are braked by spring loaded pads.

9. Tire Pressure Indicating System (TPIS)

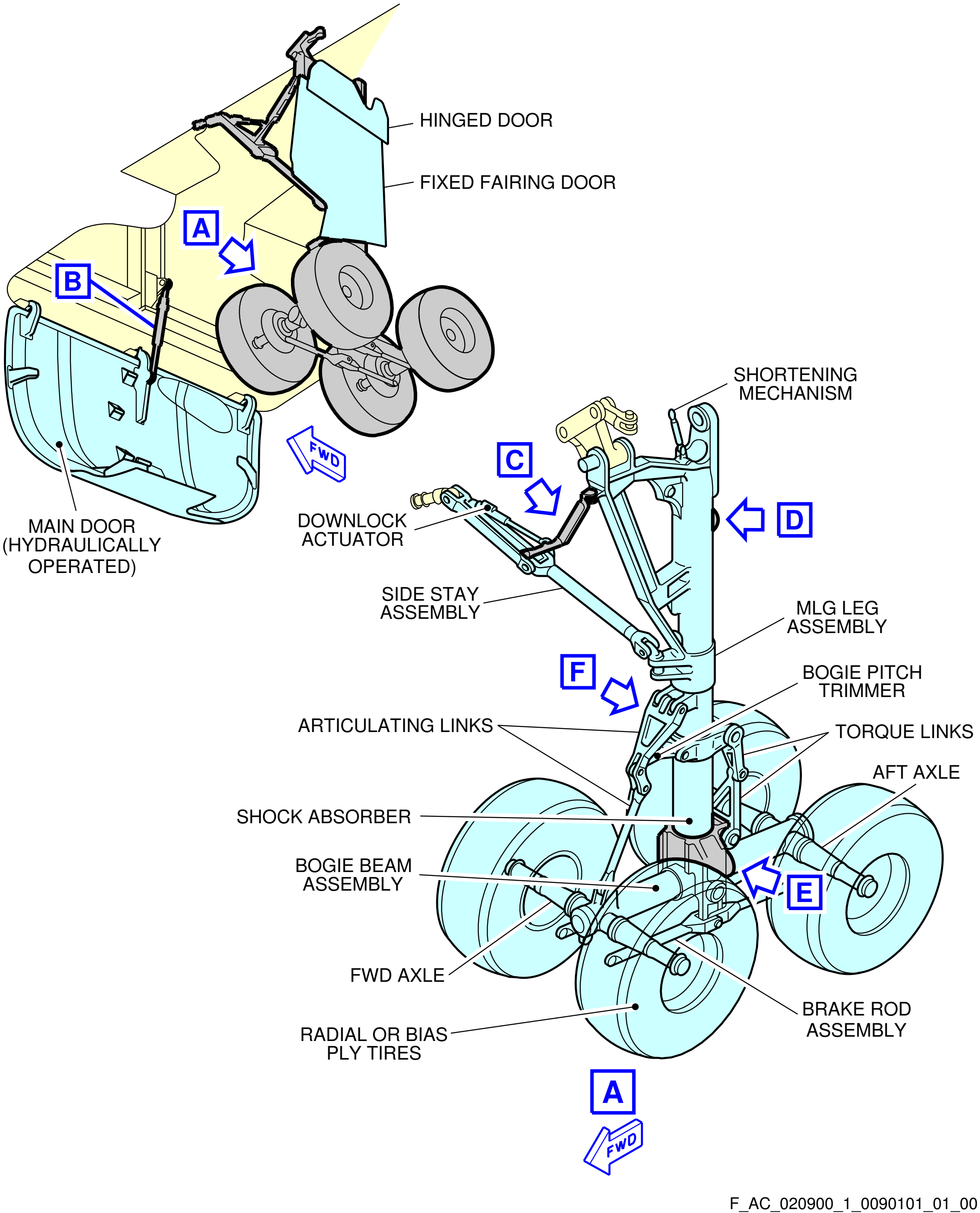
The TPIS automatically monitors the tire pressures and shows these values on Test Equipment (BITE) and also supplies other data and warnings on the WHEEL page of the System Display (SD).

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.

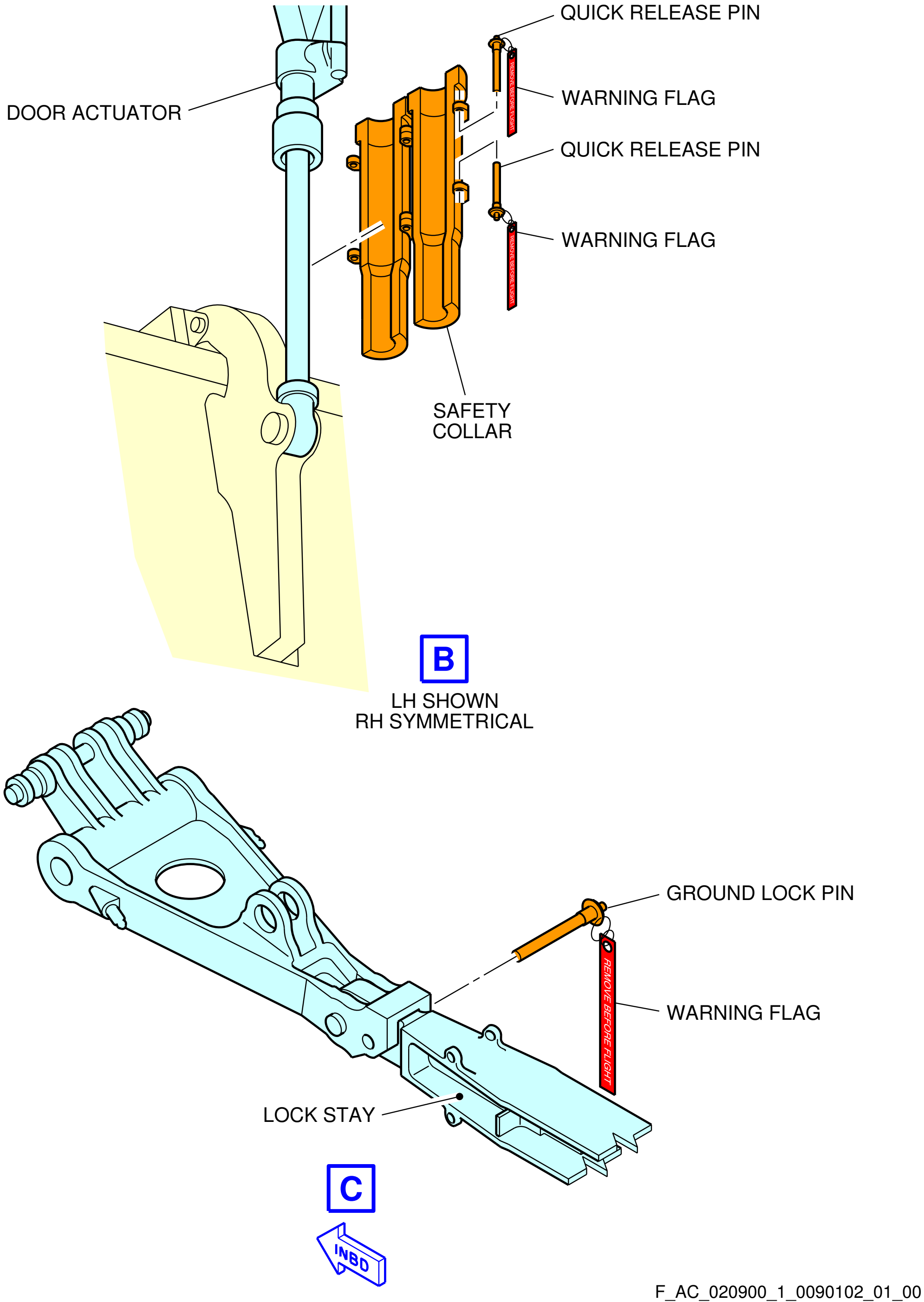
The BITE for the following systems is described in these chapters:
- The Brakes and Steering AMM 32-46-00
- The TPIS AMM 32-49-00
- The Landing GearAMM 32-69-00.

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



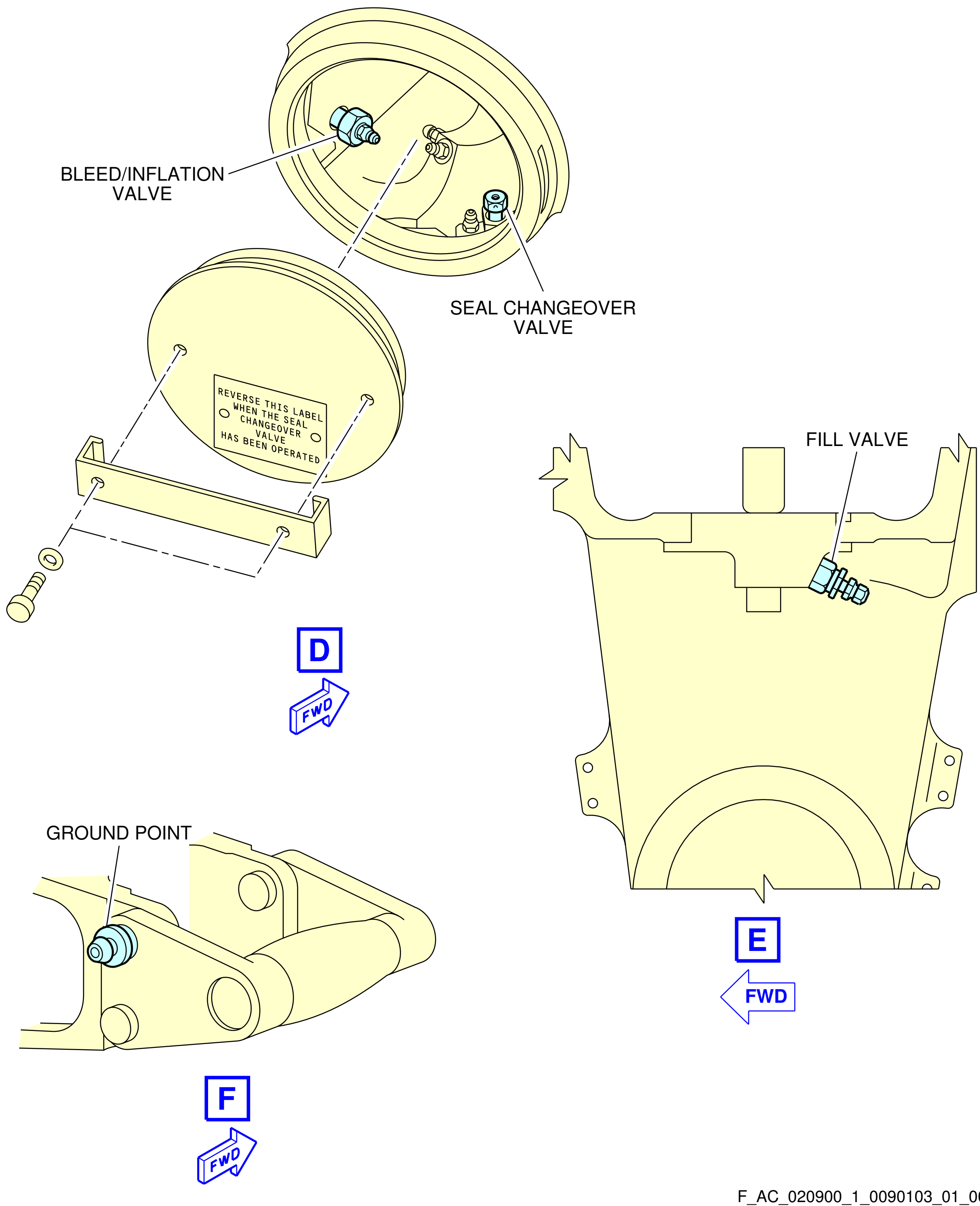
Main Landing Gear
General (Sheet 1 of 3)
FIGURE-2-9-0-991-009-A01

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



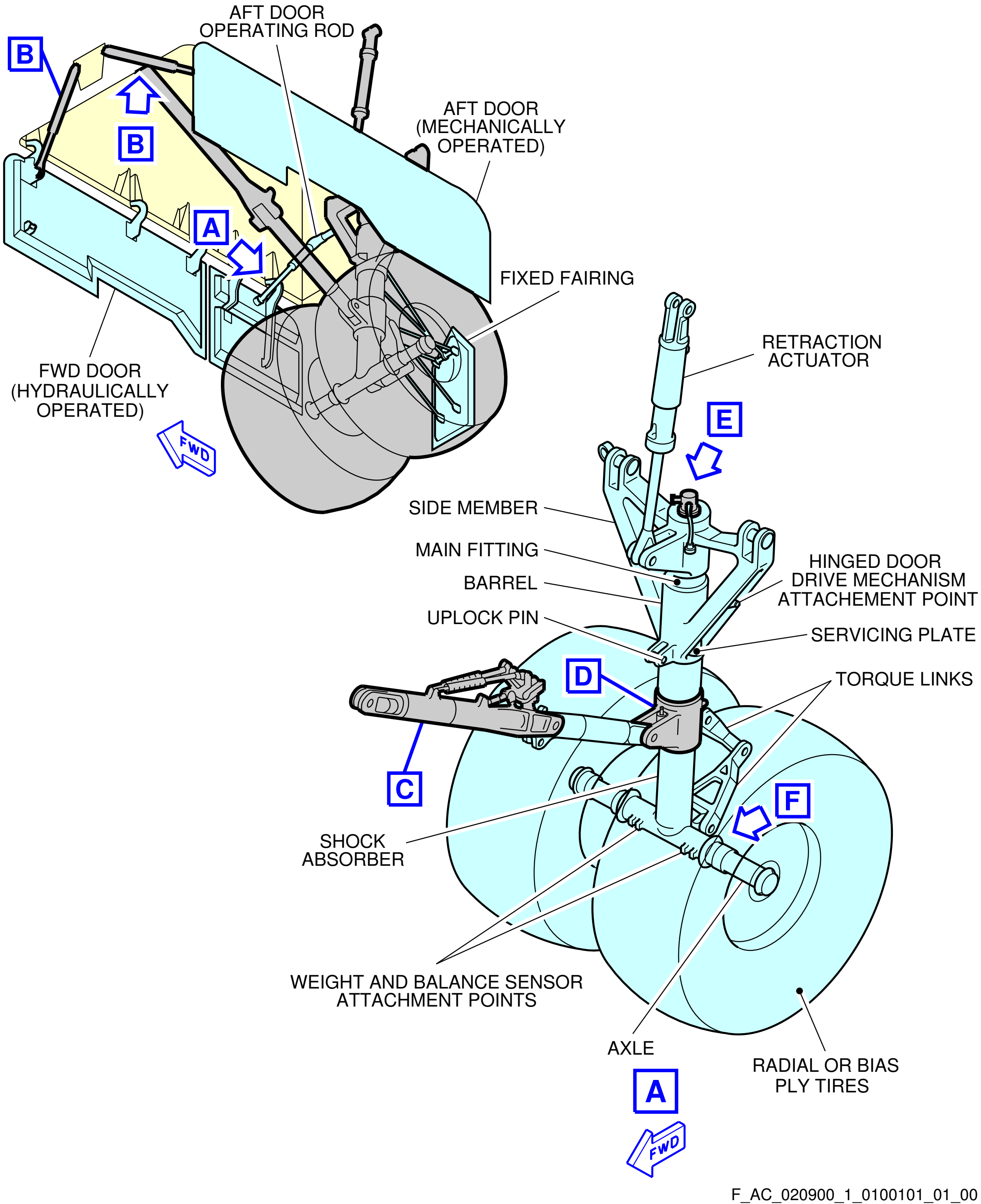
Main Landing Gear
Safety Devices (Sheet 2 of 3)
FIGURE-2-9-0-991-009-A01

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



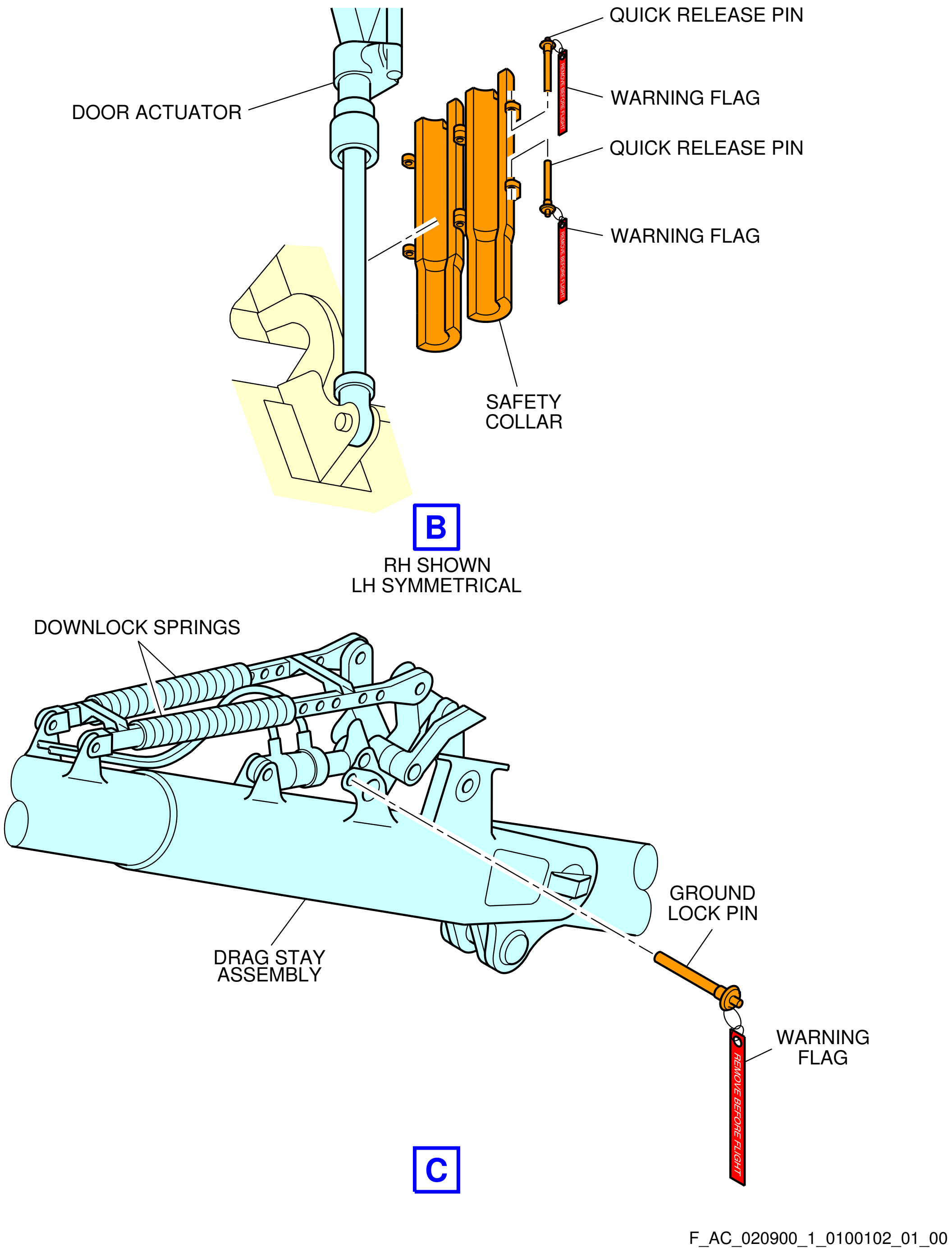
Main Landing Gear
Servicing (Sheet 3 of 3)
FIGURE-2-9-0-991-009-A01

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



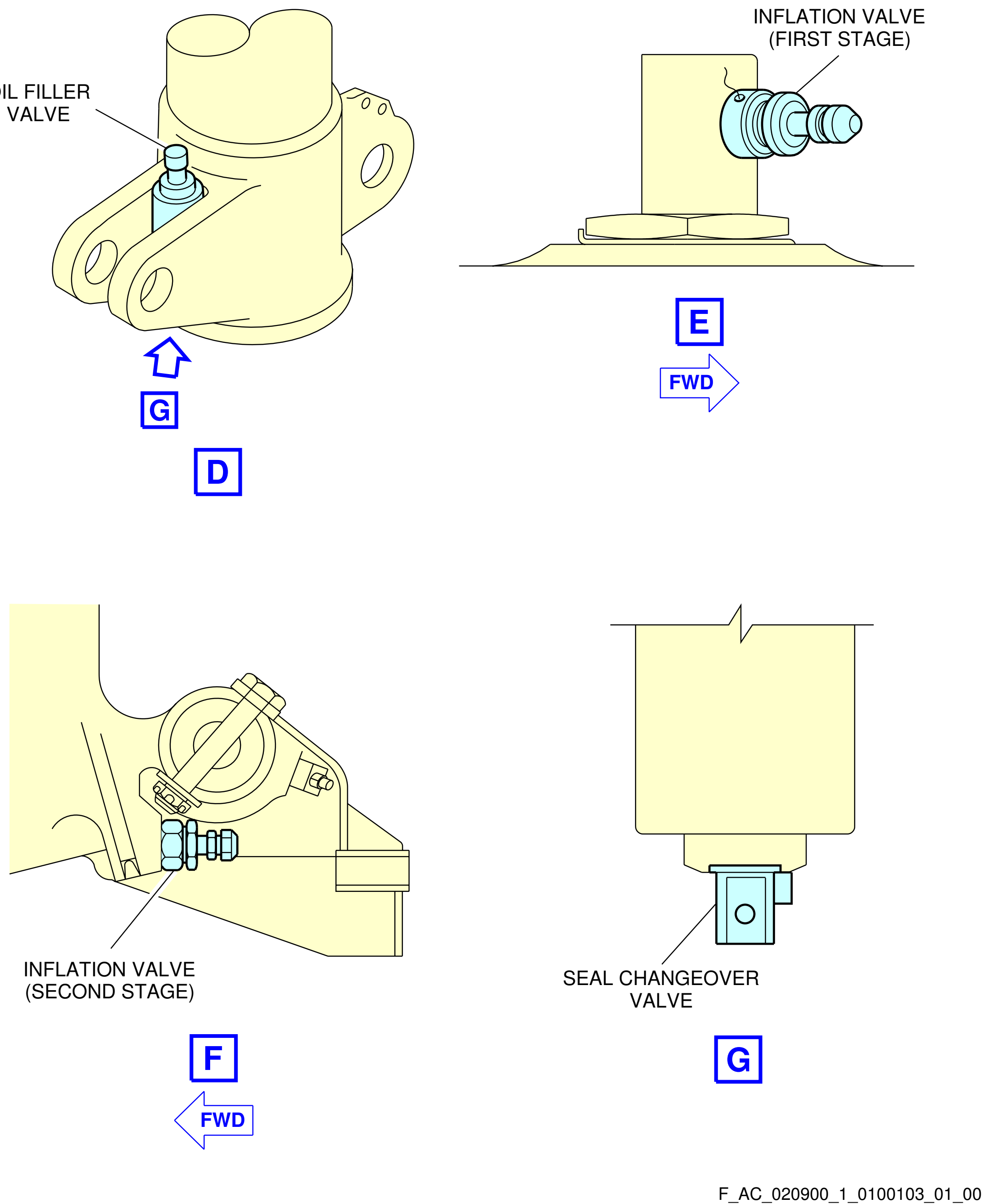
Centerline Landing Gear
General (Sheet 1 of 3)
FIGURE-2-9-0-991-010-A01

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



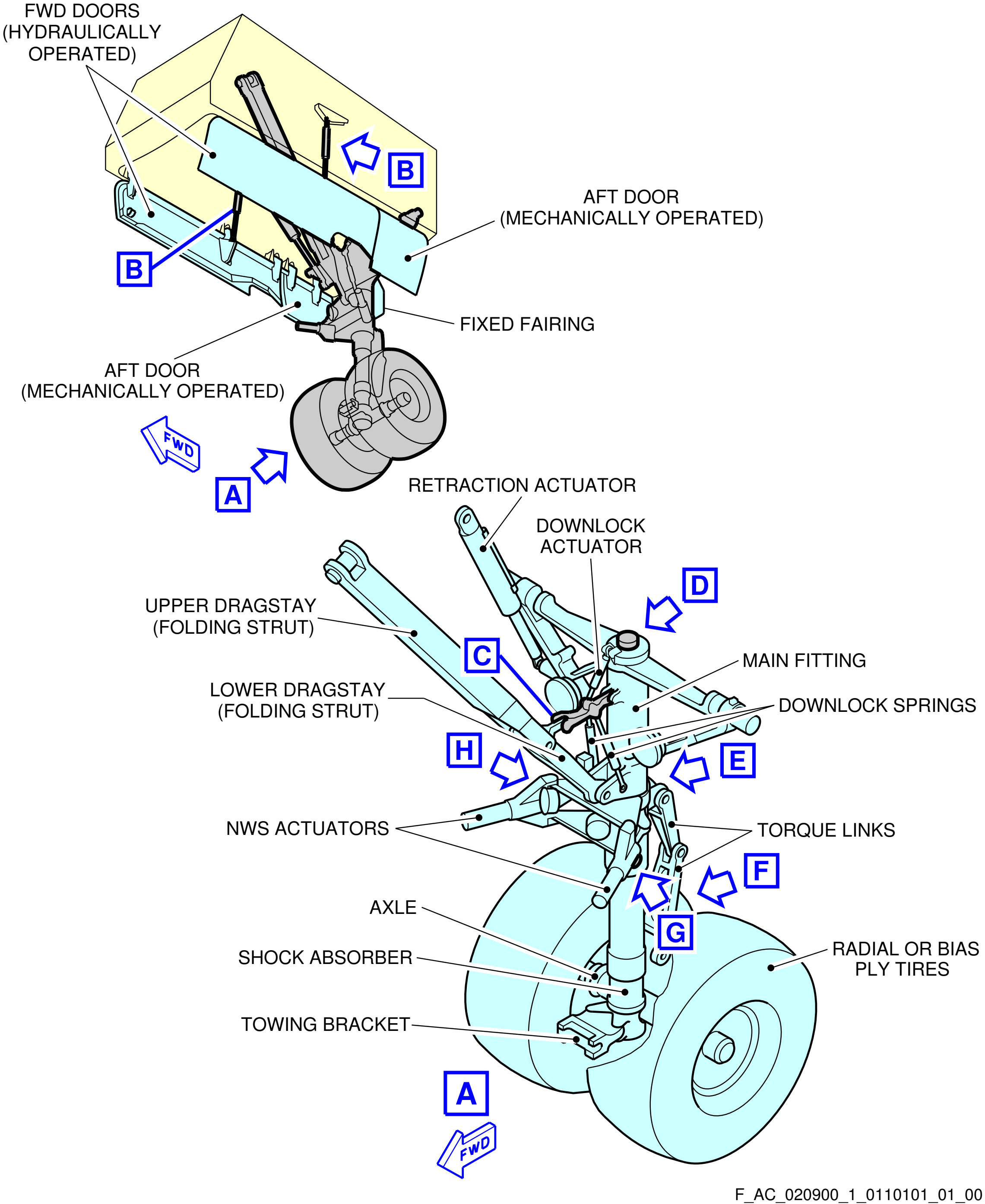
Centerline Landing Gear
Safety Devices (Sheet 2 of 3)
FIGURE-2-9-0-991-010-A01

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



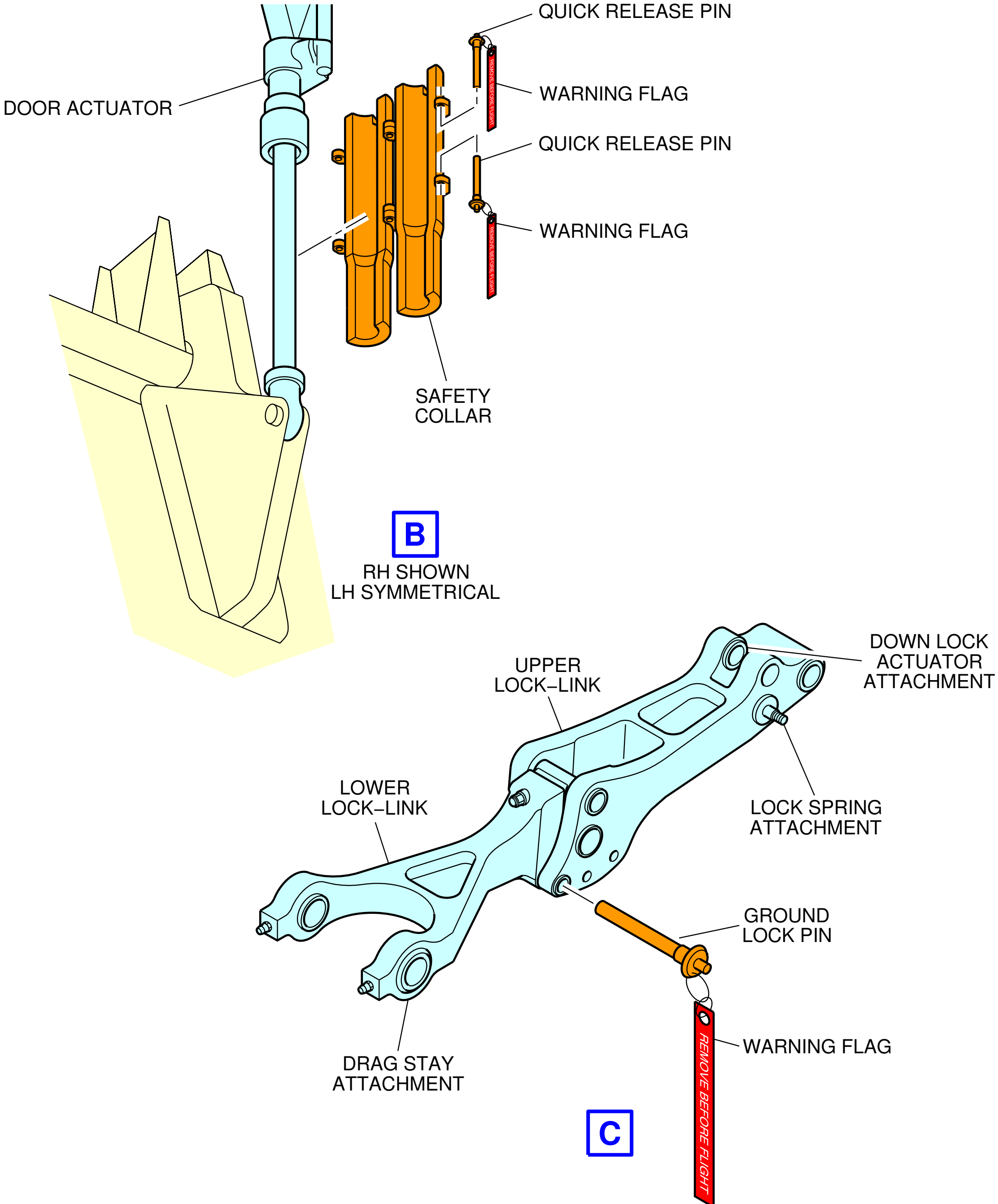
Centerline Landing Gear
Servicing (Sheet 3 of 3)
FIGURE-2-9-0-991-010-A01

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



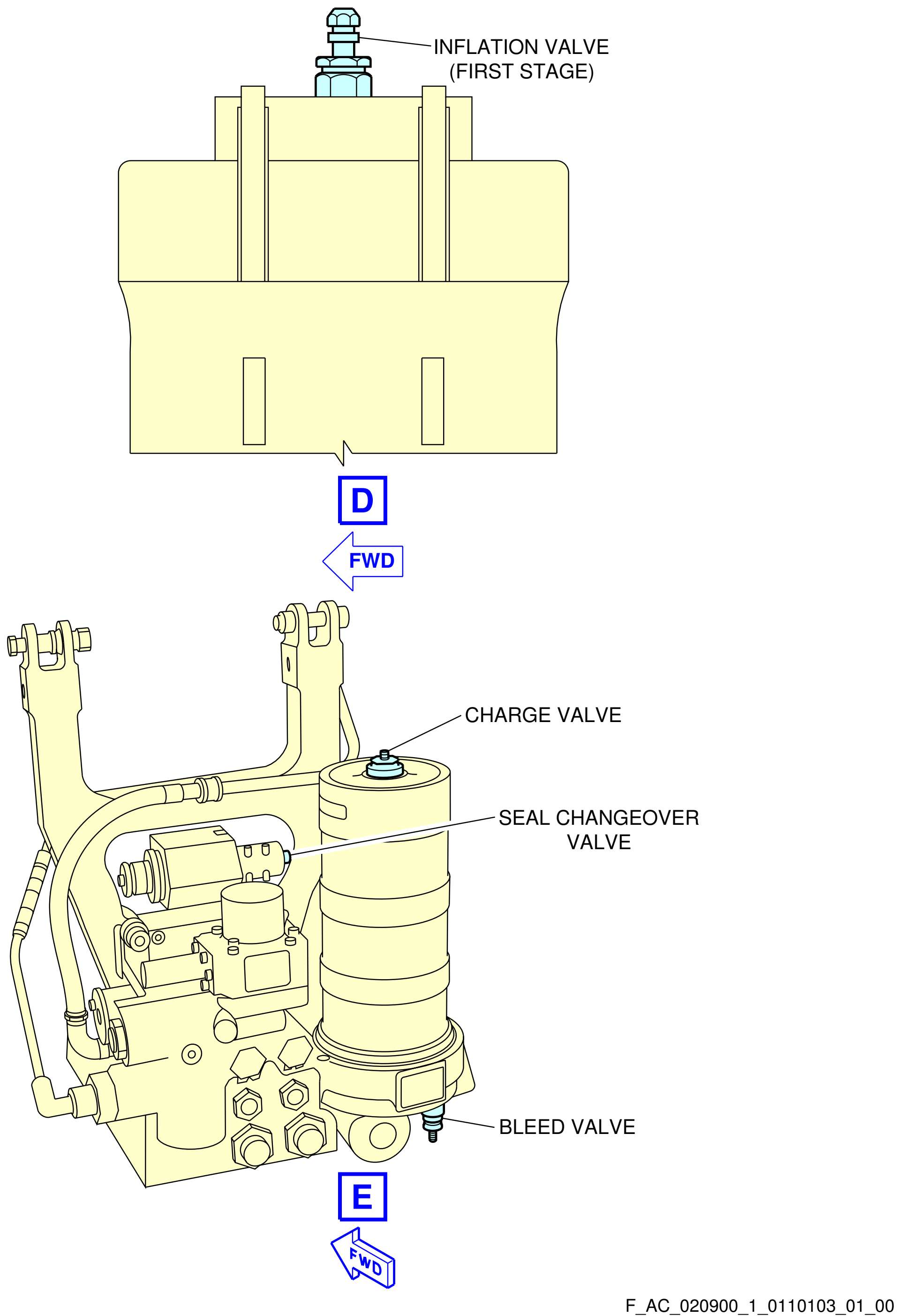
Nose Landing Gear
General (Sheet 1 of 4)
FIGURE-2-9-0-991-011-A01

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



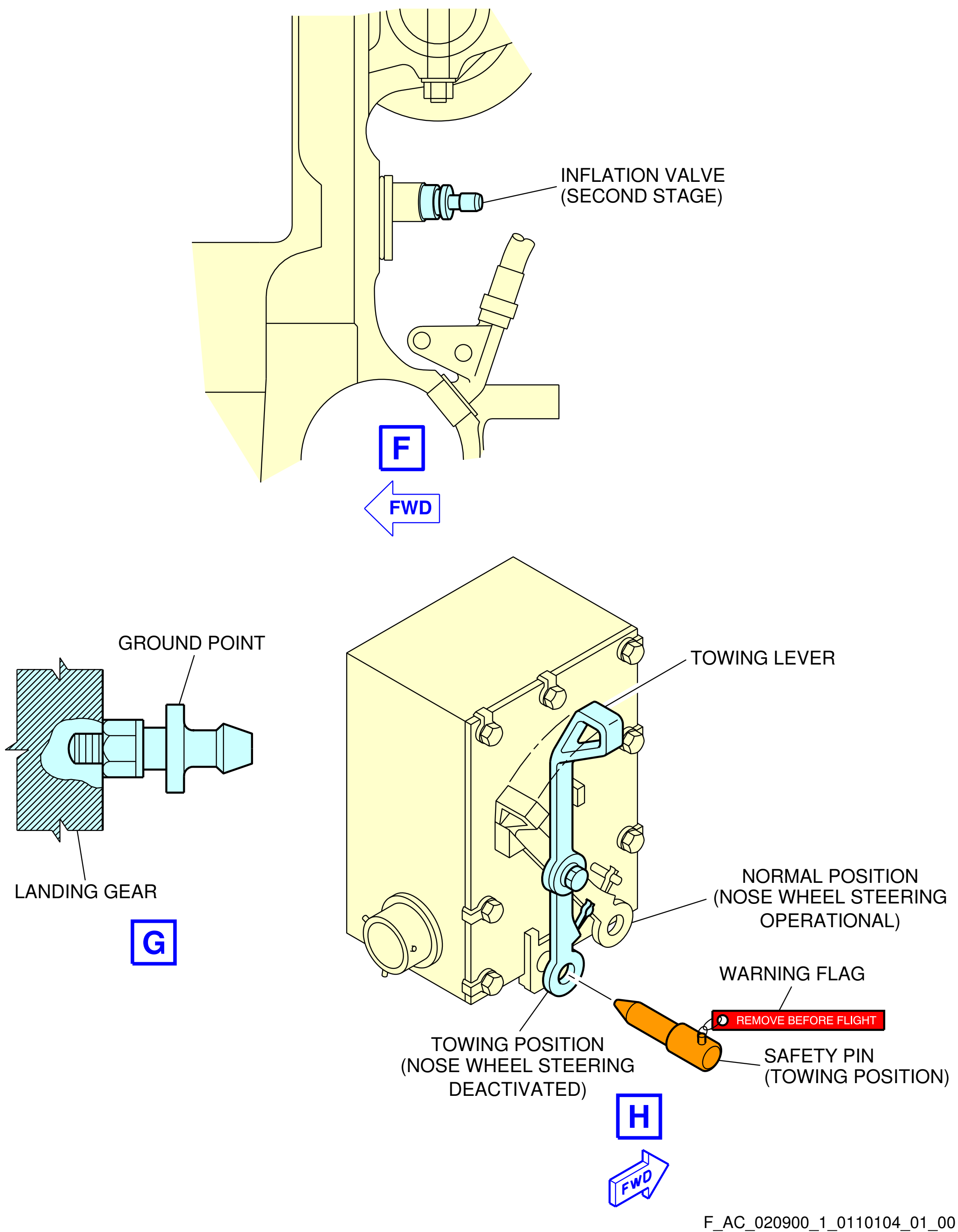
Nose Landing Gear
Safety Devices (Sheet 2 of 4)
FIGURE-2-9-0-991-011-A01

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



Nose Landing Gear
Servicing (Sheet 3 of 4)
FIGURE-2-9-0-991-011-A01

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



Nose Landing Gear
Servicing and Steering Disconnection Box (Sheet 4 of 4)
FIGURE-2-9-0-991-011-A01

2-10-0 Exterior Lighting

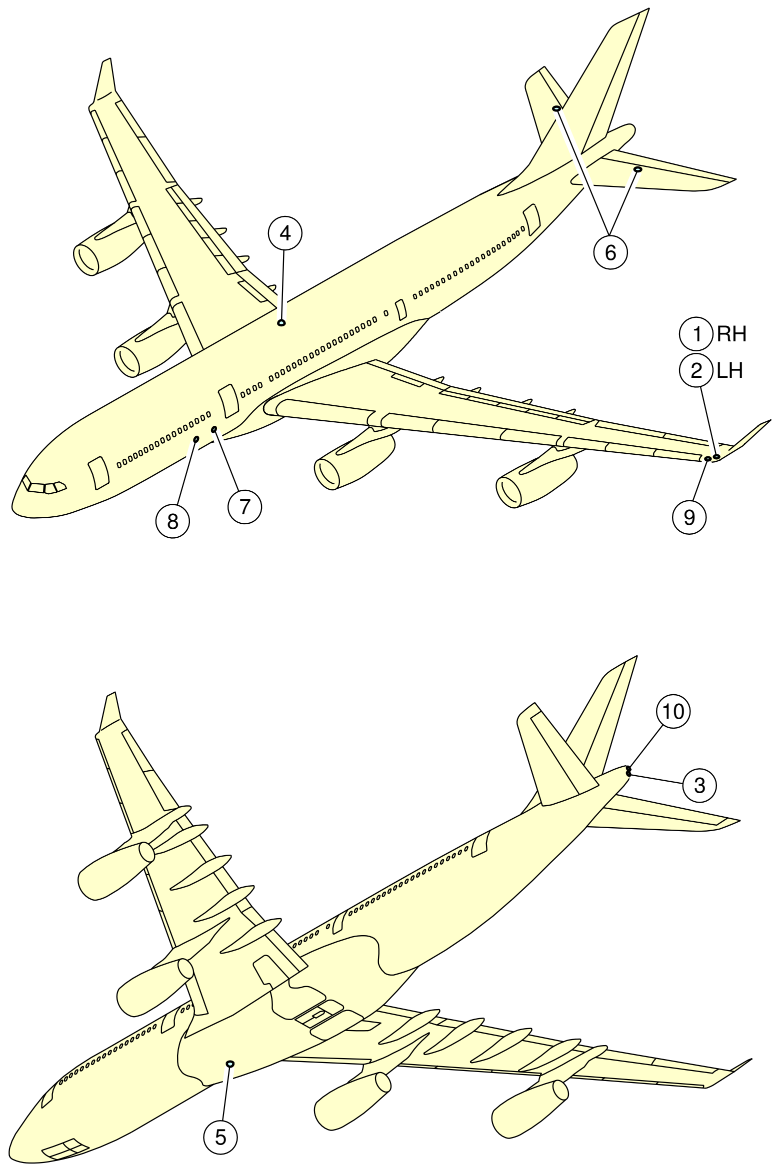
****ON A/C A340-200 A340-300**

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)

**ON A/C A340-200



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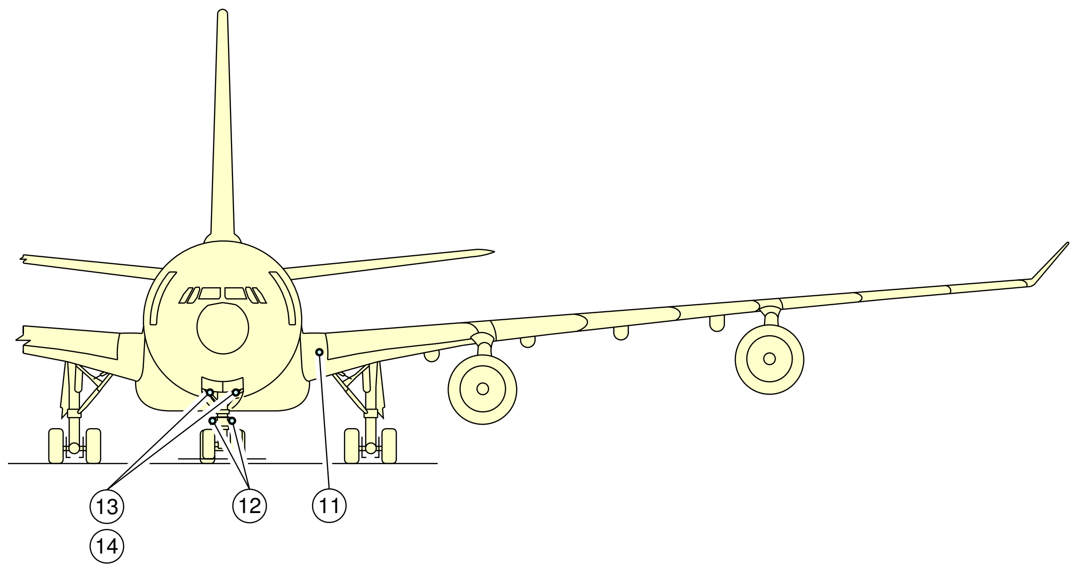
Exterior Lighting
(Sheet 1 of 5)
FIGURE-2-10-0-991-004-A01

**ON A/C A340-200



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

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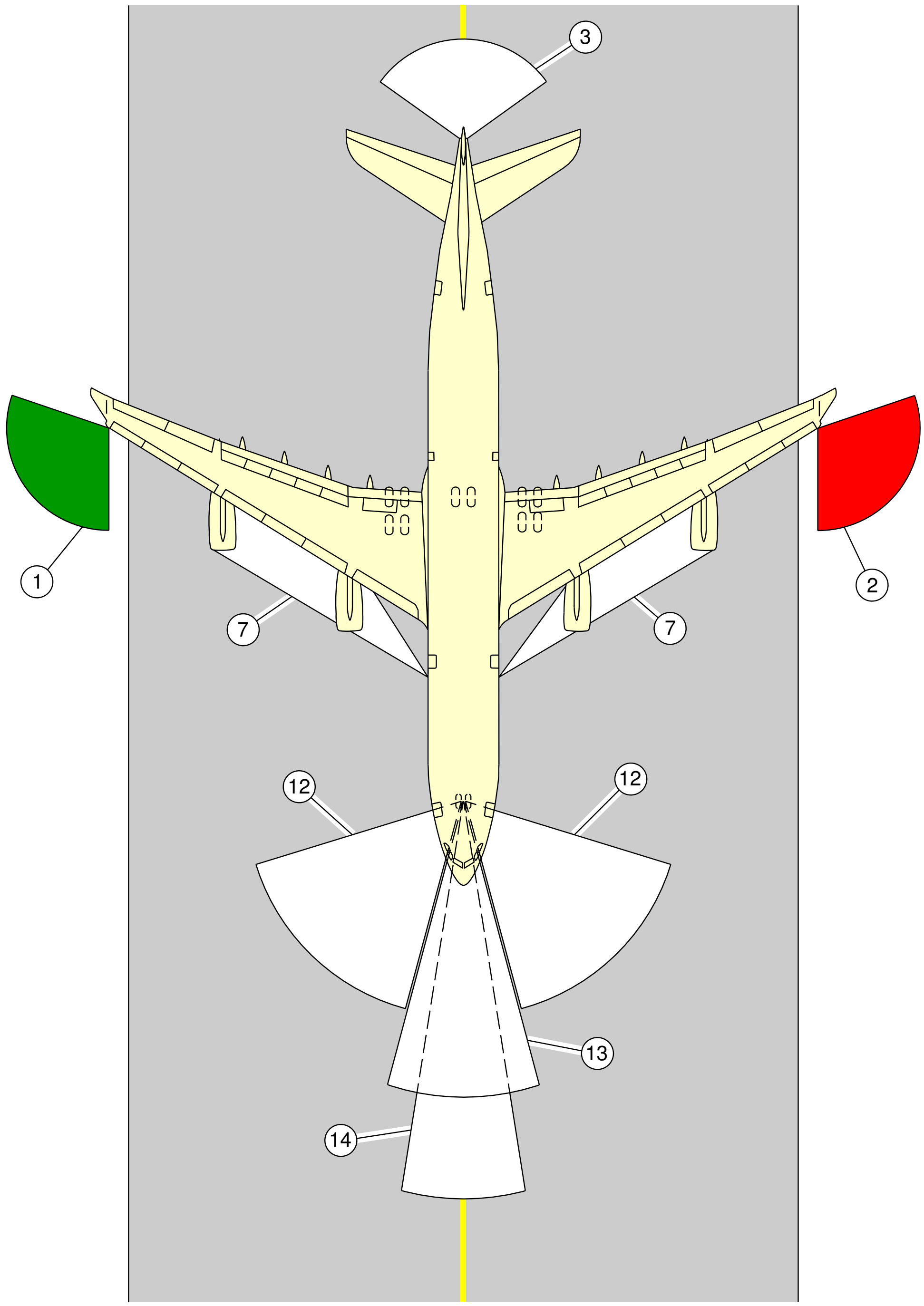
Exterior Lighting
(Sheet 2 of 5)
FIGURE-2-10-0-991-004-A01

**ON A/C A340-200



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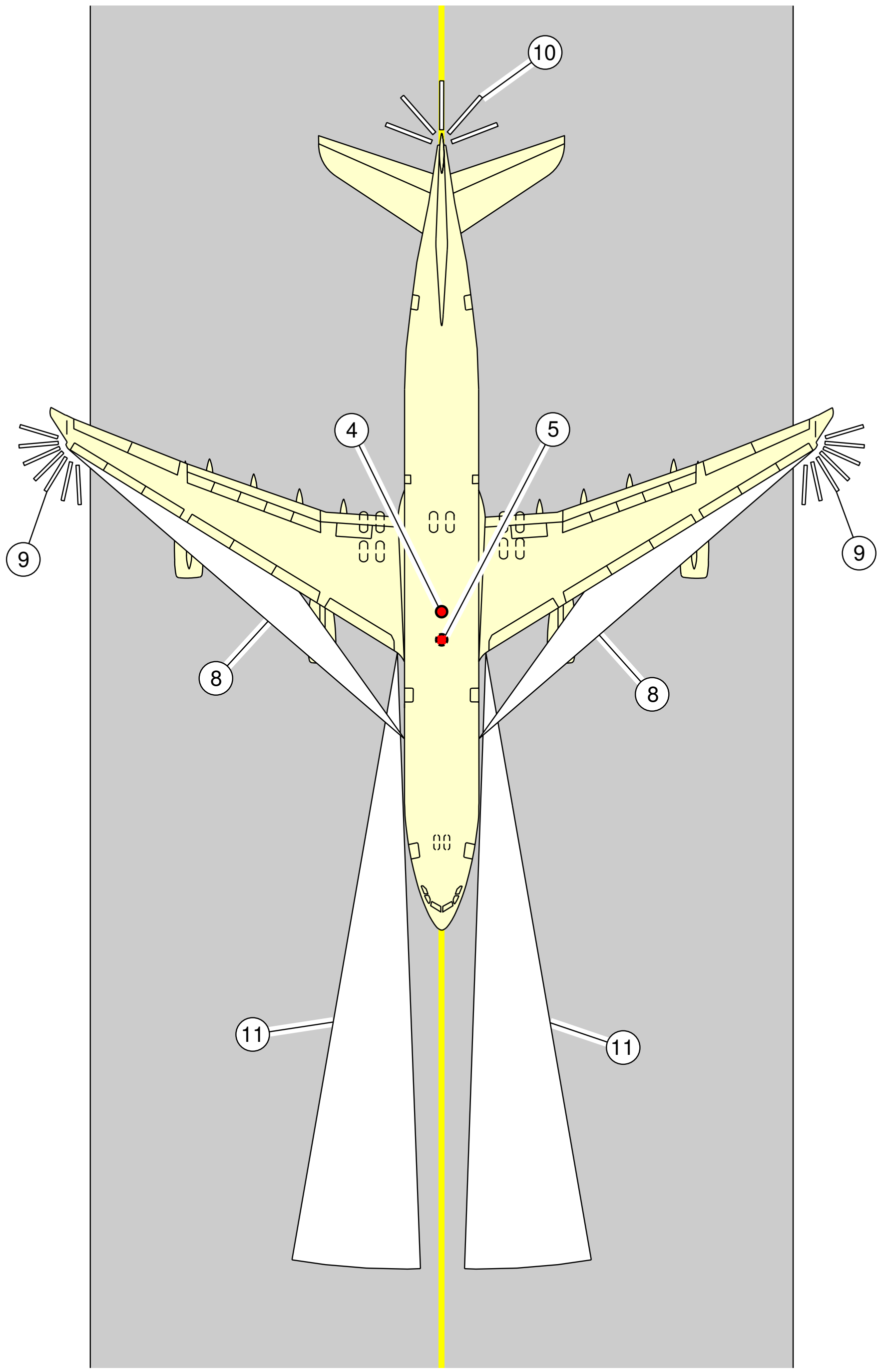
Exterior Lighting
(Sheet 3 of 5)
FIGURE-2-10-0-991-004-A01

**ON A/C A340-200



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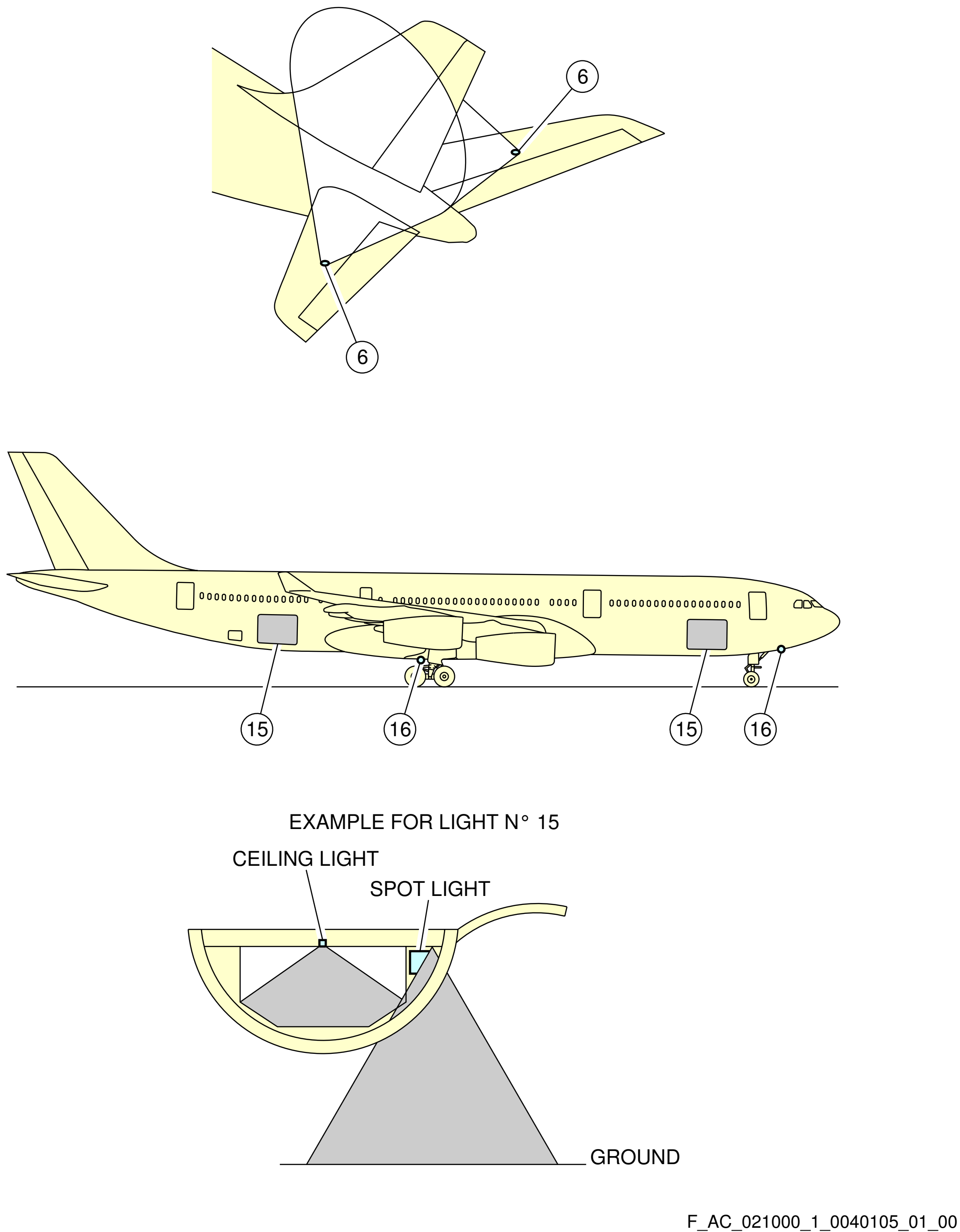
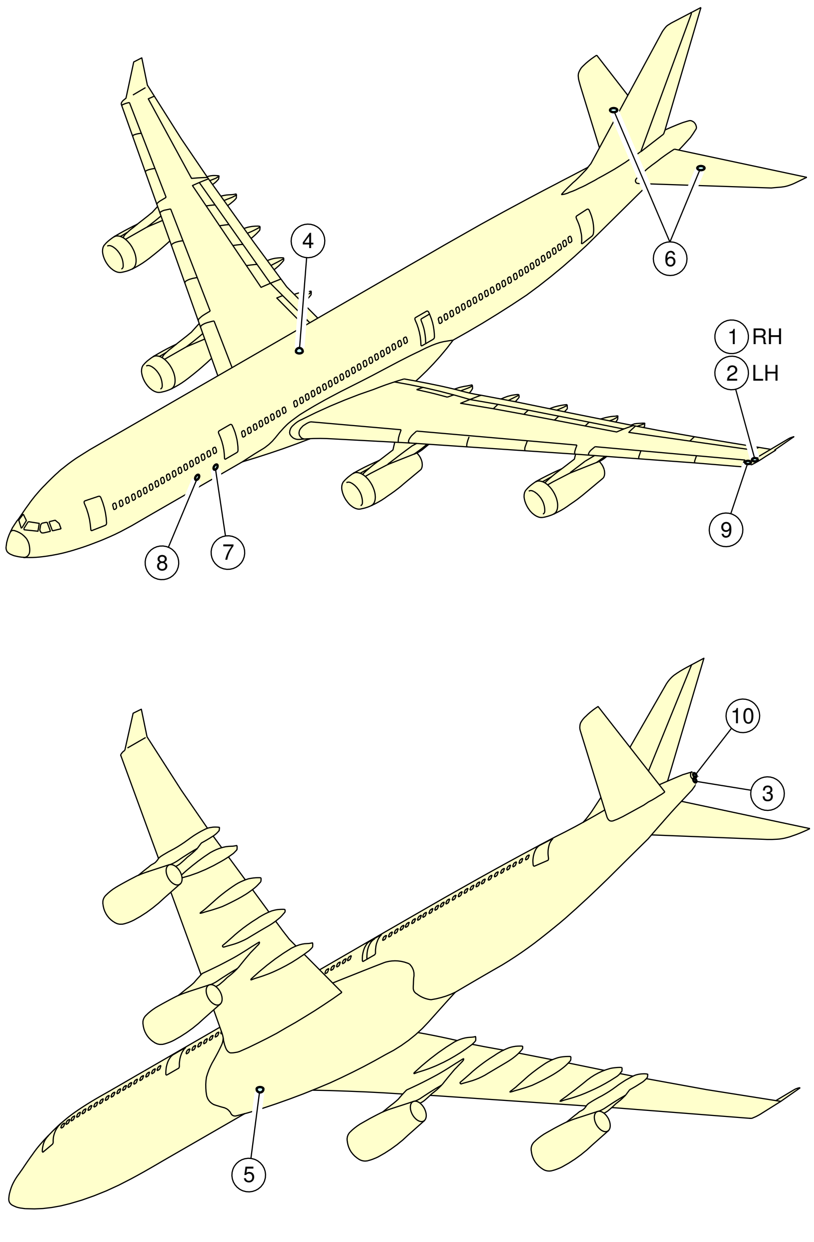
Exterior Lighting
(Sheet 4 of 5)
FIGURE-2-10-0-991-004-A01

**ON A/C A340-200



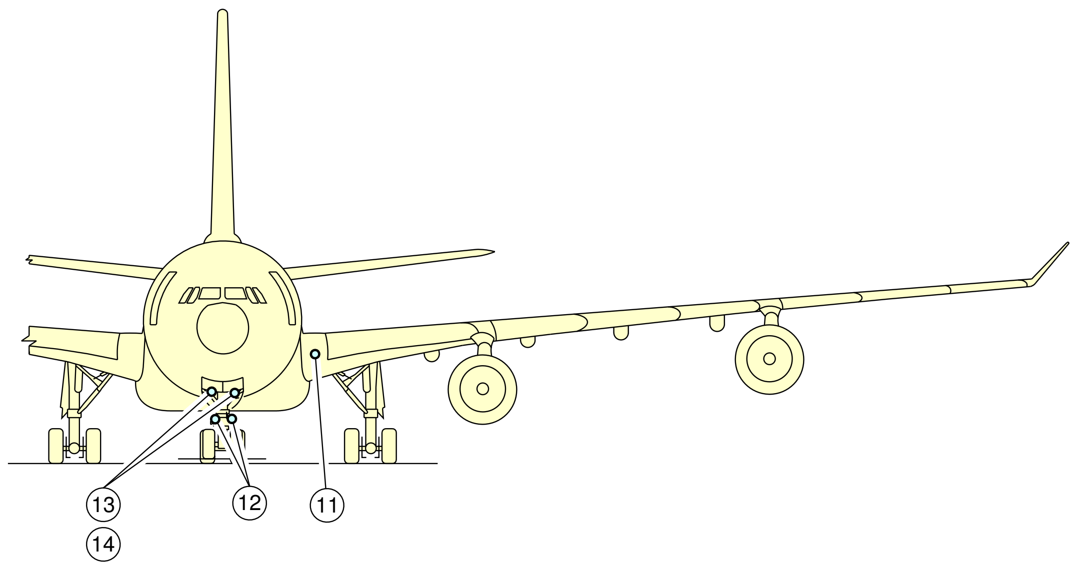
Exterior Lighting
(Sheet 5 of 5)
FIGURE-2-10-0-991-004-A01

**ON A/C A340-300



Exterior Lighting
(Sheet 1 of 5)
FIGURE-2-10-0-991-005-A01

**ON A/C A340-300



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

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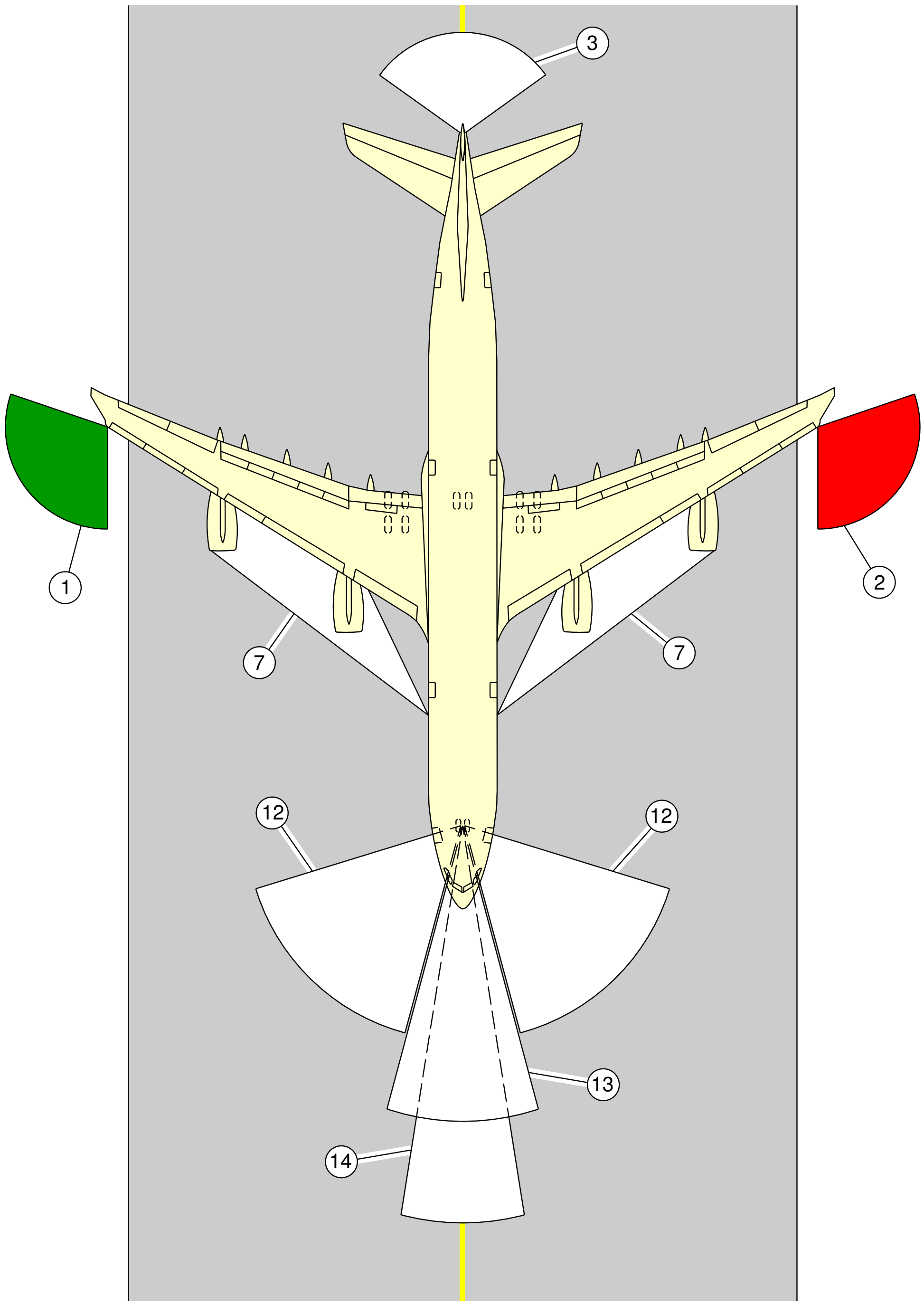
Exterior Lighting
(Sheet 2 of 5)
FIGURE-2-10-0-991-005-A01

**ON A/C A340-300



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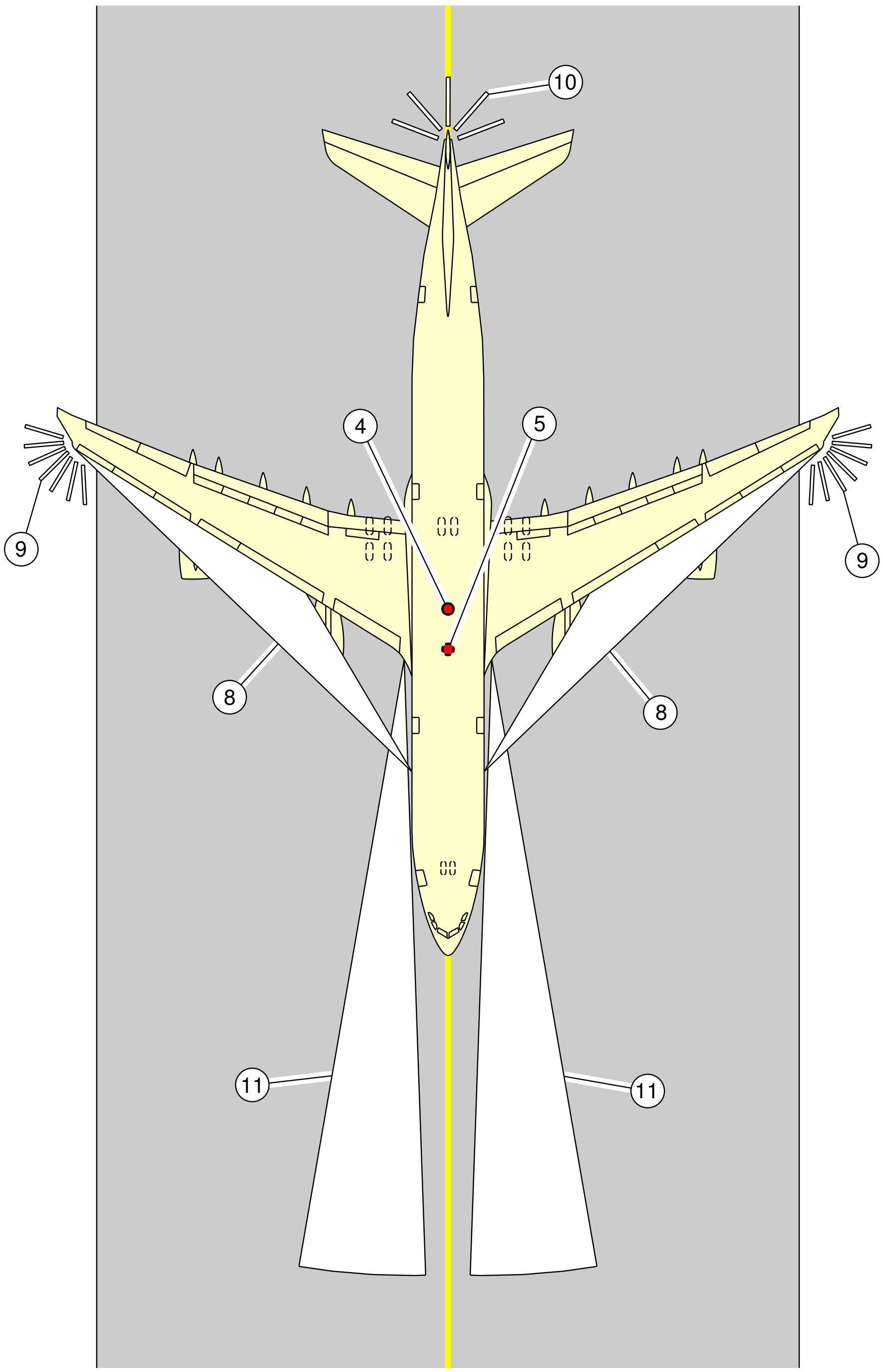
Exterior Lighting
(Sheet 3 of 5)
FIGURE-2-10-0-991-005-A01

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



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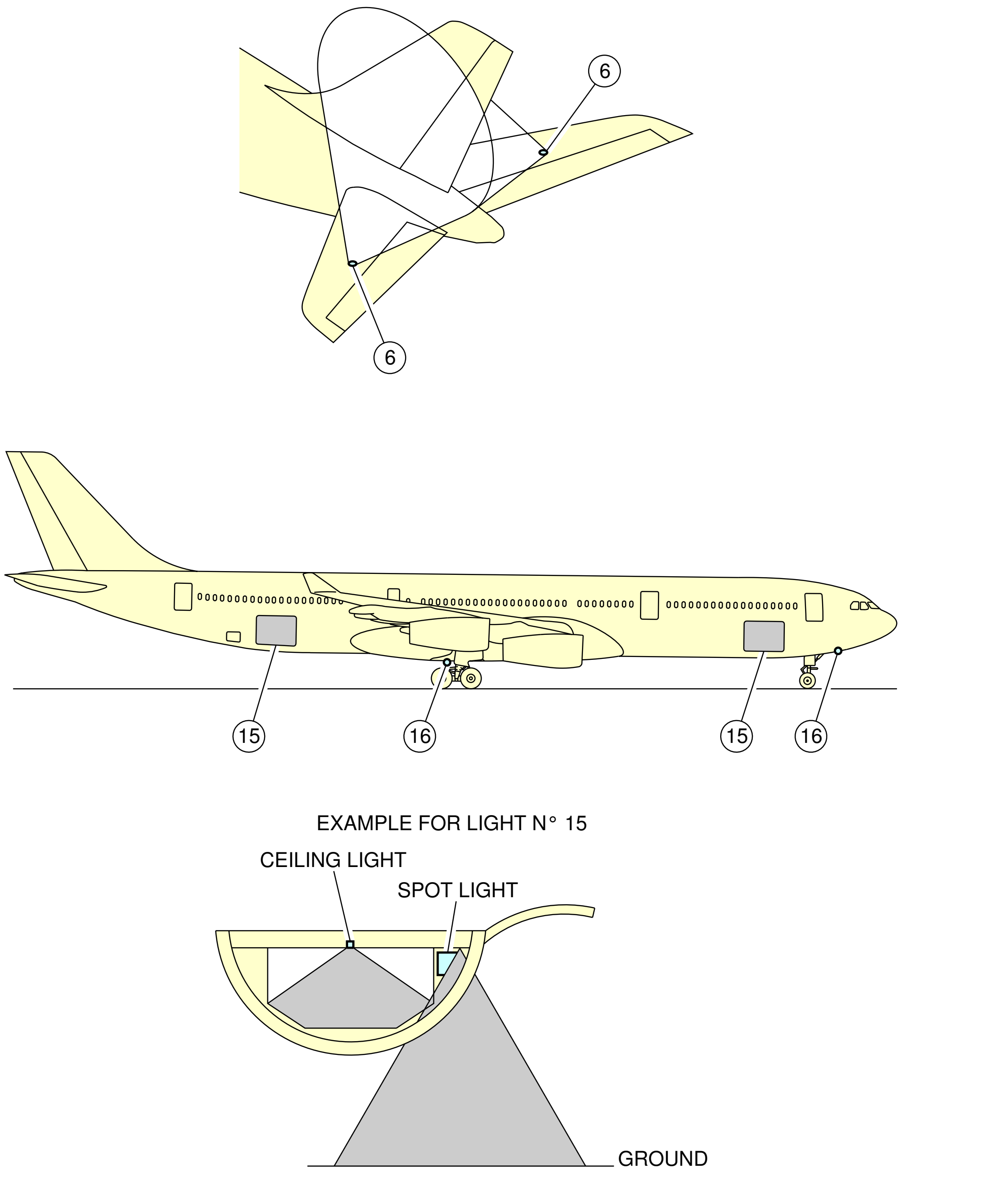
Exterior Lighting
(Sheet 4 of 5)
FIGURE-2-10-0-991-005-A01

**ON A/C A340-300



Exterior Lighting
(Sheet 5 of 5)
FIGURE-2-10-0-991-005-A01

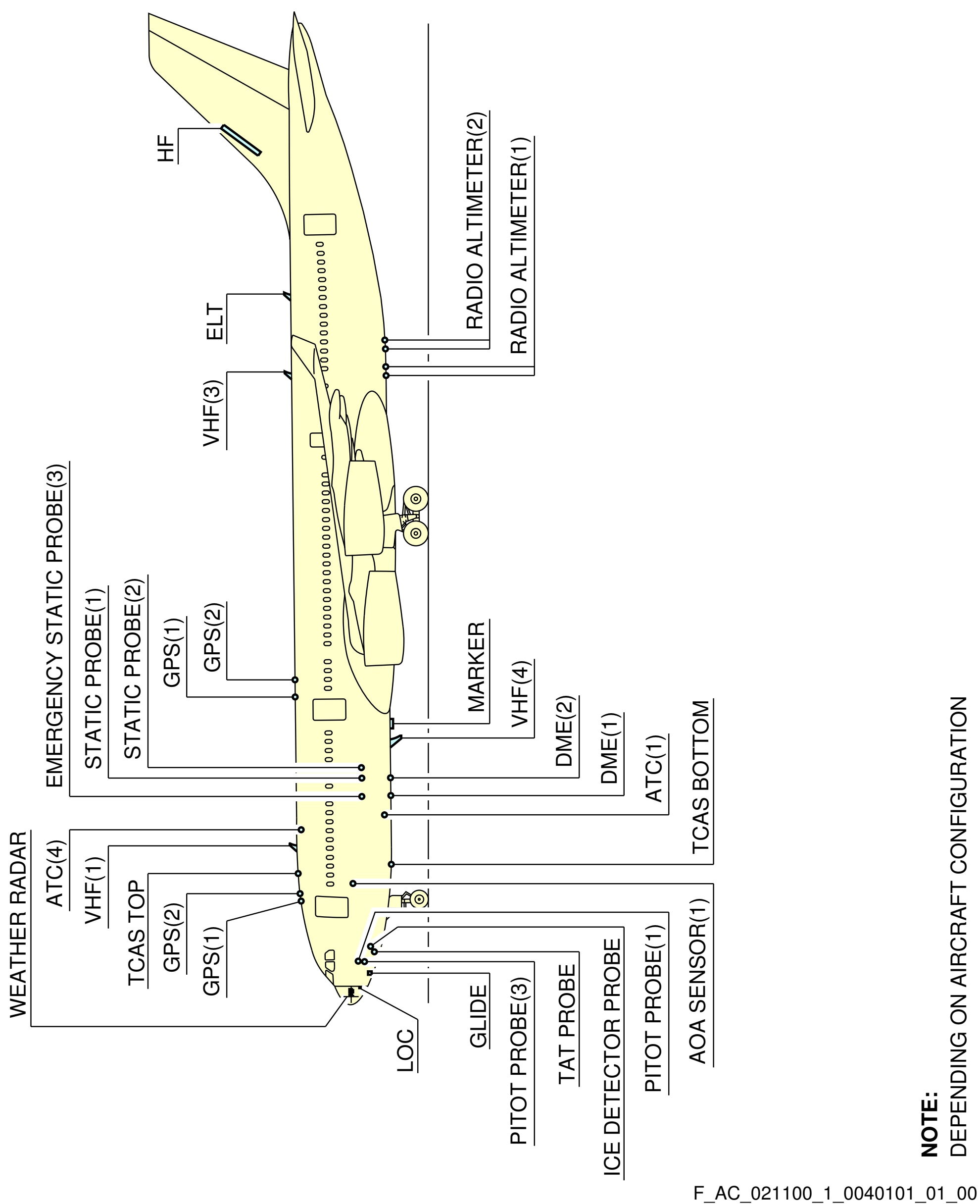
2-11-0 Antennas and Probes Location

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

Antennas and Probes Location

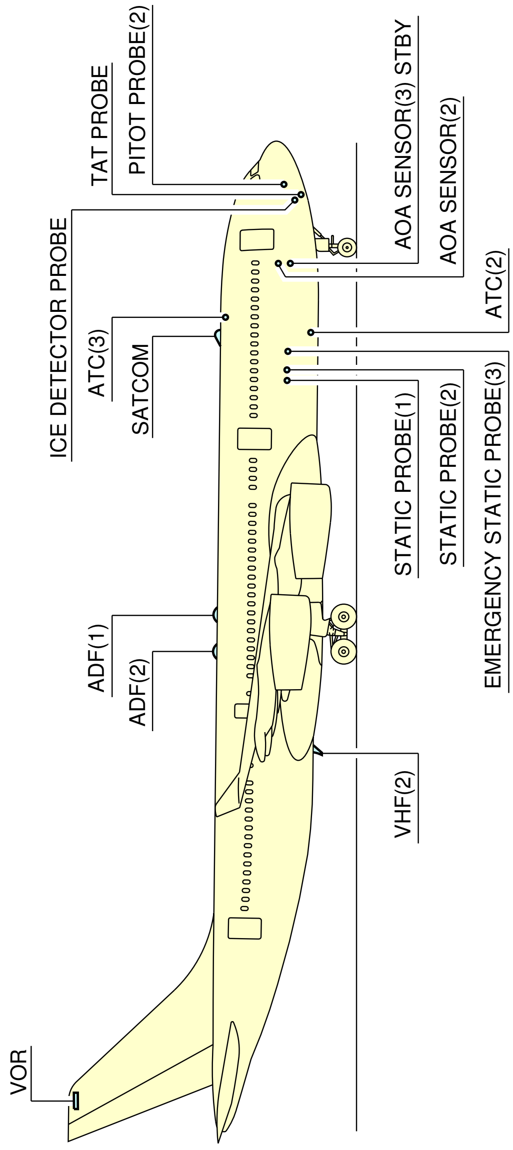
1. This section gives the location of antennas and probes.

**ON A/C A340-200



Antennas and Probes
Location (Sheet 1 of 2)
FIGURE-2-11-0-991-004-A01

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



NOTE:
DEPENDING ON AIRCRAFT CONFIGURATION

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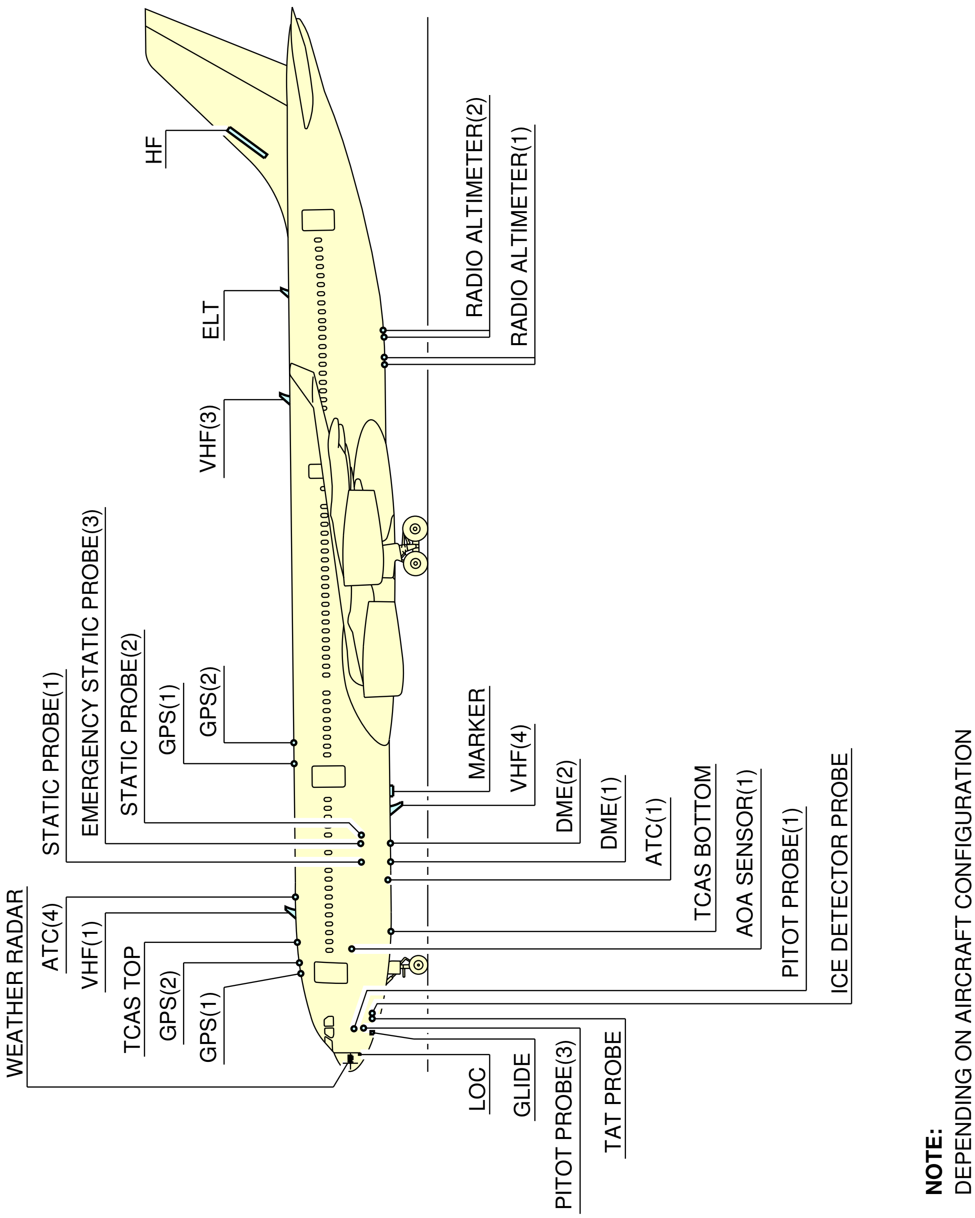
Antennas and Probes
Location (Sheet 2 of 2)
FIGURE-2-11-0-991-004-A01

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



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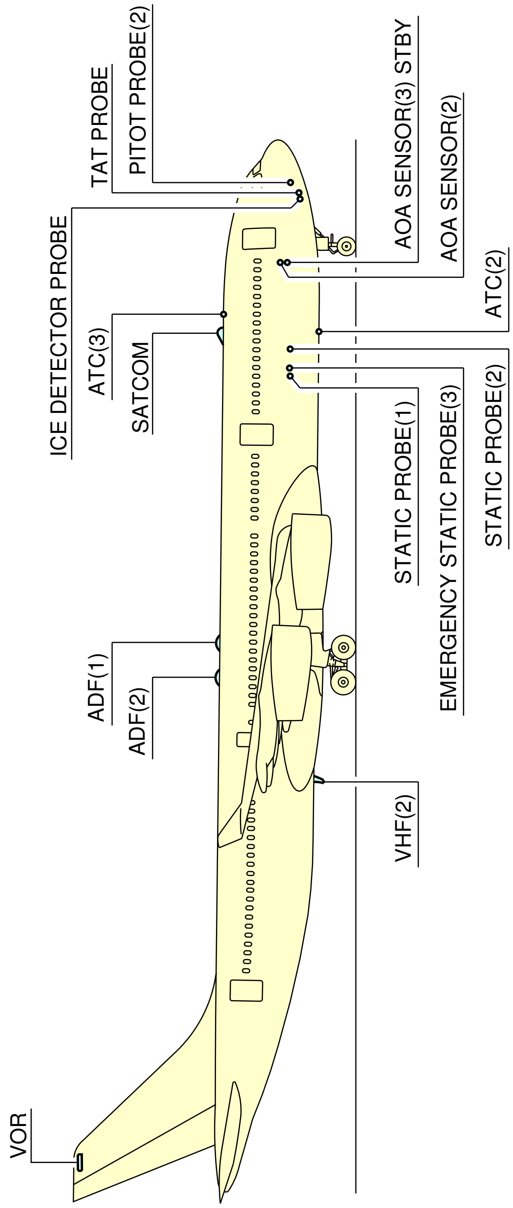
Antennas and Probes
Location (Sheet 1 of 2)
FIGURE-2-11-0-991-005-A01

**ON A/C A340-300



NOTE:
DEPENDING ON AIRCRAFT CONFIGURATION

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Antennas and Probes
Location (Sheet 2 of 2)
FIGURE-2-11-0-991-005-A01

2-12-0 Engine and Nacelle

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

Engine and Nacelle

1. Engine and Nacelle - CFM 56-5C Engine

   A. Engine

   The engine is an axial flow, dual spool, high bypass ratio, turbofan engine.
   The principal modules of the engine are:
   - The fan and booster
   - The high pressure compressor
   - The combustion chamber
   - The High Pressure Turbine (HPT)
   - The Low Pressure Turbine (LPT)
   - The accessory drive gearbox.

   The fan and booster assembly consists of a single-stage fan rotor and a four-stage axial booster, cantilever-mounted at the rear of the fan disk. The compressor is a nine-stage axial flow assembly. Air, taken in through the fan and booster sections, passes through successive stages of rotor blades and stator vanes, being compressed as it passes from stage to stage. After passing through the 9 high pressure compressor stages, the air is fully compressed. The Inlet Guide Vanes (IGV) and the first 3 stages of the compressor are variable. The combustion chamber is a short, annular structure. The combustion of fuel takes place in the combustor installed in the combustion casing. The HPT module consists of a single-stage nozzle and rotor. The HPT is an air-cooled single-stage high-energy turbine. Rotor blades are individually replaceable without the need for rotor disassembly or re-balancing. The LPT consists of 5 stages of blades and vanes. The LPT drives the fan rotor through the inner concentric shaft and is aerodynamically coupled to the high pressure system. The engine and aircraft accessories are mounted on the accessory gearbox which is located on the lower portion of the fan casing and is driven by a shaft from the transfer gearbox. Power for the engine and the aircraft accessories is extracted from the high pressure compressor rotor shaft through an inlet gearbox through the radial drive shaft to the transfer gearbox.

   B. Nacelle

   The nacelle provides protection for the engine and the engine accessories, and aerodynamic airflow around the engine during operation. 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 engine air intake cowl structure is an interchangeable aerodynamically-faired assembly. It is installed on the forward face of the engine fan case.

(2) Fan Cowl Assembly

The fan cowls are interchangeable units. They enclose the engine fan case between the air intake cowl and the thrust reverser. Three hinges at the pylon support each fan cowl. The fan cowls are latched at the bottom with three adjustable tension hook latches.

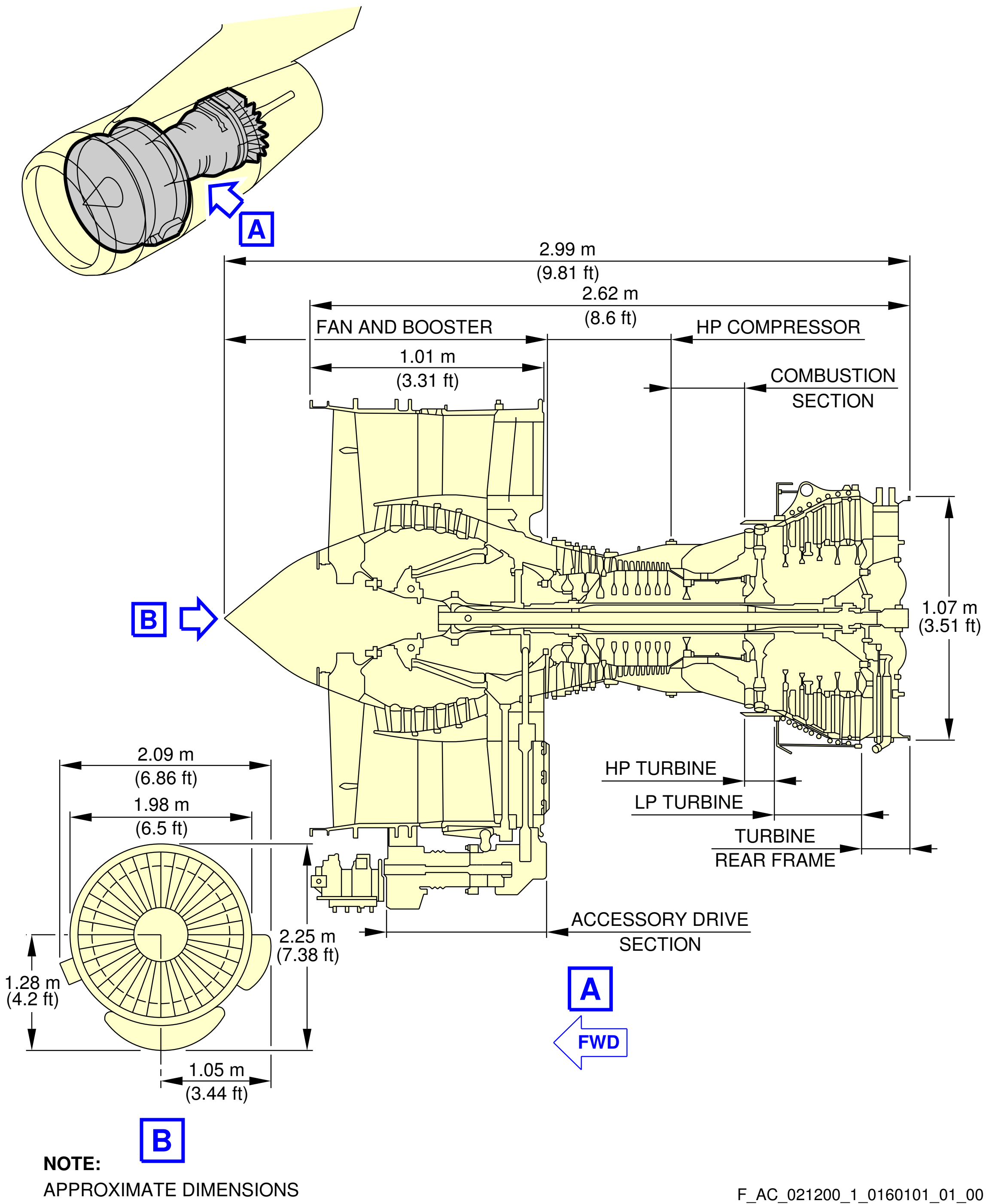
(3) Fan Thrust Reverser

The thrust reverser comprises two cowls. Each cowl is hinged at the top to the pylon and latched to the other cowl along the bottom centerline; the forward end is secured onto the aft outer flange of the fan case and the aft end onto the forward outer barrel of the exhaust nozzle. The fan thrust reverser assembly forms the passage for fan airstream flow between the fan case aft frame and the exhaust nozzle/mixer inlet. When in reverse thrust mode, four pivoting doors turn the engine fan air flow forward and provide a braking effect to reduce the aircraft stopping distance. The thrust reverser is designed for ground operation only. A hydraulically-actuated cowl-opening system allows each thrust reverser cowl to be opened independently.

(4) Exhaust Nozzle

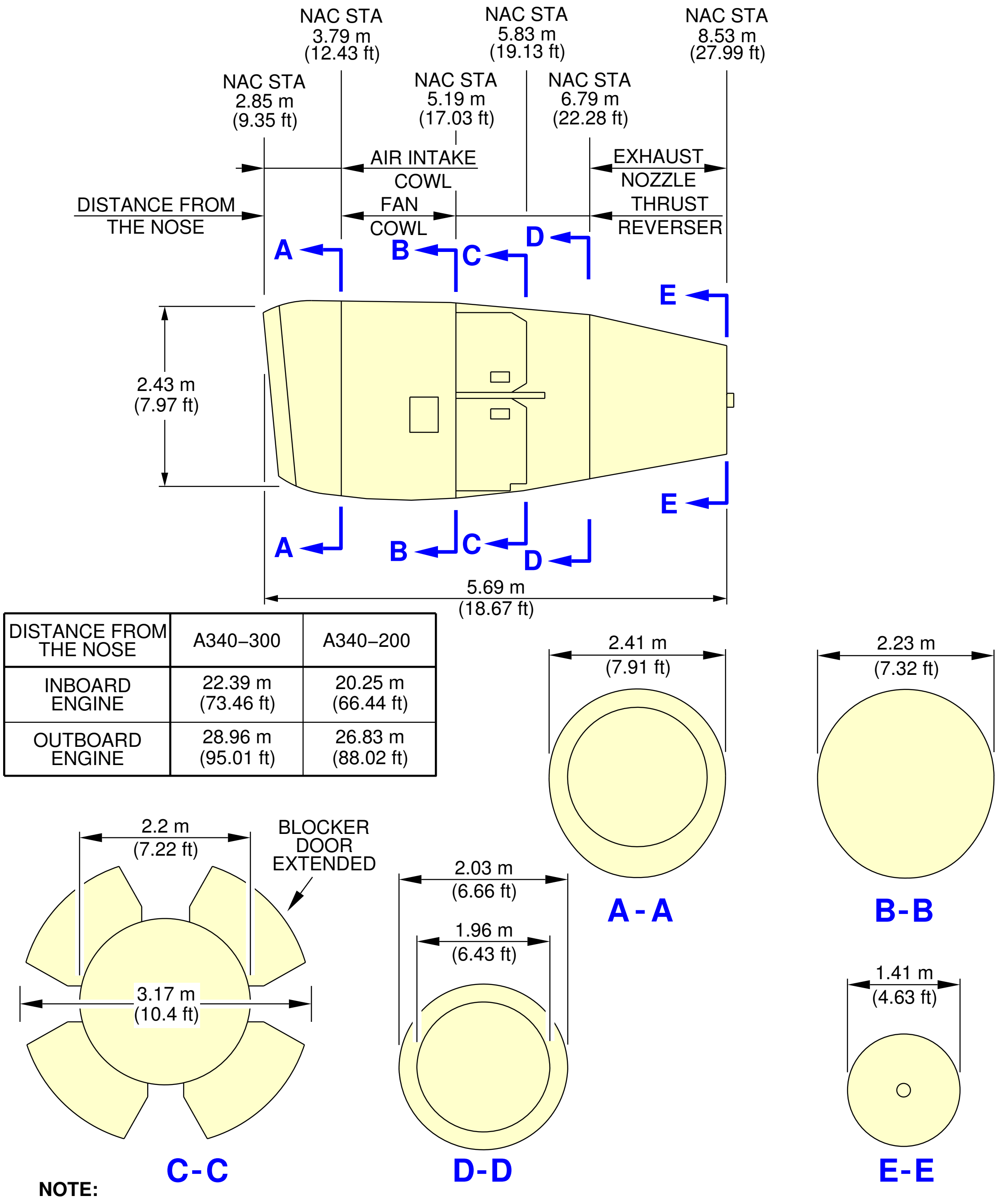
The exhaust nozzle attaches to the thrust reverser when the reverser cowls are closed. When they are open the exhaust nozzle is maintained on the mixer by two support pins located on the upper forward part of the mixer and by a strut. The nozzle can be removed alone or together with the engine.

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



Engine and Nacelle
Engine Dimensions - CFM 56-5C
FIGURE-2-12-0-991-016-A01

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



DISTANCE FROM THE NOSE	A340–300	A340–200
INBOARD ENGINE	22.39 m (73.46 ft)	20.25 m (66.44 ft)
OUTBOARD ENGINE	28.96 m (95.01 ft)	26.83 m (88.02 ft)

NOTE:
APPROXIMATE DIMENSIONS

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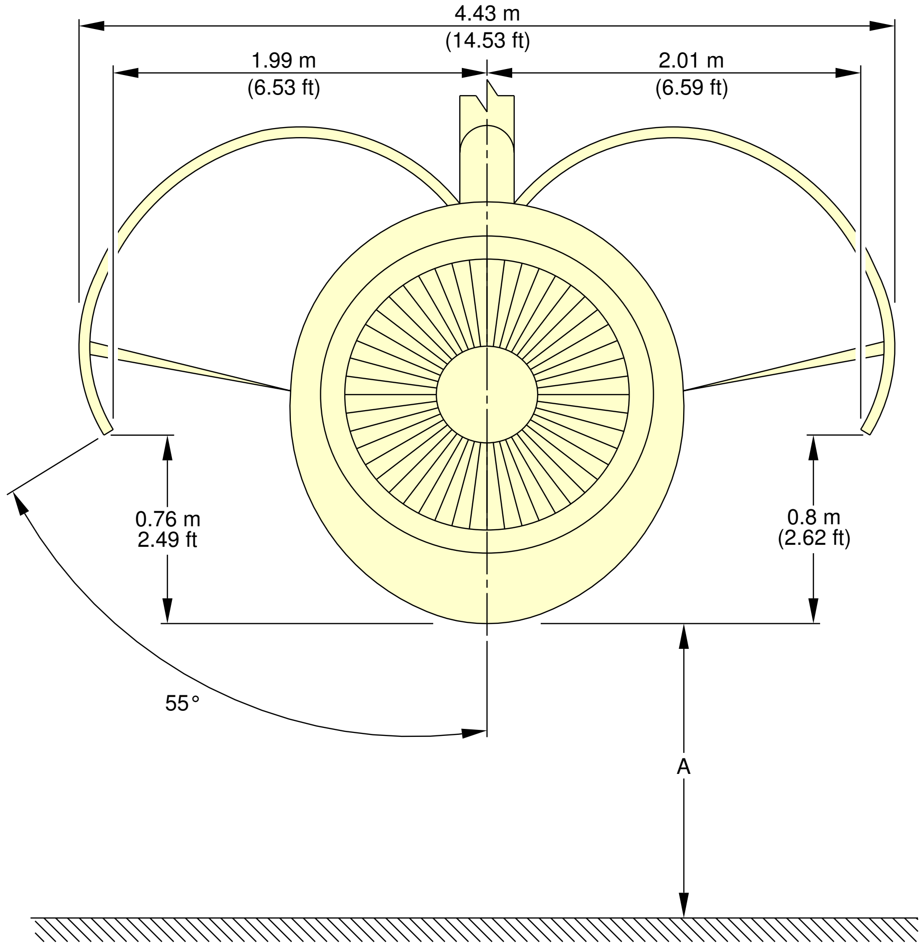
Engine and Nacelle
Nacelle Dimensions - CFM 56-5C
FIGURE-2-12-0-991-017-A01

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



A (REFER TO CHAPTER 2–3)	INBOARD ENGINE	1.24 m (4.07 ft)
	OUTBOARD ENGINE	2.53 m (8.3 ft)

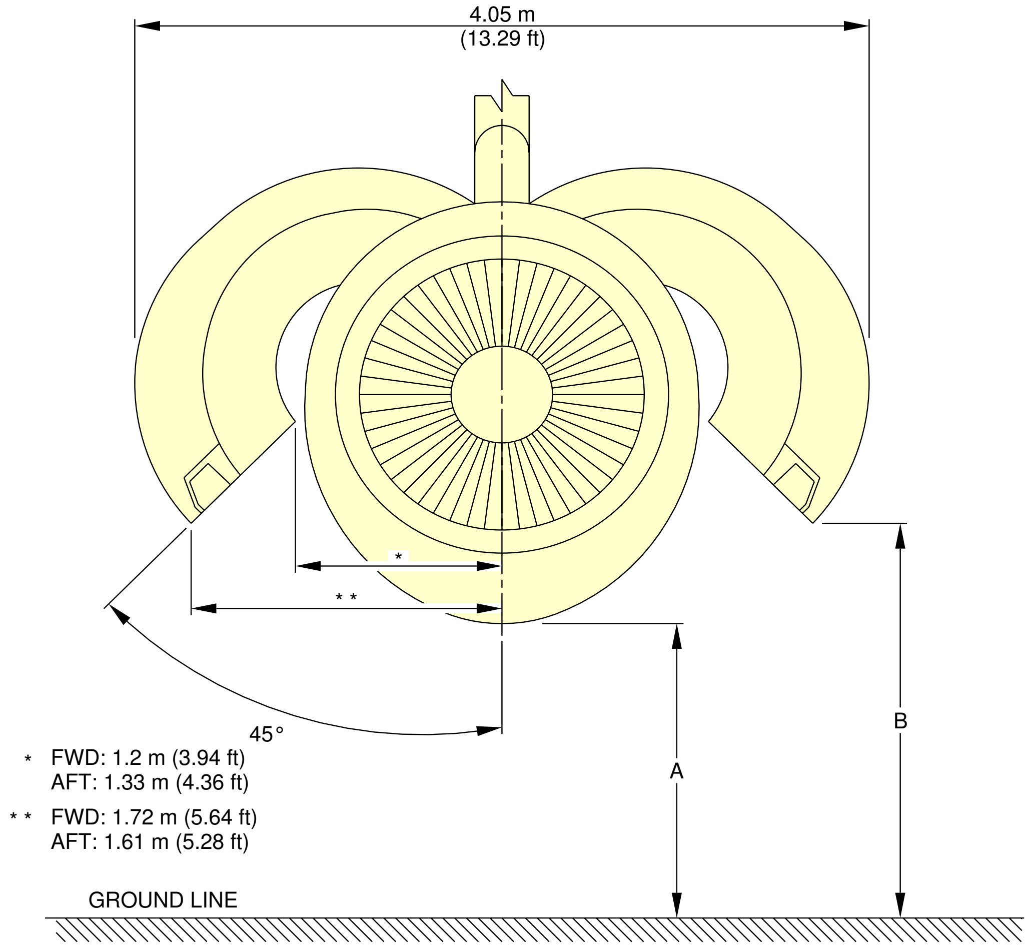
CONDITIONS: MTOW, MID C.G., STATIC, CFM ENGINES.

NOTE:
APPROXIMATE DIMENSIONS

F_AC_021200_1_0180101_01_00

Engine and Nacelle
Fan Cowls - CFM 56-5C
FIGURE-2-12-0-991-018-A01

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



DISTANCE FROM THE GROUND	A	B
INBOARD ENGINE	1.21 m (3.97 ft)	1.69 m (5.54 ft)
OUTBOARD ENGINE	2.52 m (8.27 ft)	2.99 m (9.81 ft)

NOTE:
APPROXIMATE DIMENSIONS
HEIGHT DATA GIVEN IS CORRECT WHEN LANDING GEAR SHOCK STRUT ABSORBERS AND TIRES ARE AT NOMINAL PRESSURE.

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Engine and Nacelle
Thrust Reverser Cowls - CFM 56-5C
FIGURE-2-12-0-991-019-A01

2-12-1 Auxiliary Power Unit

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

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) 331-350C 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 cooling air fan.

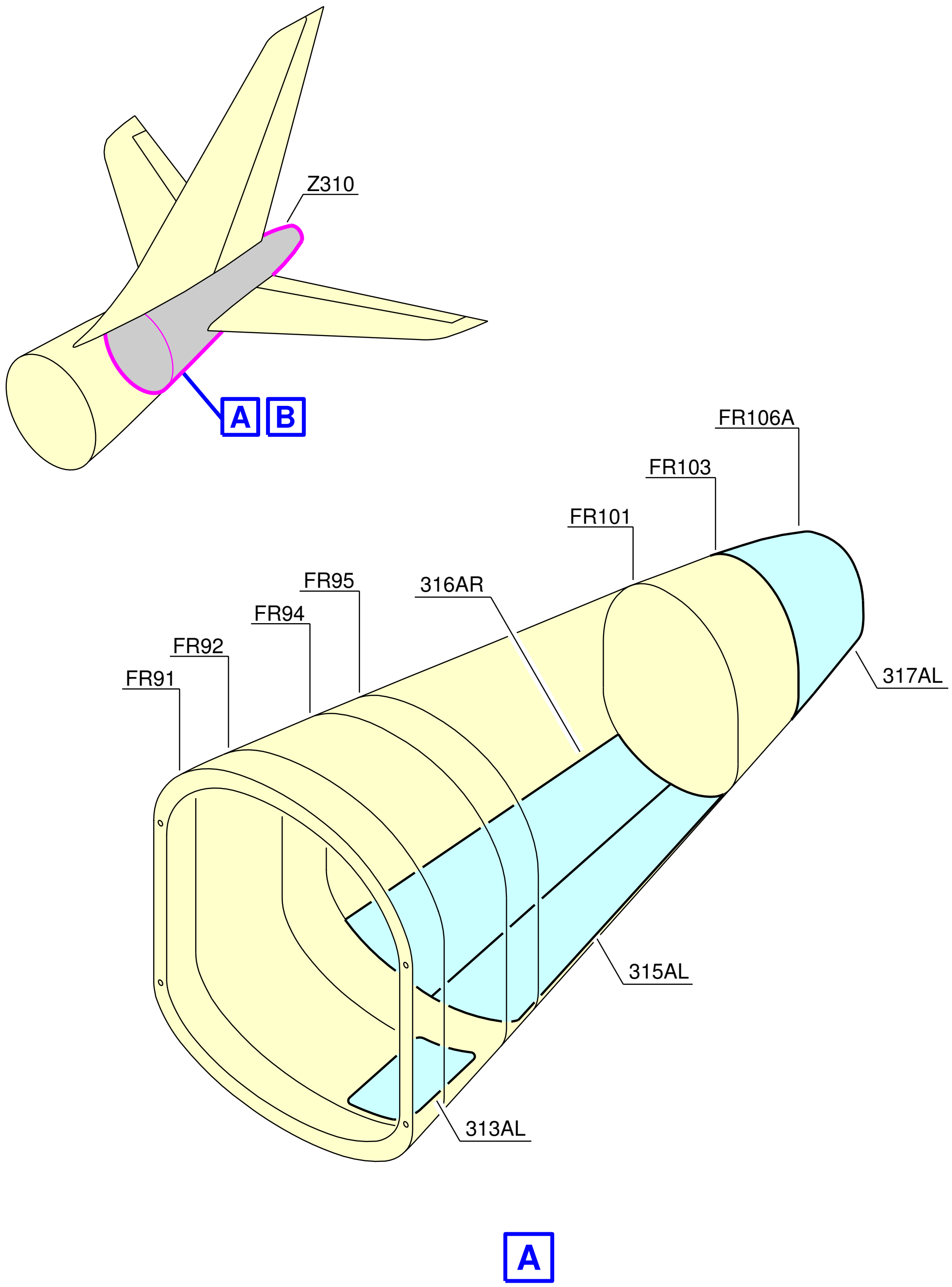
The APU has a gearbox-driven oil-cooled AC generator.

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.

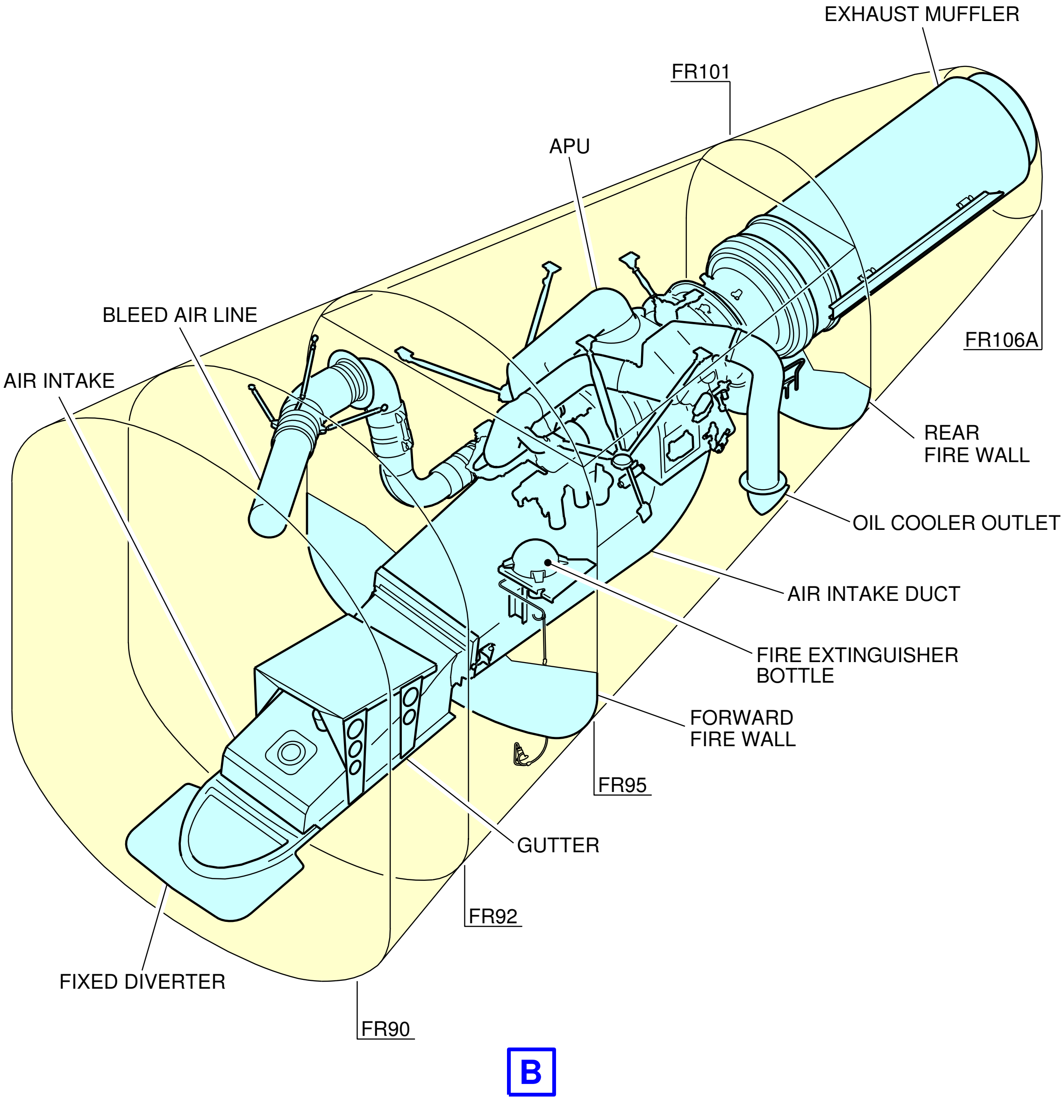
4. Controls and Indication
The primary APU controls and indications are installed in the overhead panel, on the center pedestal panel and on the forward center panel. External APU panels are also installed on the nose landing gear and on the refuel/defuel panel, to initiate an APU emergency shut-down.

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



Auxiliary Power Unit
Access Doors (Sheet 1 of 2)
FIGURE-2-12-1-991-002-A01

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



Auxiliary Power Unit
General Layout (Sheet 2 of 2)
FIGURE-2-12-1-991-002-A01

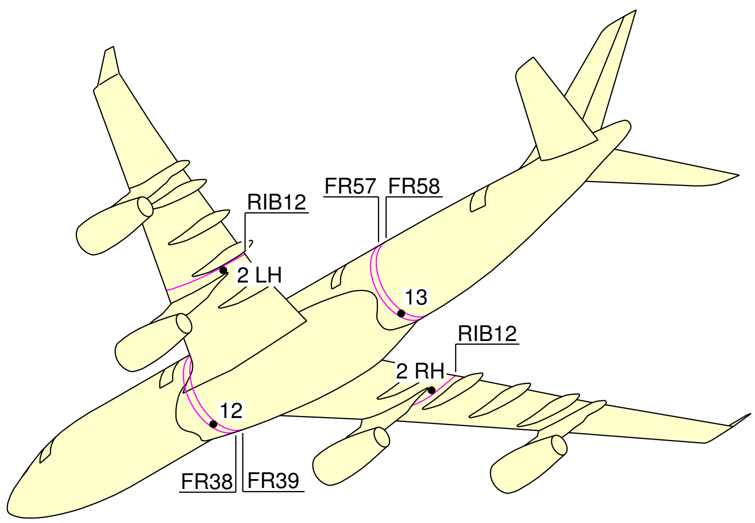
2-13-0 Levelling, symmetry and Alignment

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

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 A340-200



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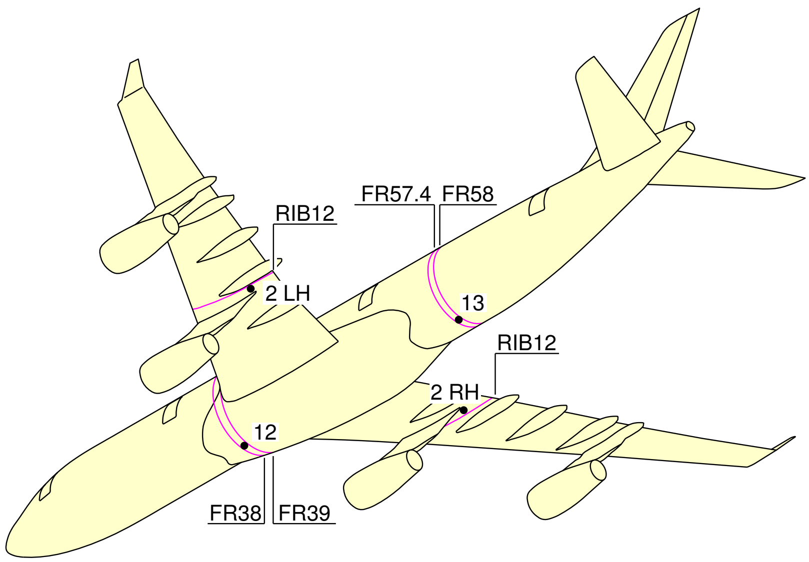
Location of Leveling Points
FIGURE-2-13-0-991-004-A01

**ON A/C A340-300



Location of Leveling Points
FIGURE-2-13-0-991-005-A01

2-14-0 Jacking for Maintenance

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

Jacking for Maintenance

1. Aircraft Jacking Points for Maintenance

   A. General

   (1) The A340-200/-300 can be jacked:
   - At not more than 152 000 kg (335 103 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 are provided with three primary jacking points:
   - One located under the forward fuselage (after FR10A)
   - 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 FR85 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.

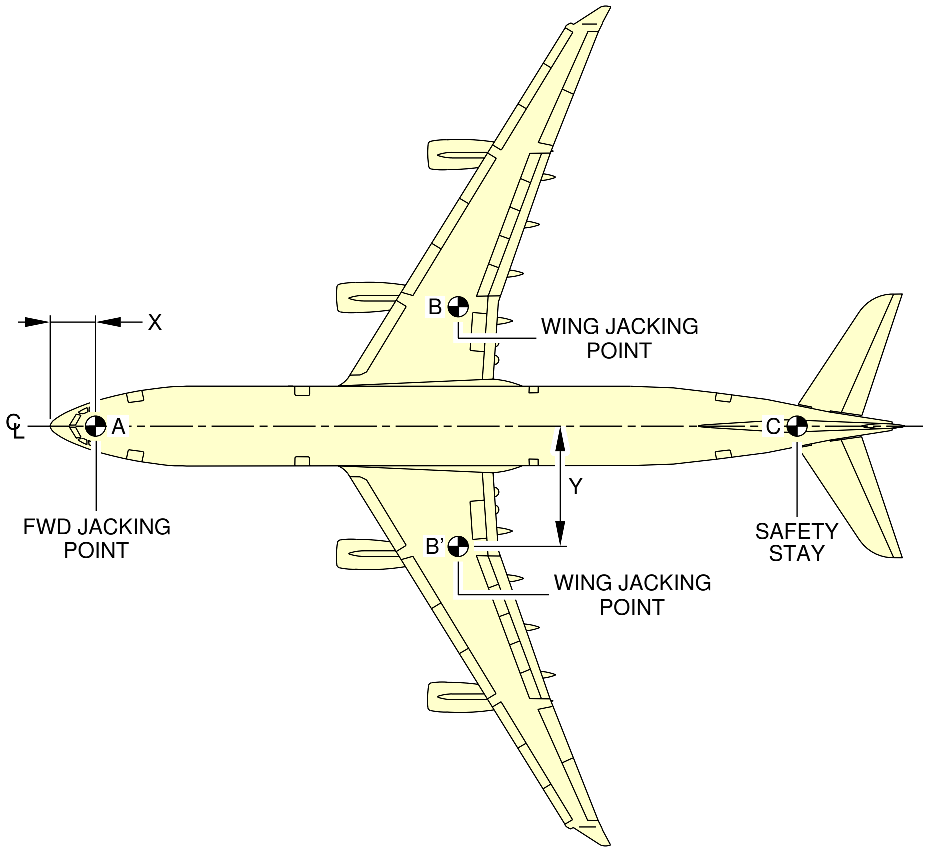
   (2) In fully retracted position (jack stroke at minimum), the height of the jack is such that the jack may be placed beneath the aircraft under the most adverse conditions, namely, tires deflated and shock absorbers depressurized, with sufficient clearance between the aircraft jacking point and the jack 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 A340-200



	X		Y		MAXIMUM LOAD ELIGIBLE
	m	ft	m	ft	daN
FORWARD FUSELAGE JACKING POINT A	3.58	11.75	0	0	12 300
WING JACKING POINT B	29.41	96.49	8.51	27.92	80 982
WING JACKING POINT B'	29.41	96.49	–8.51	–27.92	80 982
SAFETY STAY C	51.54	169.09	0	0	4 500

NOTE:
SAFETY STAY IS NOT USED FOR JACKING.

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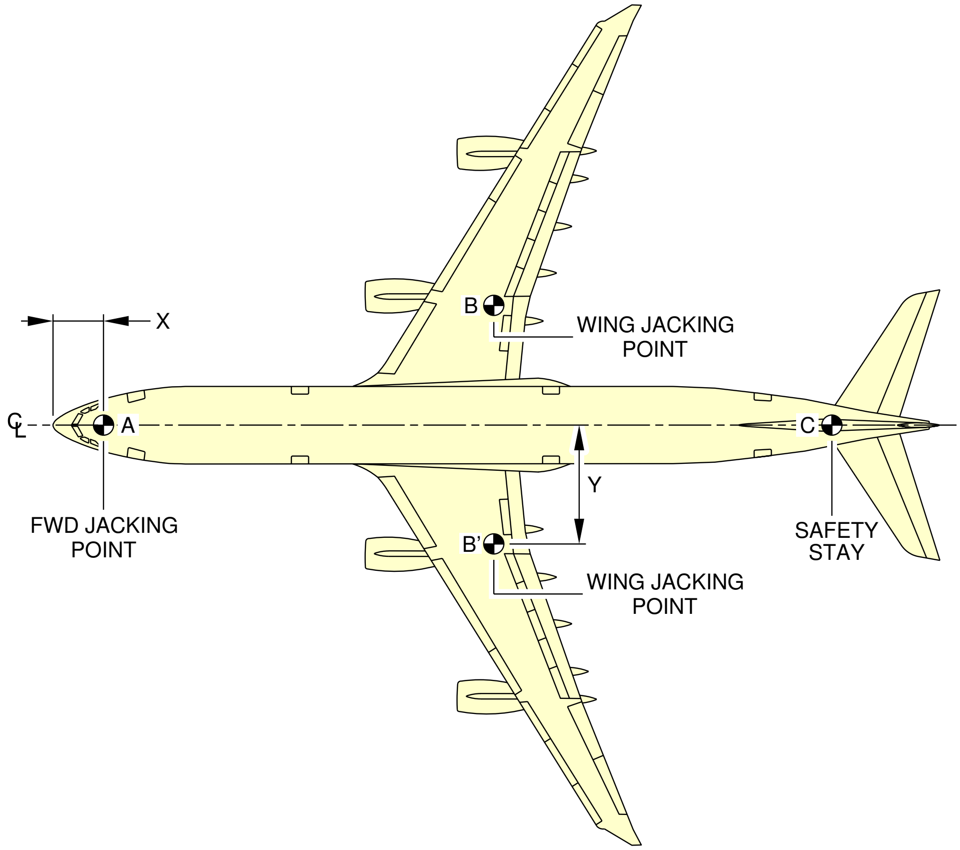
Jacking for Maintenance
Jacking Points Location
FIGURE-2-14-0-991-008-A01

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



	X		Y		MAXIMUM LOAD ELIGIBLE
	m	ft	m	ft	daN
FORWARD FUSELAGE JACKING POINT A	3.58	11.75	0	0	12 300
WING JACKING POINT B	31.55	103.51	8.51	27.92	81 084
WING JACKING POINT B'	31.55	103.51	–8.51	–27.92	81 084
SAFETY STAY C	55.81	183.1	0	0	4 500

NOTE:
SAFETY STAY IS NOT USED FOR JACKING.

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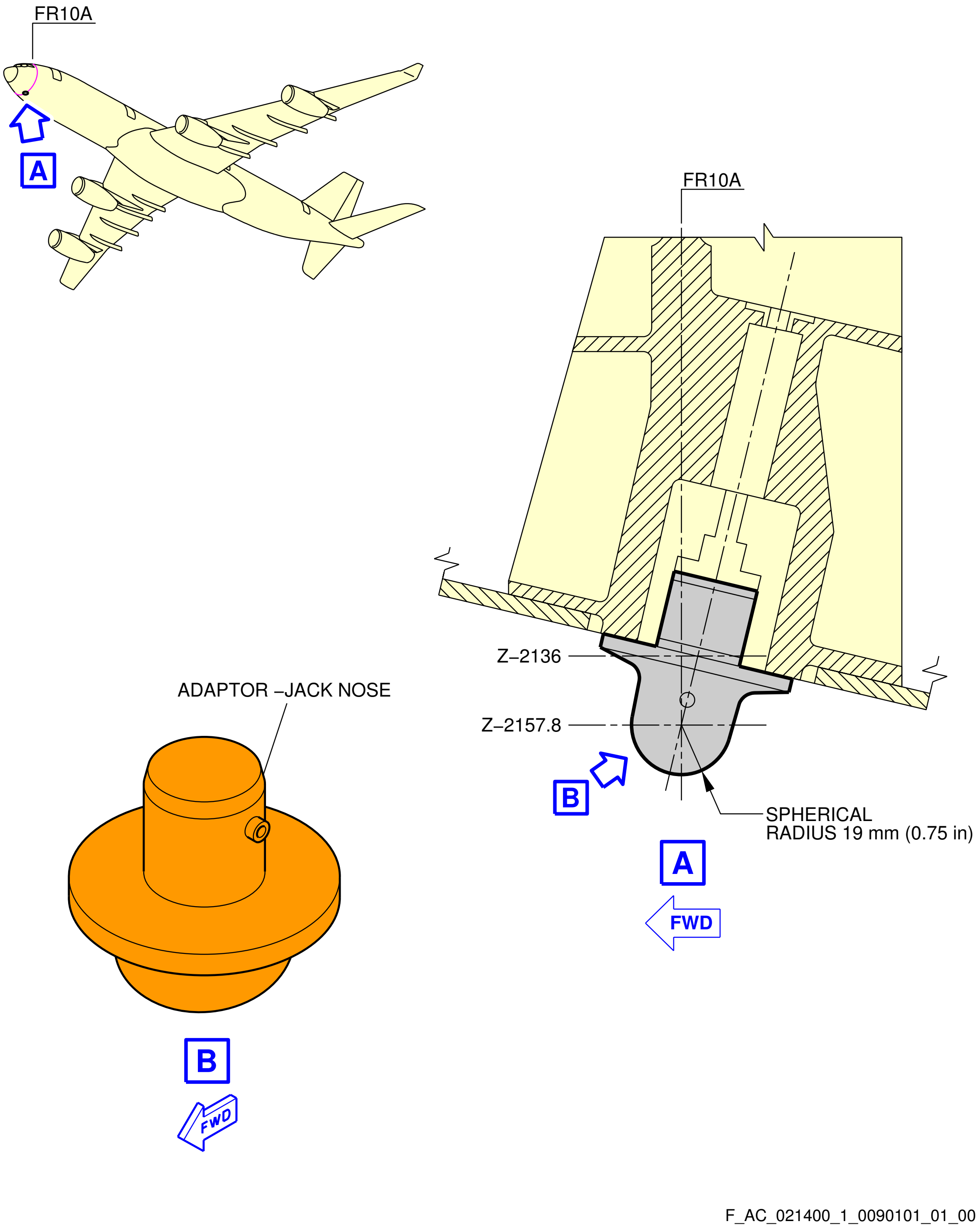
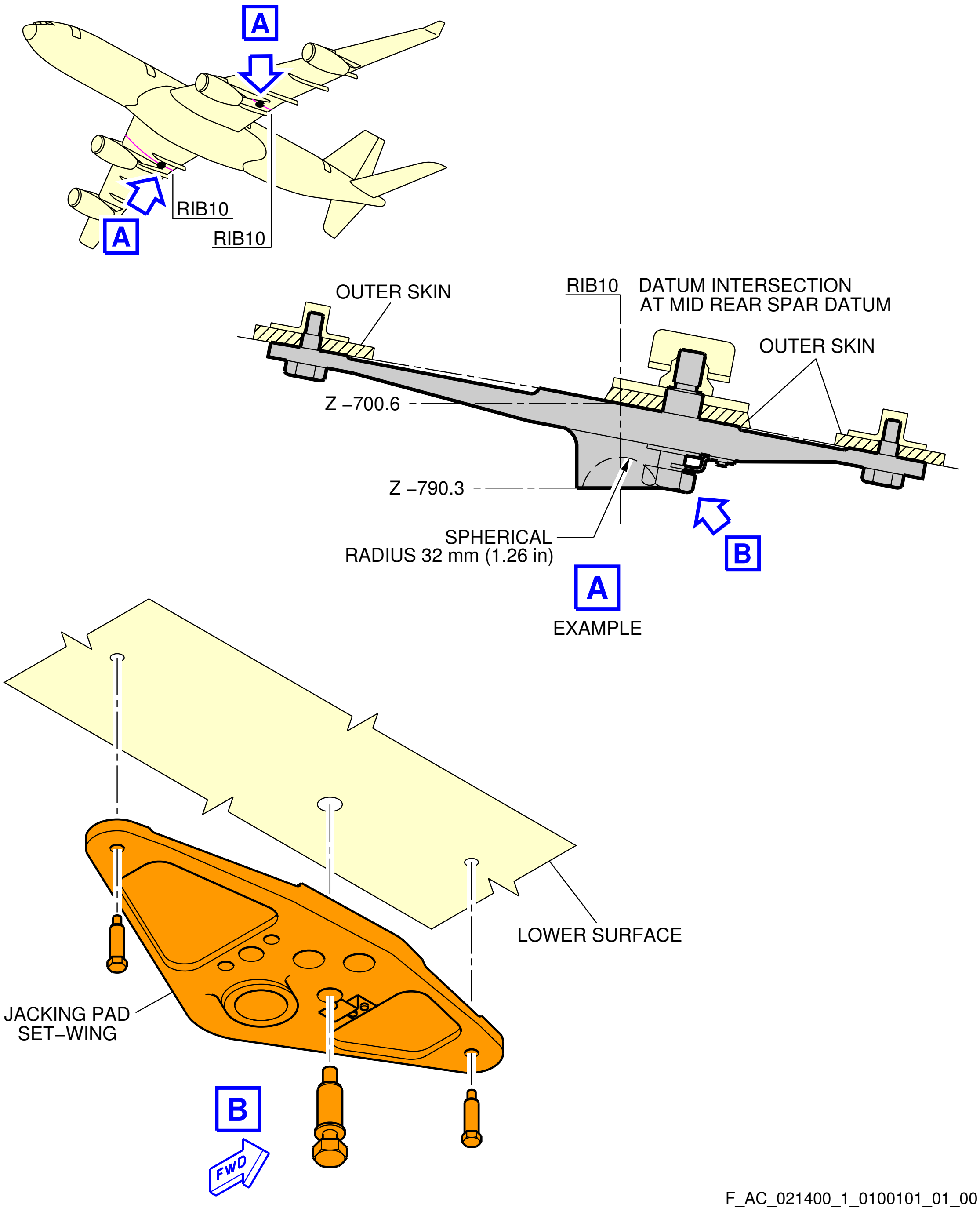
Jacking for Maintenance
Jacking Points Location
FIGURE-2-14-0-991-008-B01

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



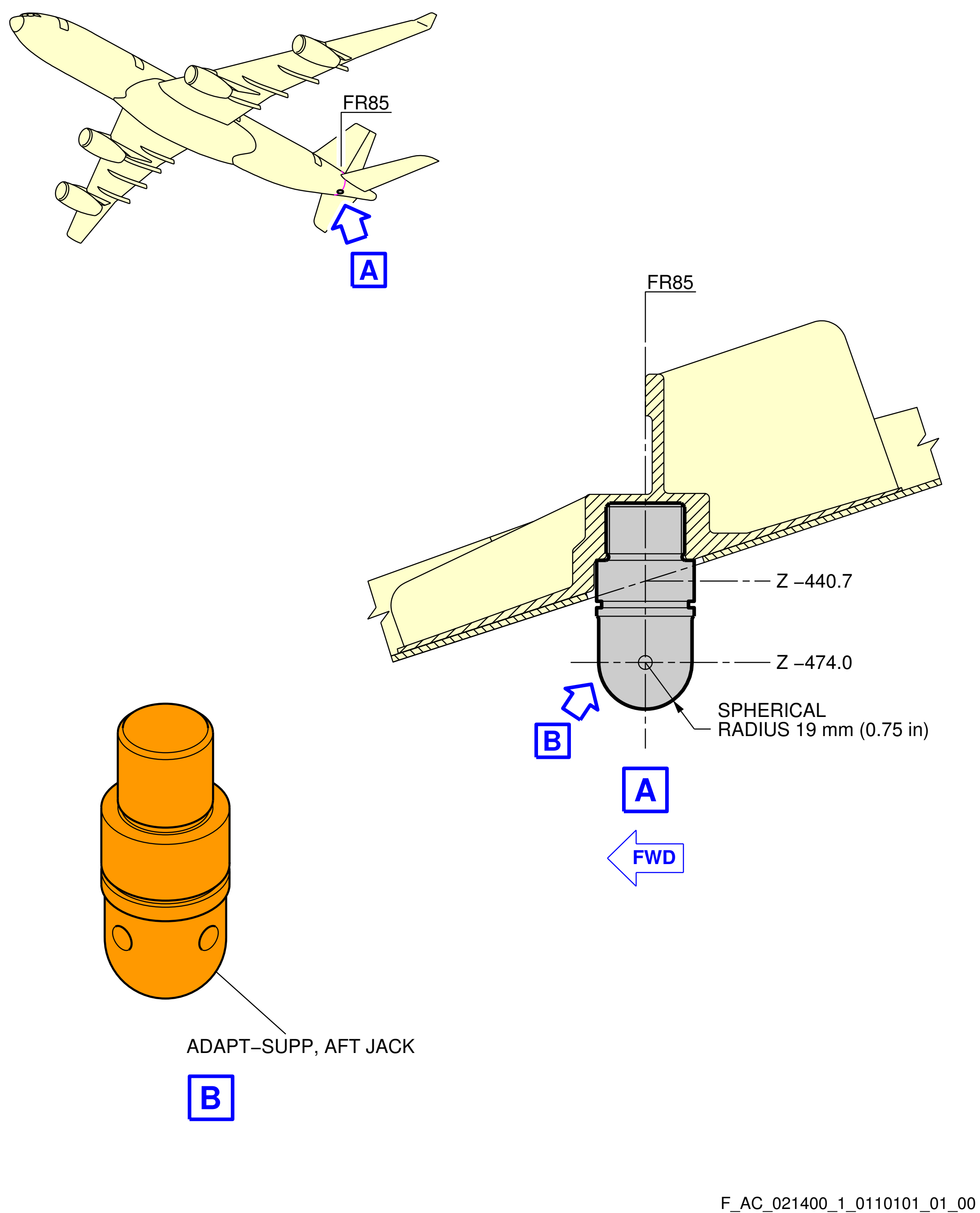
Jacking for Maintenance
Forward Jacking Point
FIGURE-2-14-0-991-009-A01

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



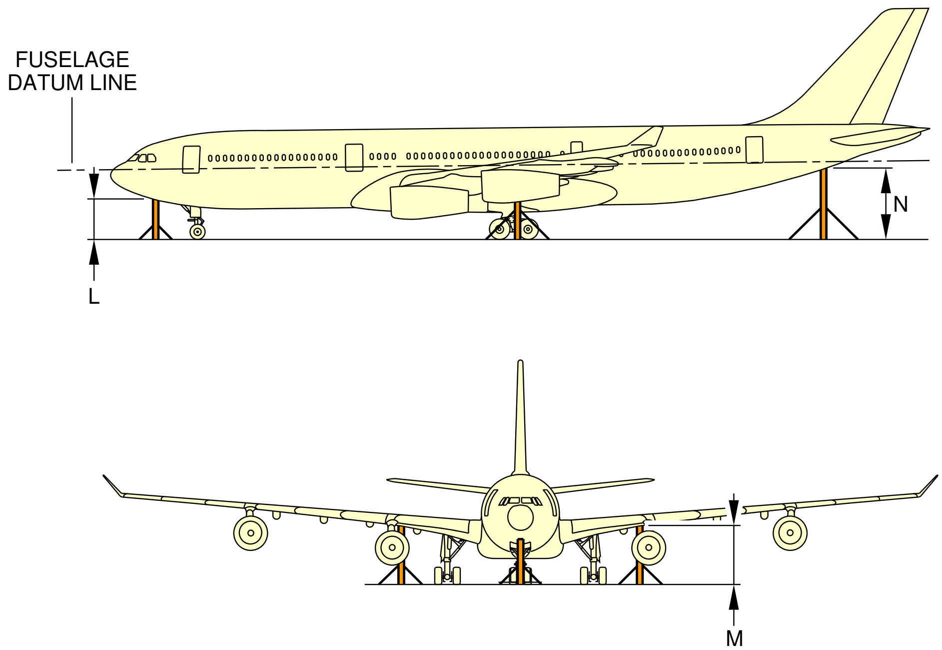
Jacking for Maintenance
Wing Jacking Points
FIGURE-2-14-0-991-010-A01

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



Jacking for Maintenance
Auxiliary Jacking Point - Safety Stay
FIGURE-2-14-0-991-011-A01

**ON A/C A340-200



	L	M	N
AIRCRAFT ON WHEELS WITH STANDARD TIRES, MAX. JACK WEIGHT 152 000 kg (335 103 lb)	2.61 m (8.56 ft)	4.46 m (14.63 ft)	5.36 m (17.59 ft)
AIRCRAFT ON WHEELS WITH STANDARD TIRES, OEW 127 000 kg (279 987 lb)	2.62 m (8.6 ft)	4.51 m (14.8 ft)	5.43 m (17.81 ft)
AIRCRAFT ON WHEELS, SHOCK ABSORBERS DEFLATED AND FLAT TIRES	2.2 m (7.22 ft)	4.11 m (13.48 ft)	4.77 m (15.65 ft)
AIRCRAFT ON JACKS, FUSELAGE DATUM LINE PARALLEL TO GROUND AT 6.5 m (21.33 ft) FOR LANDING GEARS EXTENSION/RETRACTION	4.37 m (14.34 ft)	5.8 m (19.03 ft)	6.06 m (19.88 ft)
AIRCRAFT ON JACKS, FUSELAGE DATUM LINE PARALLEL TO GROUND AT 7.2 m (23.62 ft) FOR LANDING GEARS REMOVAL/INSTALLATION	5.07 m (16.63 ft)	6.5 m (21.33 ft)	6.76 m (22.18 ft)

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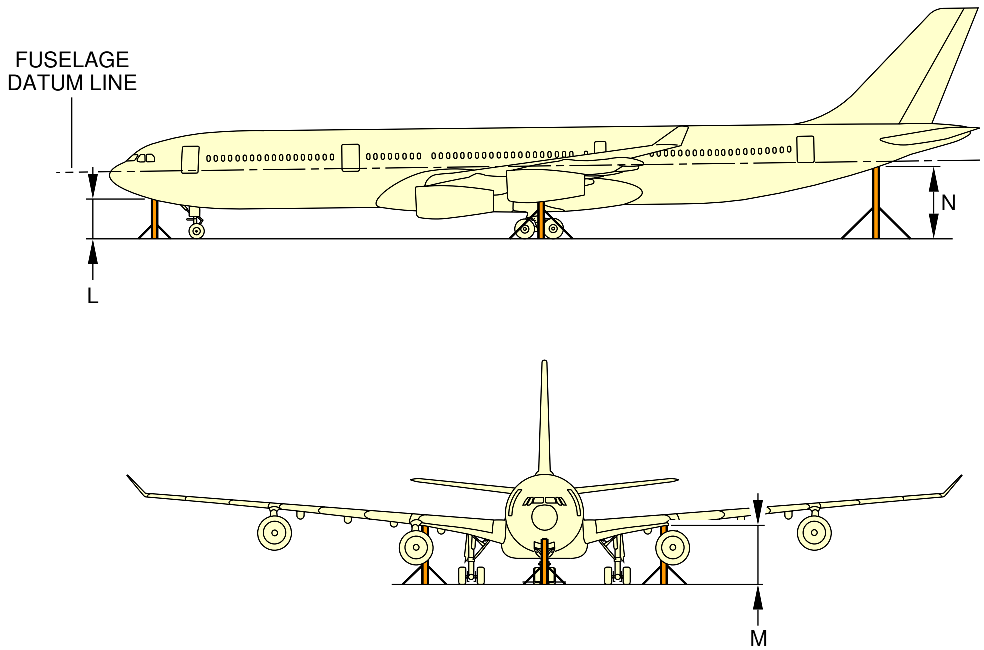
Jacking for Maintenance
Jacking Dimensions
FIGURE-2-14-0-991-012-A01

**ON A/C A340-300



	L	M	N
AIRCRAFT ON WHEELS WITH STANDARD TIRES, MAX. JACK WEIGHT 152 000 kg (335 103 lb)	2.52 m (8.27 ft)	4.46 m (14.63 ft)	5.38 m (17.65 ft)
AIRCRAFT ON WHEELS WITH STANDARD TIRES, OEW 131 215 kg (279 279 lb)	2.58 m (8.47 ft)	4.51 m (14.8 ft)	5.39 m (17.68 ft)
AIRCRAFT ON WHEELS, SHOCK ABSORBERS DEFLATED AND FLAT TIRES	2.2 m (7.22 ft)	4.1 m (13.45 ft)	4.77 m (15.65 ft)
AIRCRAFT ON JACKS, FUSELAGE DATUM LINE PARALLEL TO GROUND AT 6.5 m (21.33 ft) FOR LANDING GEARS EXTENSION/RETRACTION	4.37 m (14.34 ft)	5.8 m (19.03 ft)	6.06 m (19.88 ft)
AIRCRAFT ON JACKS, FUSELAGE DATUM LINE PARALLEL TO GROUND AT 7.2 m (23.62 ft) FOR LANDING GEARS REMOVAL/INSTALLATION	5.07 m (16.63 ft)	6.5 m (21.33 ft)	6.76 m (22.18 ft)

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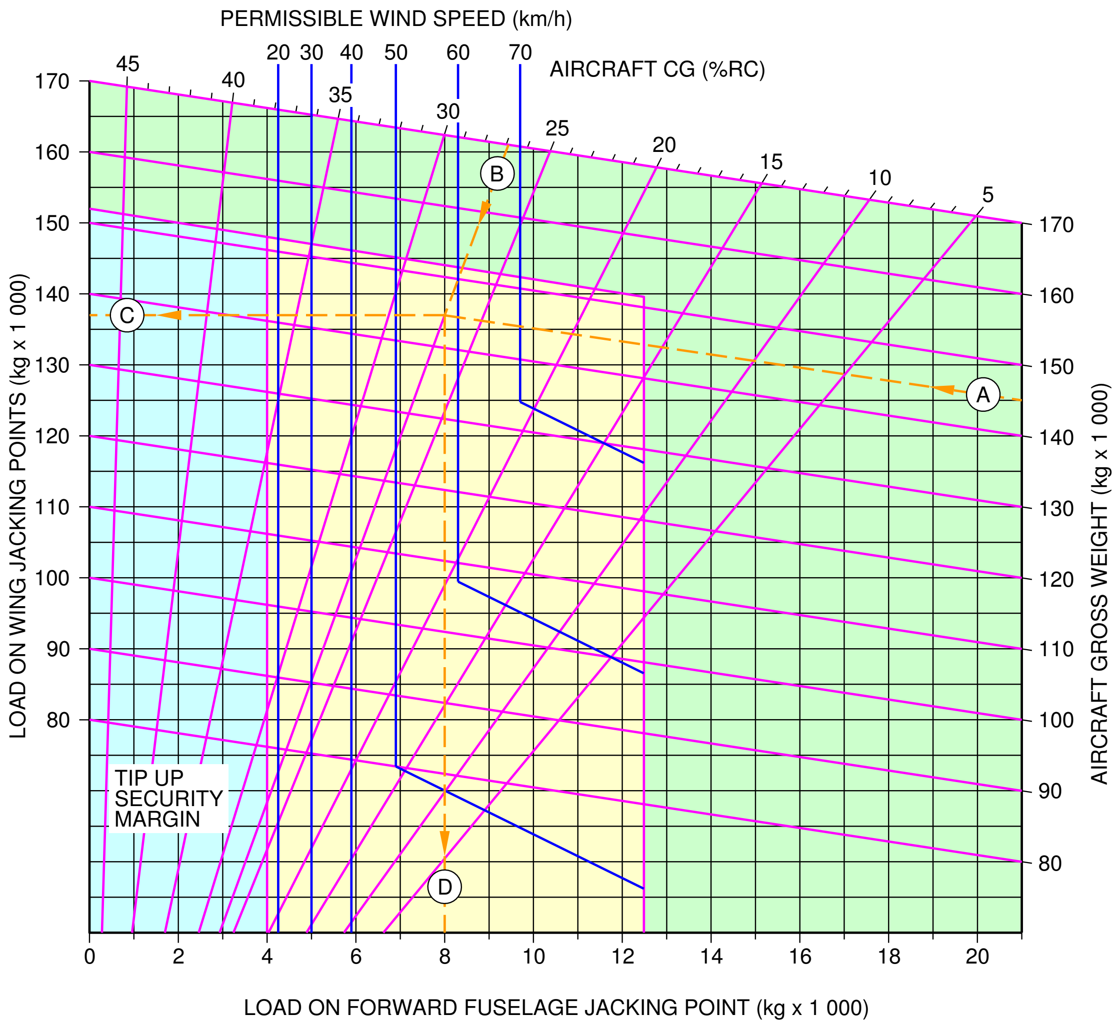
Jacking for Maintenance
Jacking Dimensions
FIGURE-2-14-0-991-012-B01

**ON A/C A340-200



EXAMPLE:
ASSUME AIRCRAFT WITH A GROSS WEIGHT OF 145 000 kg (A) AND CENTER OF GRAVITY AT 22.8% RC (B). THE REACTION AT THE WING JACKING POINTS IS 137 000 kg (68 500 kg PER SIDE) (C) AND THE REACTION AT THE FORWARD FUSELAGE JACKING POINT IS 8 000 kg (D). IF THE AIRCRAFT MUST BE LIFTED OUTSIDE, THE WIND SPEED MUST NOT BE IN EXCESS OF 50 km/h.

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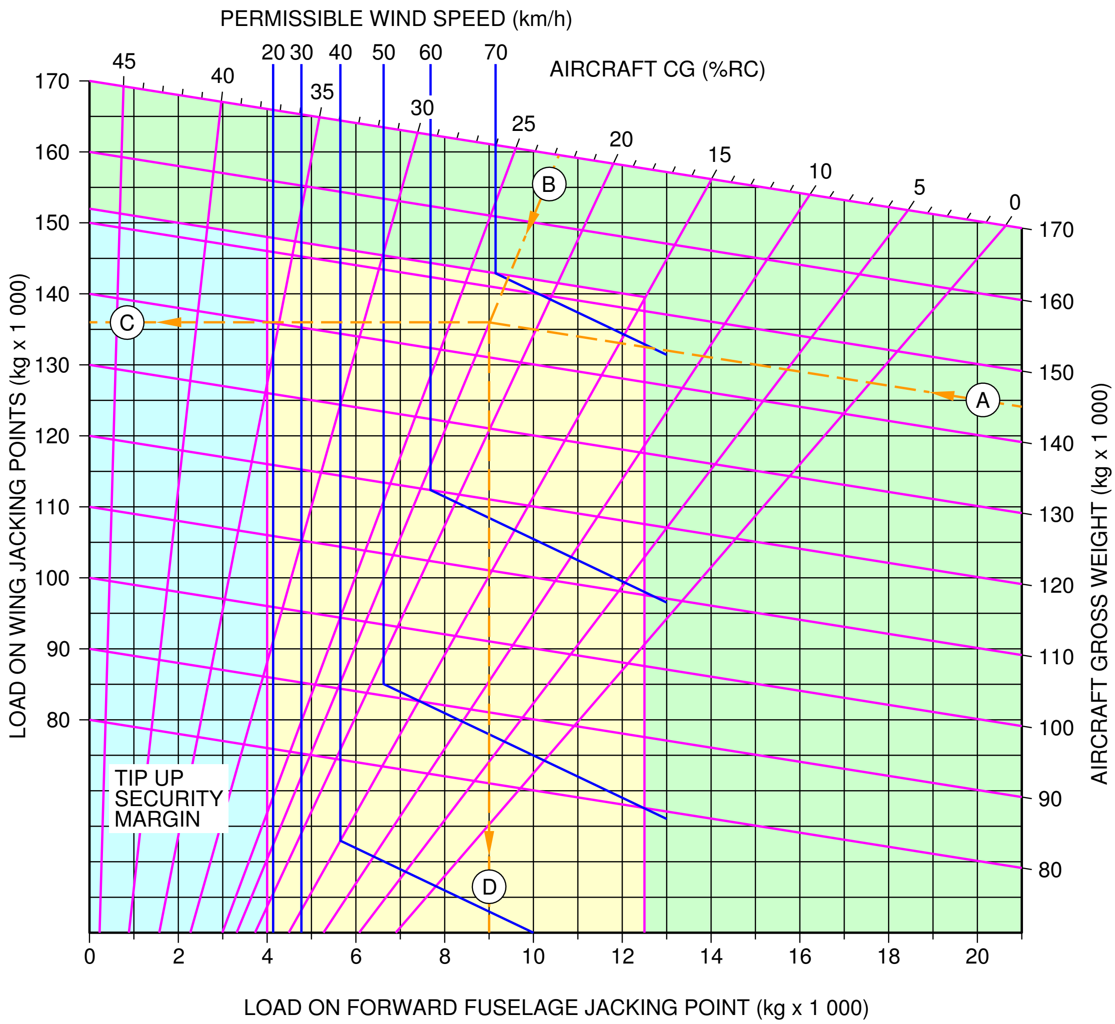
Jacking for Maintenance
Load at the Aircraft Jacking Points
FIGURE-2-14-0-991-013-A01

**ON A/C A340-300



EXAMPLE:
ASSUME AIRCRAFT WITH A GROSS WEIGHT OF 145 000 kg (A) AND CENTER OF GRAVITY AT 22.8% RC (B). THE REACTION AT THE WING JACKING POINTS IS 136 000 kg (68 000 kg PER SIDE) (C) AND THE REACTION AT THE FORWARD FUSELAGE JACKING POINT IS 9 000 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-2-14-0-991-013-B01

2-14-1 Jacking for Wheel Change

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

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 pad (PN MS33559 TYPE IV) 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 Figure "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 (NLG)

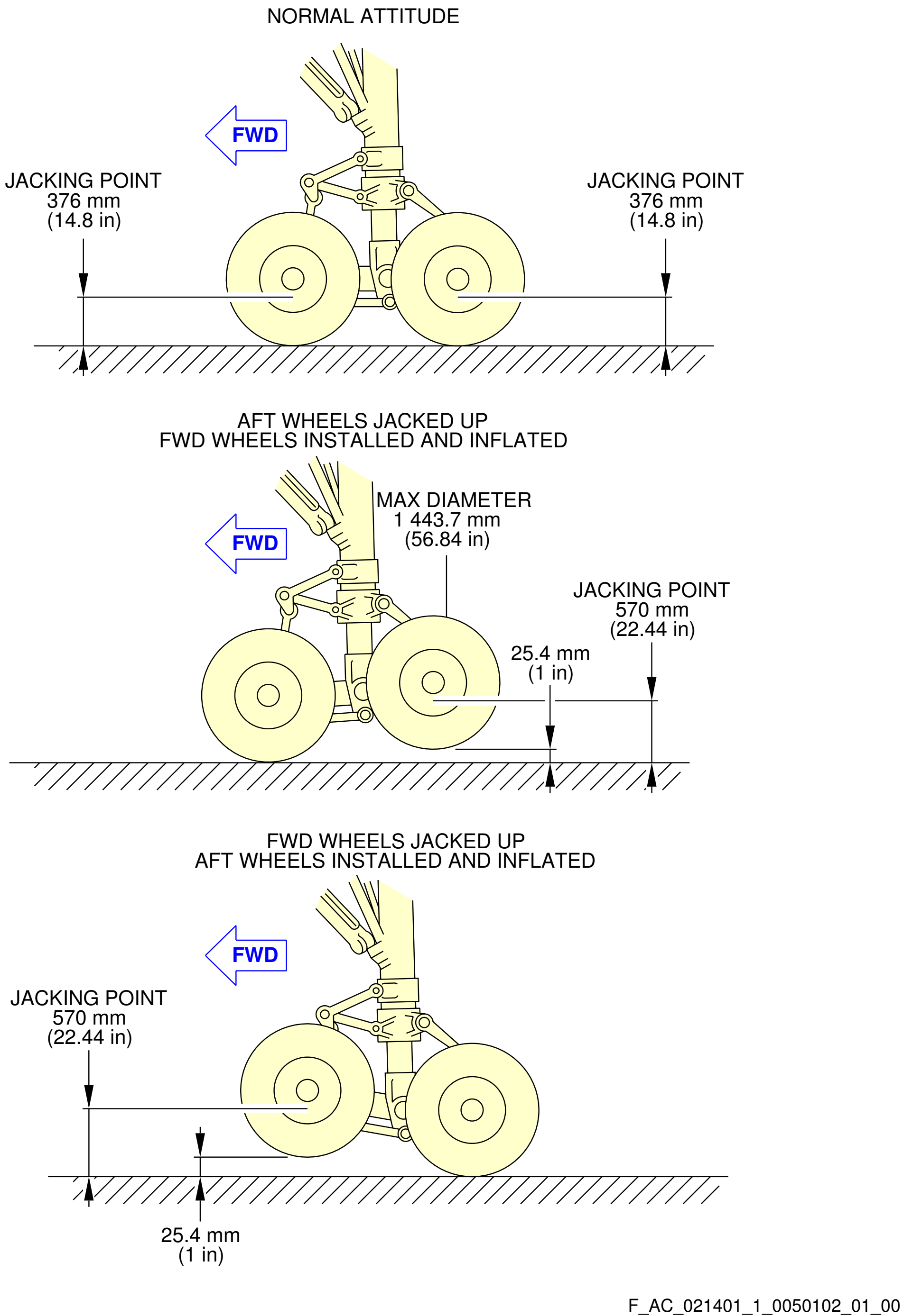
   To lift the NLG axle with a jack, a dome shaped pad (PN MS33559 Type II) is installed between the wheels.
   Important dimensions on heights of the NLG when lifted are shown in Figure "NLG Jacking Point Heights".
   The reaction loads at the jack position are shown in Figure "NLG Jacking Point Loads".

   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 (CLG)
To lift the CLG with a jack, a dome shaped pad (PN MS33559 TYPE IV) is installed between the wheels.
Important dimensions on heights of the CLG when lifted are shown in Figure "CLG Jacking Point Heights".
The reaction loads at the jack position are shown in Figure "CLG Jacking Point Loads".

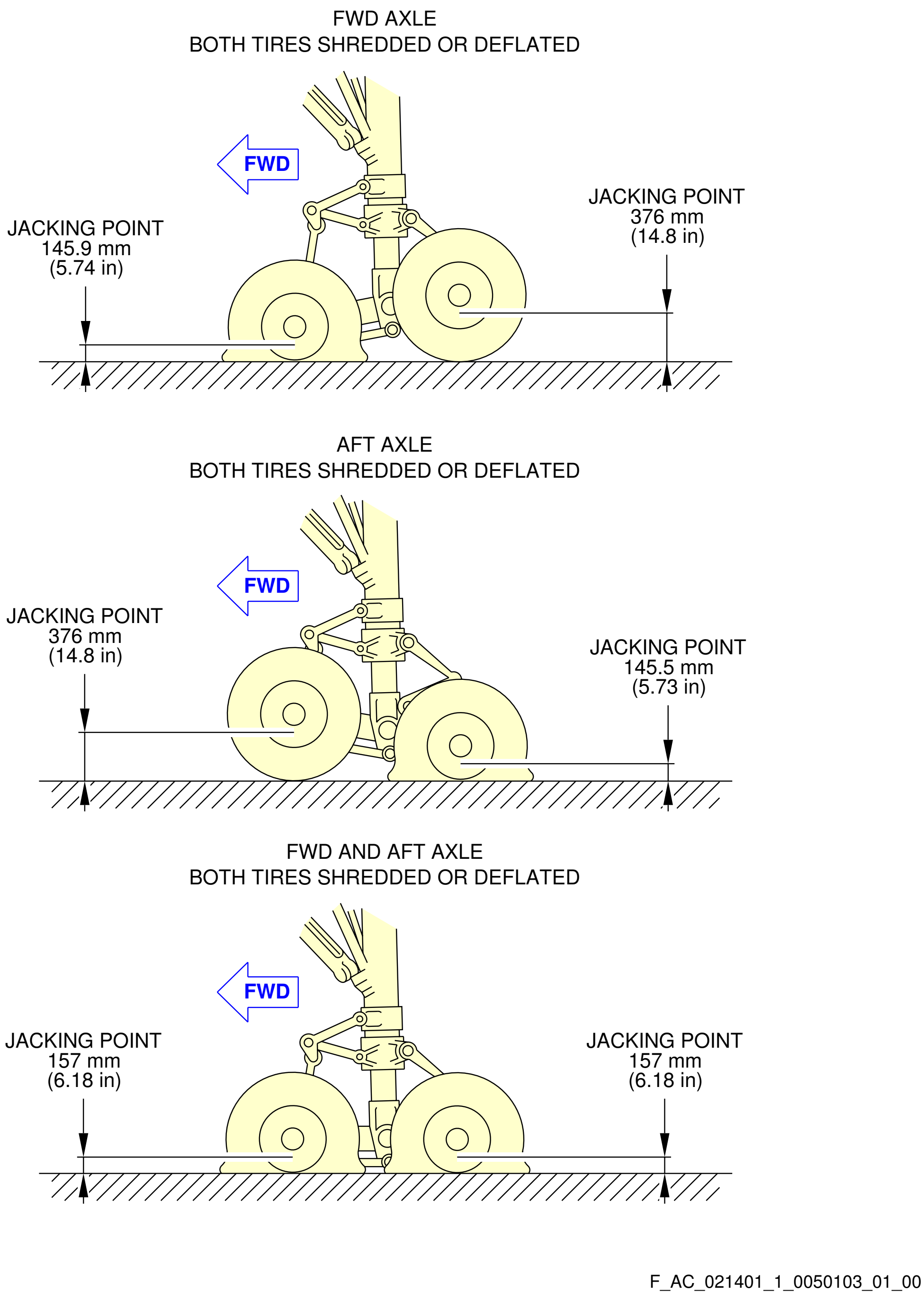
NOTE : The load at each jacking position is the load required to give 25.4 mm (1 in) clearance between the ground and the tire.

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



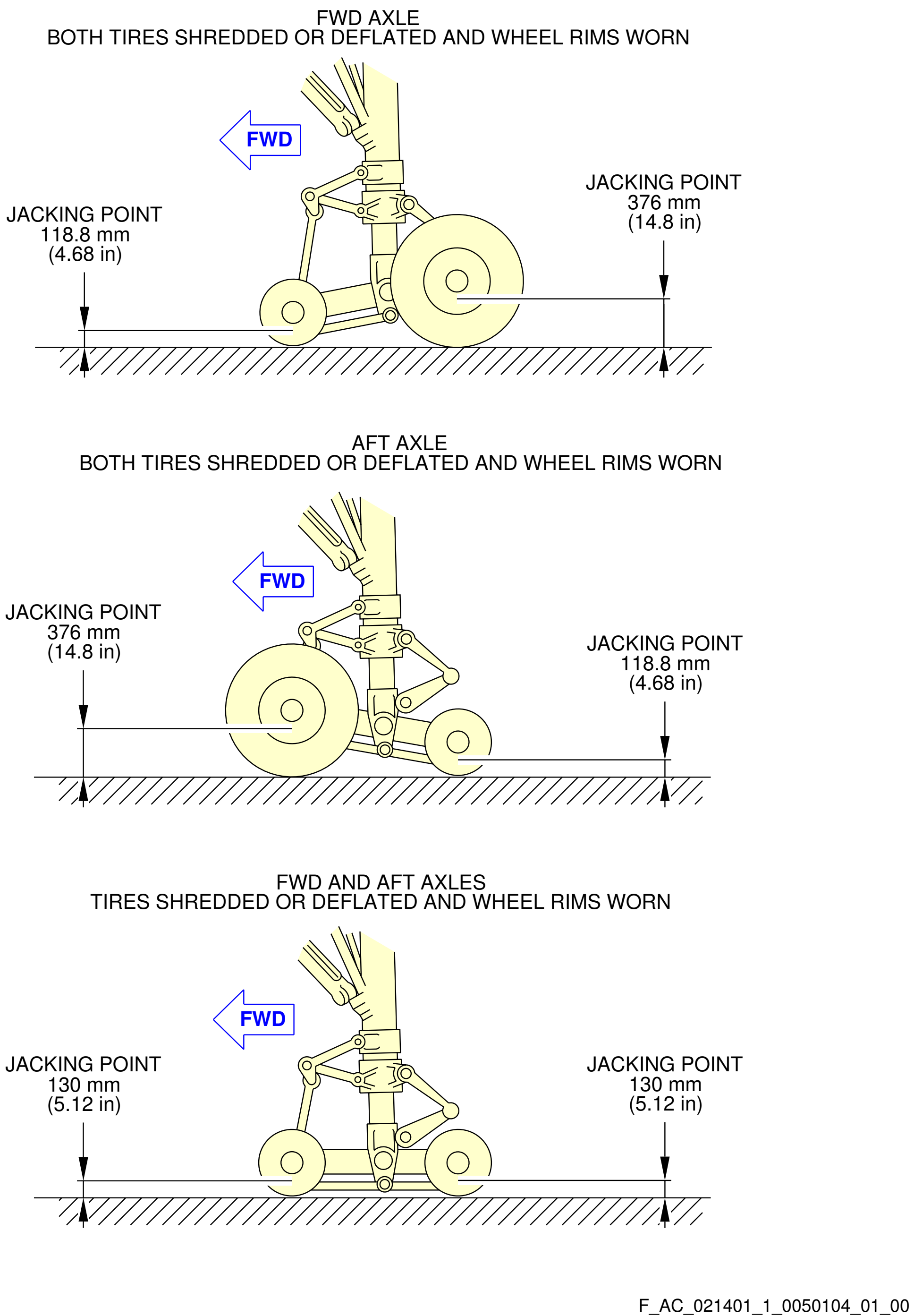
Jacking for Wheel Change
MLG Jacking Point Heights (Sheet 1 of 3)
FIGURE-2-14-1-991-005-A01

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



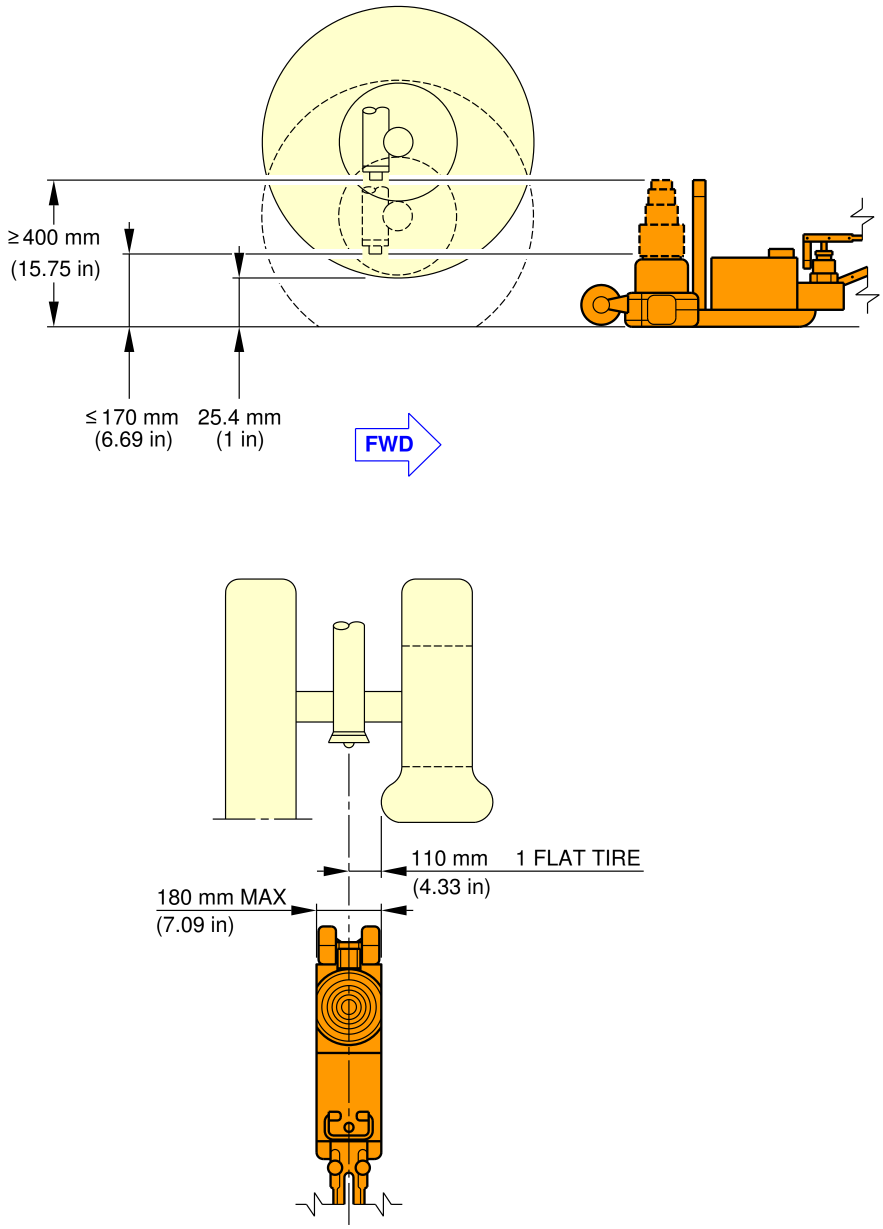
Jacking for Wheel Change
MLG Jacking Point Heights (Sheet 2 of 3)
FIGURE-2-14-1-991-005-A01

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



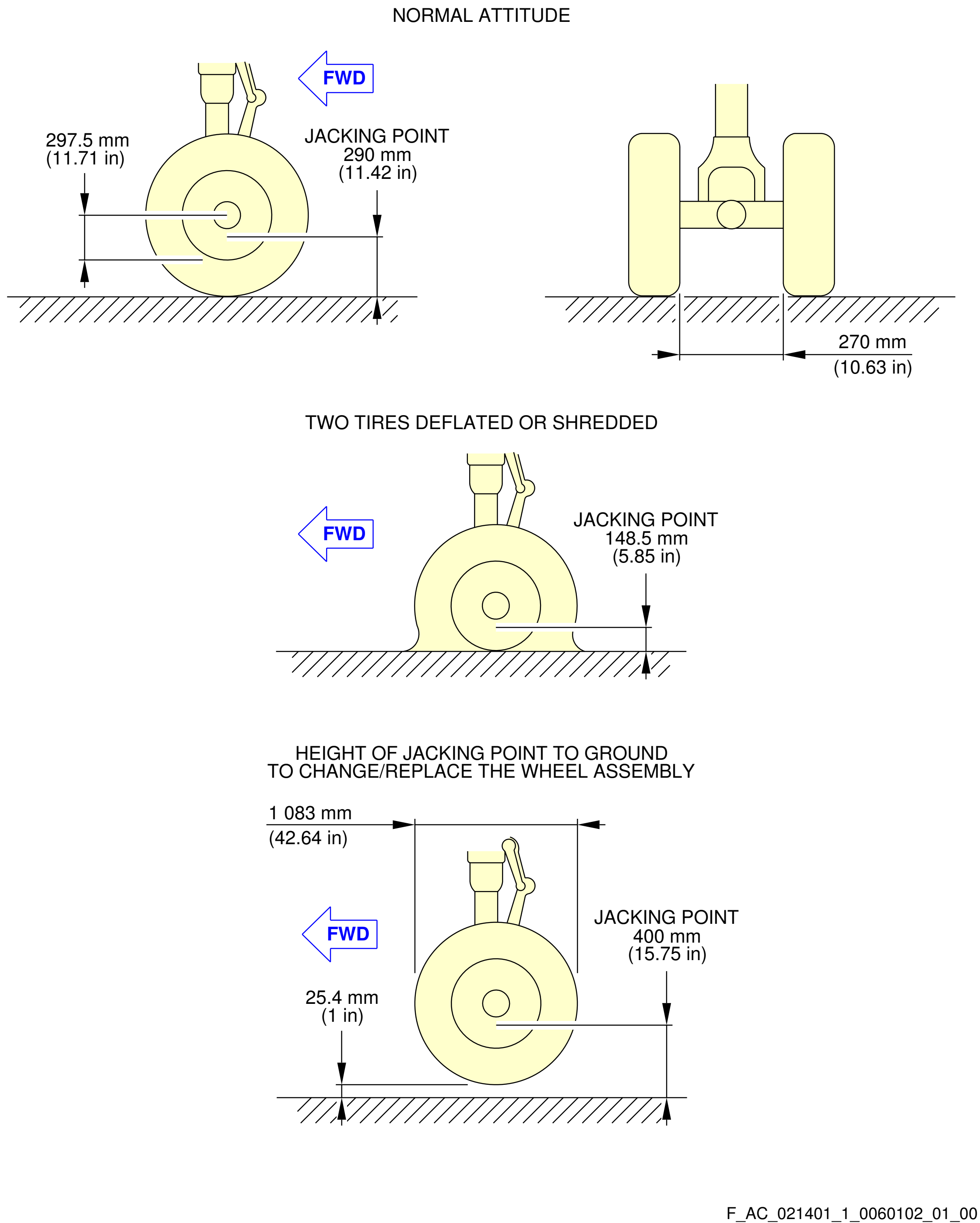
Jacking for Wheel Change
MLG Jacking Point Heights (Sheet 3 of 3)
FIGURE-2-14-1-991-005-A01

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



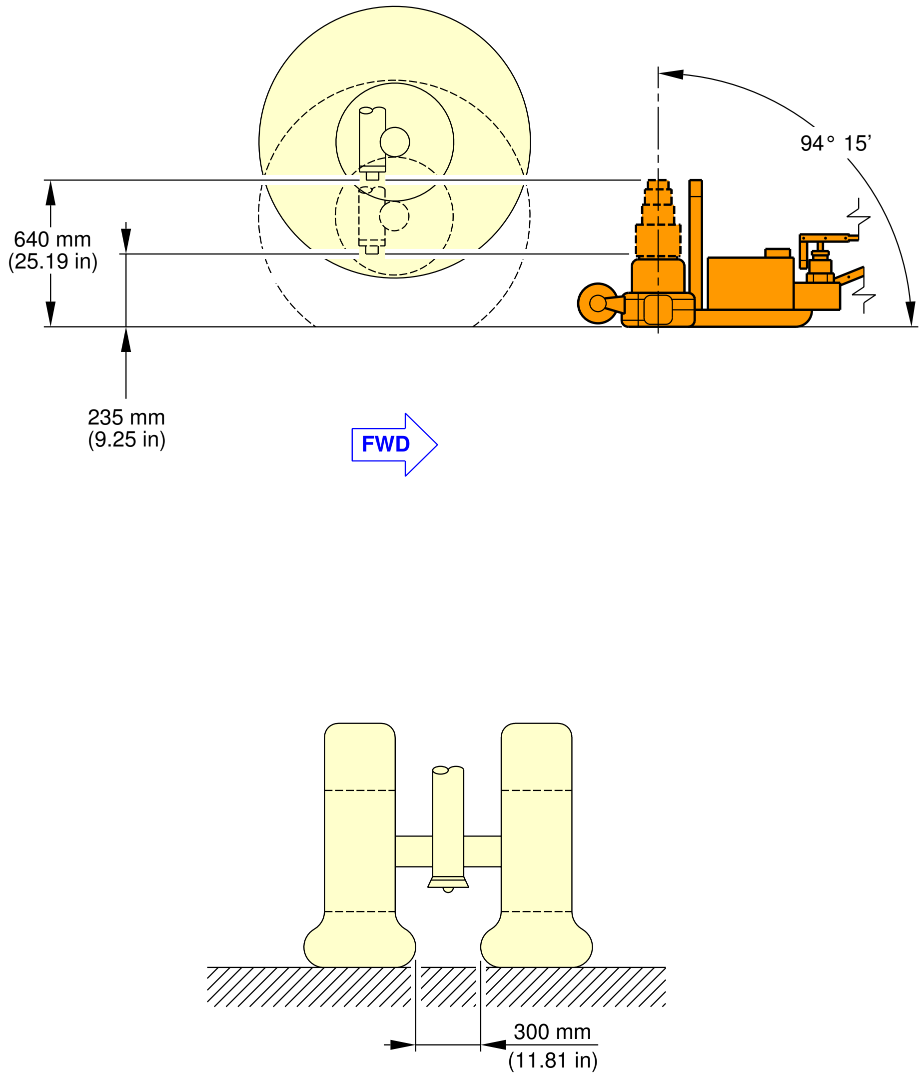
Jacking for Wheel Change
Jacking of the NLG (Sheet 1 of 2)
FIGURE-2-14-1-991-006-A01

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



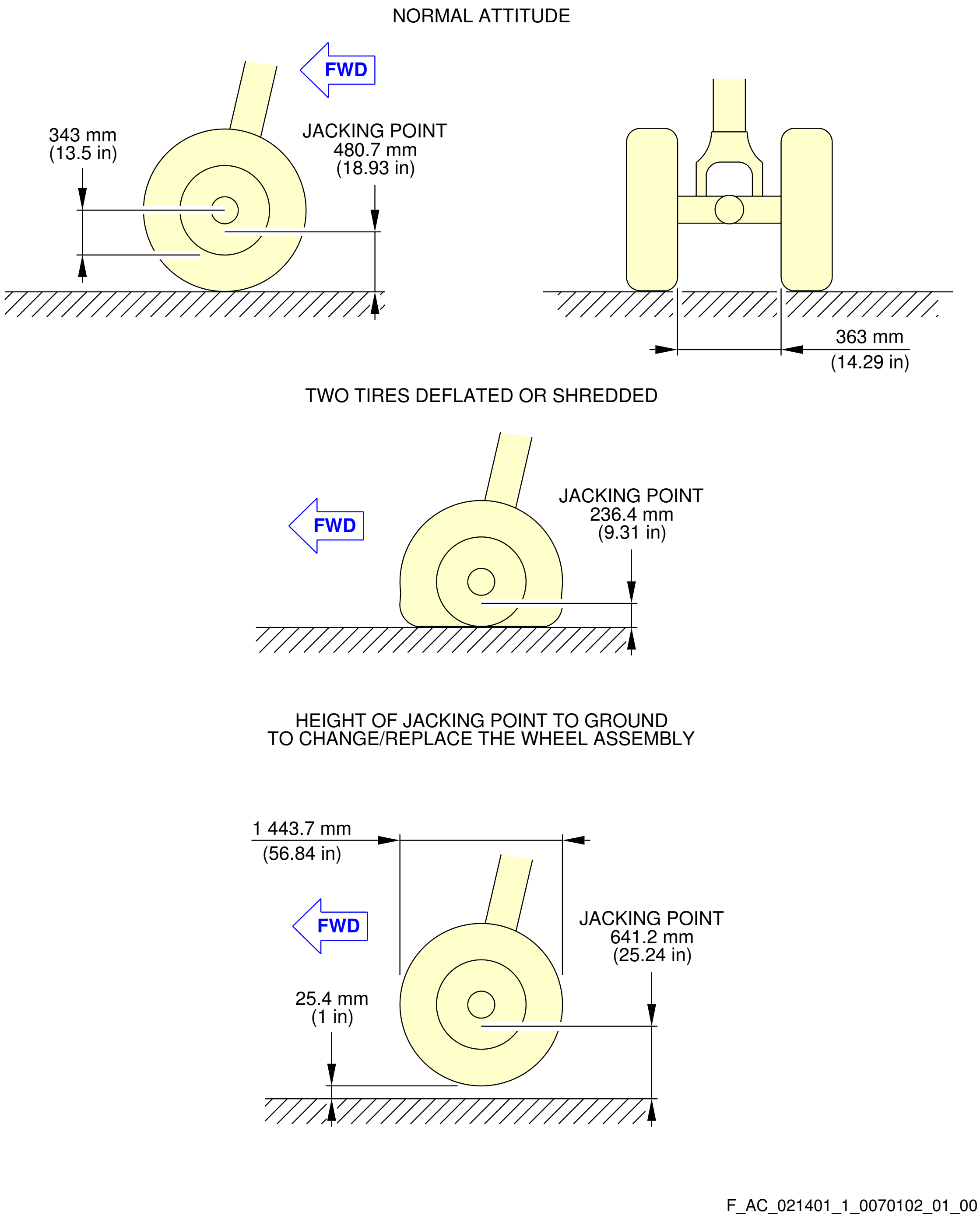
Jacking for Wheel Change
NLG Jacking Point Heights (Sheet 2 of 2)
FIGURE-2-14-1-991-006-A01

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



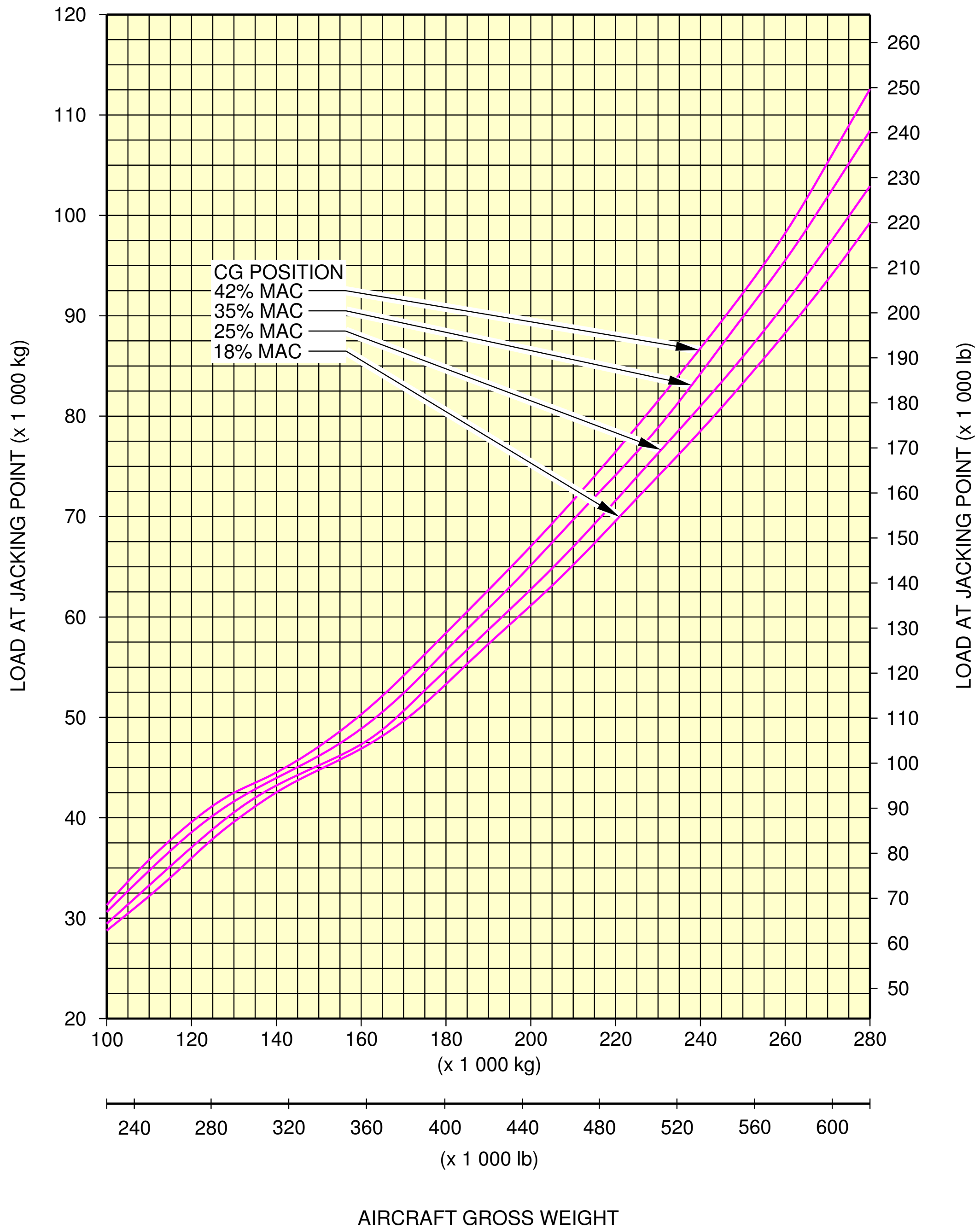
Jacking for Wheel Change
Jacking of the CLG (Sheet 1 of 2)
FIGURE-2-14-1-991-007-A01

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



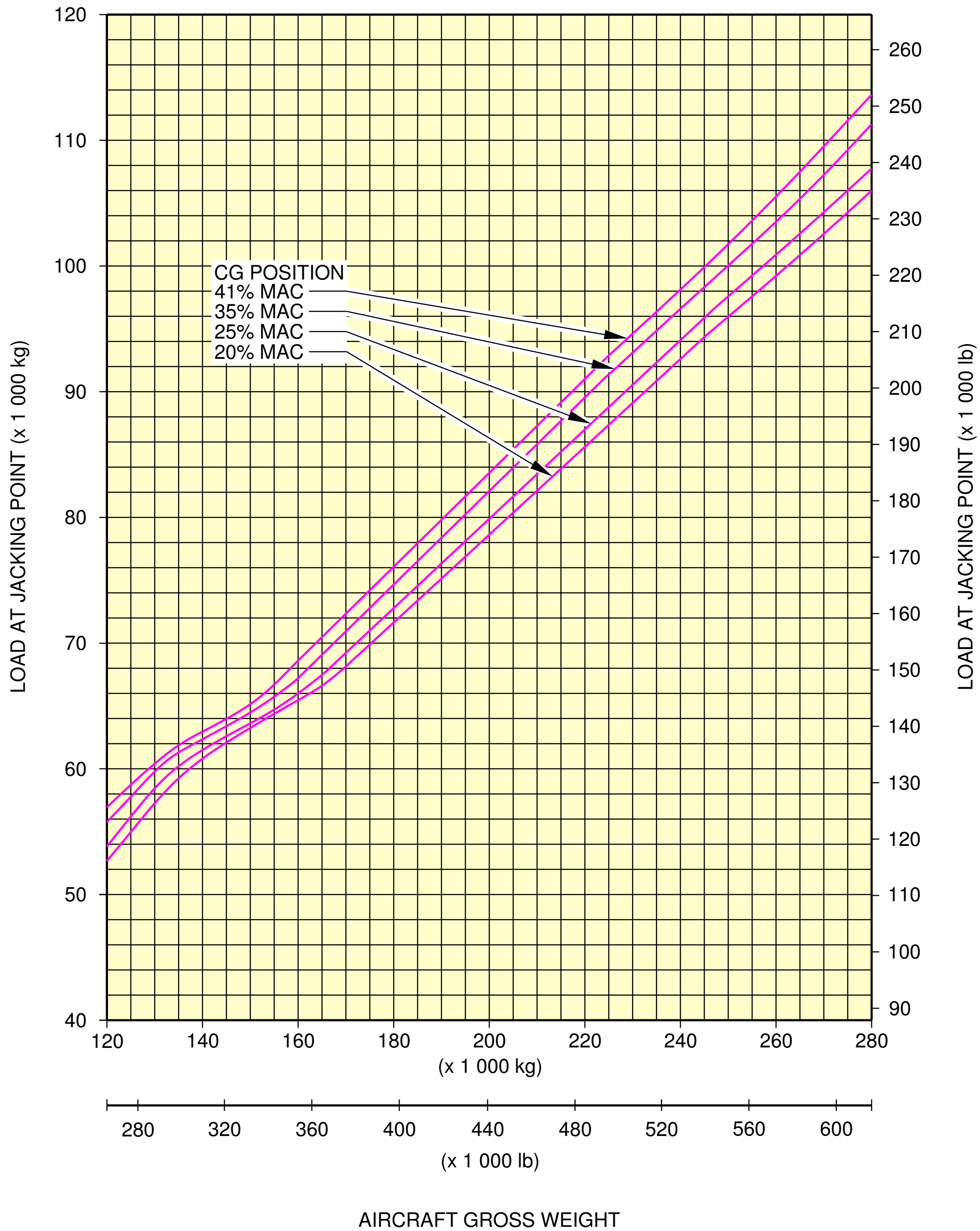
Jacking for Wheel Change
CLG Jacking Point Heights (Sheet 2 of 2)
FIGURE-2-14-1-991-007-A01

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



Jacking for Wheel Change
MLG Jacking Point Loads
FIGURE-2-14-1-991-008-A01

**ON A/C A340-200



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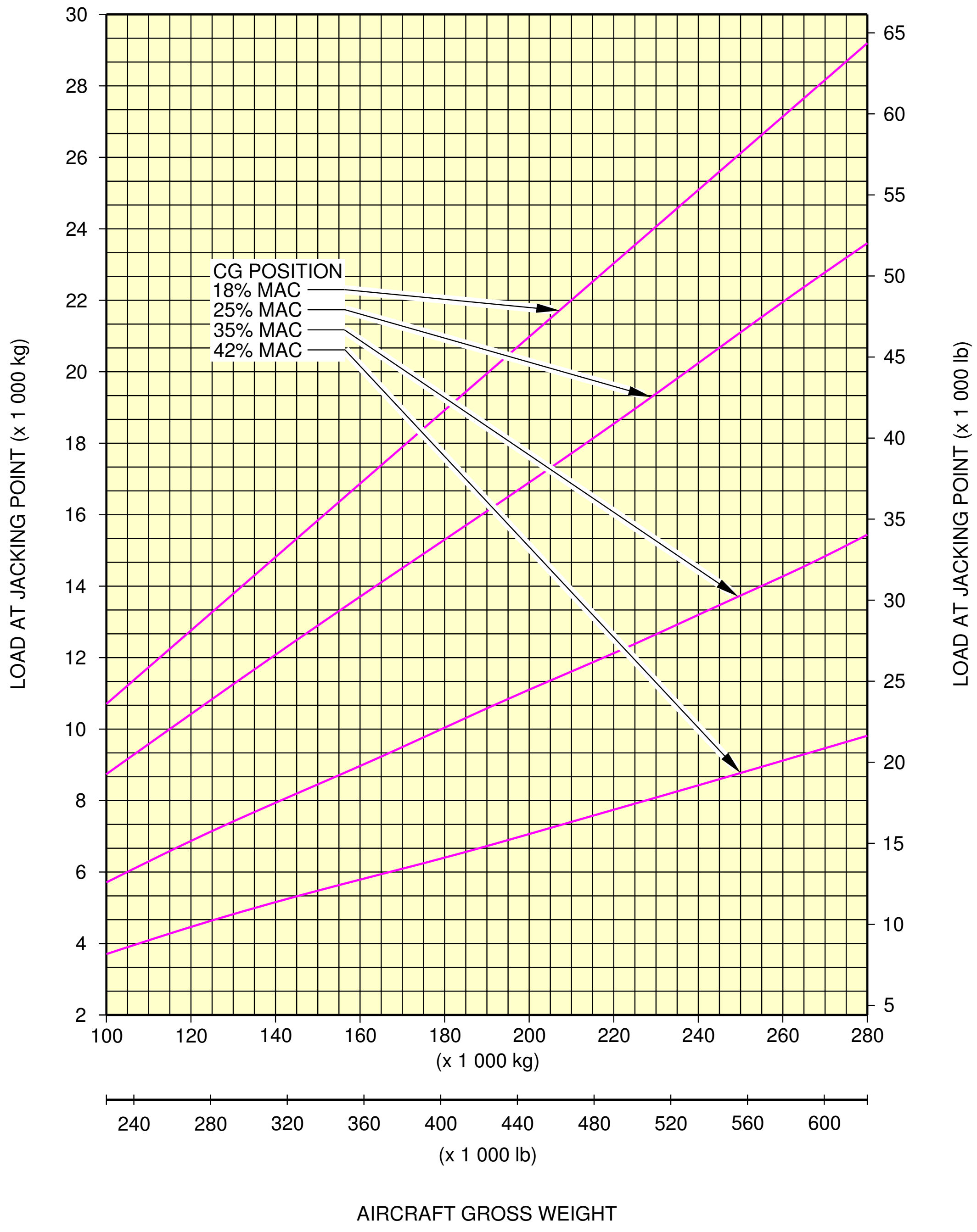
Jacking for Wheel Change
MLG Jacking Point Loads
FIGURE-2-14-1-991-008-B01

**ON A/C A340-300



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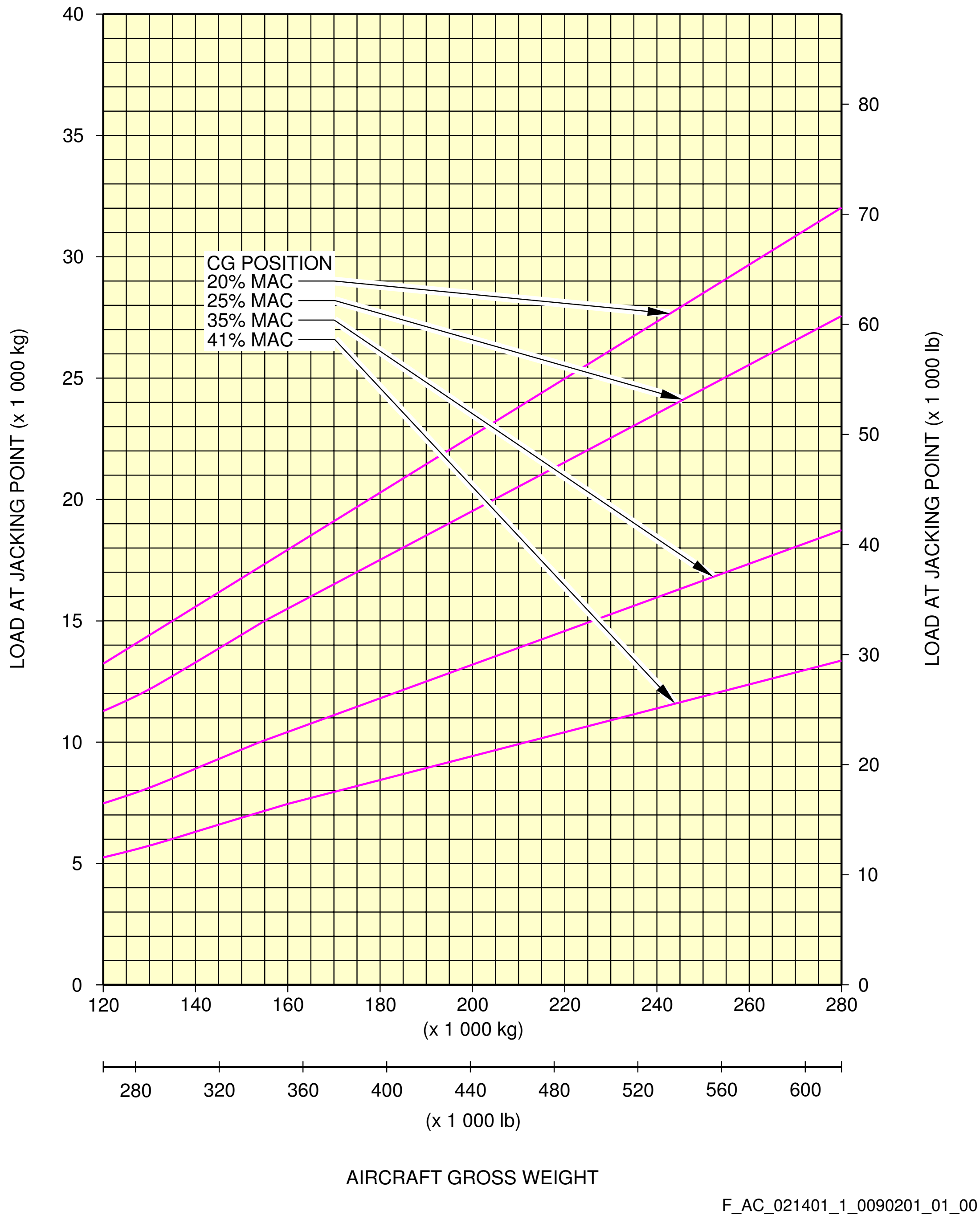
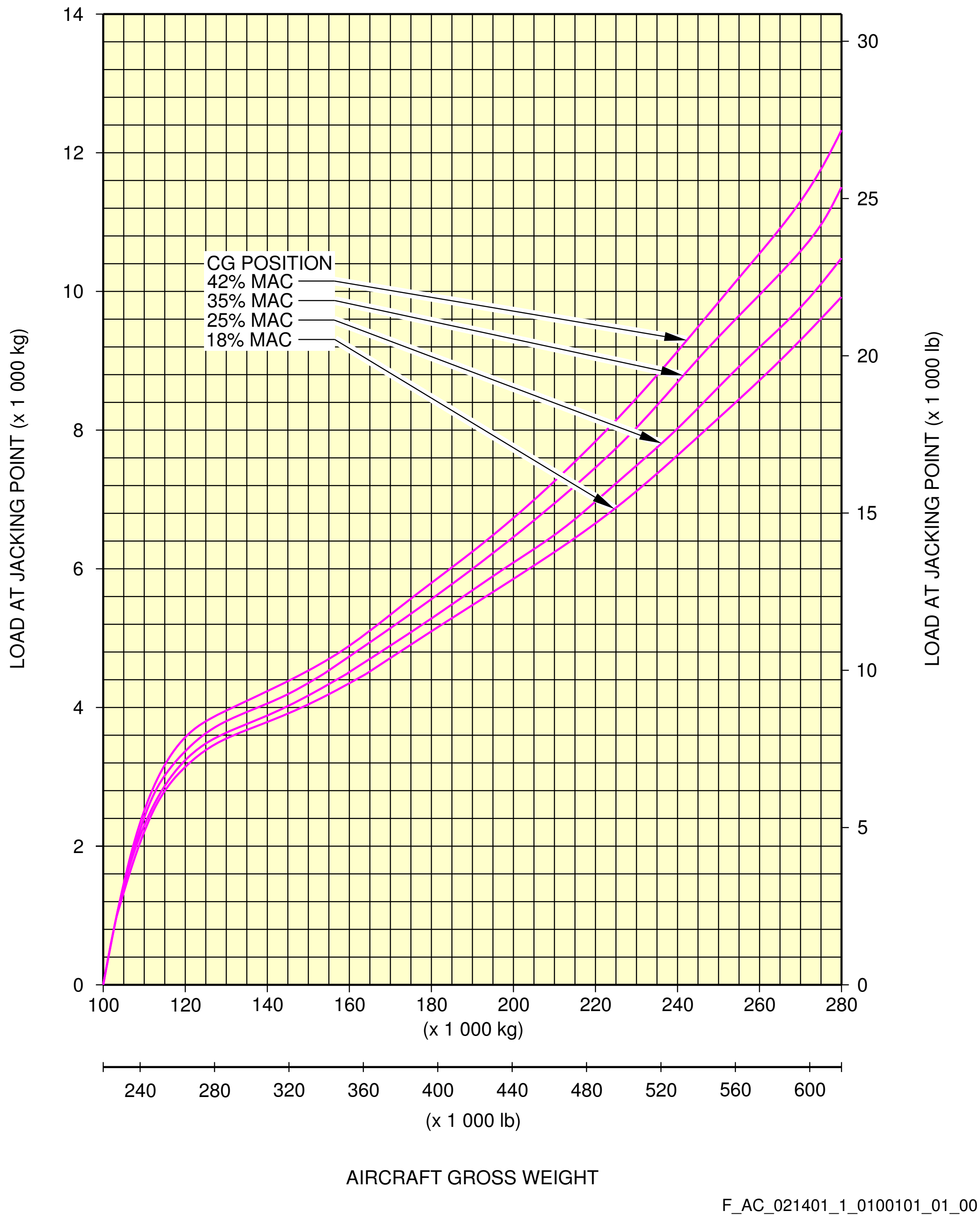
Jacking for Wheel Change
NLG Jacking Point Loads
FIGURE-2-14-1-991-009-A01

**ON A/C A340-200



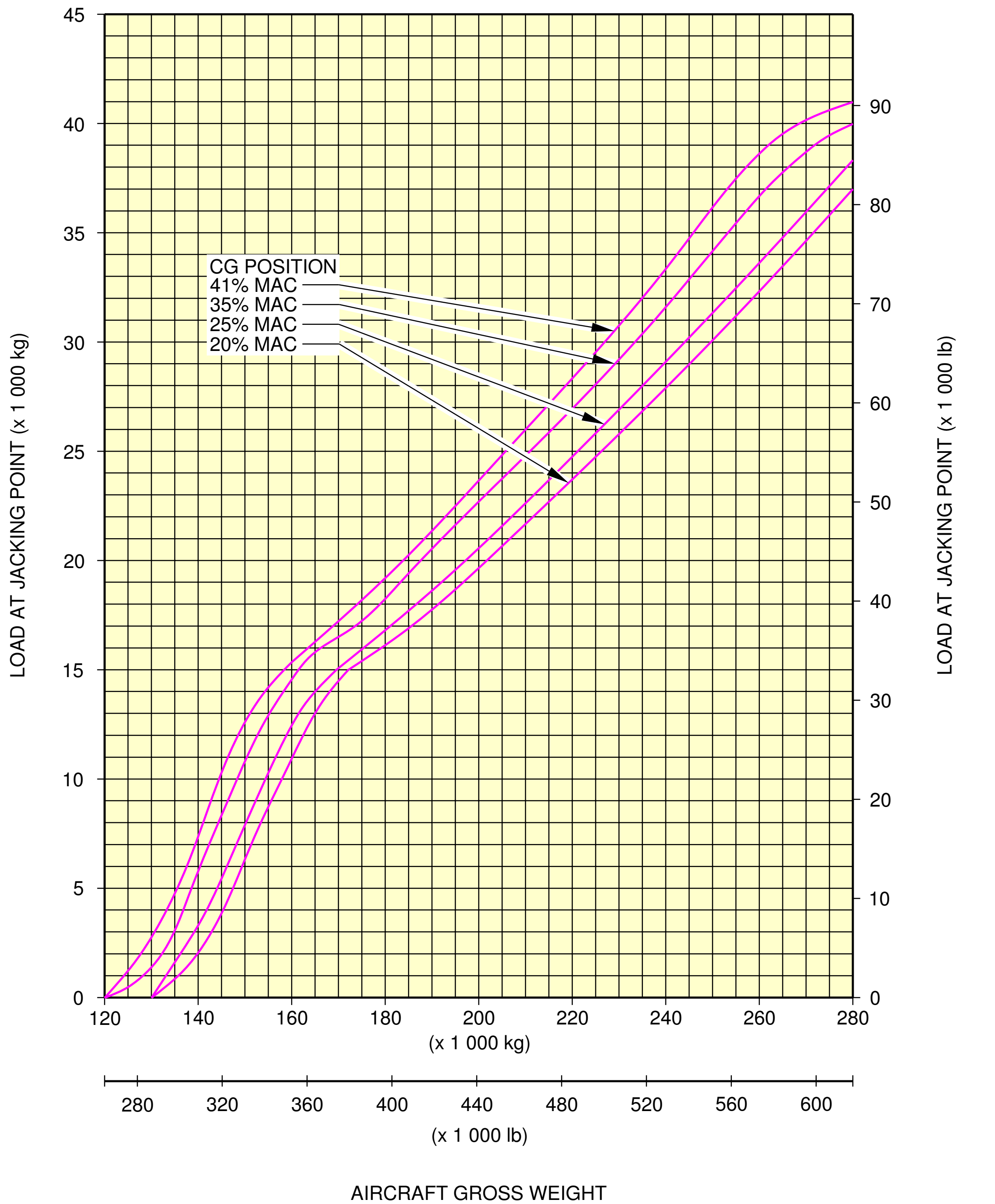
Jacking for Wheel Change
NLG Jacking Point Loads
FIGURE-2-14-1-991-009-B01

**ON A/C A340-300



Jacking for Wheel Change
CLG Jacking Point Loads
FIGURE-2-14-1-991-010-A01

**ON A/C A340-200



Jacking for Wheel Change
CLG Jacking Point Loads
FIGURE-2-14-1-991-010-B01

2-14-2 Support of Aircraft

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

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.

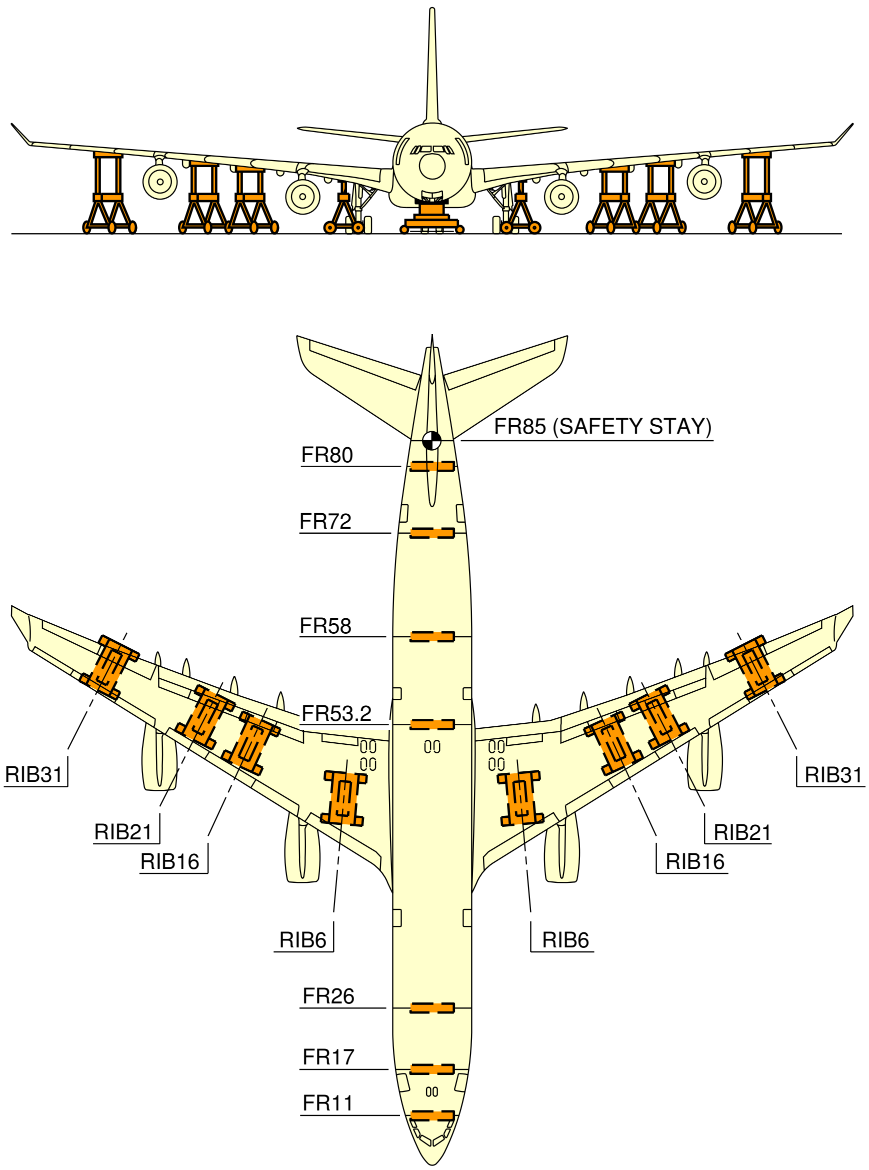
A. Shoring Cradles

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 A340-200



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

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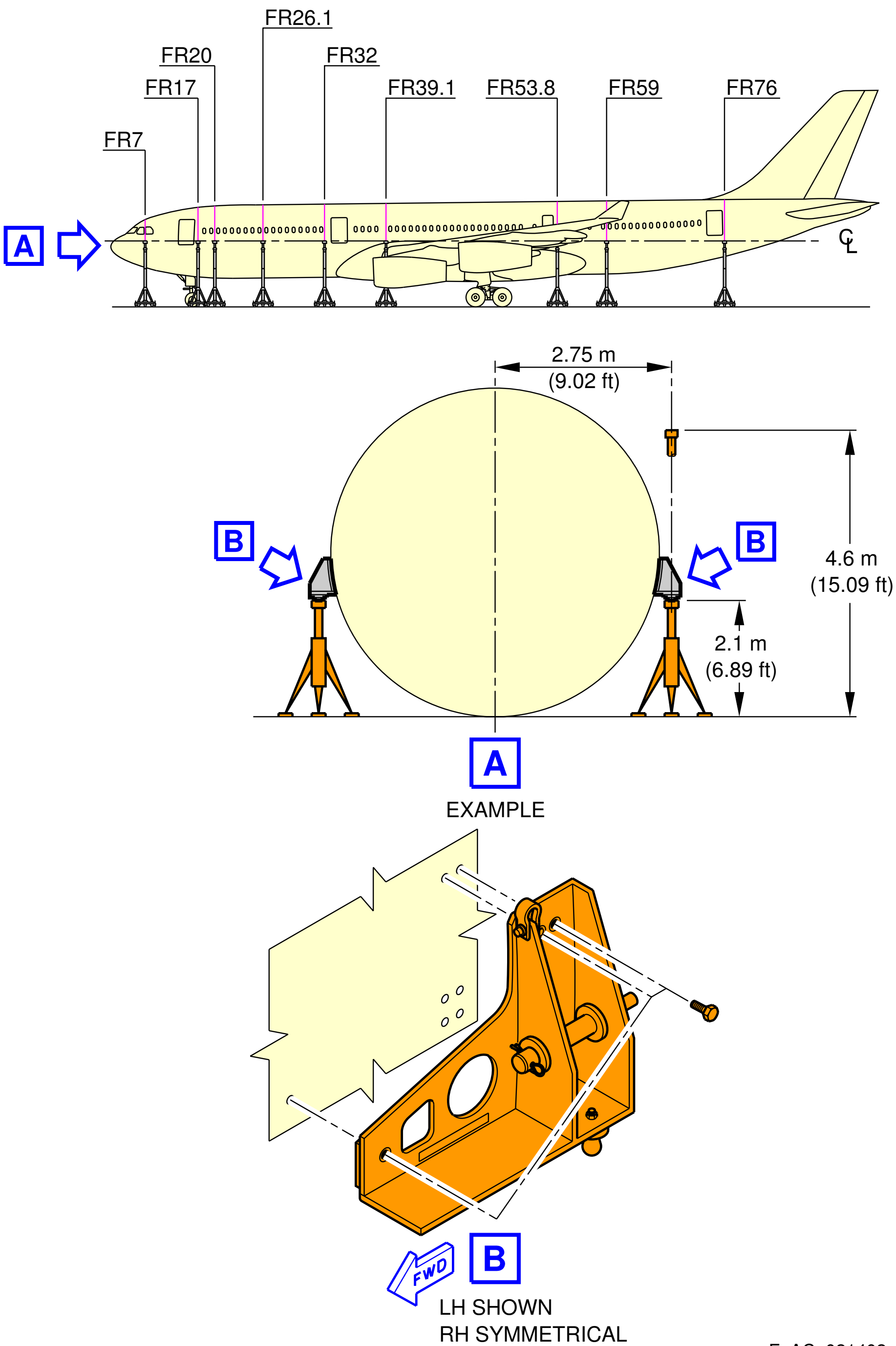
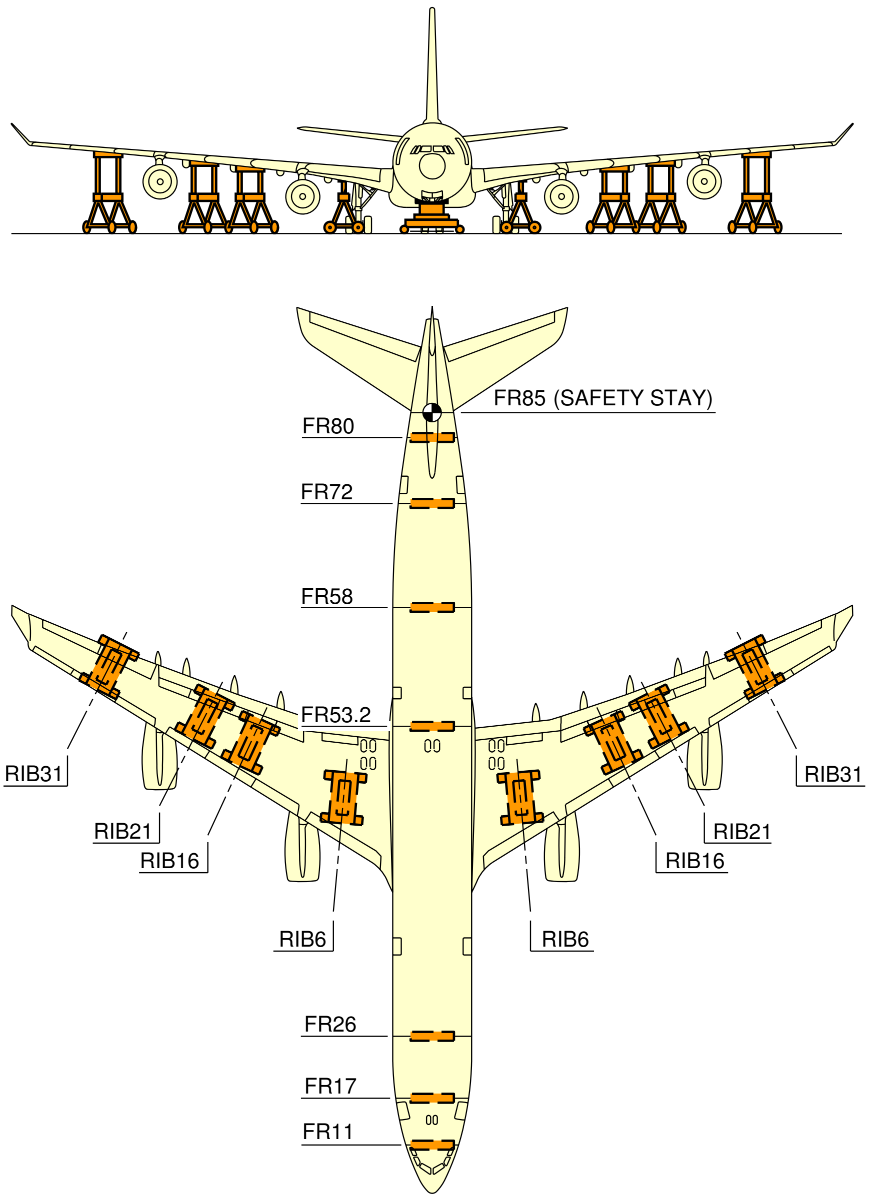
Support of Aircraft
Location of Shoring Cradles (Sheet 1 of 2)
FIGURE-2-14-2-991-002-A01

**ON A/C A340-200



Support of Aircraft
Location of Auxiliary Jacking Points (Sheet 2 of 2)
FIGURE-2-14-2-991-002-A01

**ON A/C A340-300



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

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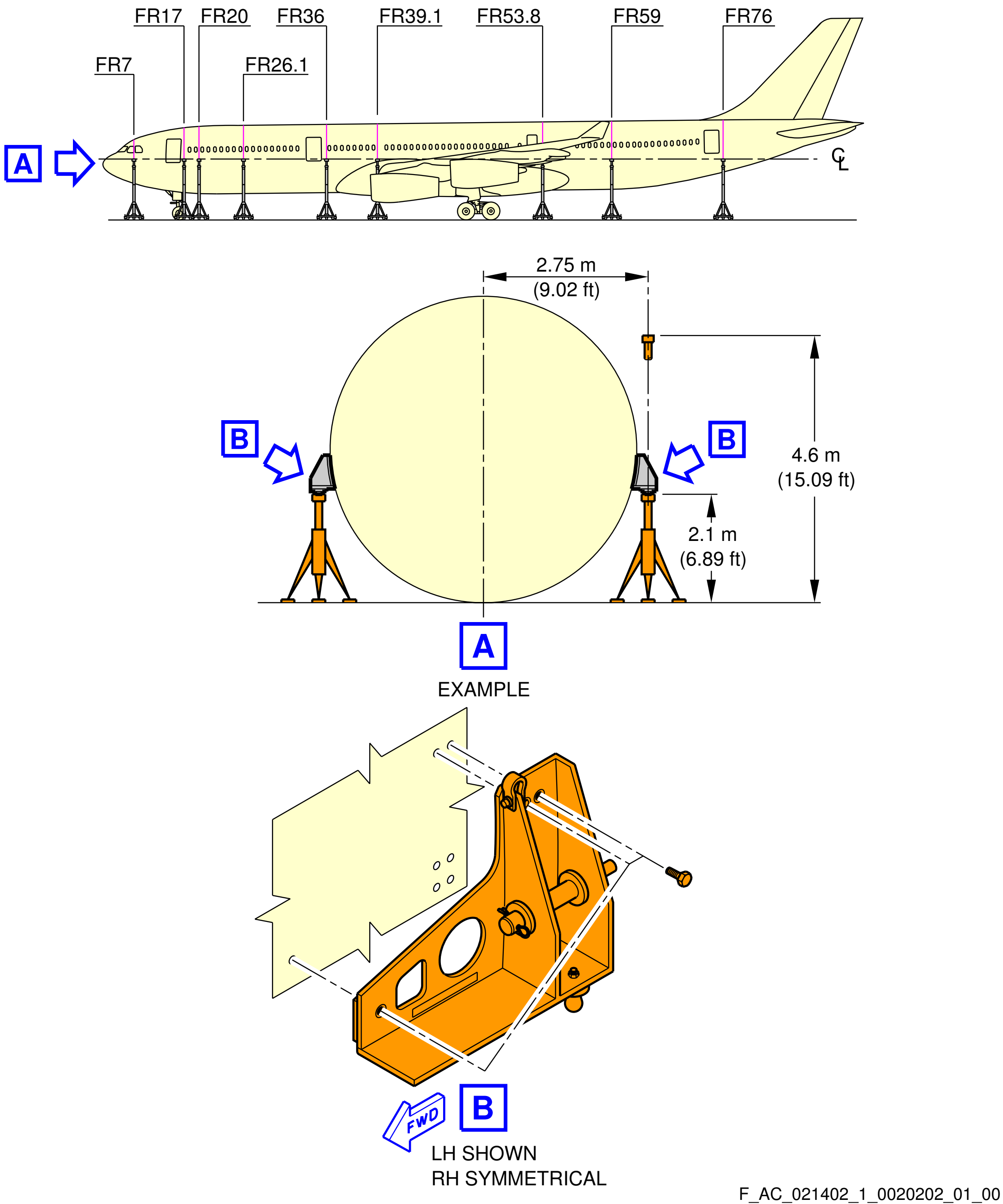
Support of Aircraft
Location of Shoring Cradles (Sheet 1 of 2)
FIGURE-2-14-2-991-002-B01

**ON A/C A340-300



Support of Aircraft
Location of Auxiliary Jacking Points (Sheet 2 of 2)
FIGURE-2-14-2-991-002-B01

AIRCRAFT PERFORMANCE

3-1-0 General Information

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

General Information

1. This section gives standard day temperatures.

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

   Section 3-3 represents FAR takeoff runway length requirements at ISA and ISA +15°C (+27°F) for CFM56-5C series engine conditions for FAA certification.

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

   Section 3-5 indicates final approach speeds.

   Standard day temperatures for the altitude shown are tabulated below:

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

3-2-0 Payload / Range

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

Payload / Range

1. Payload / Range

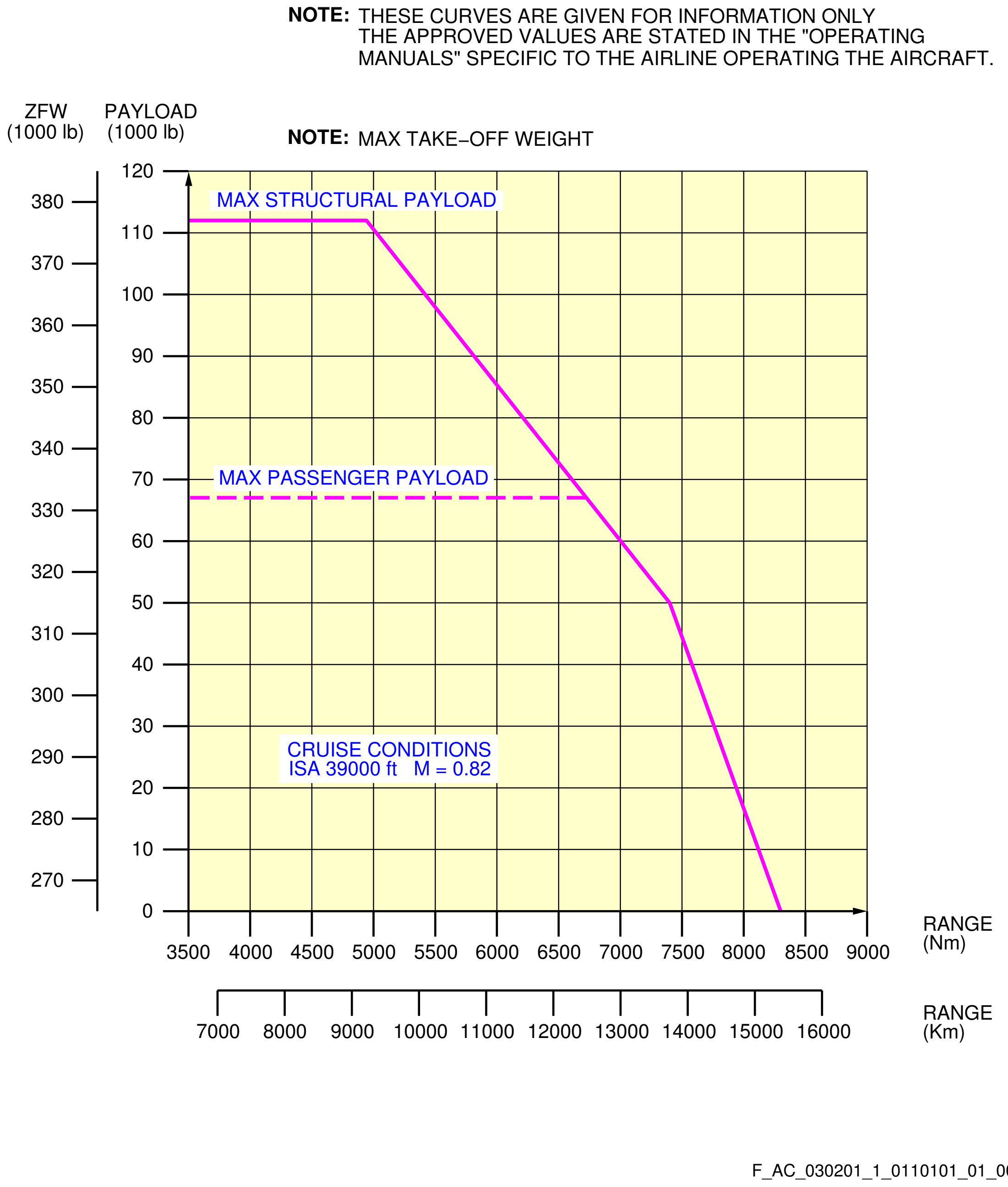
3-2-1 ISA Conditions

ON A/C A340-200 A340-300

ISA Conditions

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

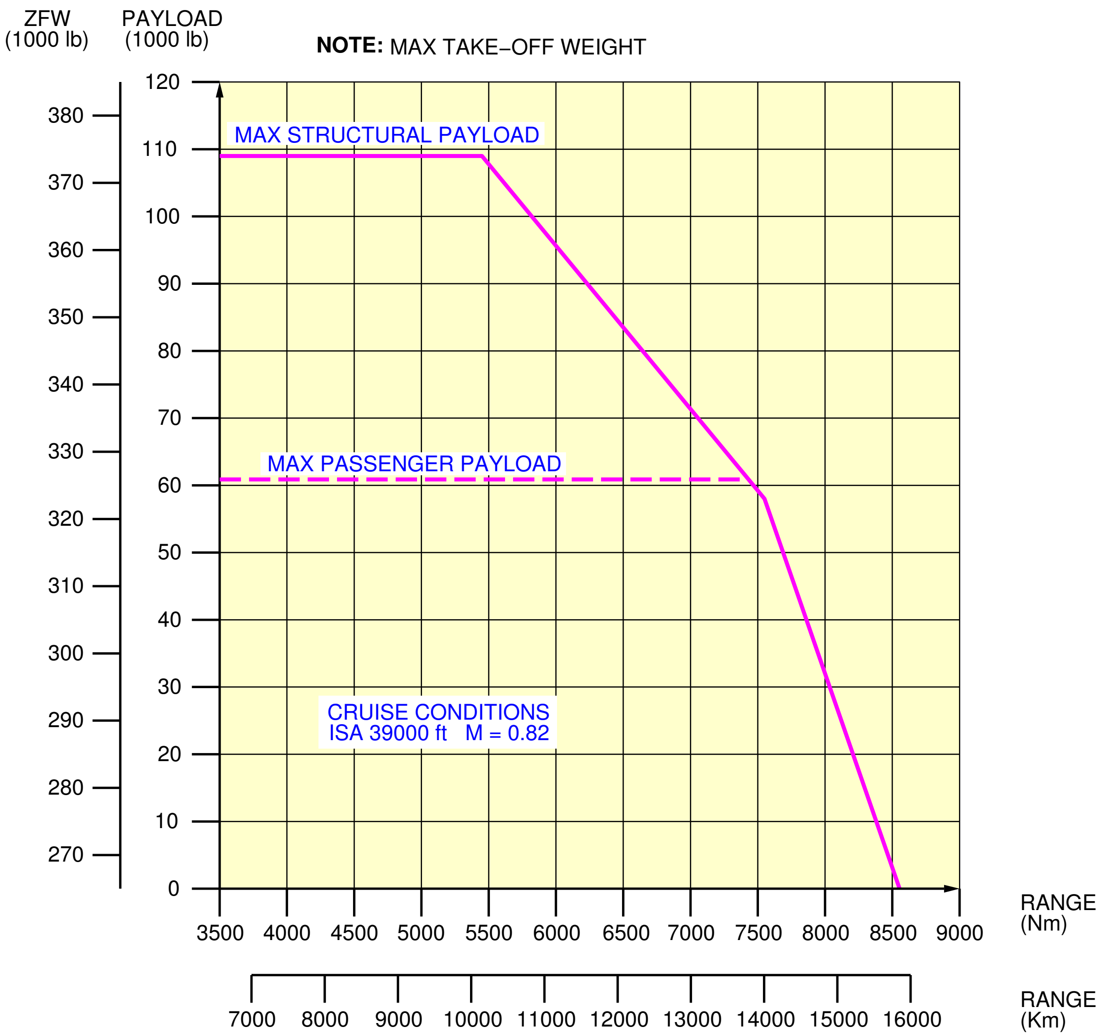
**ON A/C A340-300



PAYLOAD / RANGE
CFM56-5C2 engine
FIGURE-3-2-1-991-011-A01

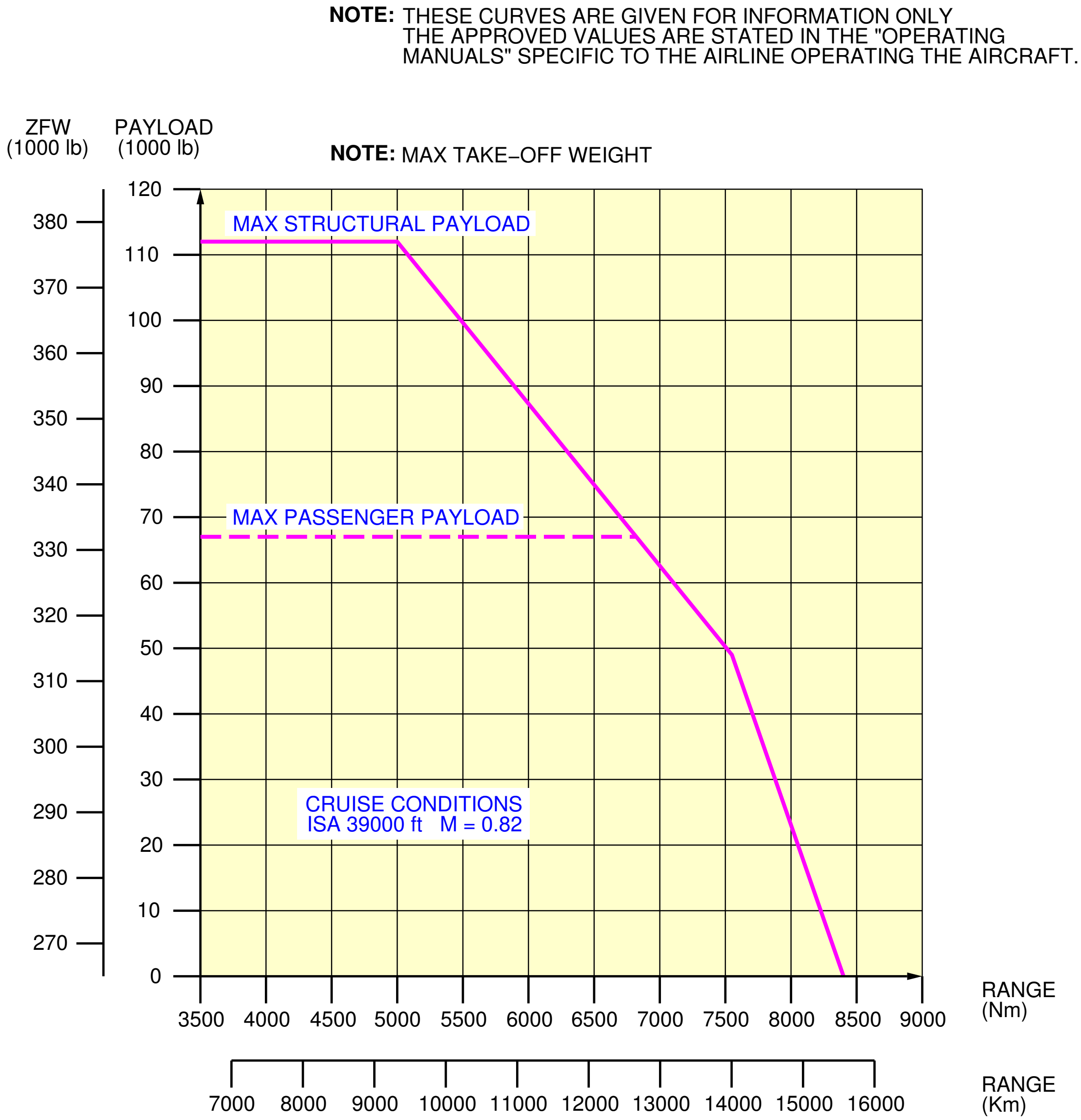
**ON A/C A340-200

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



PAYLOAD / RANGE
CFM56-5C2 engine
FIGURE-3-2-1-991-012-A01

**ON A/C A340-300



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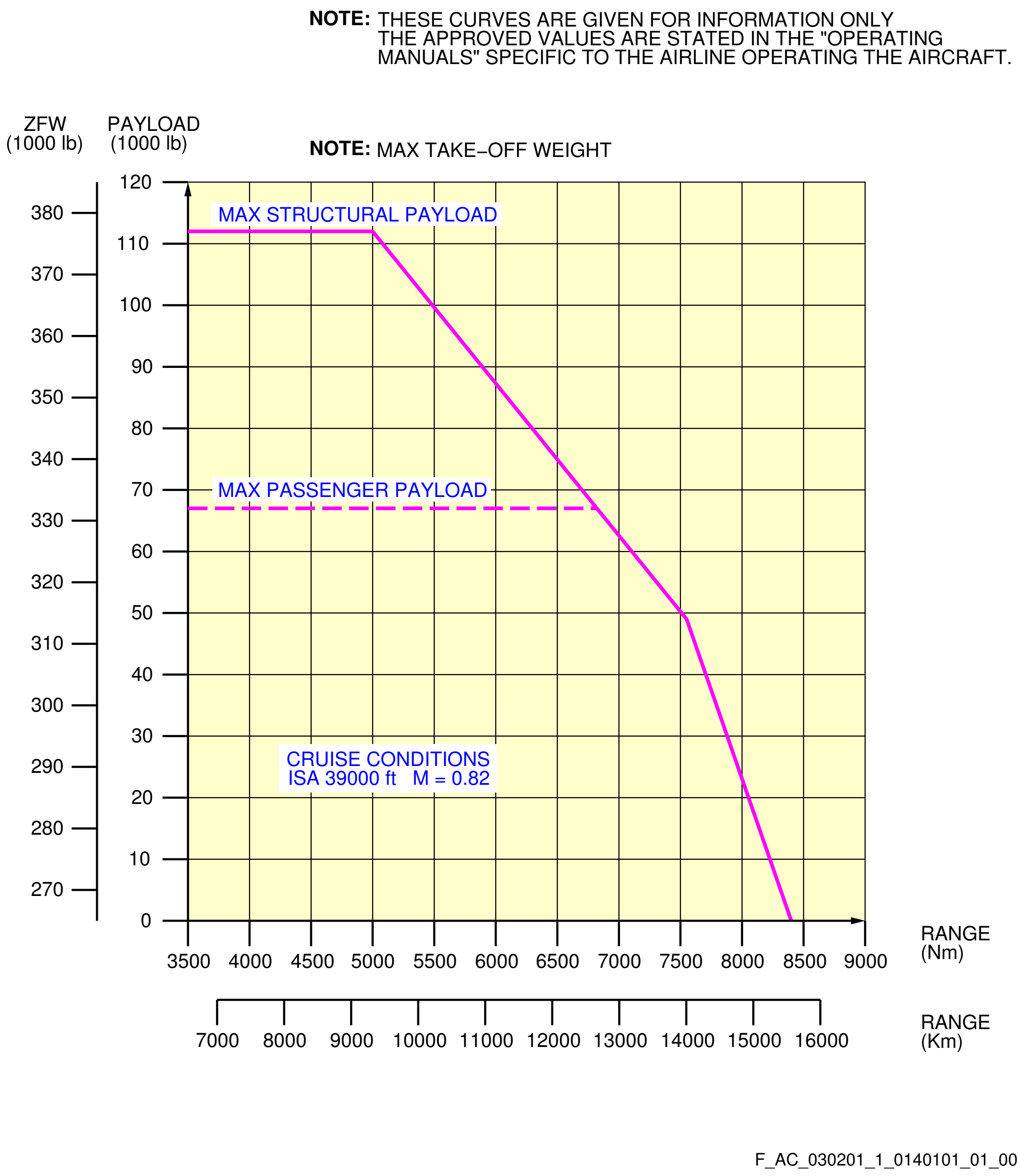
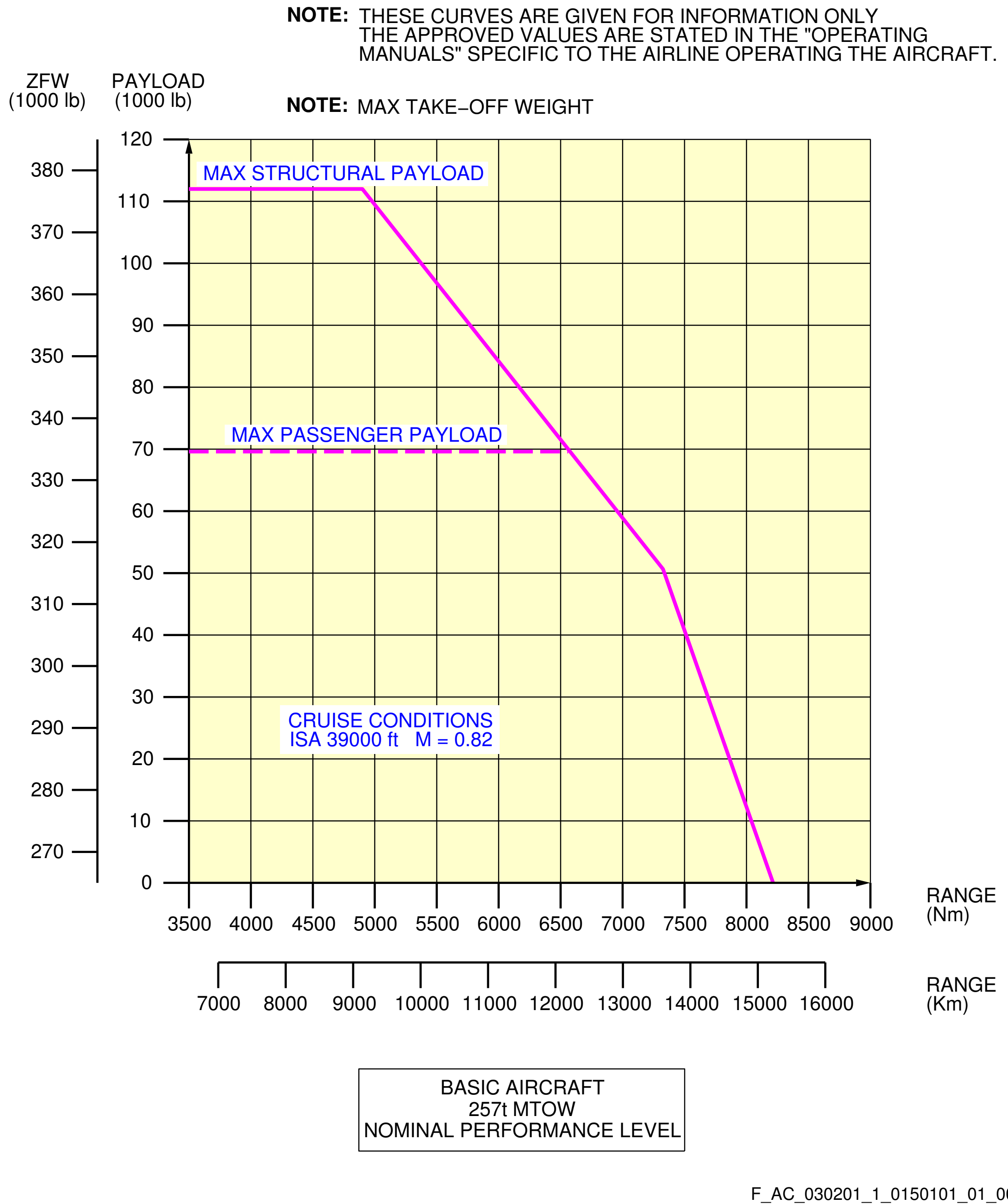
PAYLOAD / RANGE
CFM56-5C3 engine
FIGURE-3-2-1-991-013-A01

**ON A/C A340-200



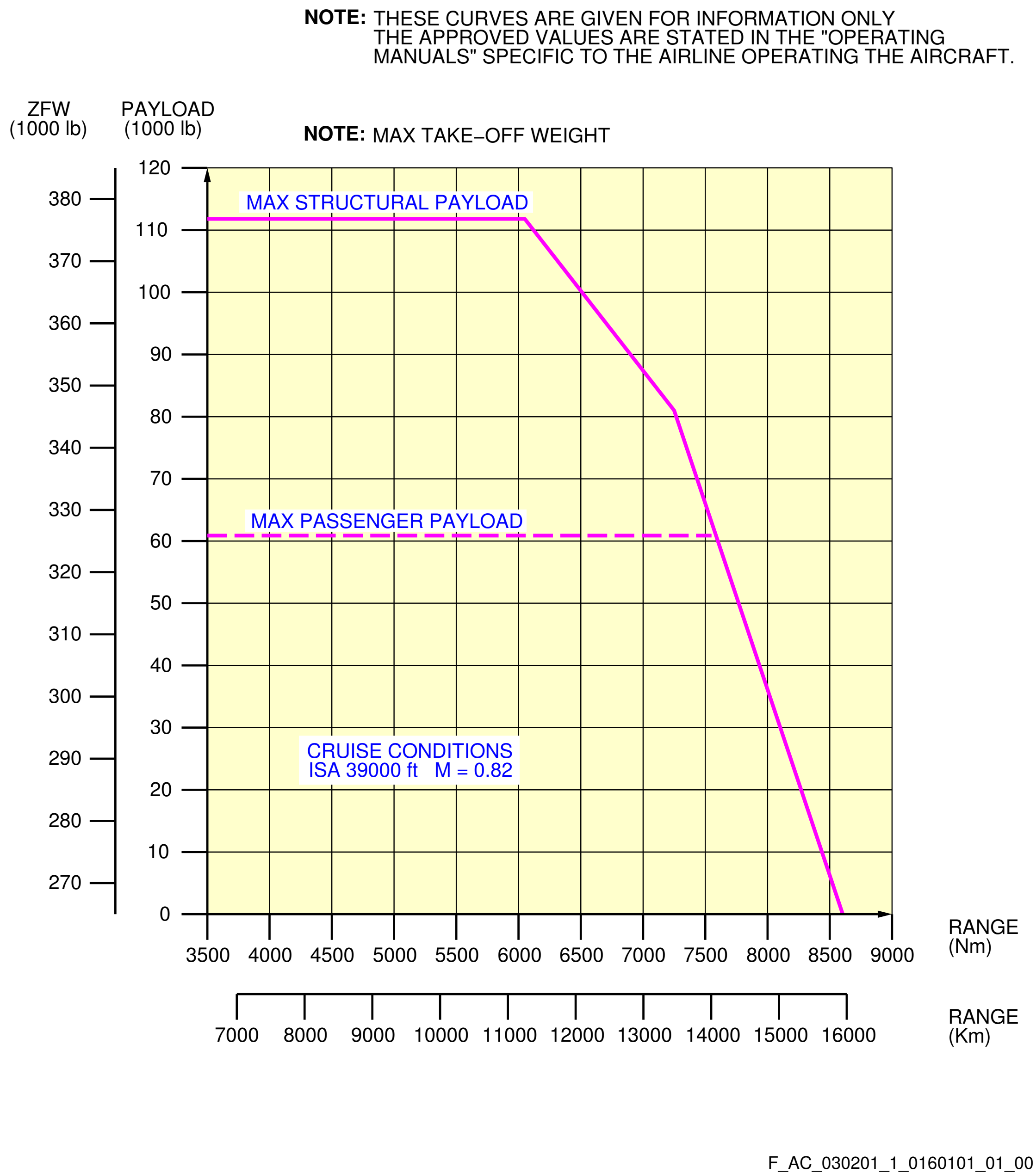
PAYLOAD / RANGE
CFM56-5C3 engine
FIGURE-3-2-1-991-014-A01

**ON A/C A340-300



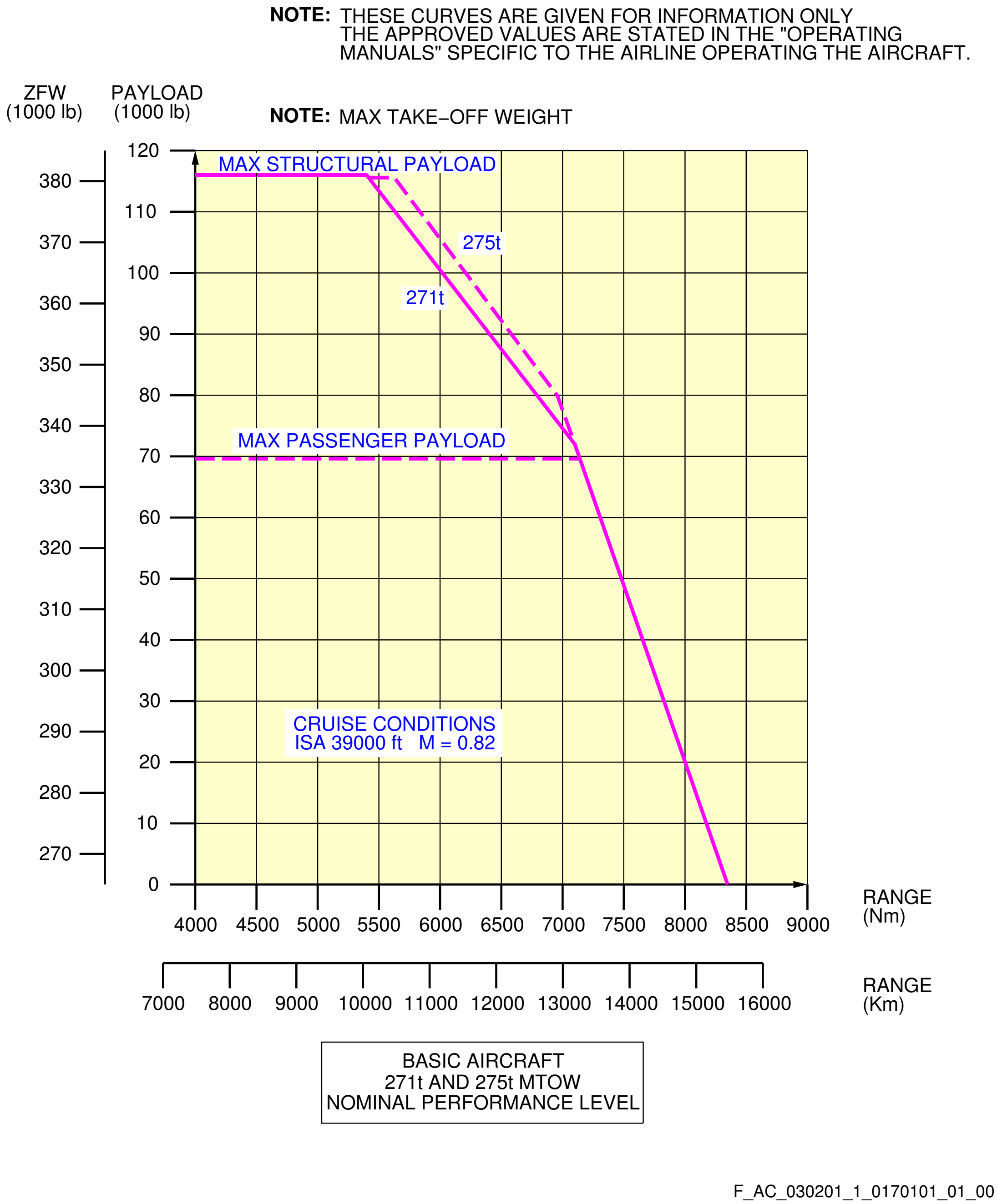
PAYLOAD / RANGE
CFM56-5C4 engine
FIGURE-3-2-1-991-015-A01

**ON A/C A340-200



PAYLOAD / RANGE
CFM56-5C4 engine
FIGURE-3-2-1-991-016-A01

**ON A/C A340-300



PAYLOAD / RANGE
CFM56-5C4 engine
FIGURE-3-2-1-991-017-A01

3-3-0 FAR / JAR Takeoff Weight Limitation

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

FAR / JAR Takeoff Weight Limitation

1. FAR / JAR Takeoff Weight Limitation

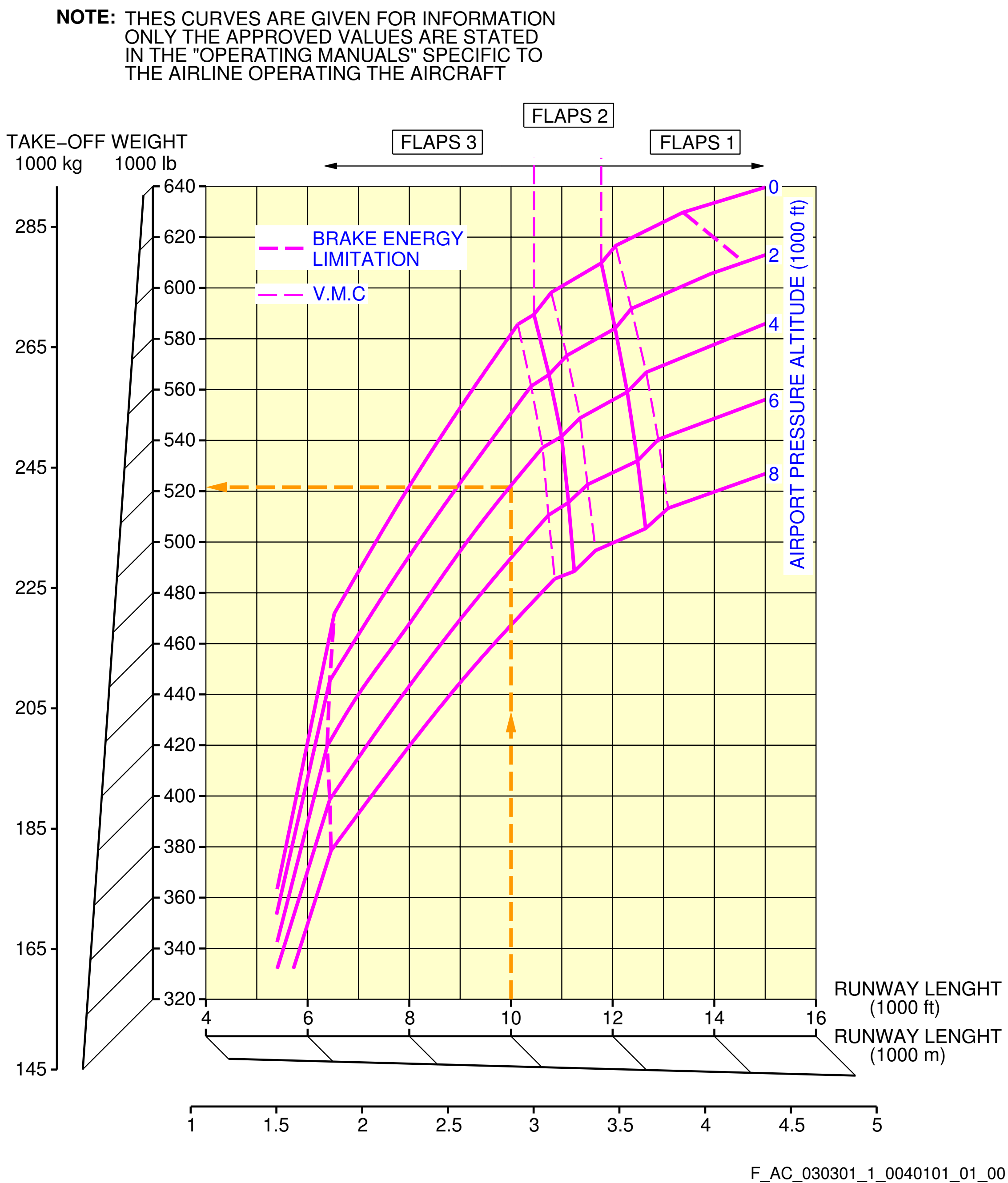
3-3-1 ISA Conditions

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

FAR / JAR Takeoff Weight Limitation

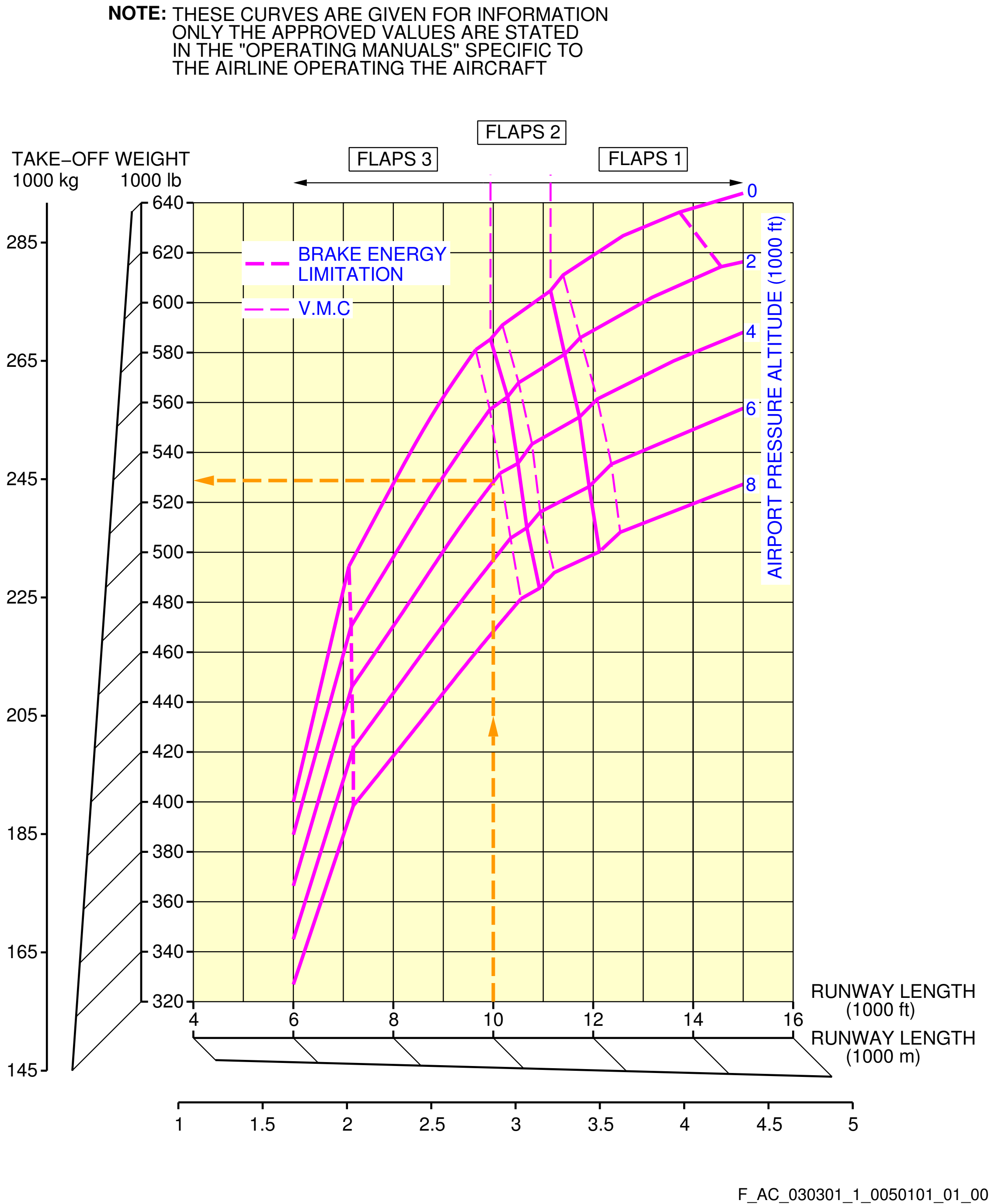
1. This section gives the takeoff weight limitation at ISA conditions.

**ON A/C A340-300



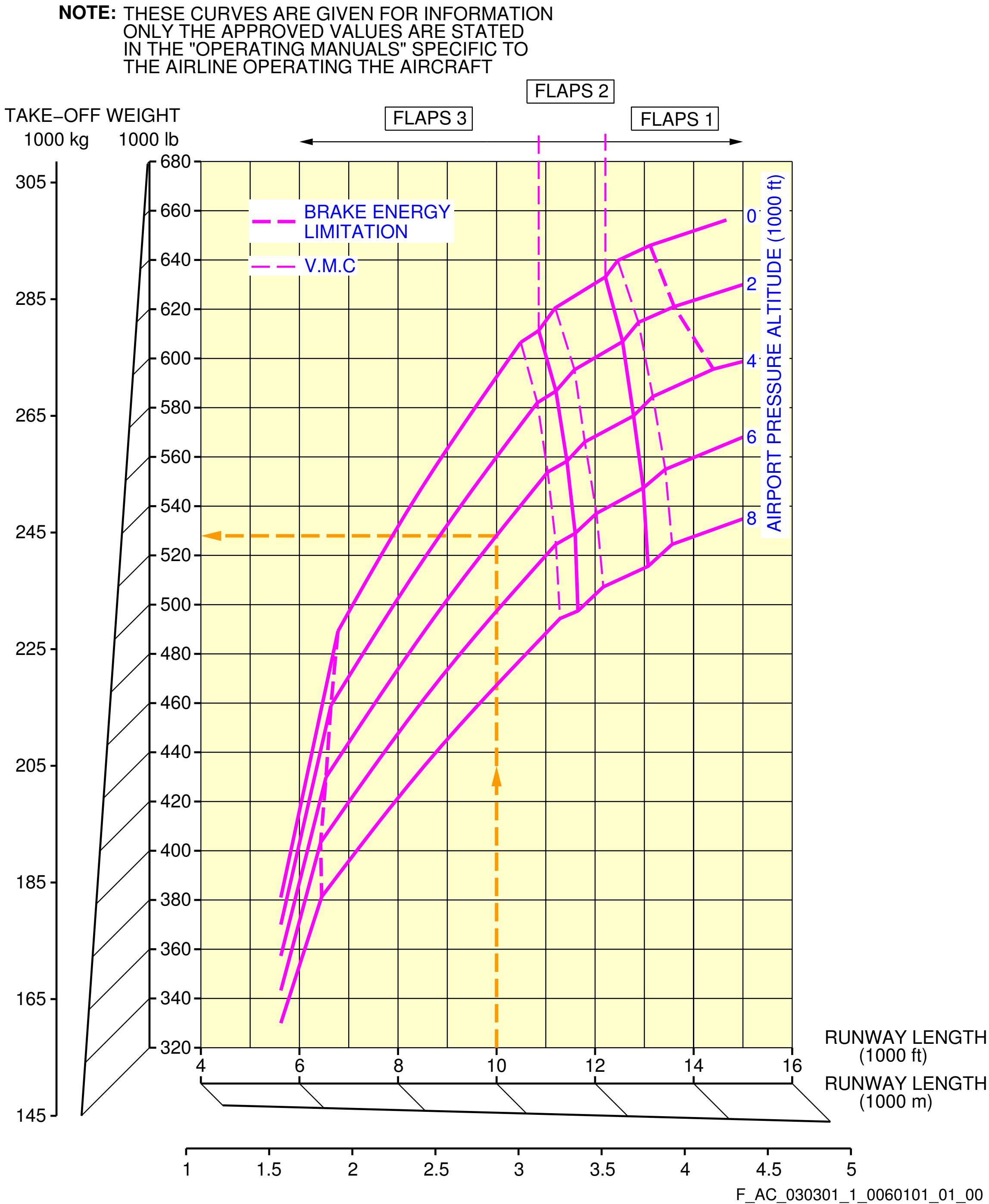
FAR / JAR Takeoff Weight Limitation
ISA Conditions − CFM56-5C2 engine
FIGURE-3-3-1-991-004-A01

**ON A/C A340-200



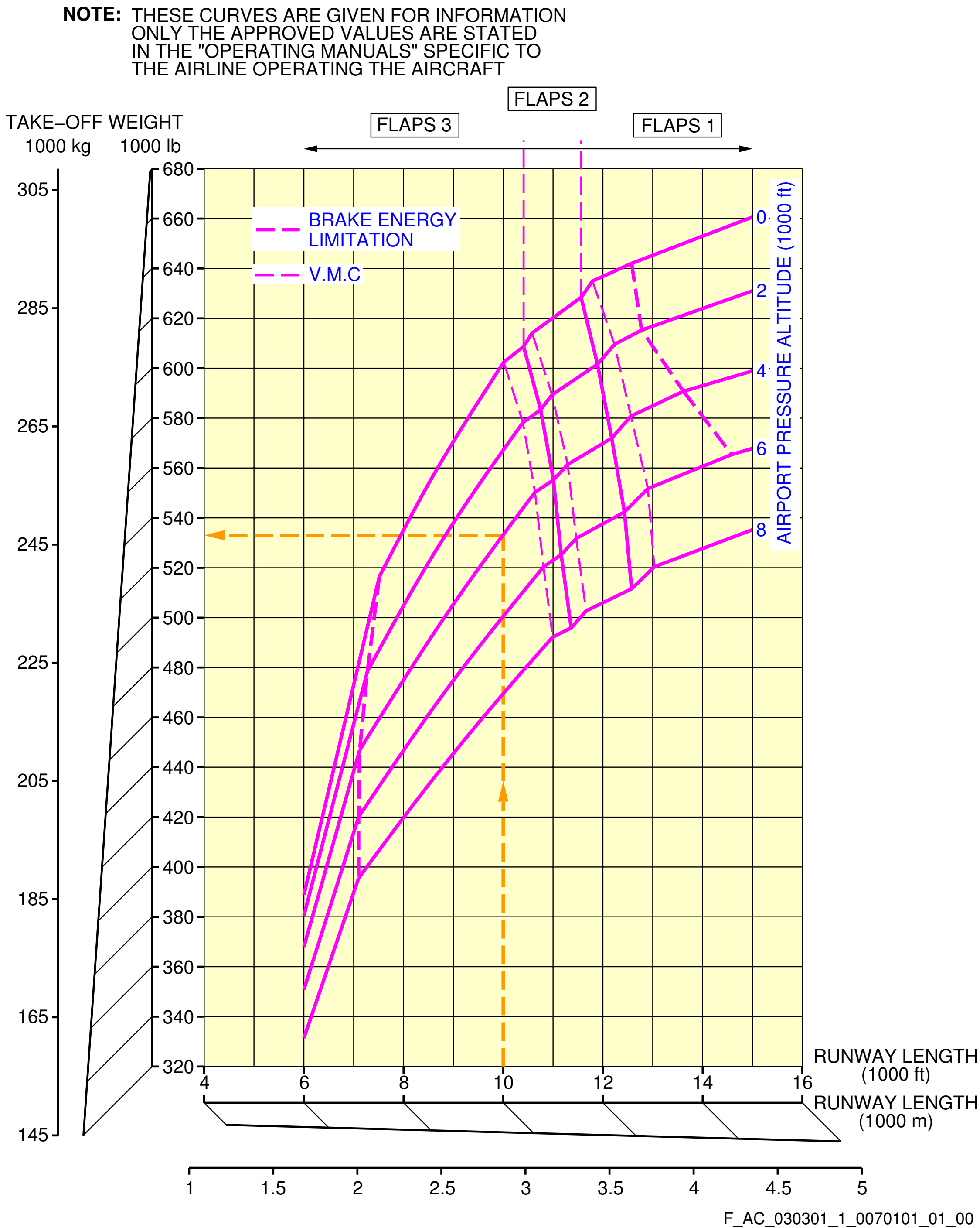
FAR / JAR Takeoff Weight Limitation
ISA Conditions – CFM56-5C2 engine
FIGURE-3-3-1-991-005-A01

**ON A/C A340-300



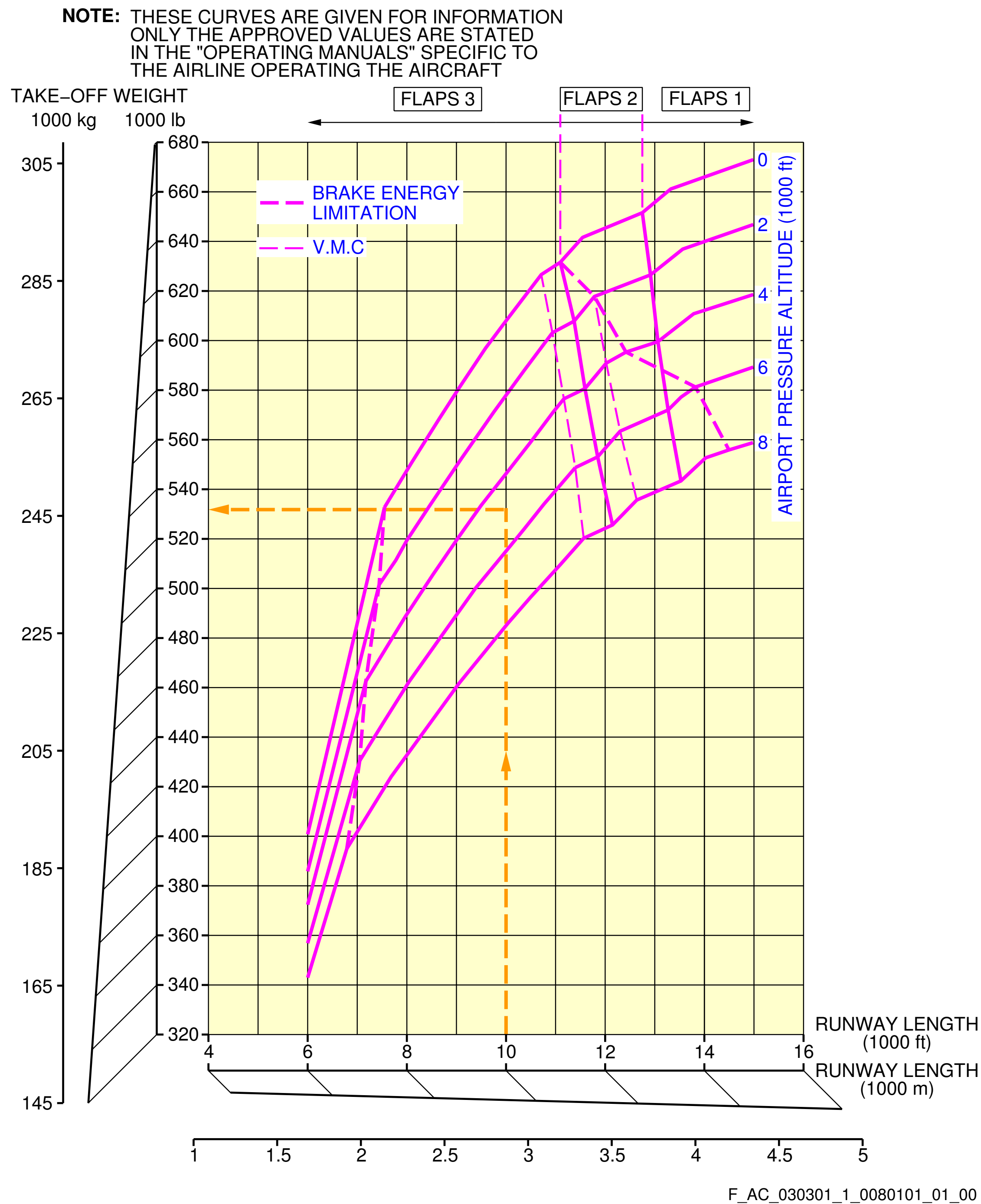
FAR / JAR Takeoff Weight Limitation
ISA Conditions – CFM56-5C3 engine
FIGURE-3-3-1-991-006-A01

**ON A/C A340-200



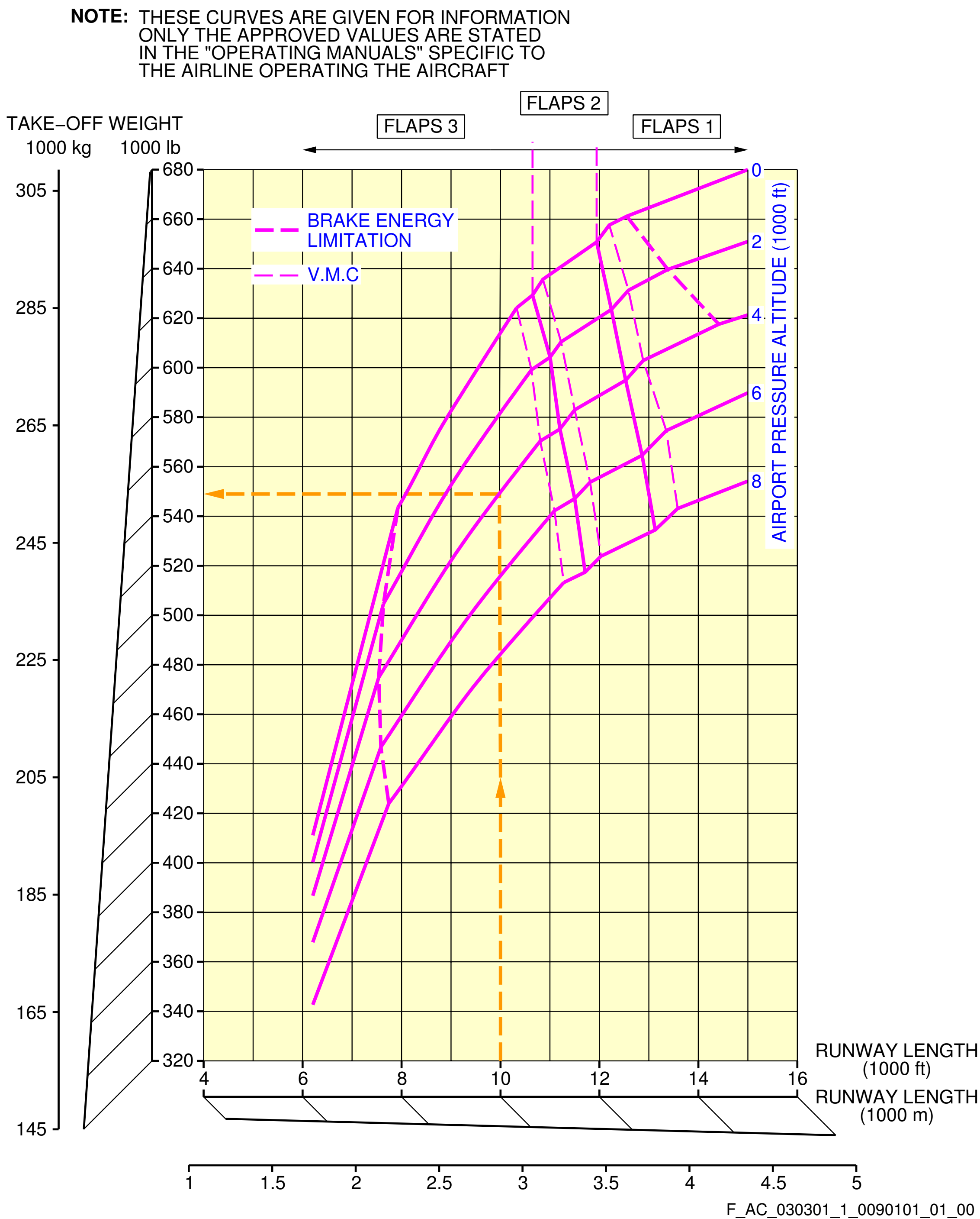
FAR / JAR Takeoff Weight Limitation
ISA Conditions – CFM56-5C3 engine
FIGURE-3-3-1-991-007-A01

**ON A/C A340-300



FAR / JAR Takeoff Weight Limitation
ISA Conditions – CFM56-5C4 engine
FIGURE-3-3-1-991-008-A01

**ON A/C A340-200



FAR / JAR Takeoff Weight Limitation
ISA Conditions – CFM56-5C4 engine
FIGURE-3-3-1-991-009-A01

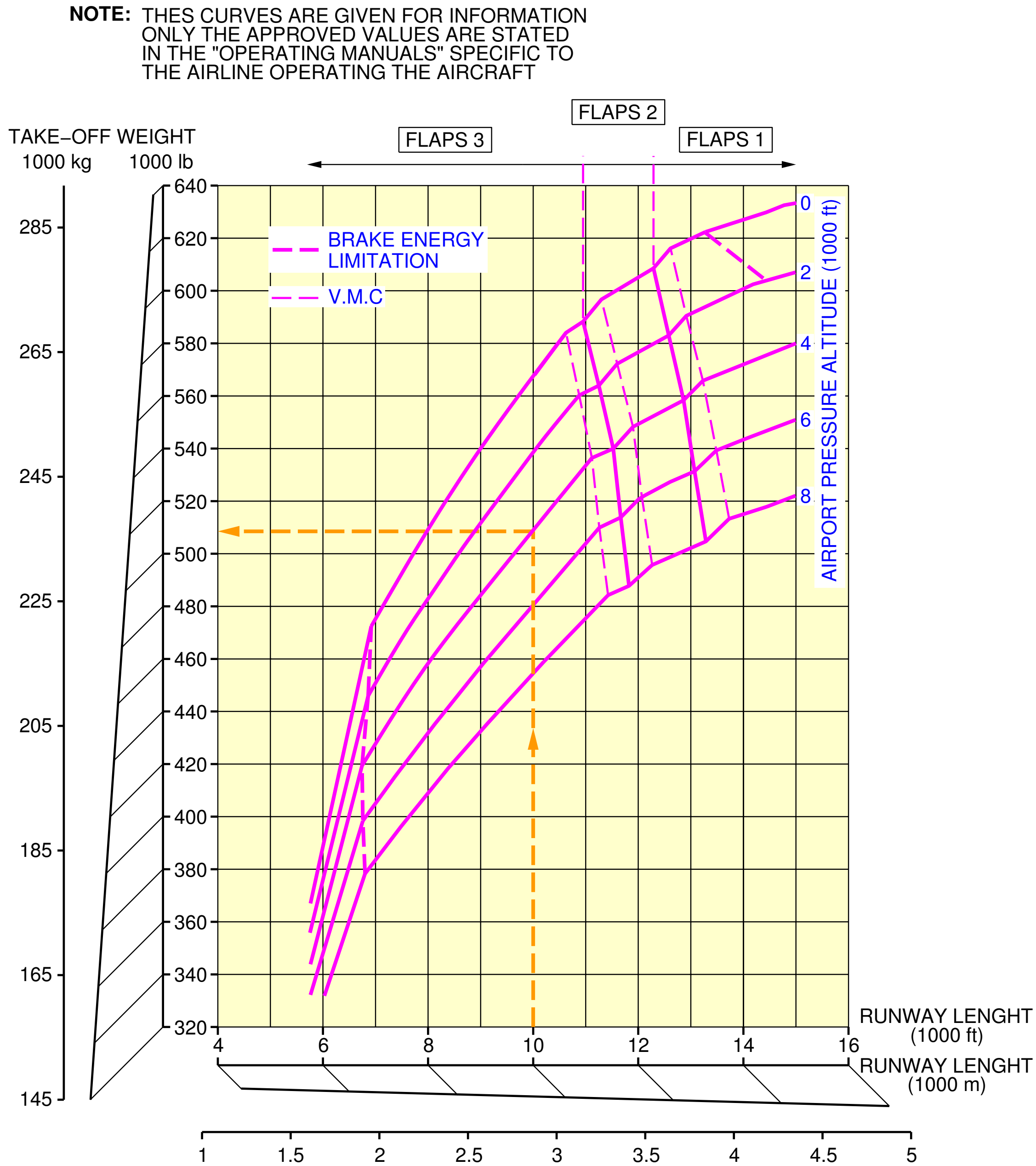
3-3-2 ISA +15°C (ISA +27°F) Conditions

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

ISA +15°C (ISA +27°F) Conditions

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

**ON A/C A340-300



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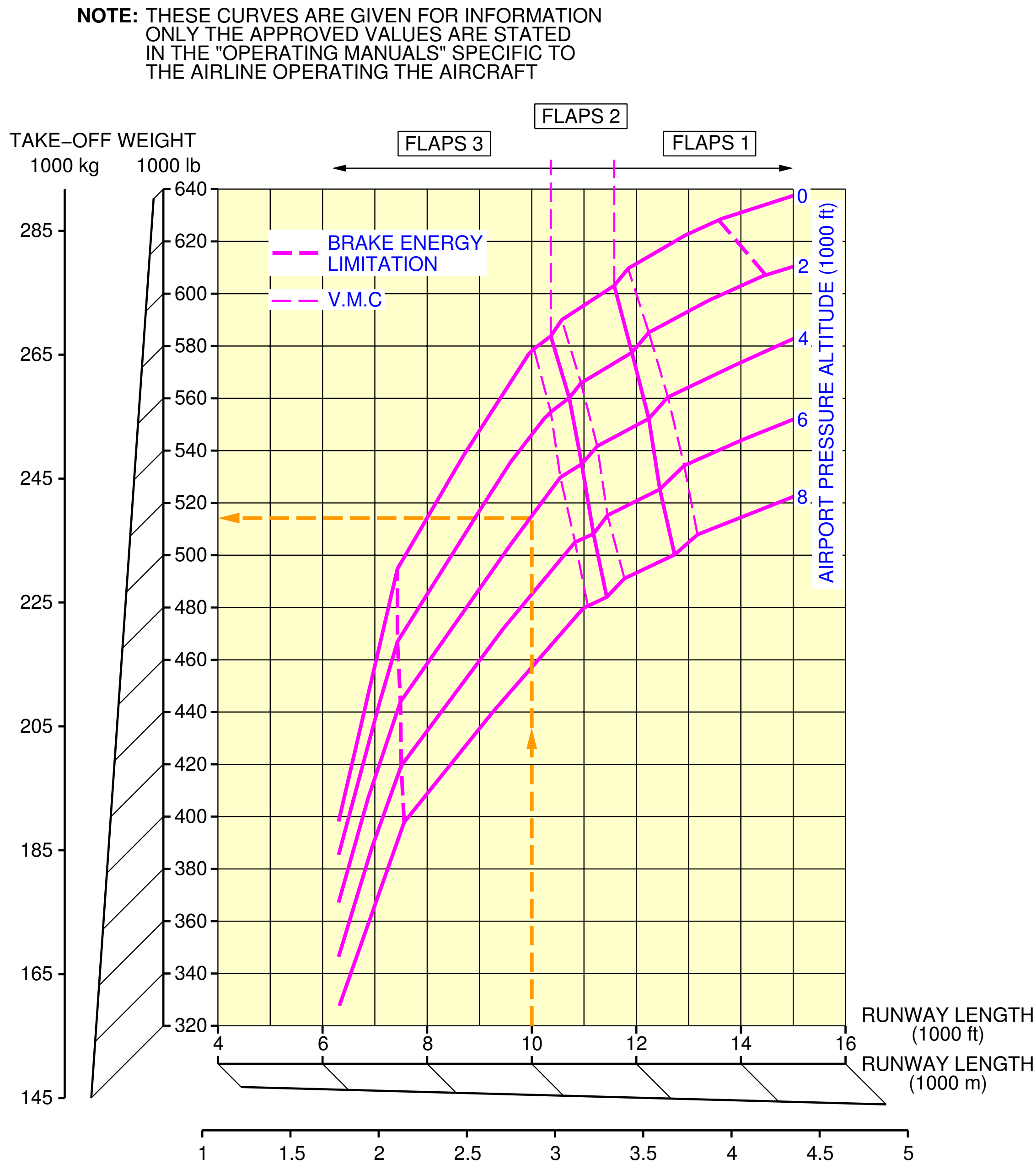
FAR / JAR Takeoff Weight Limitation
ISA +15°C (ISA +27°F) Conditions – CFM56-5C2 engine
FIGURE-3-3-2-991-004-A01

**ON A/C A340-200



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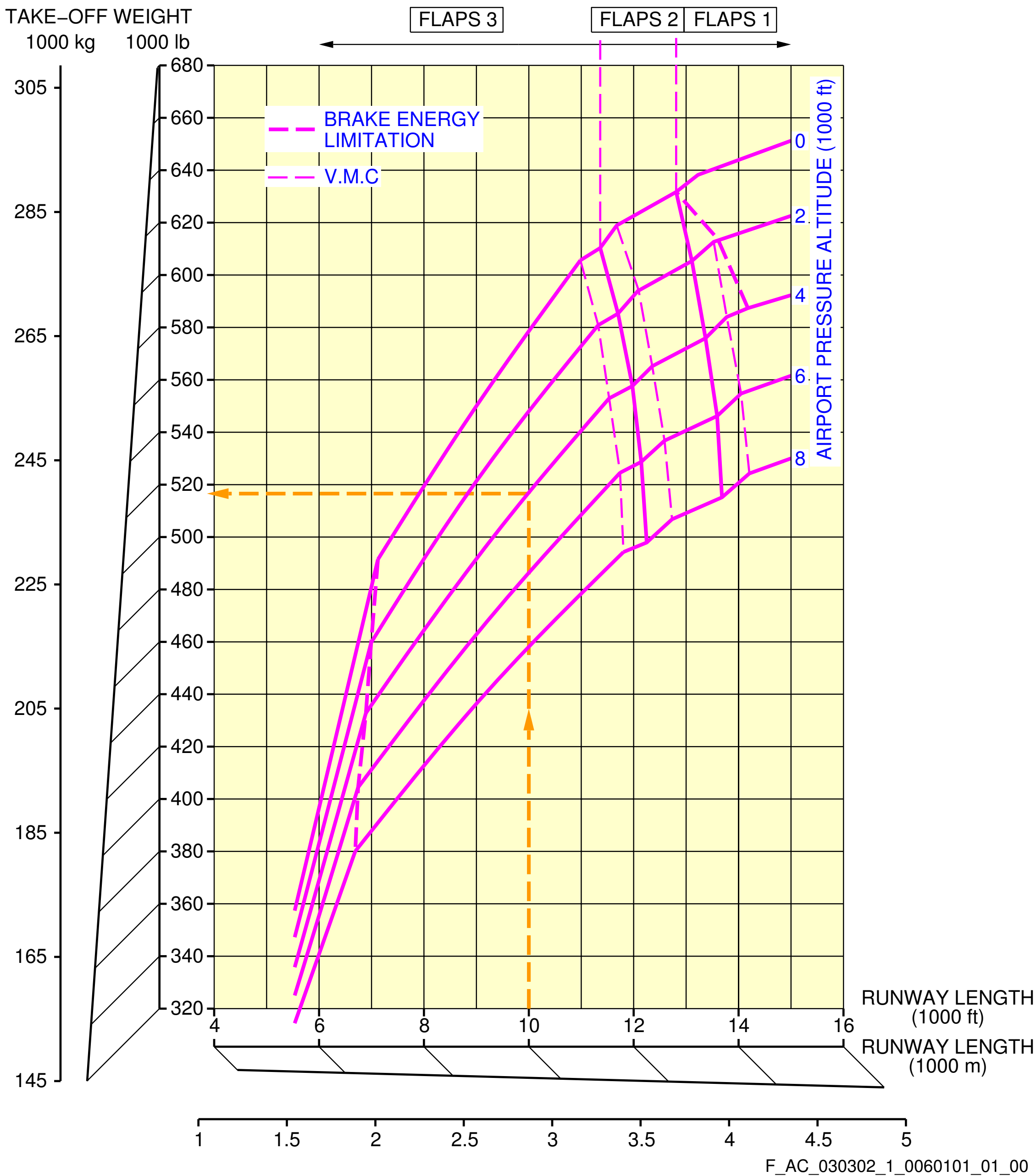
FAR / JAR Takeoff Weight Limitation
ISA +15°C (ISA +27°F) Conditions – CFM56-5C2 engine
FIGURE-3-3-2-991-005-A01

**ON A/C A340-300

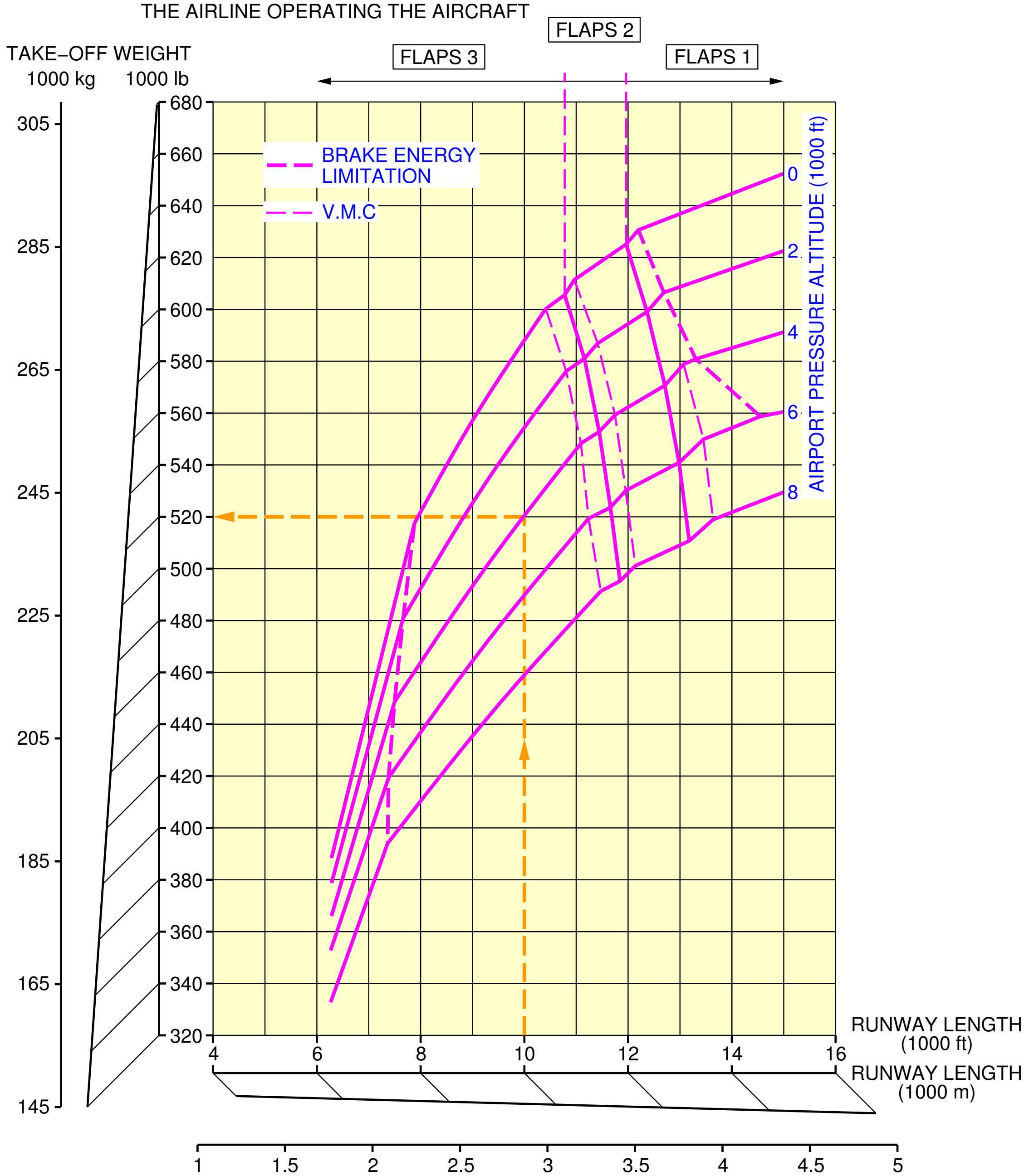
NOTE: THESE CURVES ARE GIVEN FOR INFORMATION ONLY THE APPROVED VALUES ARE STATED IN THE "OPERATING MANUALS" SPECIFIC TO THE AIRLINE OPERATING THE AIRCRAFT



FAR / JAR Takeoff Weight Limitation
ISA +15 °C (ISA +27 °F) Conditions – CFM56-5C3 engine
FIGURE-3-3-2-991-006-A01

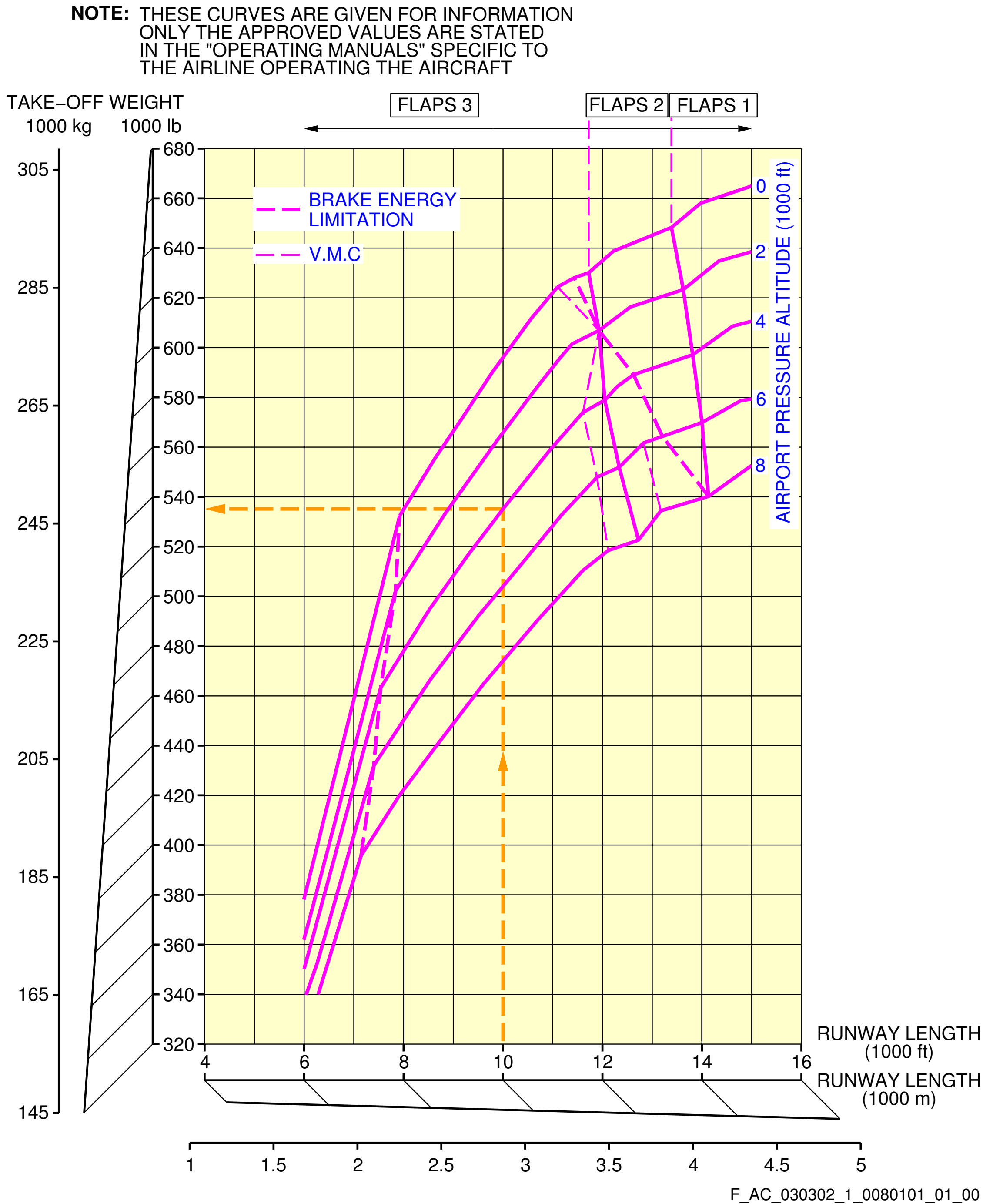
**ON A/C A340-200

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



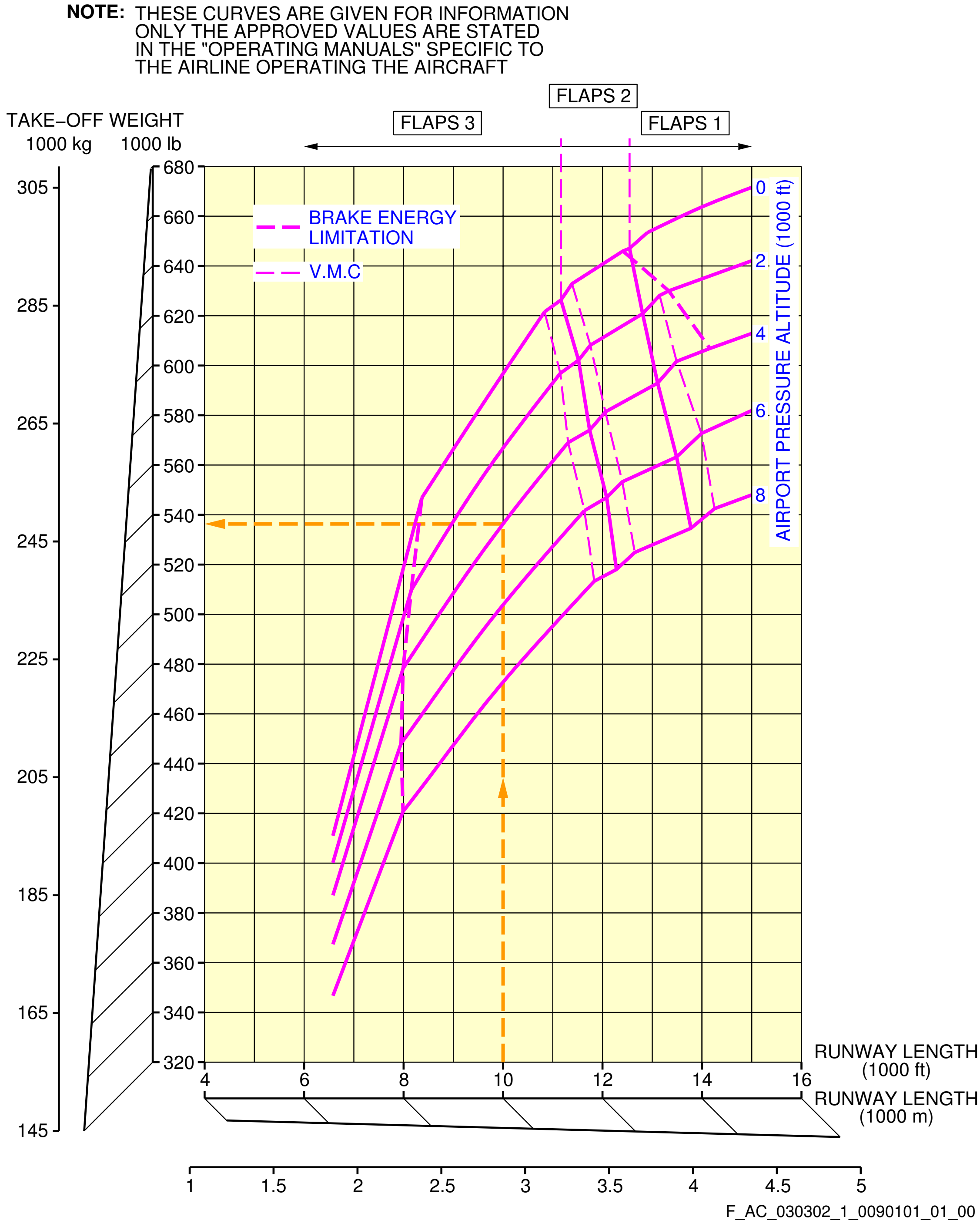
FAR / JAR Takeoff Weight Limitation
ISA +15°C (ISA +27°F) Conditions – CFM56-5C3 engine
FIGURE-3-3-2-991-007-A01

**ON A/C A340-300



FAR / JAR Takeoff Weight Limitation
ISA +15°C (ISA +27°F) Conditions – CFM56-5C4 engine
FIGURE-3-3-2-991-008-A01

**ON A/C A340-200



FAR / JAR Takeoff Weight Limitation
ISA +15°C (ISA +27°F) Conditions – CFM56-5C4 engine
FIGURE-3-3-2-991-009-A01

3-4-0 FAR / JAR Landing Field Length

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

Landing Field Length

1. Landing Field Length

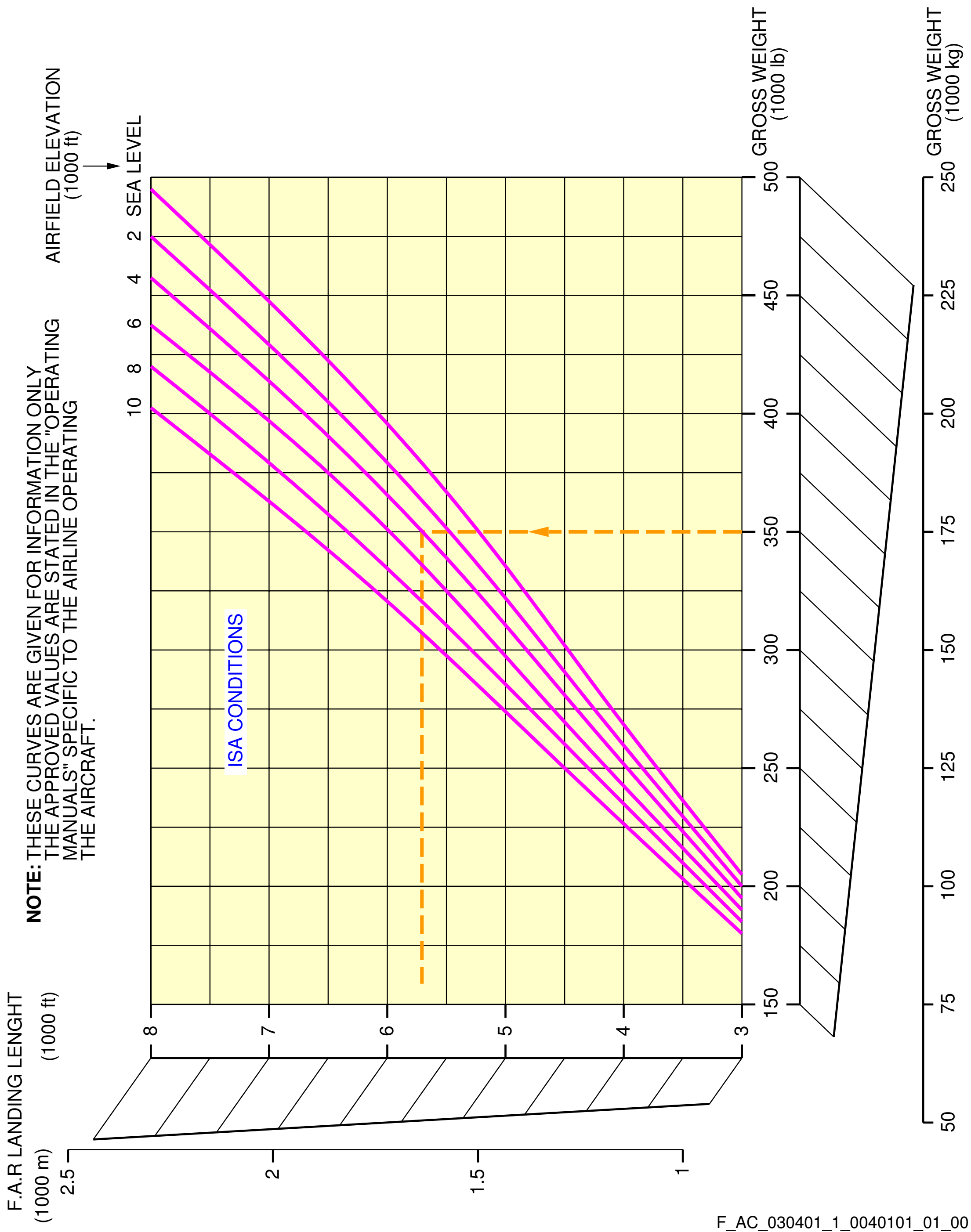
3-4-1 ISA Conditions All series engines

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

ISA Conditions All series engine

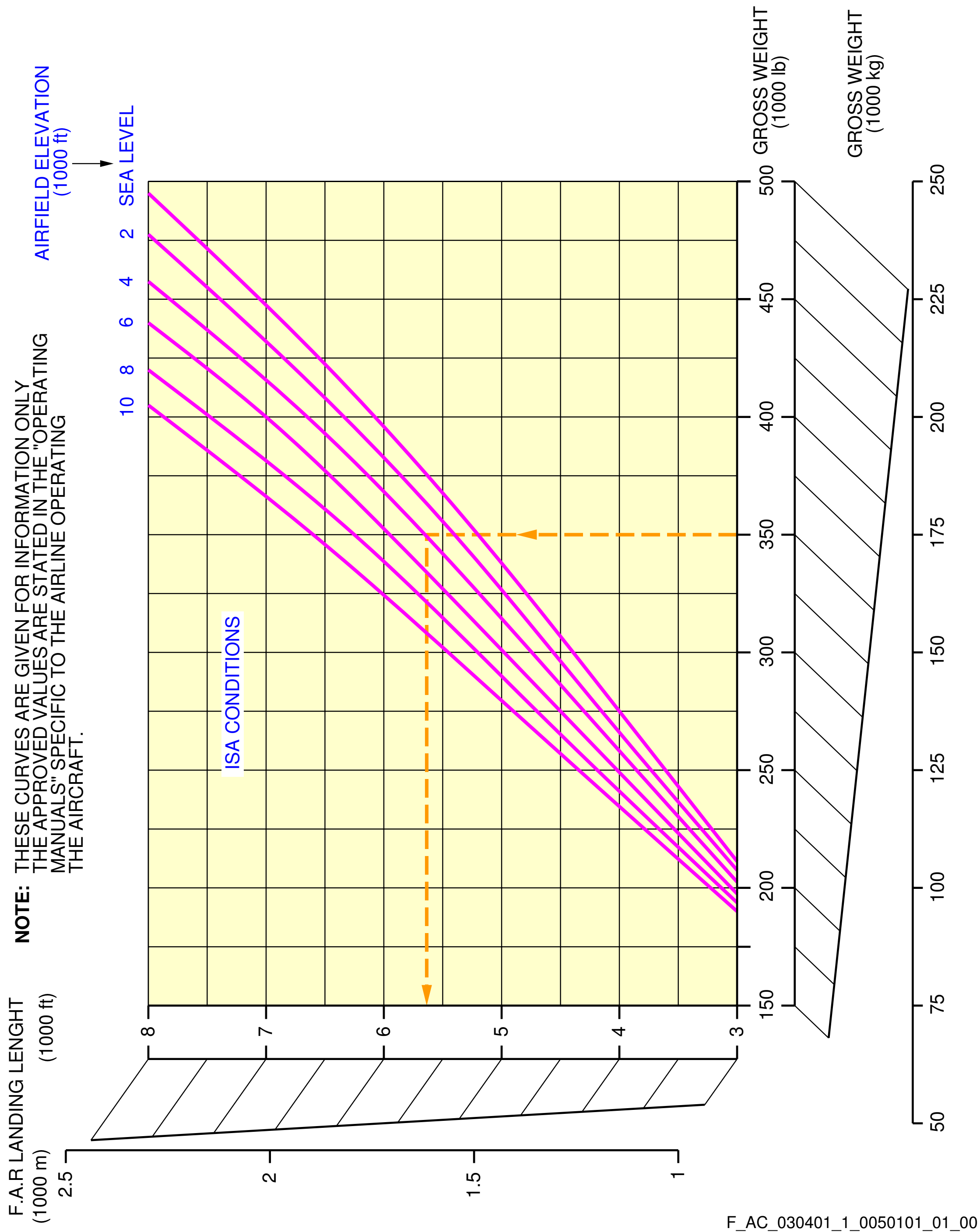
1. This section gives the landing field length.

**ON A/C A340-300



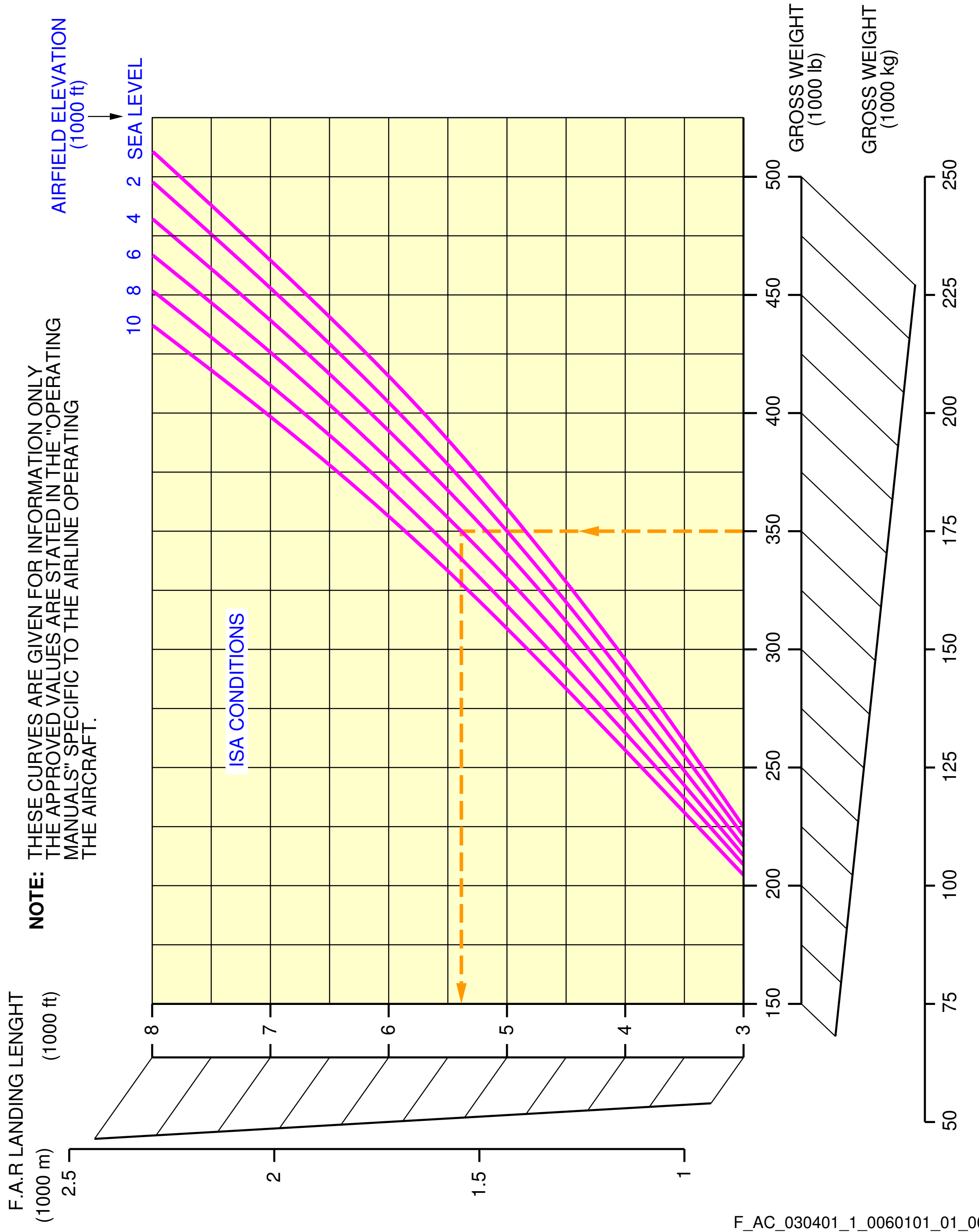
FAR / JAR Landing Field Length
ISA Conditions – CFM56-5C2 engine
FIGURE-3-4-1-991-004-A01

**ON A/C A340-200



FAR / JAR Landing Field Length
ISA Conditions – CFM56-5C2 engine
FIGURE-3-4-1-991-005-A01

**ON A/C A340-300



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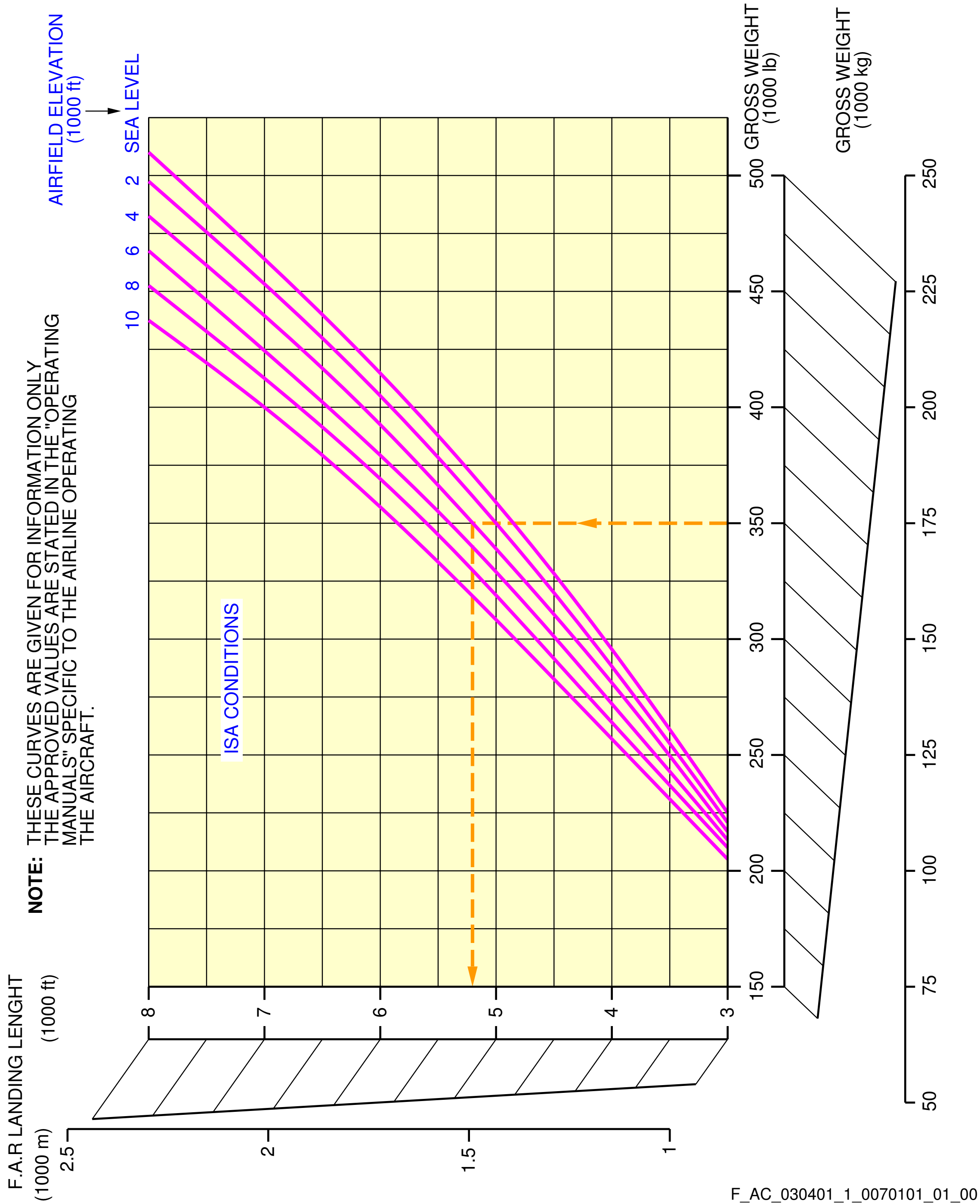
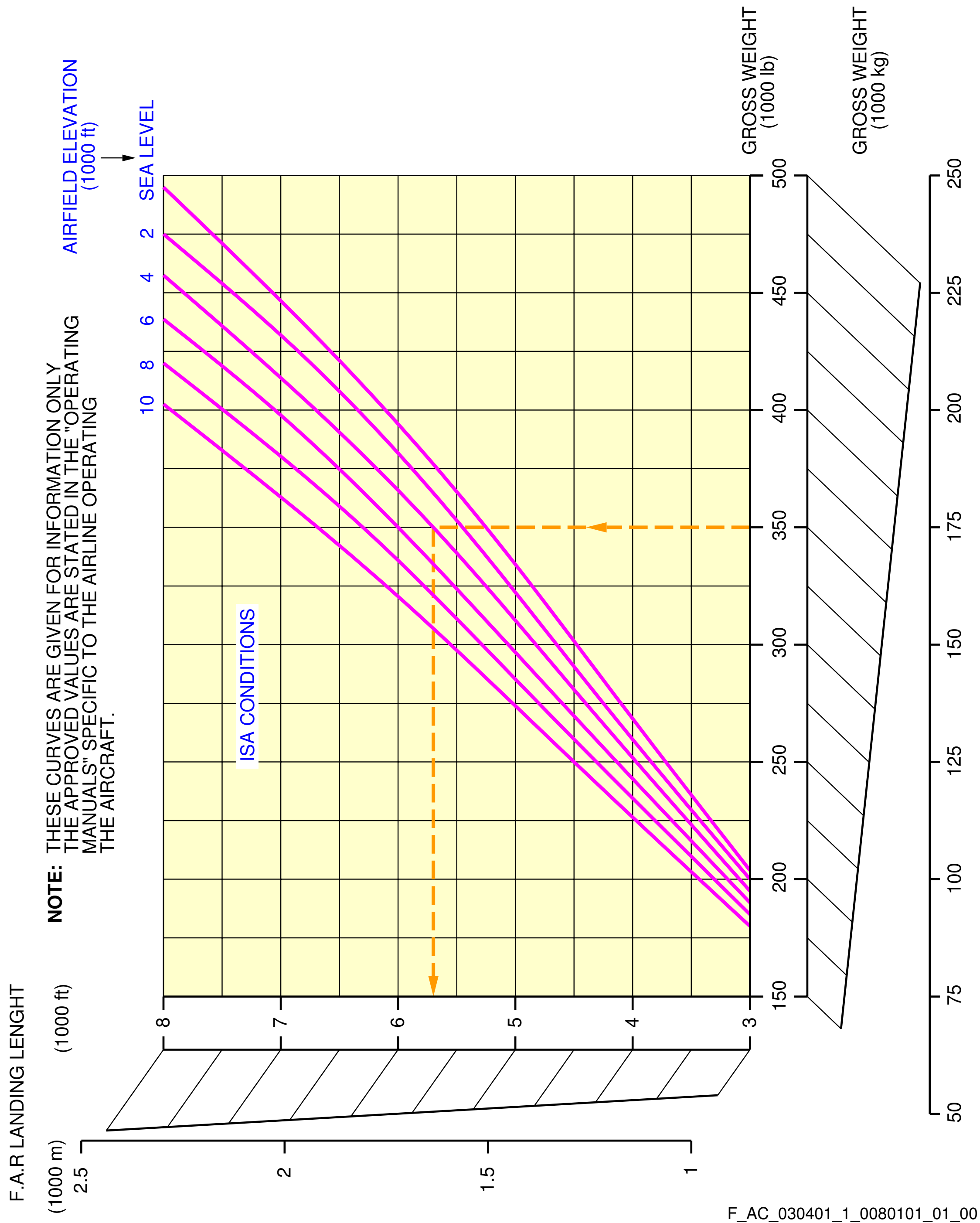
FAR / JAR Landing Field Length
ISA Conditions – CFM56-5C3 engine
FIGURE-3-4-1-991-006-A01

**ON A/C A340-200



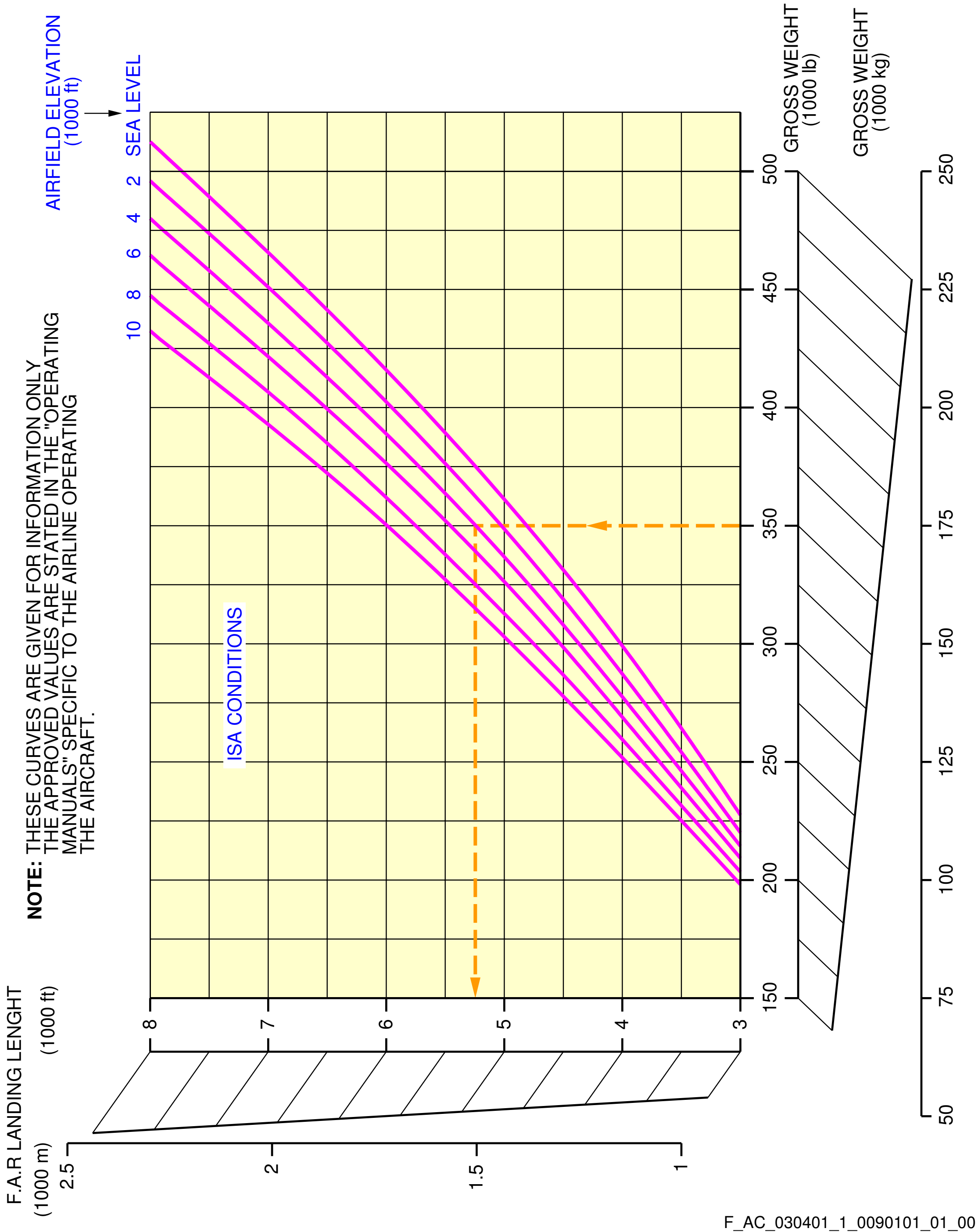
FAR / JAR Landing Field Length
ISA Conditions – CFM56-5C3 engine
FIGURE-3-4-1-991-007-A01

**ON A/C A340-300



FAR / JAR Landing Field Length
ISA Conditions – CFM56-5C4 engine
FIGURE-3-4-1-991-008-A01

**ON A/C A340-200



FAR / JAR Landing Field Length
ISA Conditions – CFM56-5C4 engine
FIGURE-3-4-1-991-009-A01

3-5-0 Final Approach Speed

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

Final Approach Speed

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

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 136 kt at a Maximum Landing Weight (MLW) of 185 000 kg (407 855 lb) and classifies the aircraft into the Aircraft Approach Category C.

      NOTE : This value is given for information only.

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

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 138 kt at a Maximum Landing Weight (MLW) of 192 000 kg (423 287 lb) and classifies the aircraft into the Aircraft Approach Category C.

      NOTE : This value is given for information only.

GROUND MANEUVERING

4-1-0 General Information

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

General Information

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

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

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

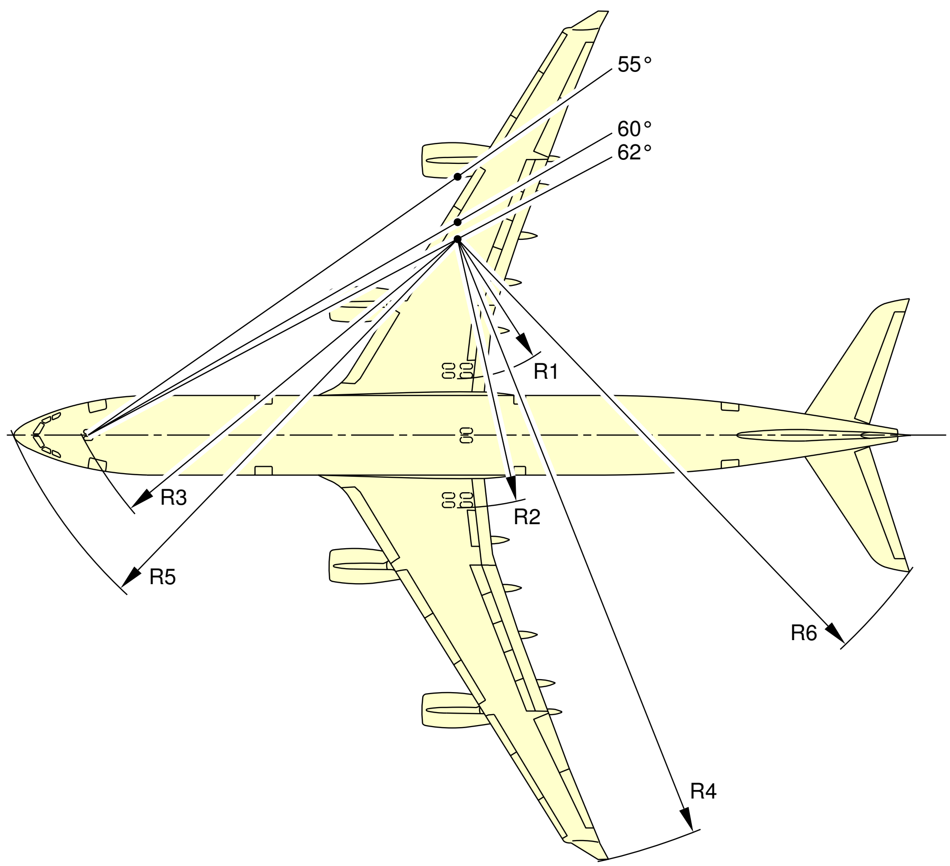
4-2-0 Turning Radii

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

Turning Radii

1. This section gives the turning radii.

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



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

F_AC_040200_1_0050101_01_02

Turning Radii
(Sheet 1)
FIGURE-4-2-0-991-005-A01

**ON A/C A340-300

A340–300 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	19.3	m	67.9	78.6	77.2	102.9	79.1	87.9
			ft	223	258	253	338	260	288
2	25	24.1	m	52.3	62.9	62.6	87.3	65.1	73.5
			ft	172	206	205	286	214	241
2	30	28.9	m	41.5	52.2	52.9	76.7	56.0	64.0
			ft	136	171	174	252	184	210
2	35	33.7	m	33.7	44.4	46.2	68.9	49.8	57.3
			ft	111	146	152	226	163	188
2	40	38.4	m	27.7	38.3	41.3	62.9	45.3	52.4
			ft	91	126	135	206	149	172
2	45	43.0	m	22.8	33.5	37.6	58.1	42.0	48.6
			ft	75	110	123	191	138	159
2	50	47.5	m	18.8	29.5	34.8	54.2	39.6	45.7
			ft	62	97	114	178	130	150
2	55	51.9	m	15.5	26.2	32.6	51.0	37.7	43.3
			ft	51	86	107	167	124	142
2	60	56.0	m	12.8	23.4	30.9	48.2	36.3	41.5
			ft	42	77	101	158	119	136
2	65	59.6	m	10.5	21.2	29.7	46.0	35.3	40.1
			ft	34	70	97	151	116	132
2	70	62.4	m	8.9	19.5	28.9	44.4	34.7	39.1
			ft	29	64	95	146	114	128
2	72	63.2	m	8.4	19.1	28.7	44.0	34.5	38.8
			ft	28	63	94	144	113	127
1	50	51.7	m	15.7	26.4	32.7	51.1	37.8	43.4
			ft	52	87	107	168	124	142
1	55	56.5	m	12.4	23.1	30.7	47.9	36.2	41.3
			ft	41	76	101	157	119	135
1	60	61.2	m	9.5	20.2	29.2	45.1	34.9	39.5
			ft	31	66	96	148	115	130
1	65	65.9	m	7.0	17.7	28.0	42.6	34.0	38.0
			ft	23	58	92	140	112	125
1	70	70.4	m	4.7	15.3	27.1	40.3	33.3	36.8
			ft	15	50	89	132	109	121
1	72	72.2	m	3.8	14.5	26.8	39.5	33.1	36.3
			ft	12	48	88	130	109	119

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_0100101_01_01

Turning Radii
(Sheet 2)
FIGURE-4-2-0-991-010-A01

**ON A/C A340-200

A340−200 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	19.1	m	62.6	73.3	71.4	97.6	73.4	82.2
			ft	205	240	234	320	241	270
2	25	23.9	m	48.1	58.8	57.9	83.2	60.4	68.8
			ft	158	193	190	273	198	226
2	30	28.6	m	38.2	48.9	49.0	73.4	52.1	60.1
			ft	125	160	161	241	171	197
2	35	33.3	m	31.0	41.7	42.8	66.3	46.4	53.9
			ft	102	137	140	218	152	177
2	40	37.9	m	25.5	36.2	38.3	60.8	42.3	49.4
			ft	84	119	126	199	139	162
2	45	42.4	m	21.1	31.7	34.9	56.4	39.3	45.9
			ft	69	104	115	185	129	151
2	50	46.8	m	17.5	28.1	32.3	52.9	37.0	43.2
			ft	57	92	106	174	121	142
2	55	50.9	m	14.5	25.2	30.3	49.9	35.4	41.1
			ft	48	83	99	164	116	135
2	60	54.8	m	12.0	22.7	28.8	47.5	34.1	39.4
			ft	39	75	94	156	112	129
2	65	58.0	m	10.1	20.8	27.7	45.7	33.2	38.2
			ft	33	68	91	150	109	125
2	70	60.3	m	8.9	19.6	27.0	44.4	32.7	37.4
			ft	29	64	89	146	107	123
2	72	60.8	m	8.6	19.3	26.9	44.2	32.6	37.2
			ft	28	63	88	145	107	122
1	50	51.3	m	14.2	24.9	30.1	49.7	35.2	40.9
			ft	47	82	99	163	115	134
1	55	56.1	m	11.3	22.0	28.3	46.8	33.8	38.9
			ft	37	72	93	154	111	128
1	60	60.7	m	8.7	19.3	26.9	44.2	32.6	37.3
			ft	29	63	88	145	107	122
1	65	65.3	m	6.3	17.0	25.8	42.0	31.8	35.9
			ft	21	56	85	138	104	118
1	70	69.7	m	4.2	14.9	25.0	39.9	31.1	34.7
			ft	14	49	82	131	102	114
1	72	71.6	m	3.4	14.1	24.7	39.1	30.9	34.3
			ft	11	46	81	128	101	113

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_0110101_01_01

Turning Radii
(Sheet 2)
FIGURE-4-2-0-991-011-A01

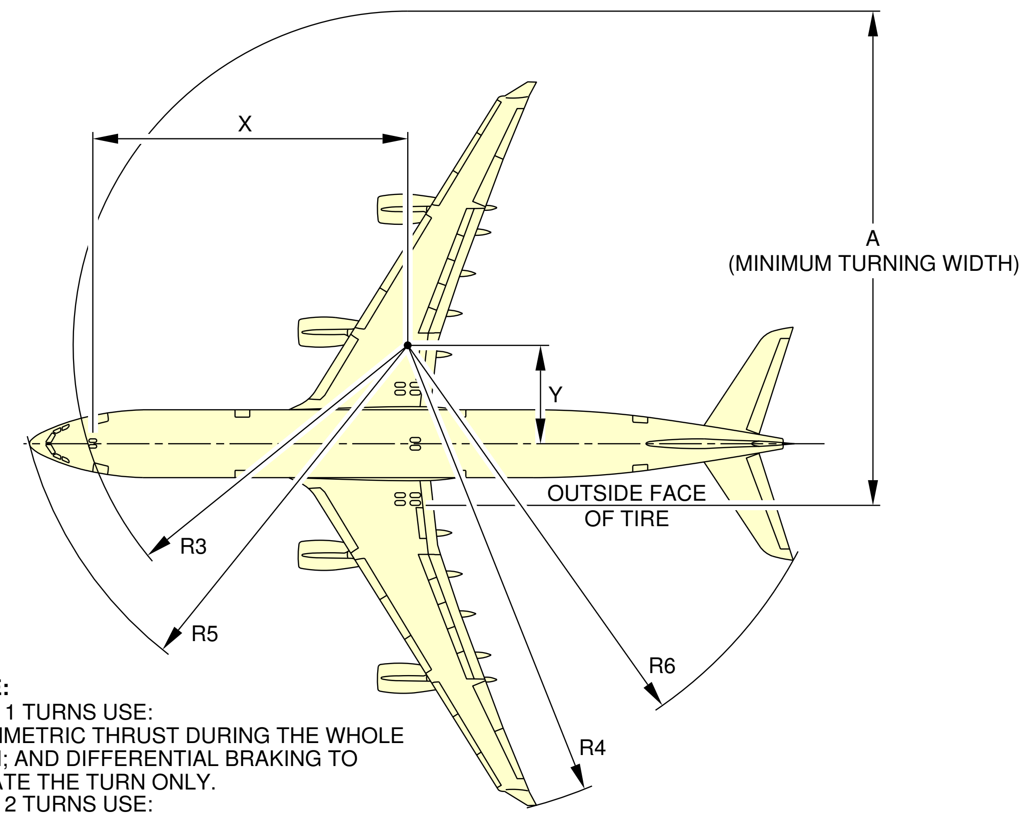
4-3-0 Minimum Turning Radii

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

Minimum Turning Radii

1. This section gives the minimum turning radii.

**ON A/C A340-300



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.

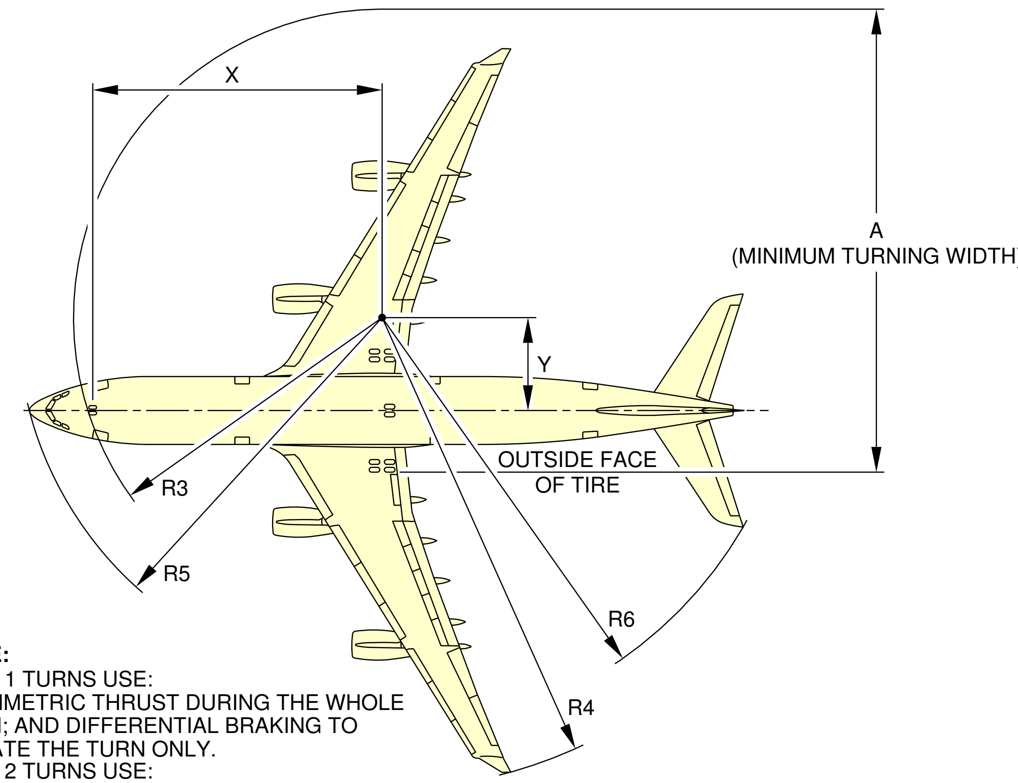
A340−300 MINIMUM TURNING RADII										
TYPE OF TURN	STEERING ANGLE (deg)	EFFECTIVE STEERING ANGLE (deg)		X	Y	A	R3 NLG	R4 WING	R5 NOSE	R6 TAIL
1	72 (MAX)	72.2	m	25.4	8.2	41.7	26.8	39.5	33.1	36.3
			ft	83	27	137	88	130	109	119
2	72 (MAX)	63.2	m	25.4	12.8	48.1	28.7	44.0	34.5	38.8
			ft	83	42	158	94	144	113	127
1	65 (MAX)	65.9	m	25.4	11.4	46.0	28.0	42.6	34.0	38.0
			ft	83	37	151	92	140	112	125
2	65 (MAX)	59.6	m	25.4	14.9	51.2	29.7	46.0	35.3	40.1
			ft	83	49	168	97	151	116	132

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_0030101_01_02

Minimum Turning Radii
FIGURE-4-3-0-991-003-A01

**ON A/C A340-200



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.

A340−200 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	72 (MAX)	71.6	m	23.2	7.7	39.1	24.7	39.1	30.9	34.3
			ft	76	25	128	81	128	101	113
2	72 (MAX)	60.8	m	23.2	13.0	46.5	26.9	44.2	32.6	37.2
			ft	76	43	153	88	145	107	122
1	65 (MAX)	65.3	m	23.2	10.7	43.2	25.8	42.0	31.8	35.9
			ft	76	35	142	85	138	104	118
2	65 (MAX)	58.0	m	23.2	14.5	48.8	27.7	45.7	33.2	38.2
			ft	76	48	160	91	150	109	125

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_0040101_01_02

Minimum Turning Radii
FIGURE-4-3-0-991-004-A01

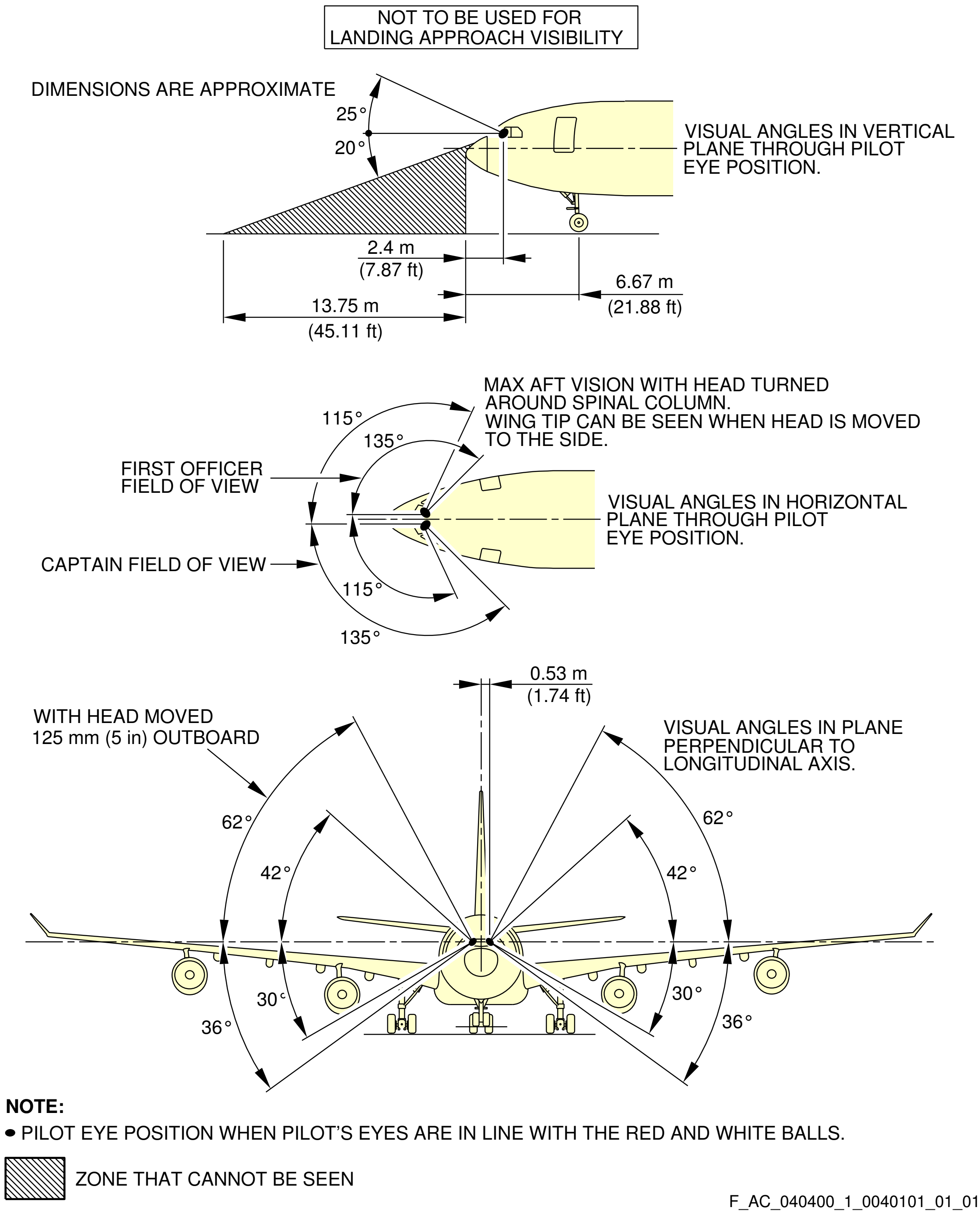
4-4-0 Visibility from Cockpit in Static Position

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

Visibility from Cockpit in Static Position

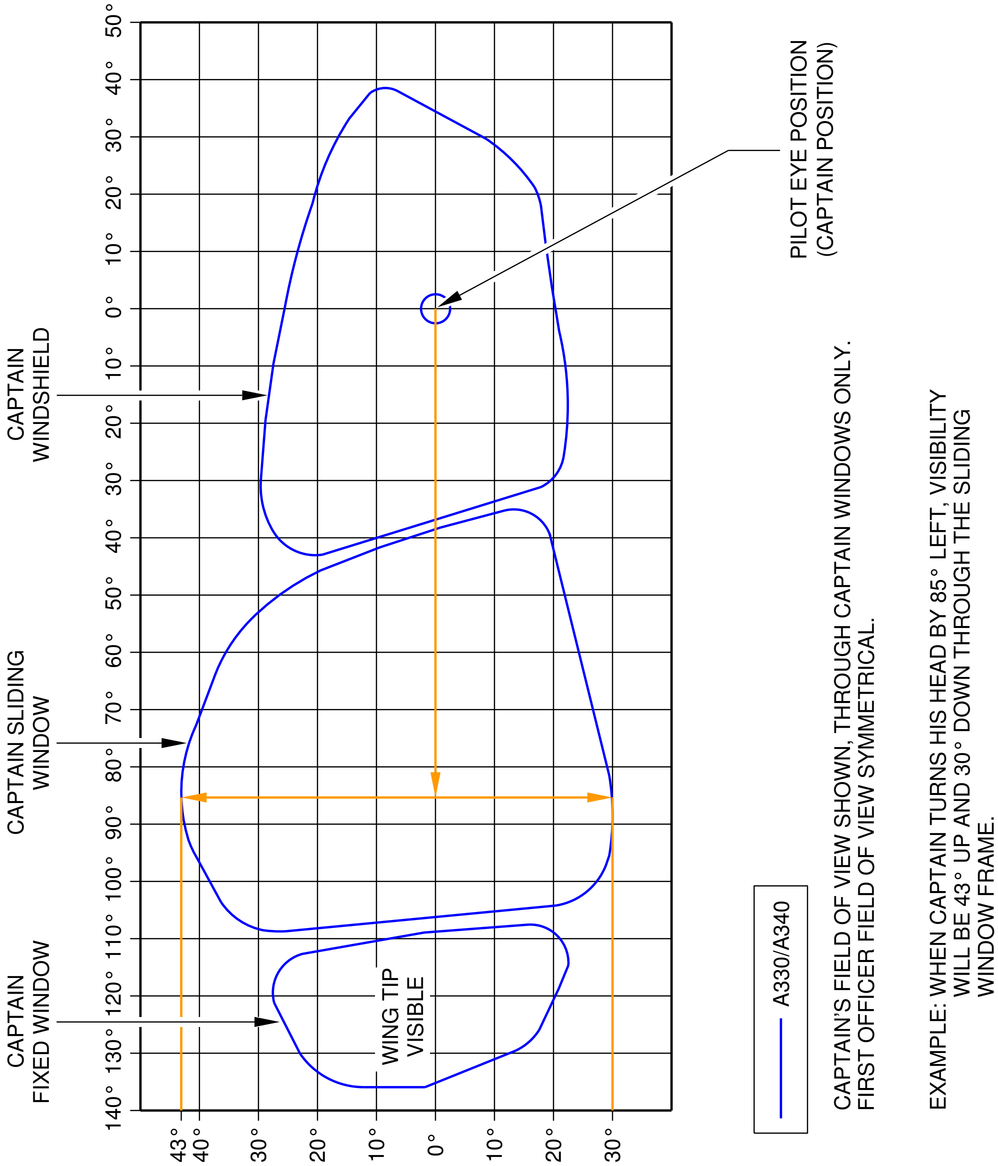
1. This section gives the visibility from cockpit in static position.

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



Visibility from Cockpit in Static Position
FIGURE-4-4-0-991-004-A01

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



F_AC_040400_1_0080101_01_00

Binocular Visibility Through Windows from Captain Eye Position
FIGURE-4-4-0-991-008-A01

4-5-0 Runway and Taxiway Turn Paths

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

Runway and Taxiway Turn Paths

1. Runway and Taxiway Turn Paths.

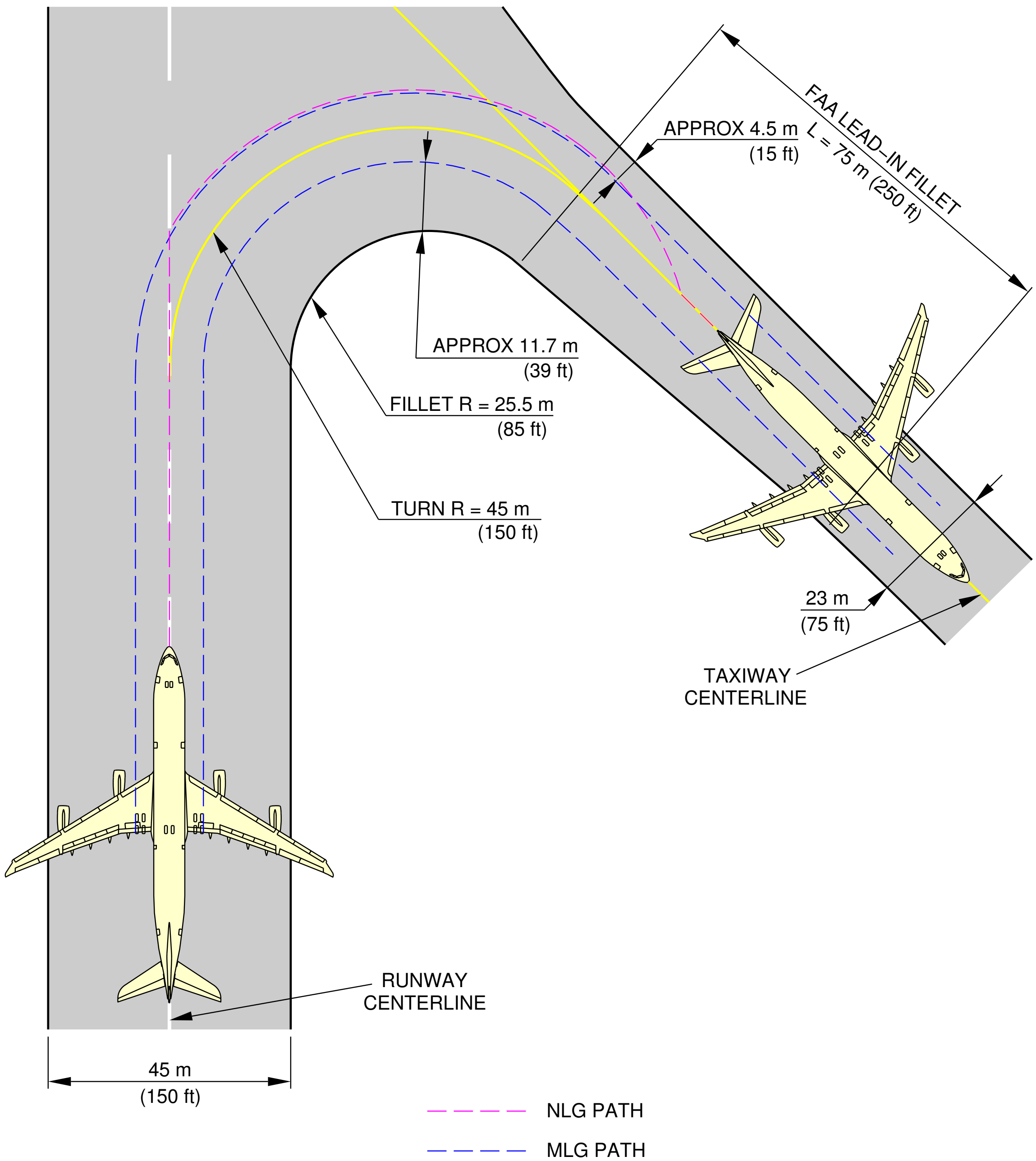
4-5-1 135° Turn - Runway to Taxiway

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

135° Turn - Runway to Taxiway

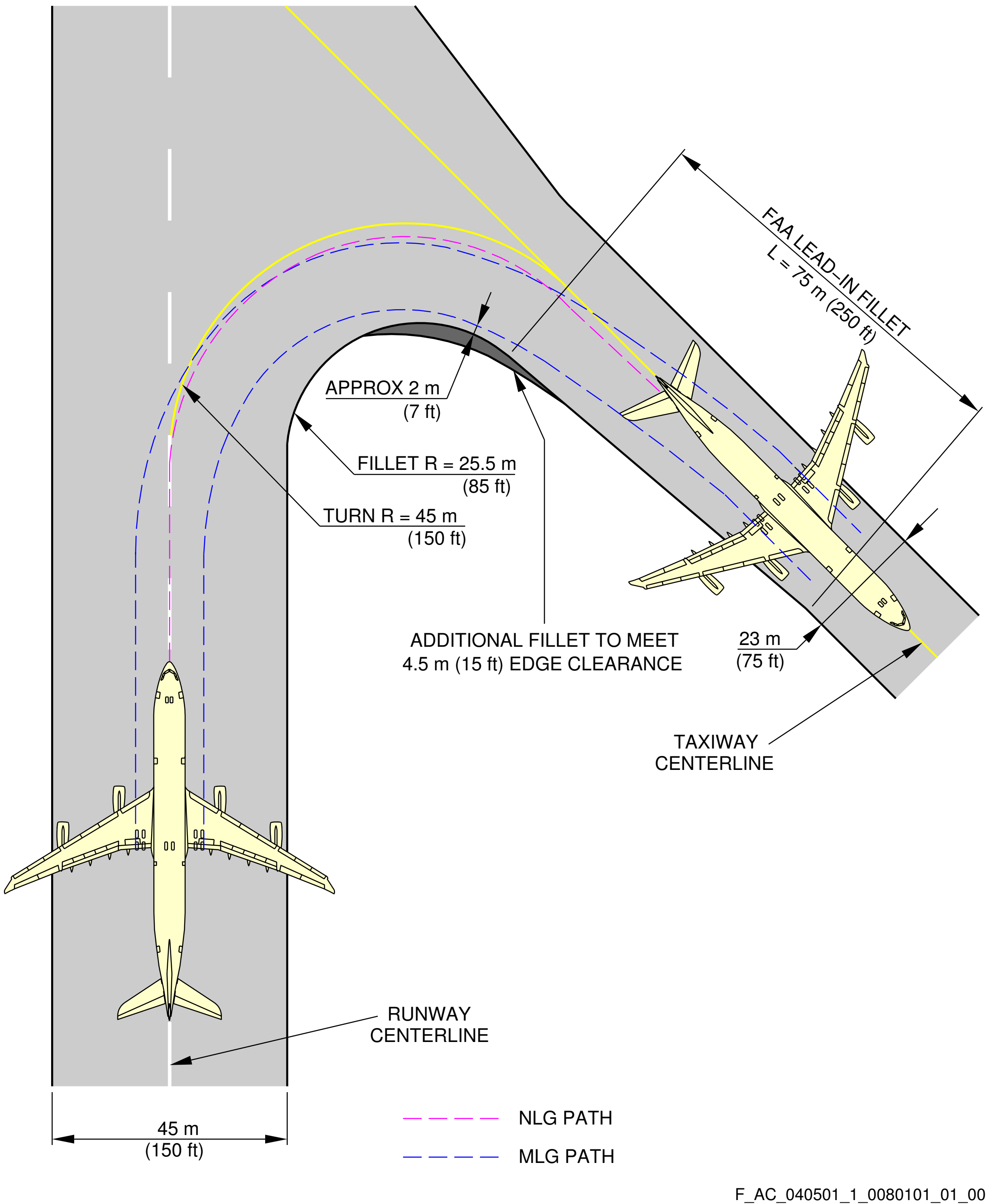
1. This section gives the 135° turn - runway to taxiway.

**ON A/C A340-300



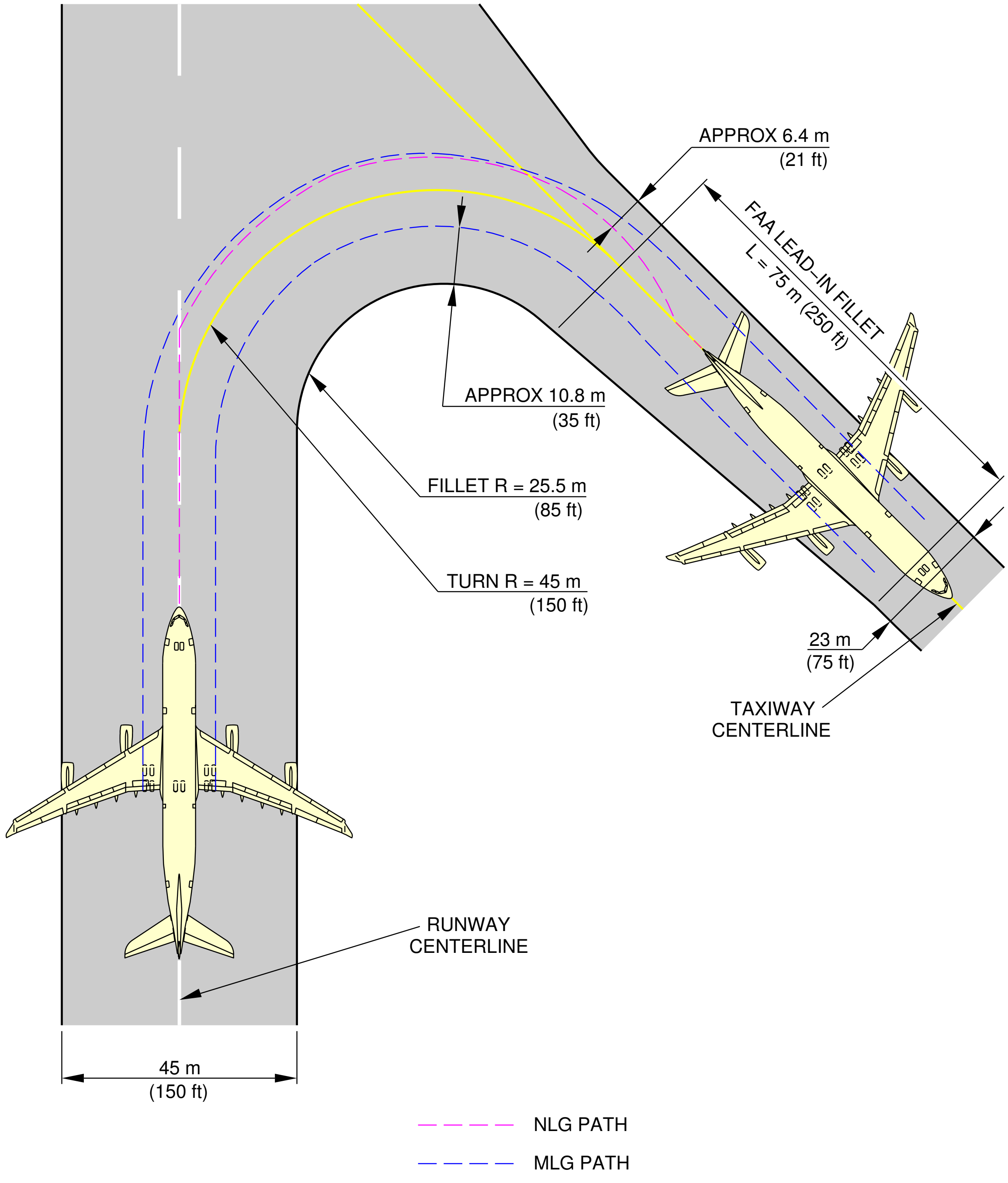
135° Turn - Runway to Taxiway
Judgemental Oversteering Method
FIGURE-4-5-1-991-003-A01

**ON A/C A340-300



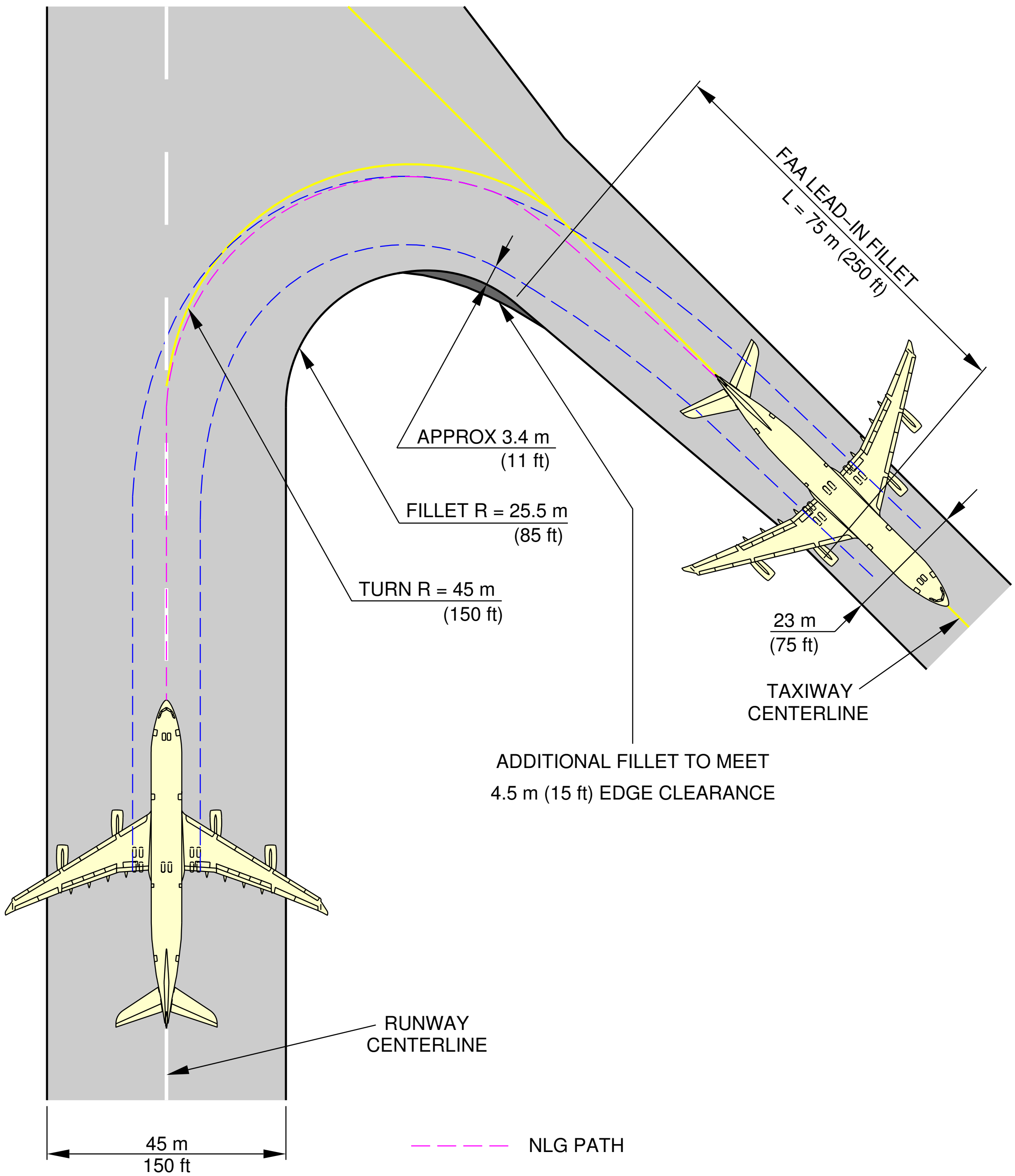
135° Turn - Runway to Taxiway
Cockpit Over Centerline Method
FIGURE-4-5-1-991-008-A01

**ON A/C A340-200



135° Turn - Runway to Taxiway
Judgemental Oversteering Method
FIGURE-4-5-1-991-009-A01

**ON A/C A340-200



135° Turn - Runway to Taxiway
Cockpit Over Centerline Method
FIGURE-4-5-1-991-010-A01

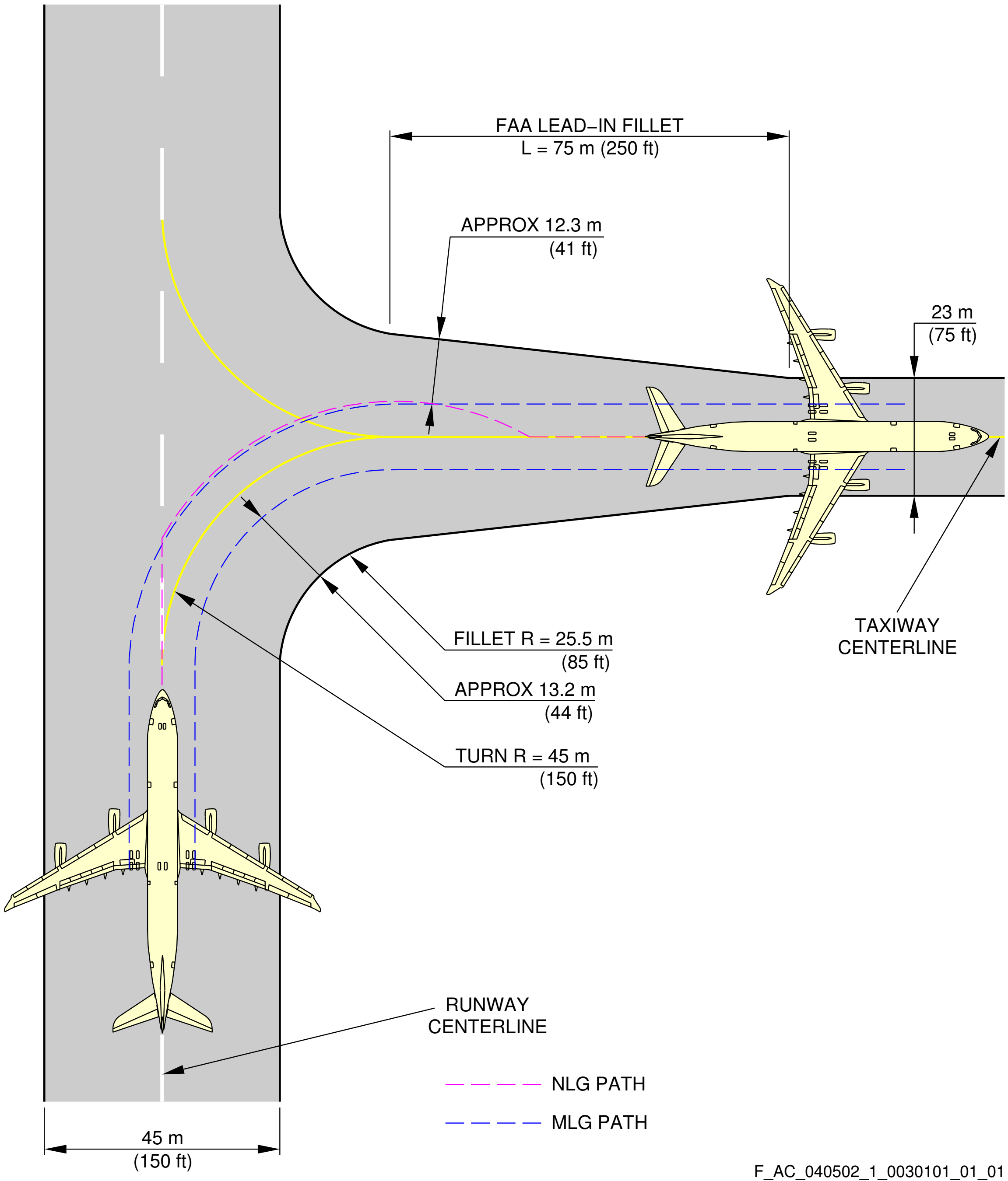
4-5-2 90° Turn - Runway to Taxiway

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

90° Turn - Runway to Taxiway

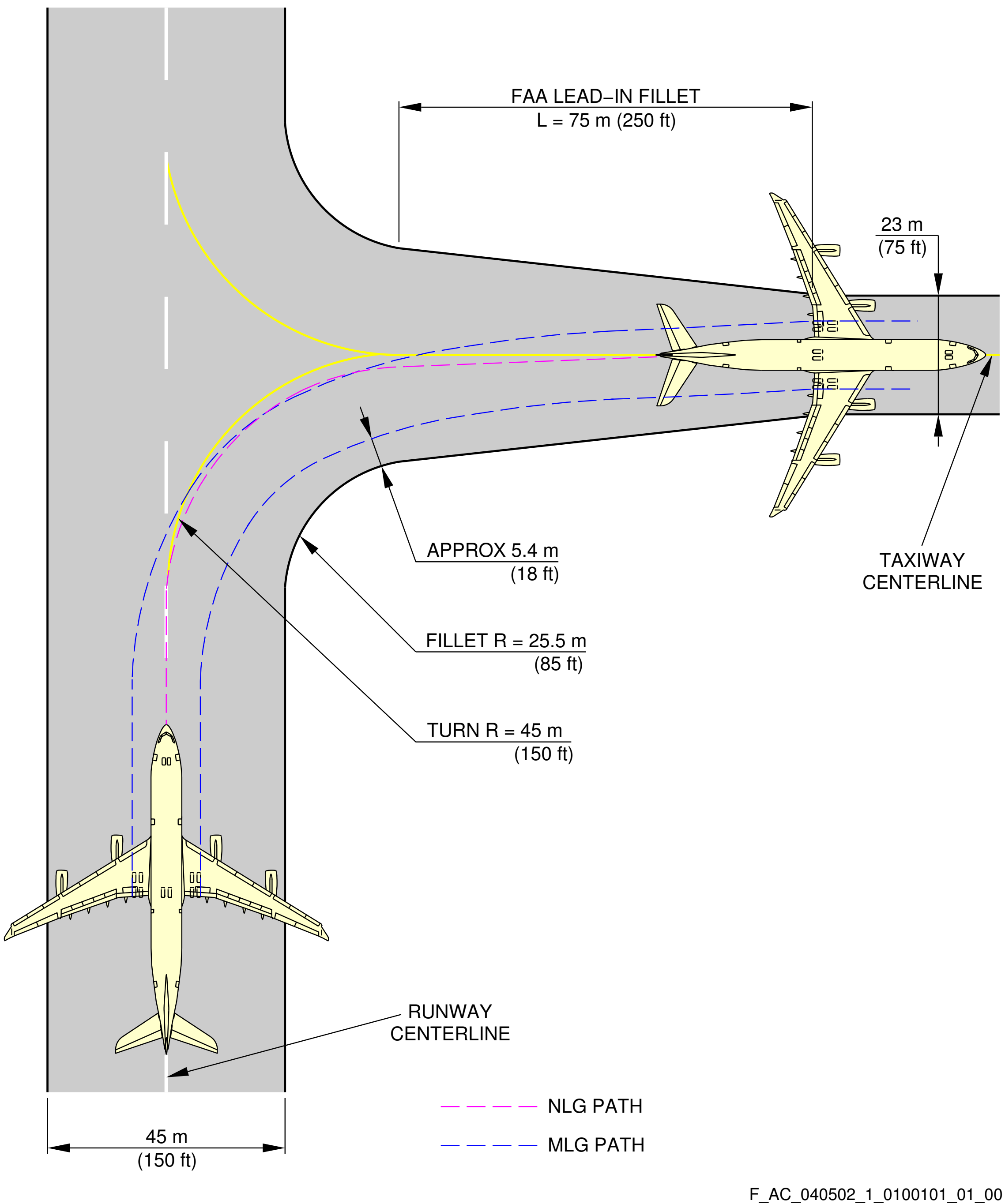
1. This section gives the 90° turn - runway to taxiway.

**ON A/C A340-300



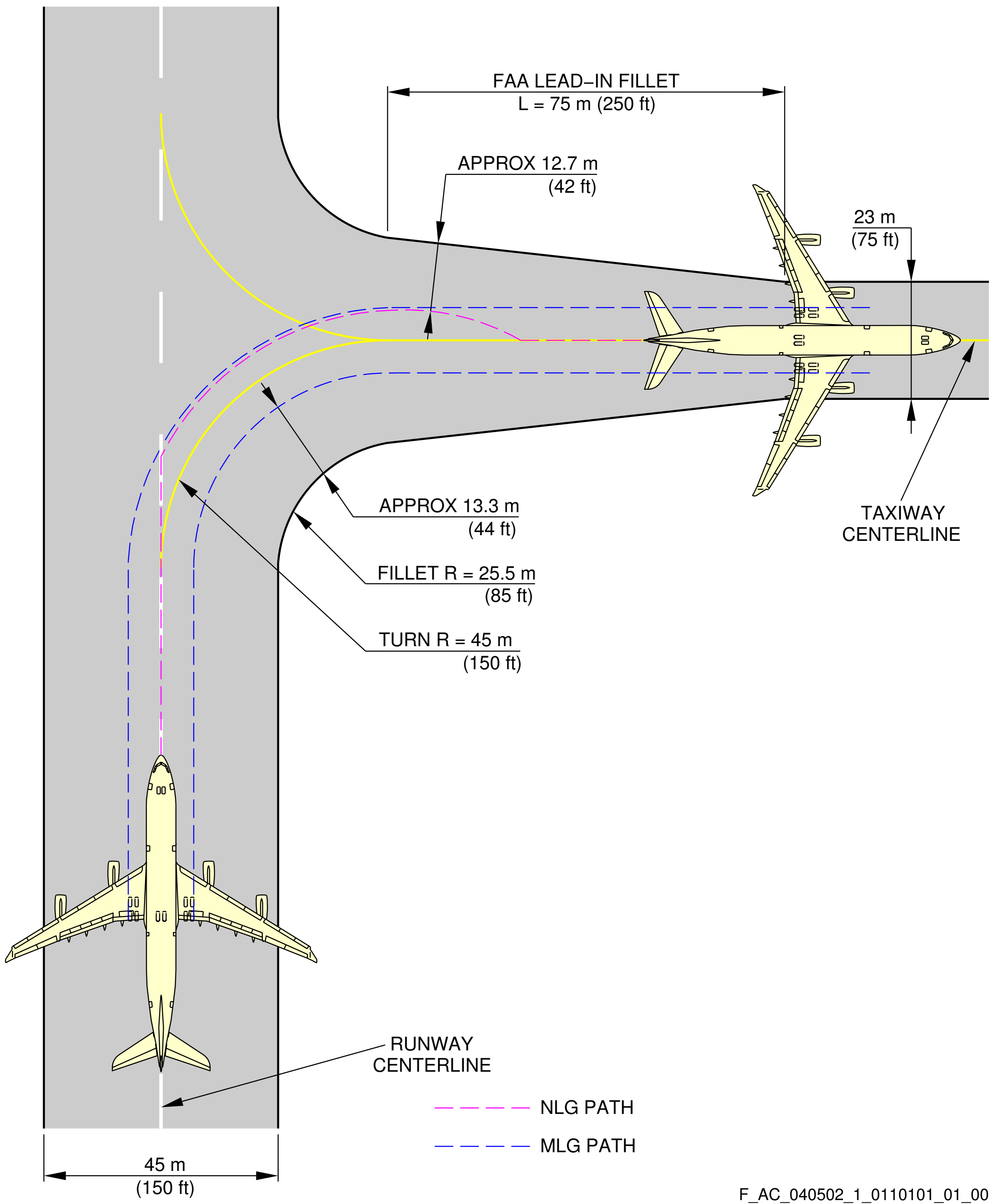
90° Turn - Runway to Taxiway
Judgement Oversteering Method
FIGURE-4-5-2-991-003-A01

**ON A/C A340-300



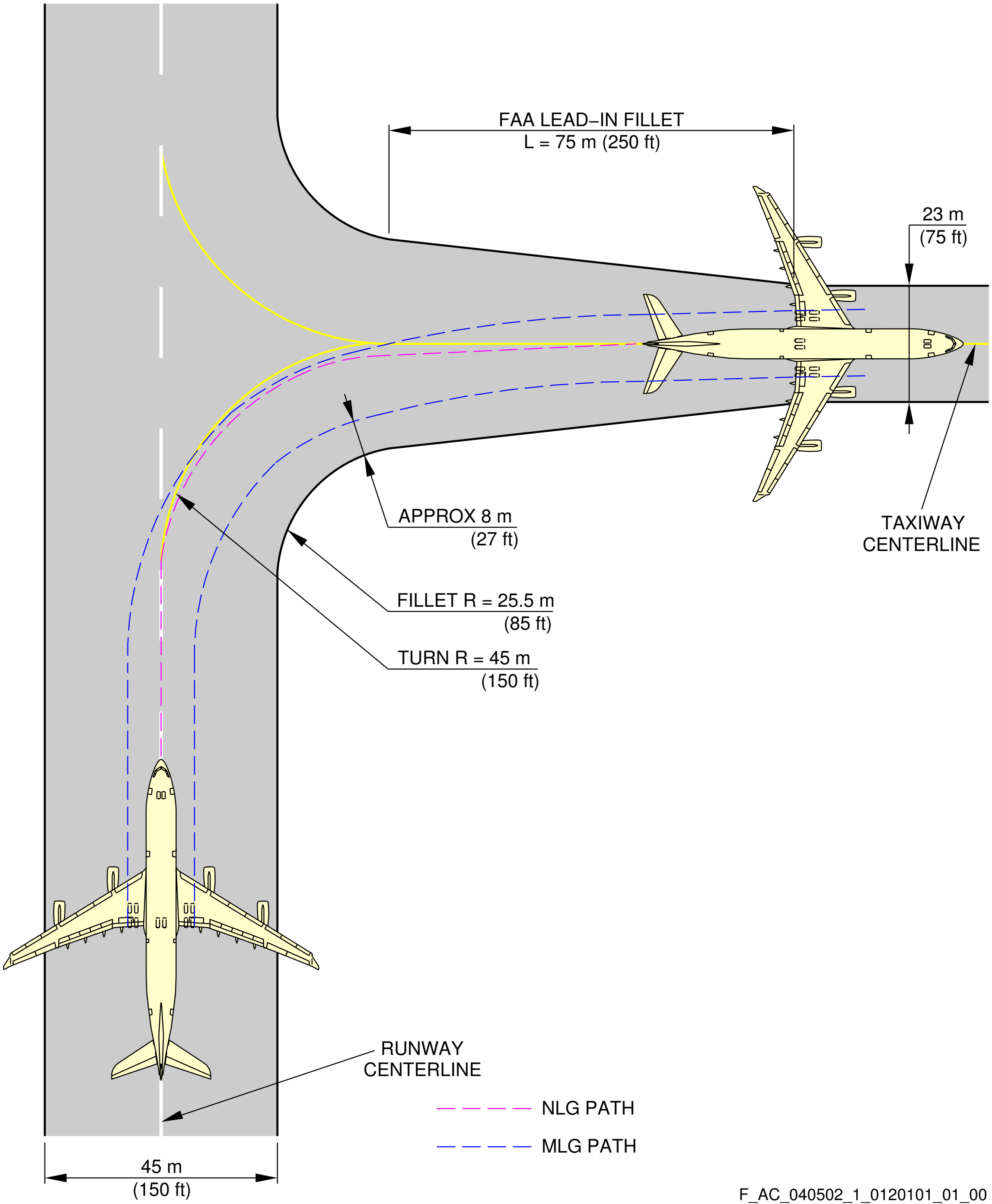
90° Turn - Runway to Taxiway
Cockpit Over Centerline Method
FIGURE-4-5-2-991-010-A01

**ON A/C A340-200



90° Turn - Runway to Taxiway
Judgement Oversteering Method
FIGURE-4-5-2-991-011-A01

**ON A/C A340-200



90° Turn - Runway to Taxiway
Cockpit Over Centerline Method
FIGURE-4-5-2-991-012-A01

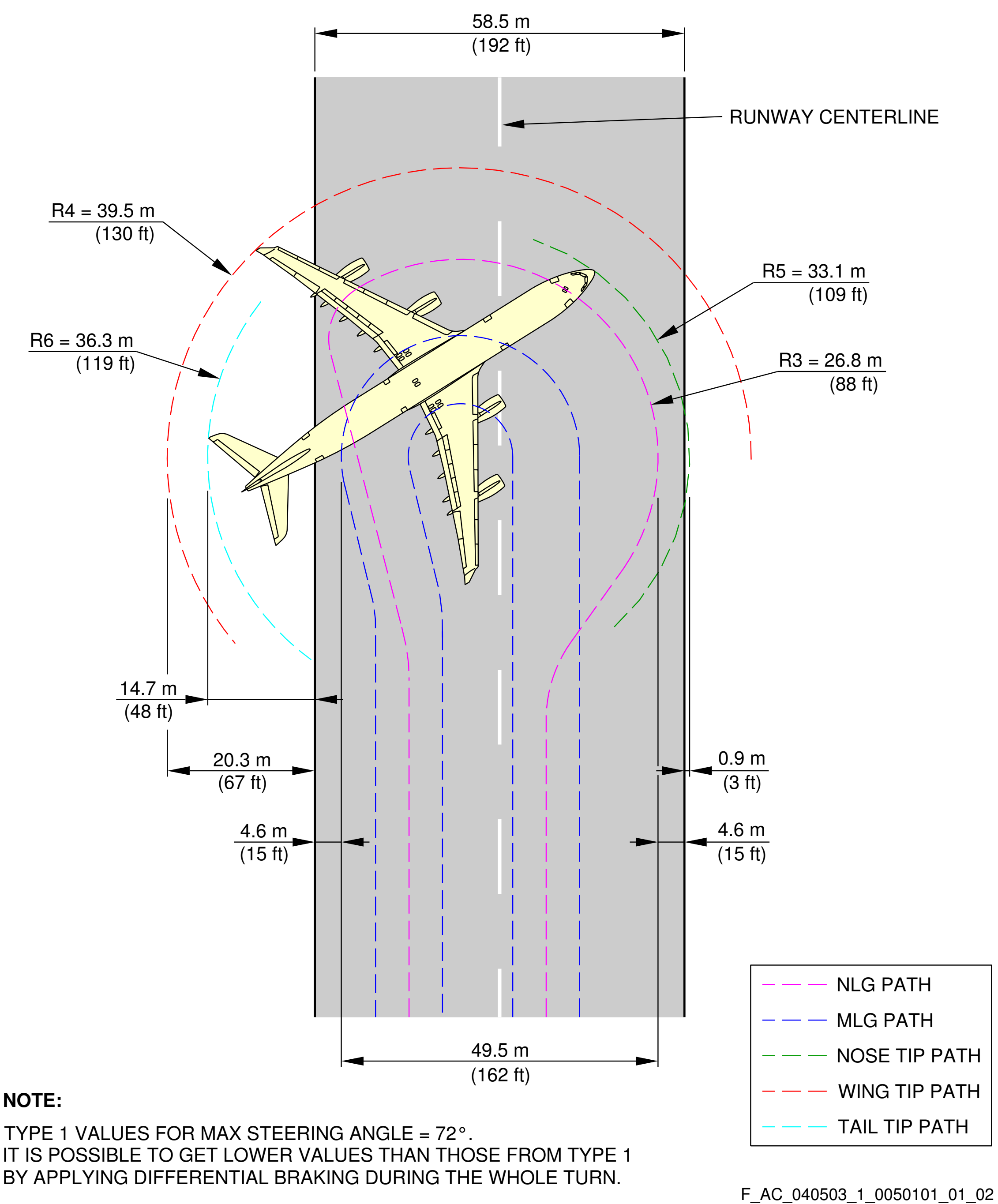
4-5-3 180° Turn on a Runway

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

180° Turn on a Runway

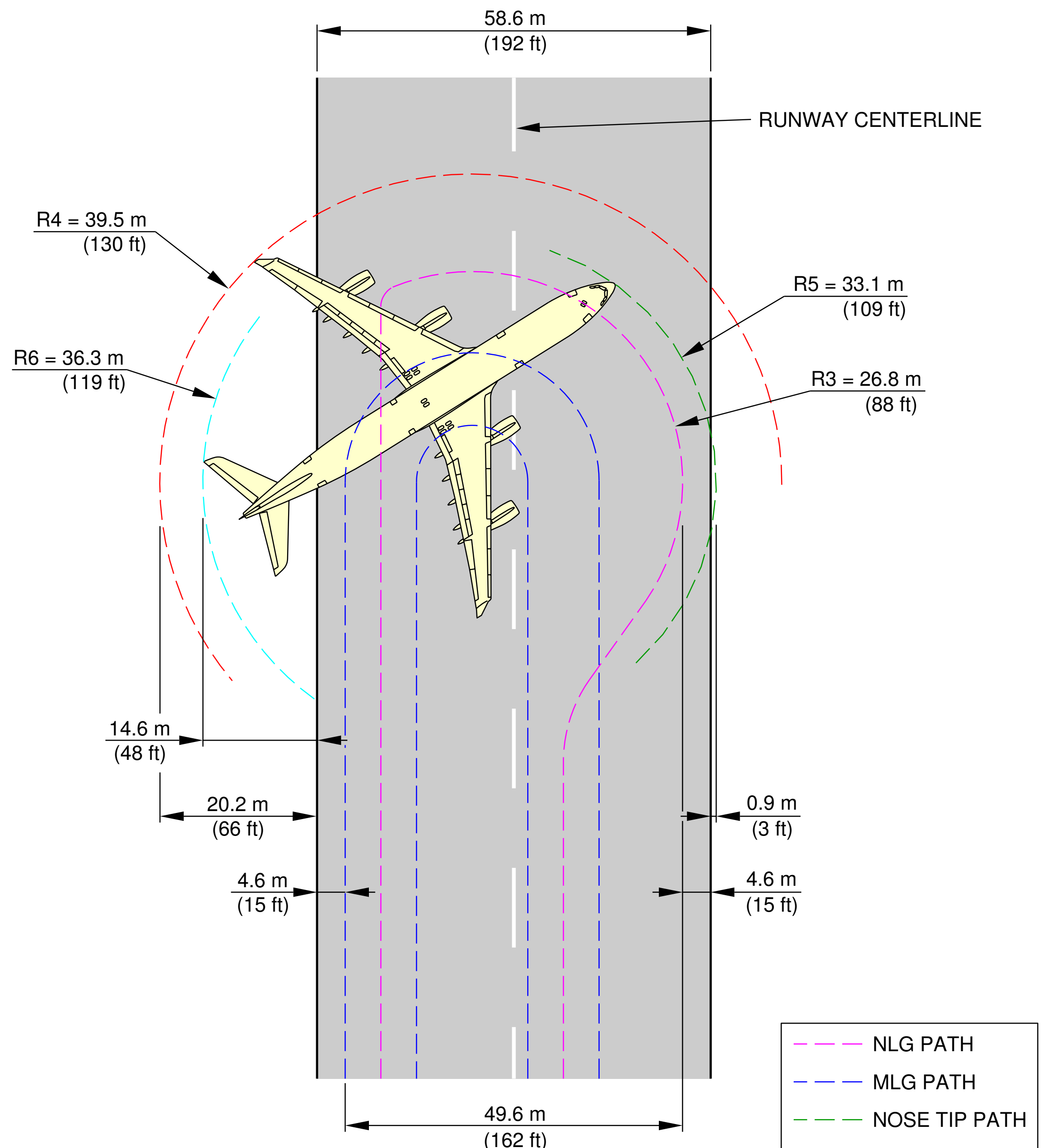
1. This section gives the 180° turn on a runway.

**ON A/C A340-300



180° Turn on a Runway
FIGURE-4-5-3-991-005-A01

**ON A/C A340-300



NOTE:

TYPE 1 VALUES FOR MAX STEERING ANGLE = 72°.
IT IS POSSIBLE TO GET LOWER VALUES THAN THOSE FROM TYPE 1
BY APPLYING DIFFERENTIAL BRAKING DURING THE WHOLE TURN.

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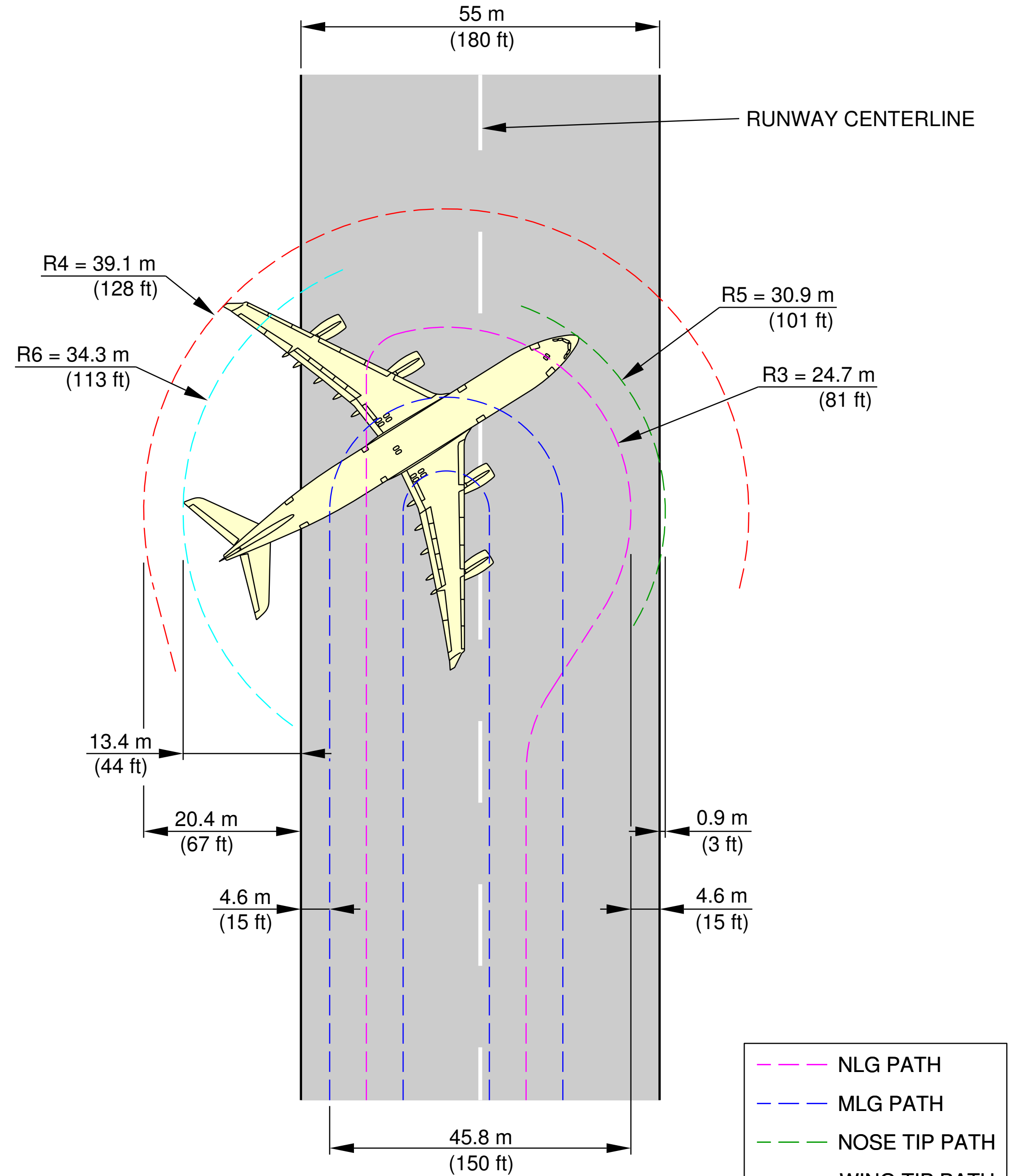
180° Turn on a Runway
FIGURE-4-5-3-991-006-A01

**ON A/C A340-200



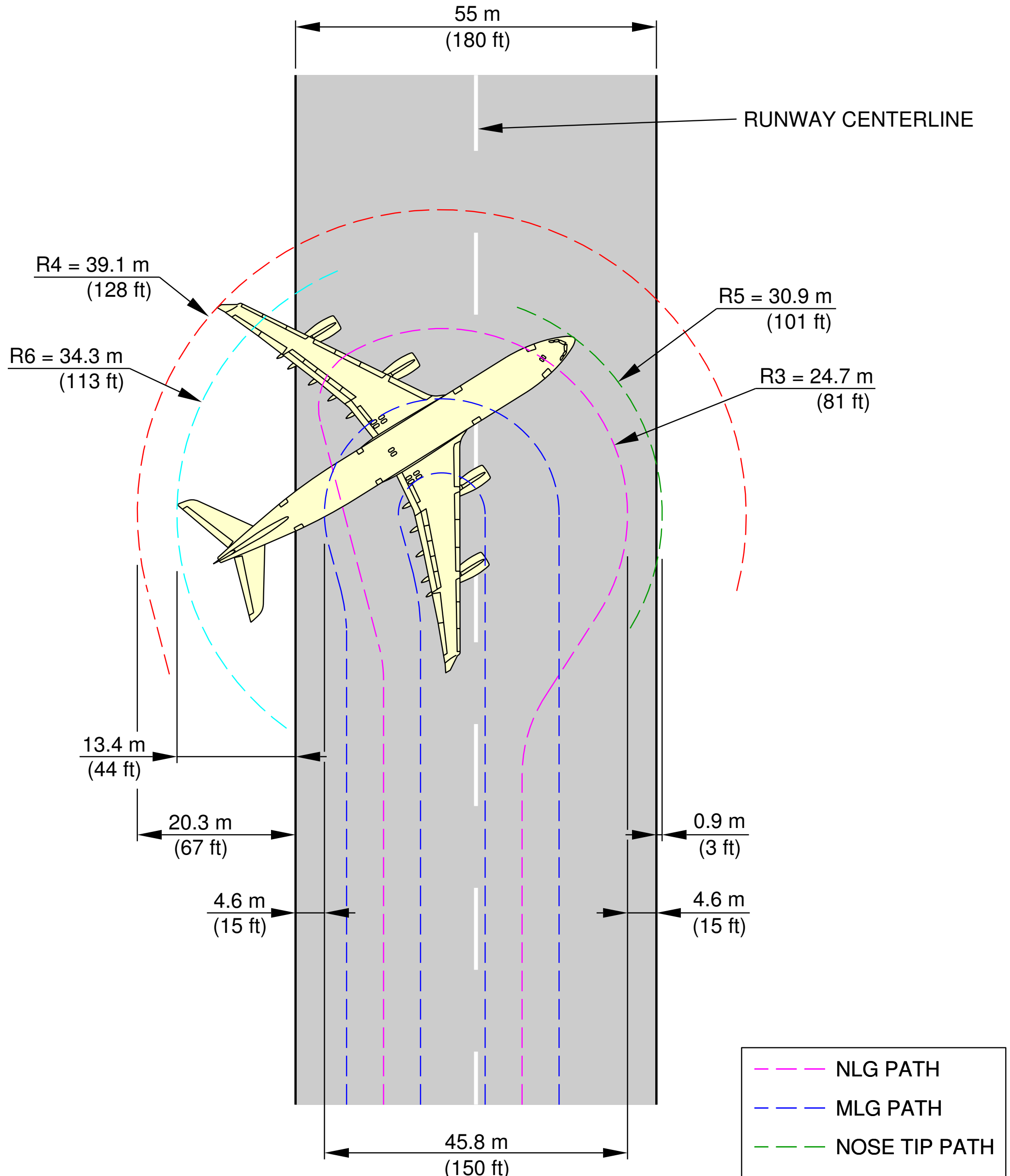
NOTE:

TYPE 1 VALUES FOR MAX STEERING ANGLE = 72°.
IT IS POSSIBLE TO GET LOWER VALUES THAN THOSE FROM TYPE 1 BY APPLYING DIFFERENTIAL BRAKING DURING THE WHOLE TURN.

F_AC_040503_1_0070101_01_02

180° Turn on a Runway
FIGURE-4-5-3-991-007-A01

**ON A/C A340-200



NOTE:

TYPE 1 VALUES FOR MAX STEERING ANGLE = 72°.
IT IS POSSIBLE TO GET LOWER VALUES THAN THOSE FROM TYPE 1 BY APPLYING DIFFERENTIAL BRAKING DURING THE WHOLE TURN.

F_AC_040503_1_0080101_01_02

180° Turn on a Runway
FIGURE-4-5-3-991-008-A01

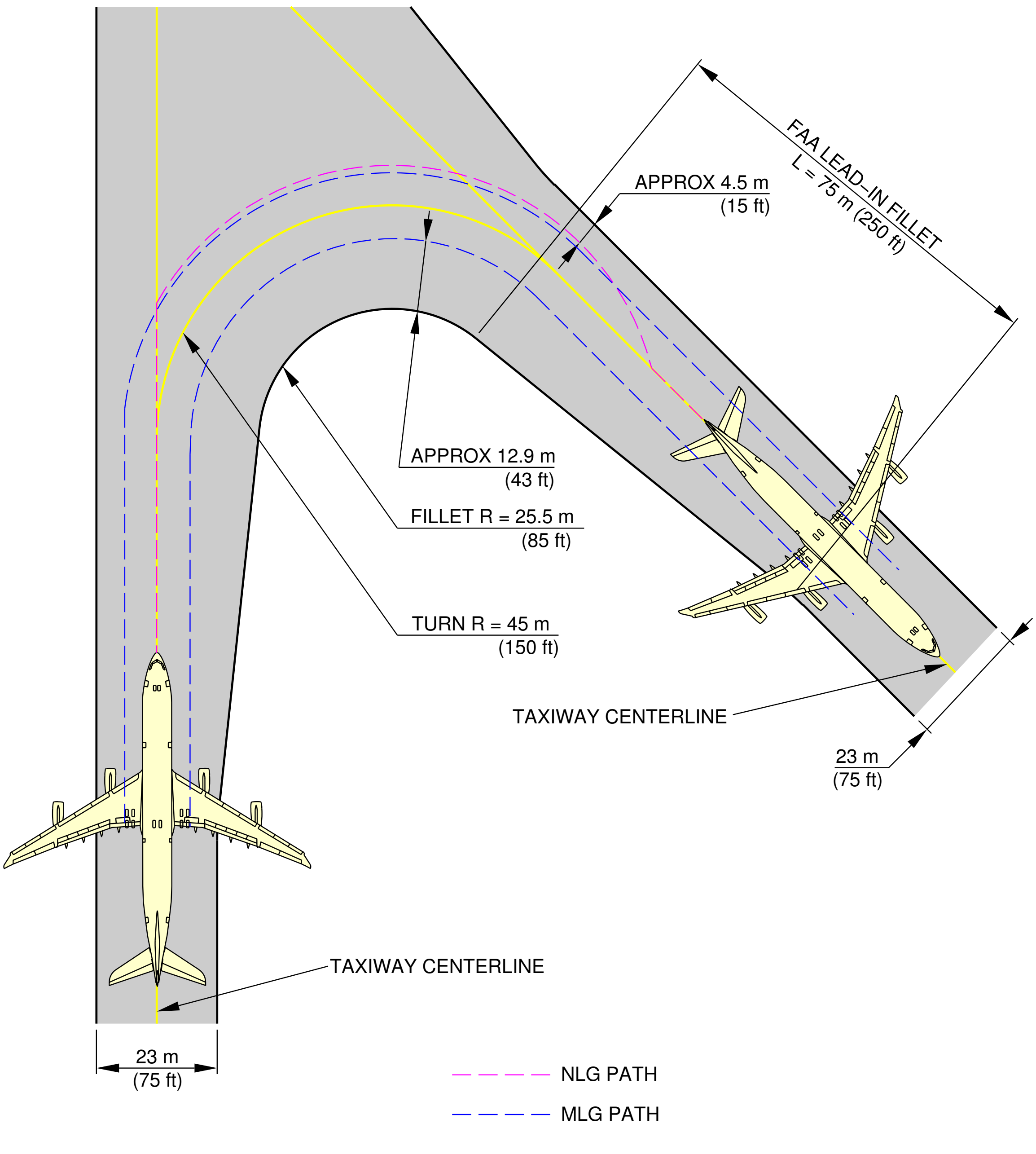
4-5-4 135° Turn - Taxiway to Taxiway

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

<u>135° Turn - Taxiway to Taxiway</u>

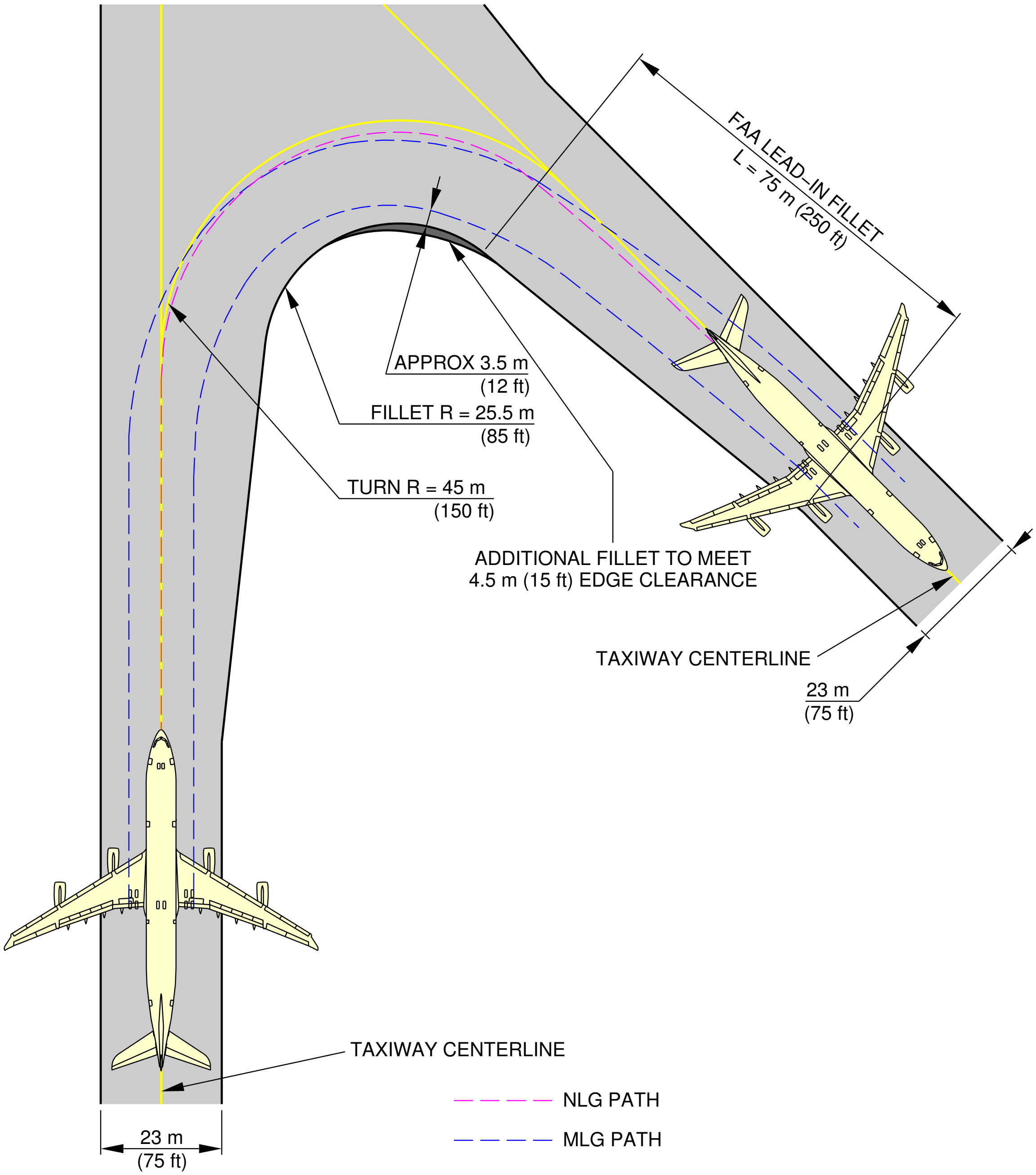
1. This section gives the 135° turn - taxiway to taxiway

**ON A/C A340-300



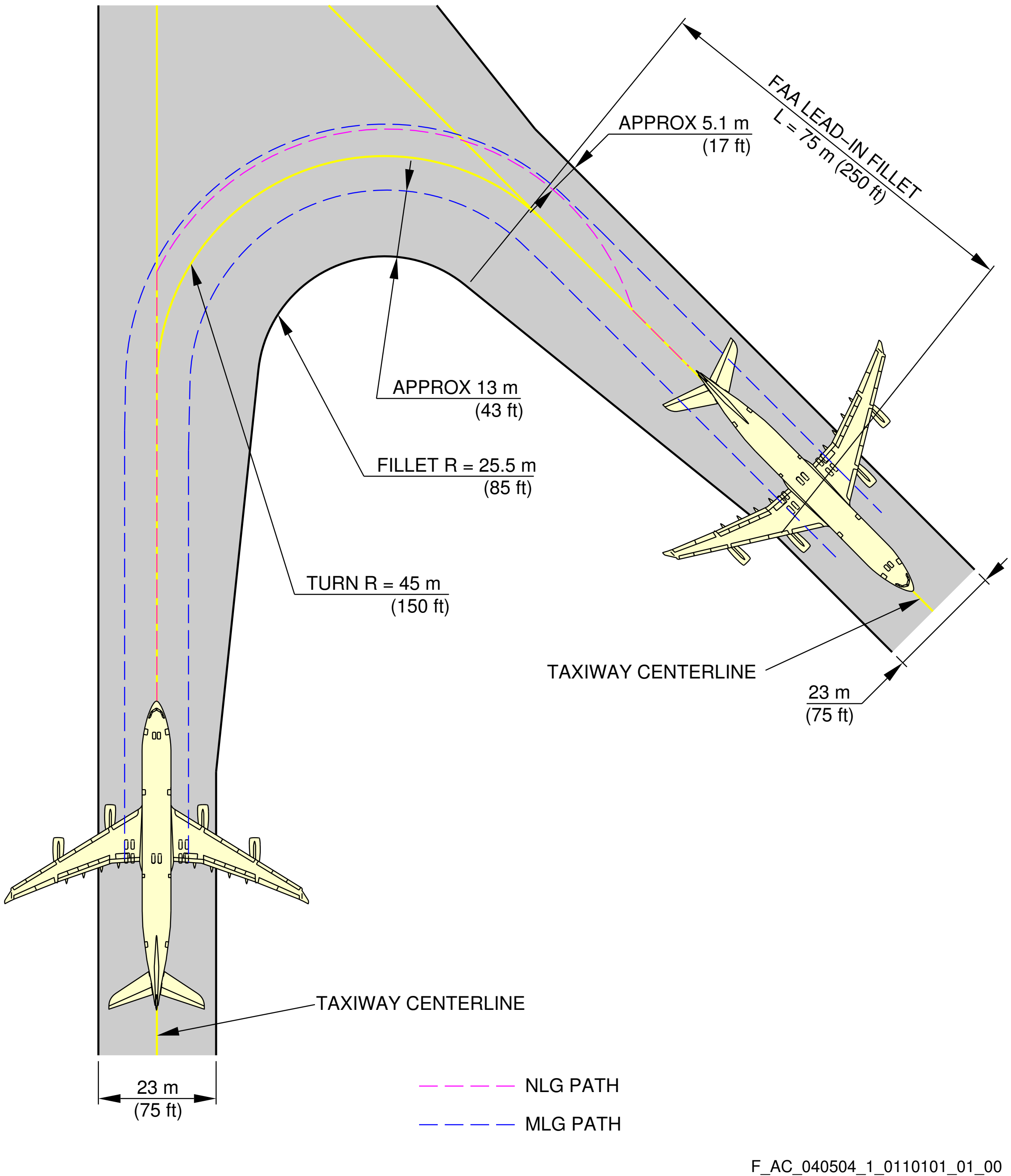
135° Turn - Taxiway to Taxiway
Judgemental Oversteering Method
FIGURE-4-5-4-991-009-A01

**ON A/C A340-300



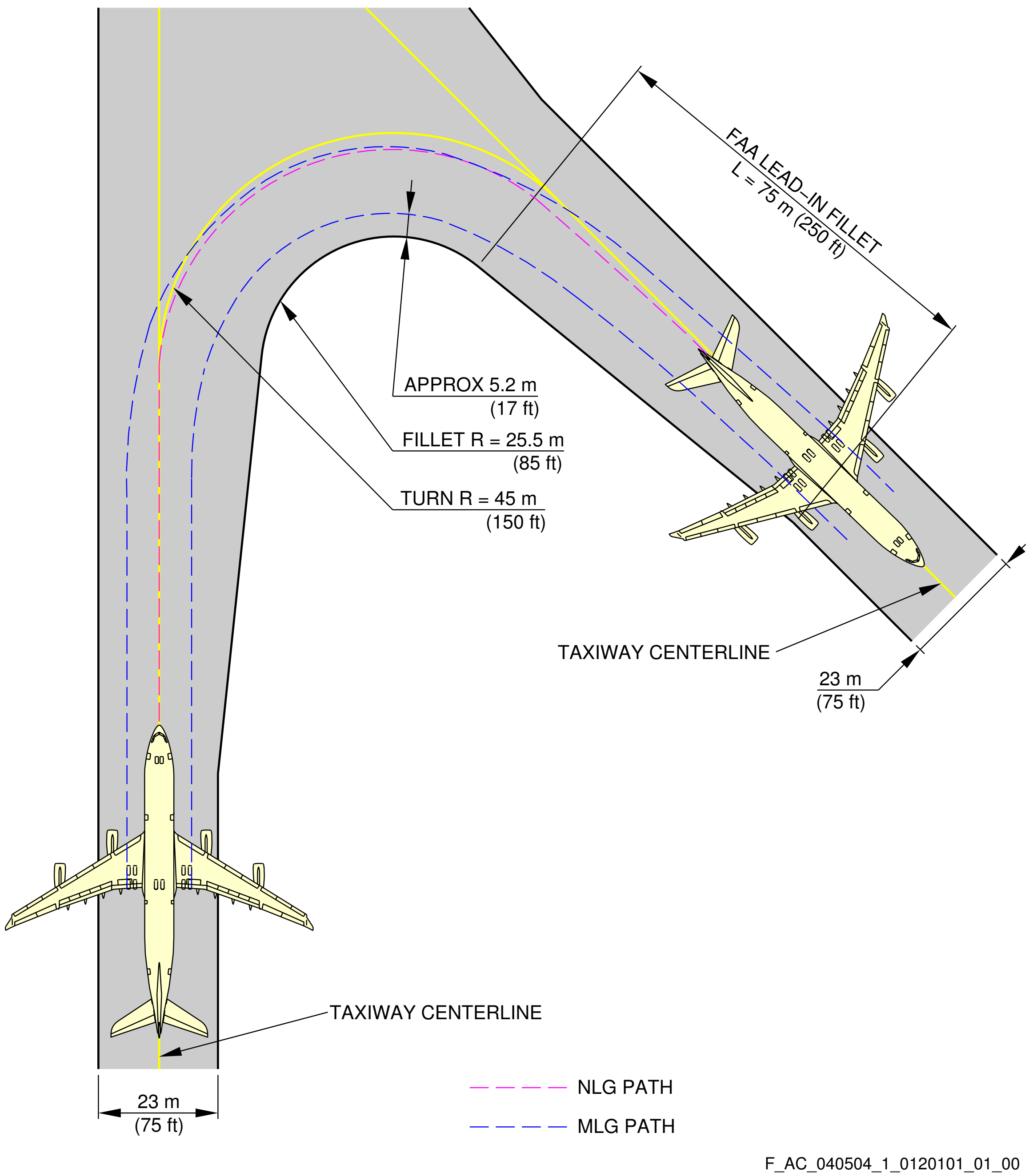
135° Turn - Taxiway to Taxiway
Cockpit Over Centerline Method
FIGURE-4-5-4-991-010-A01

**ON A/C A340-200



135° Turn - Taxiway to Taxiway
Judgemental Oversteering Method
FIGURE-4-5-4-991-011-A01

**ON A/C A340-200



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

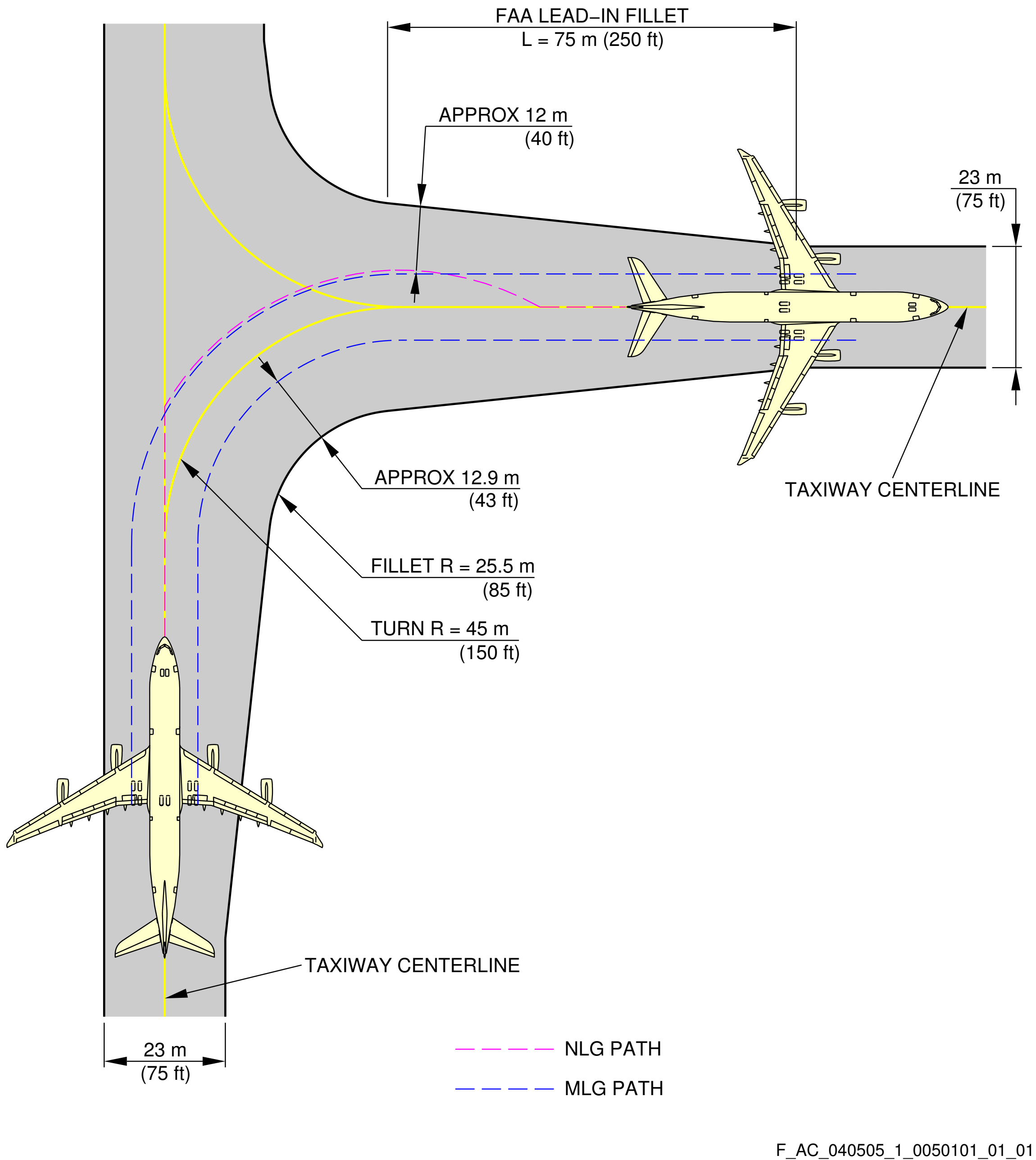
4-5-5 90° Turn - Taxiway to Taxiway

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

90° Turn - Taxiway to Taxiway

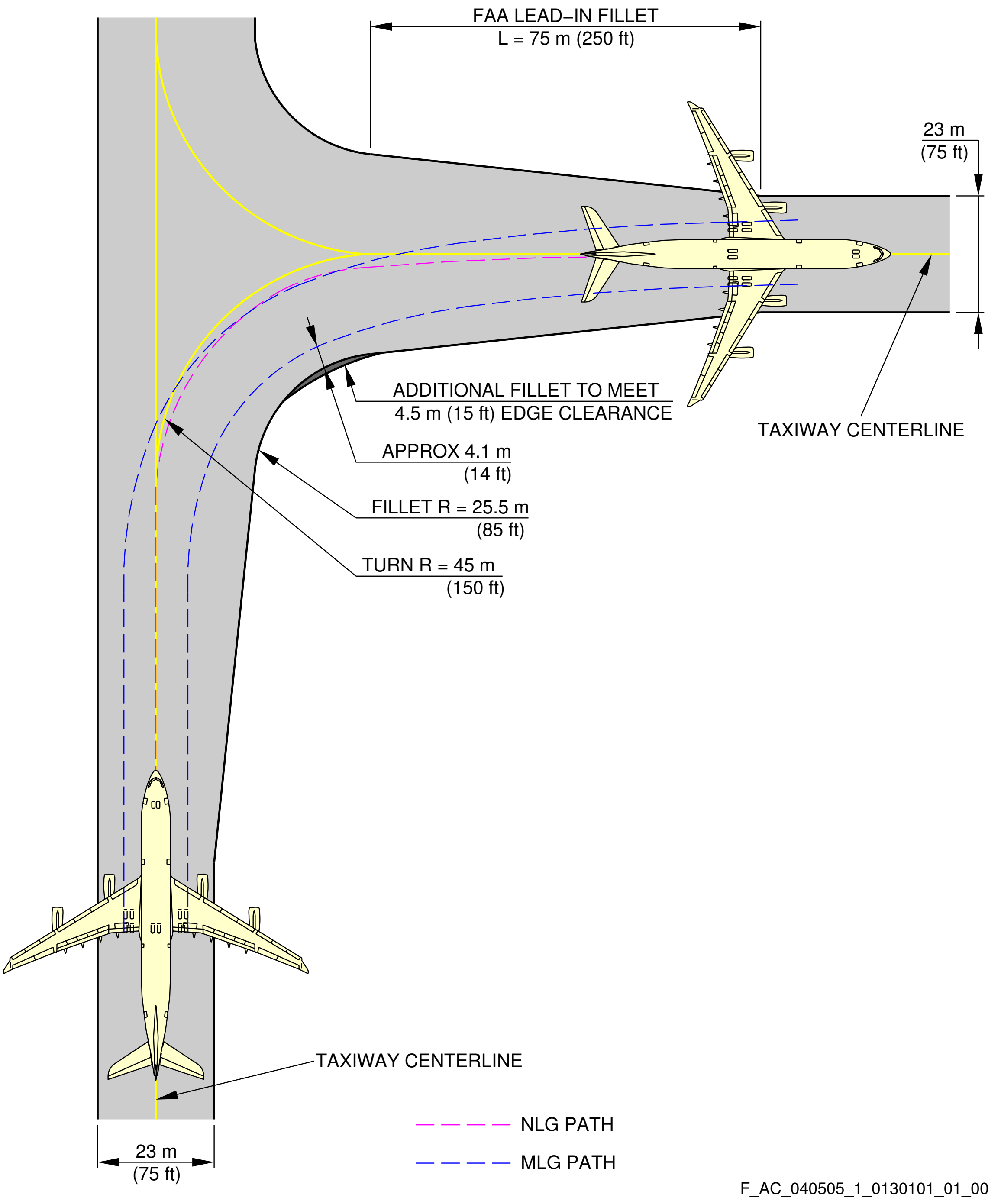
1. This section gives the 90° turn - taxiway to taxiway.

**ON A/C A340-300



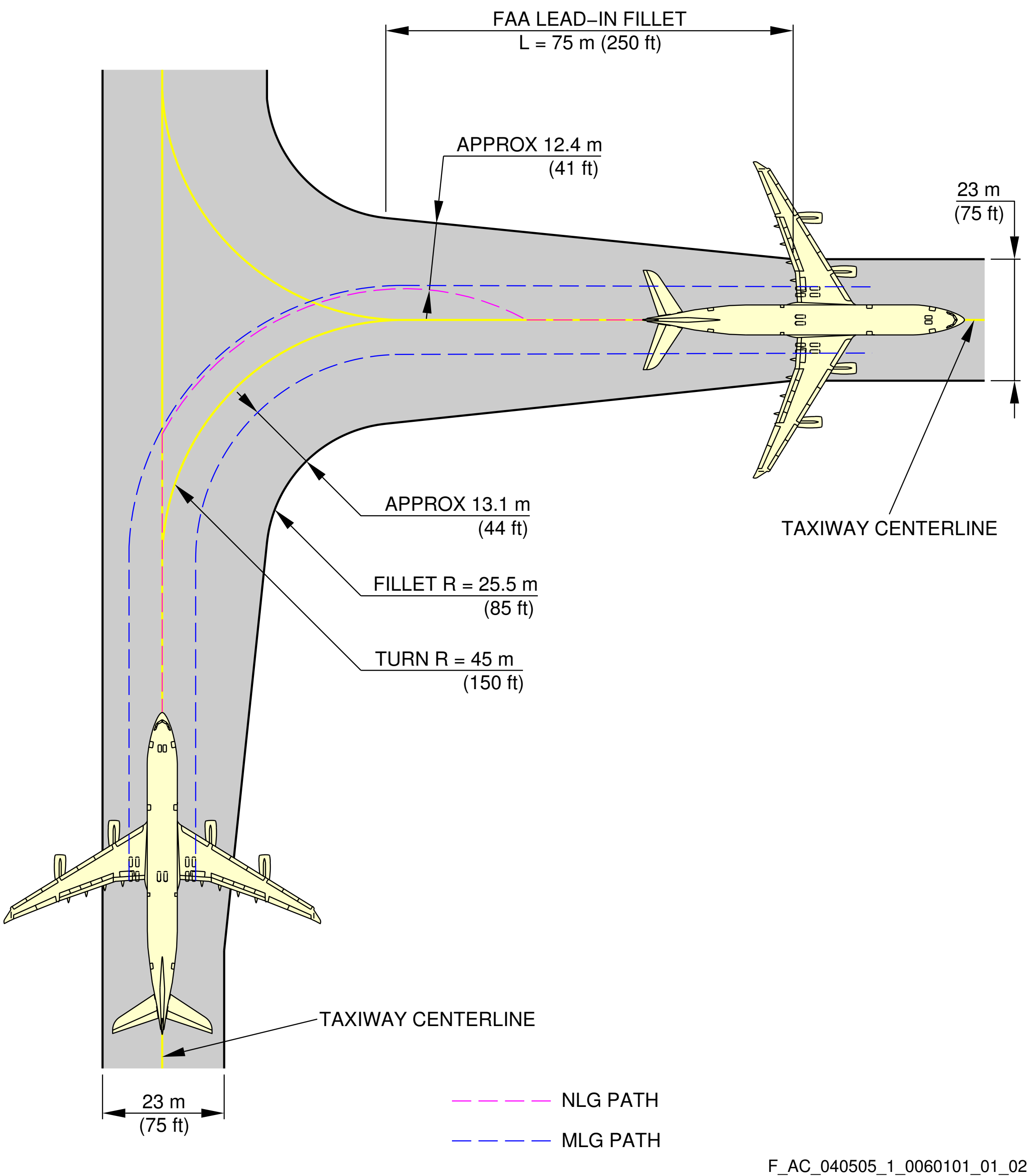
90° Turn - Taxiway to Taxiway
Judgement Oversteering Method
FIGURE-4-5-5-991-005-A01

**ON A/C A340-300



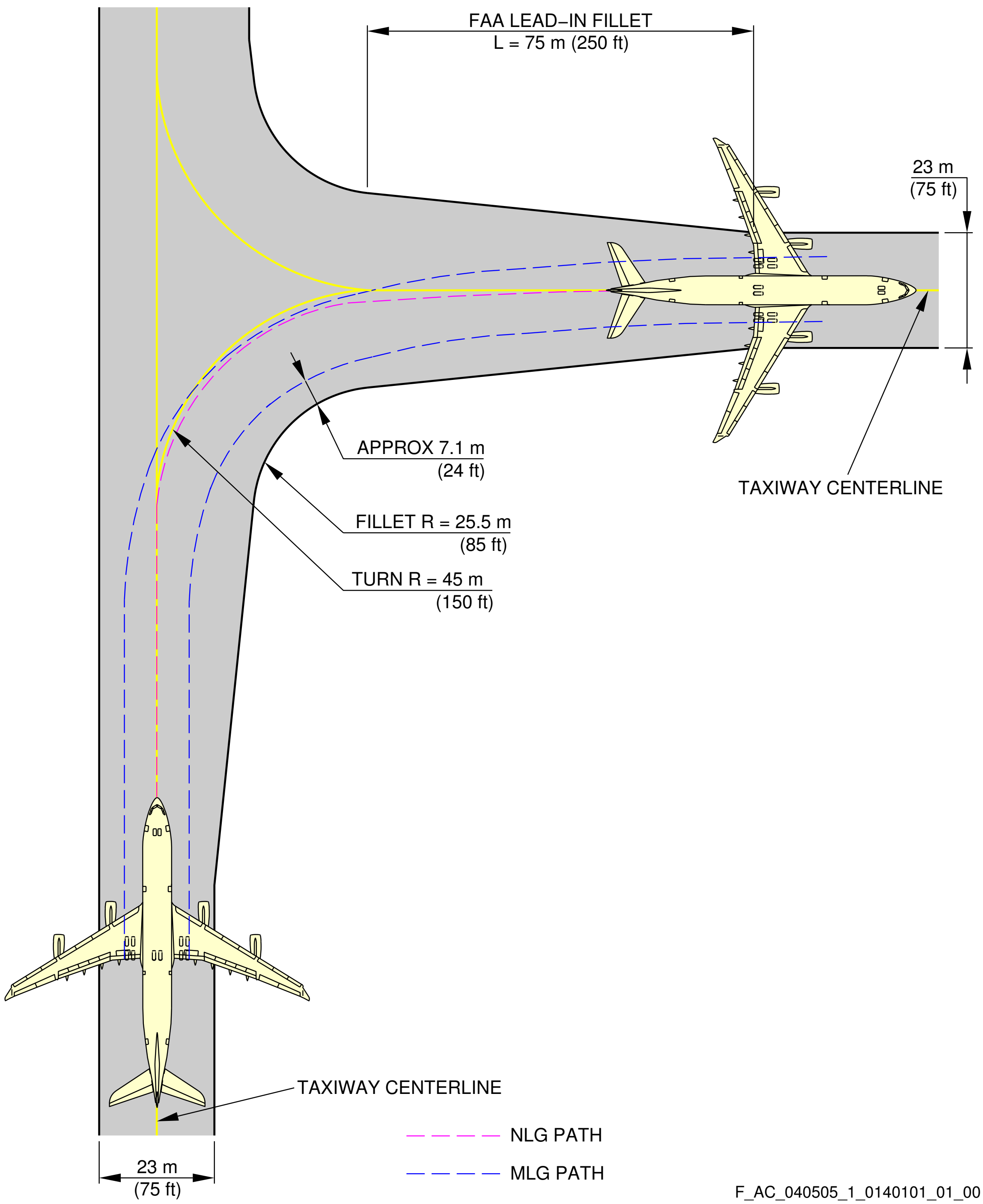
90° Turn - Taxiway to Taxiway
Cockpit Over Centerline Method
FIGURE-4-5-5-991-013-A01

**ON A/C A340-200



90° Turn - Taxiway to Taxiway
Judgement Oversteering Method
FIGURE-4-5-5-991-006-A01

**ON A/C A340-200



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

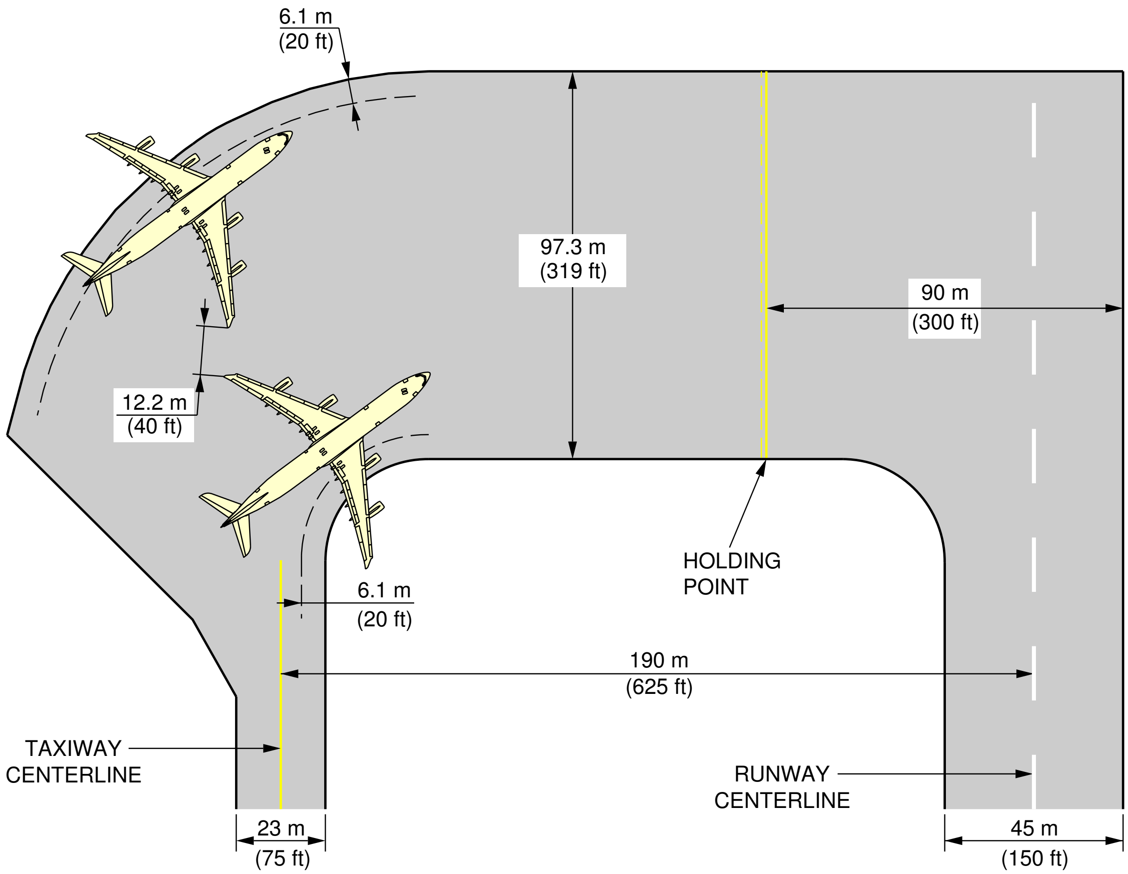
4-6-0 Runway Holding Bay (Apron)

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

Runway Holding Bay (Apron)

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

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



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

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Runway Holding Bay (Apron)
FIGURE-4-6-0-991-003-A01

4-7-0 Aircraft Parking

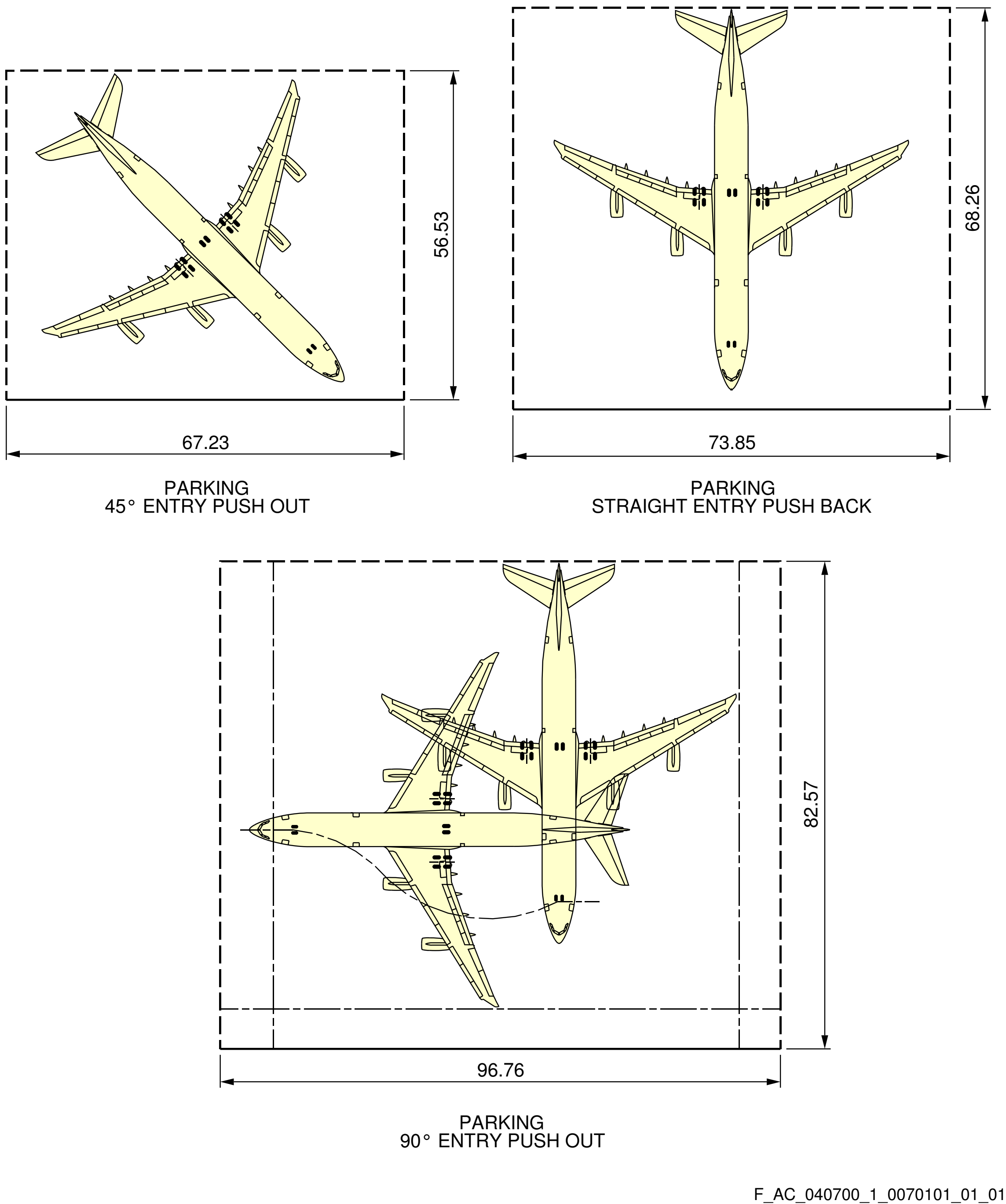
****ON A/C A340-200 A340-300**

Airplane Parking

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

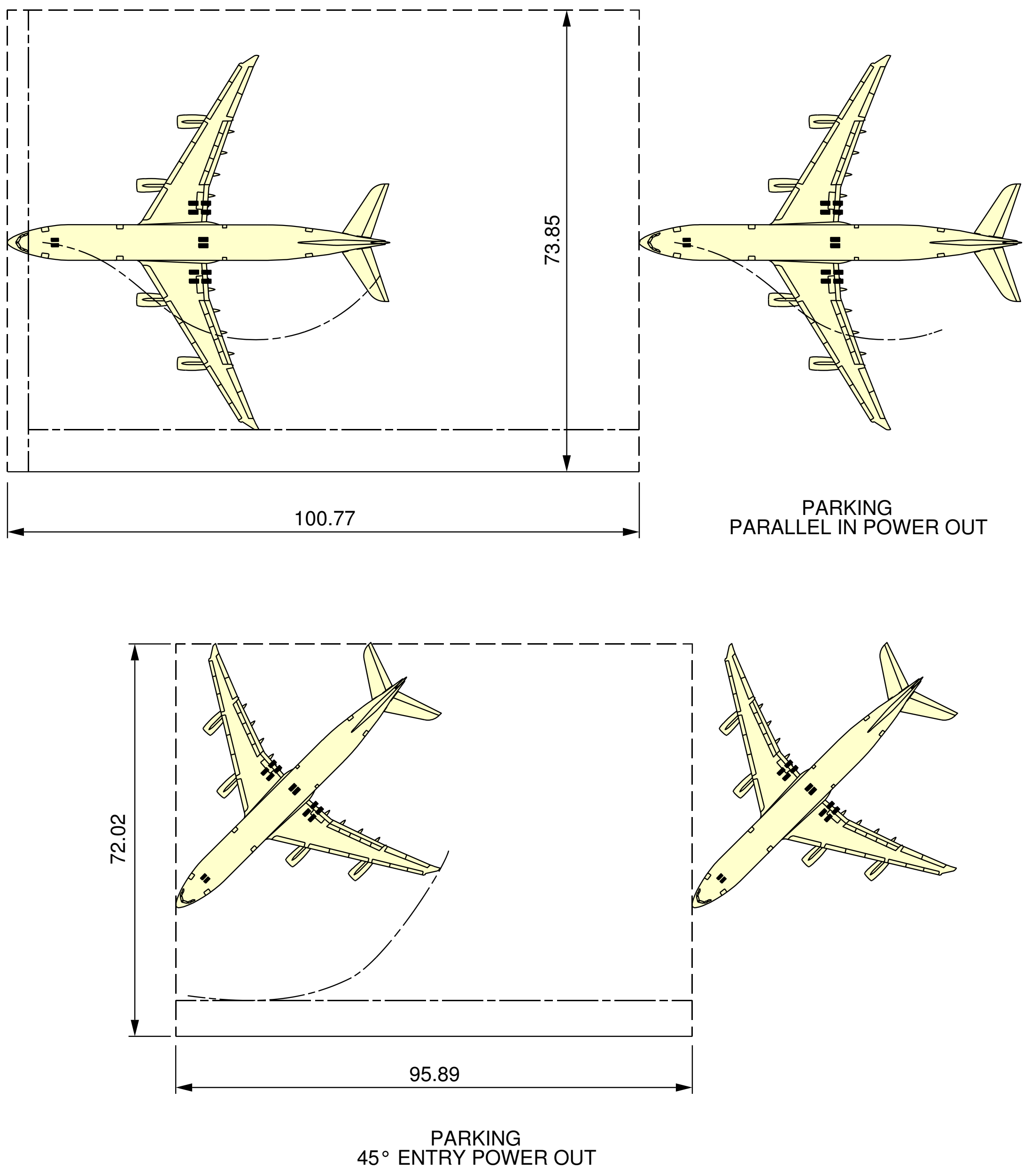
   The rectangle includes allowance for swinging the airplane on arrival and departure.
   - Steering Geometry
   - Minimum Parking Space Requirements

**ON A/C A340-300



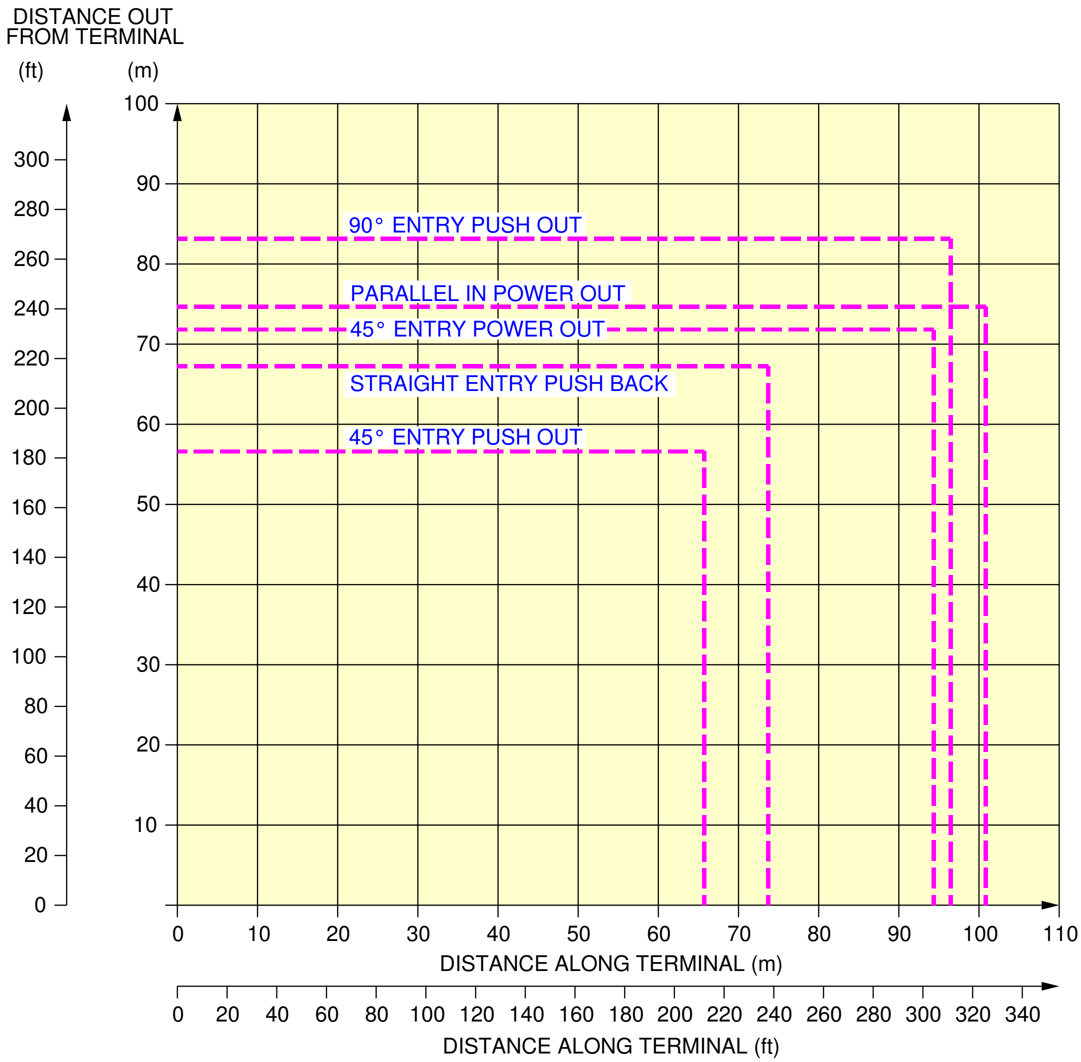
Airplane Parking
Steering Geometry
FIGURE-4-7-0-991-007-A01

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



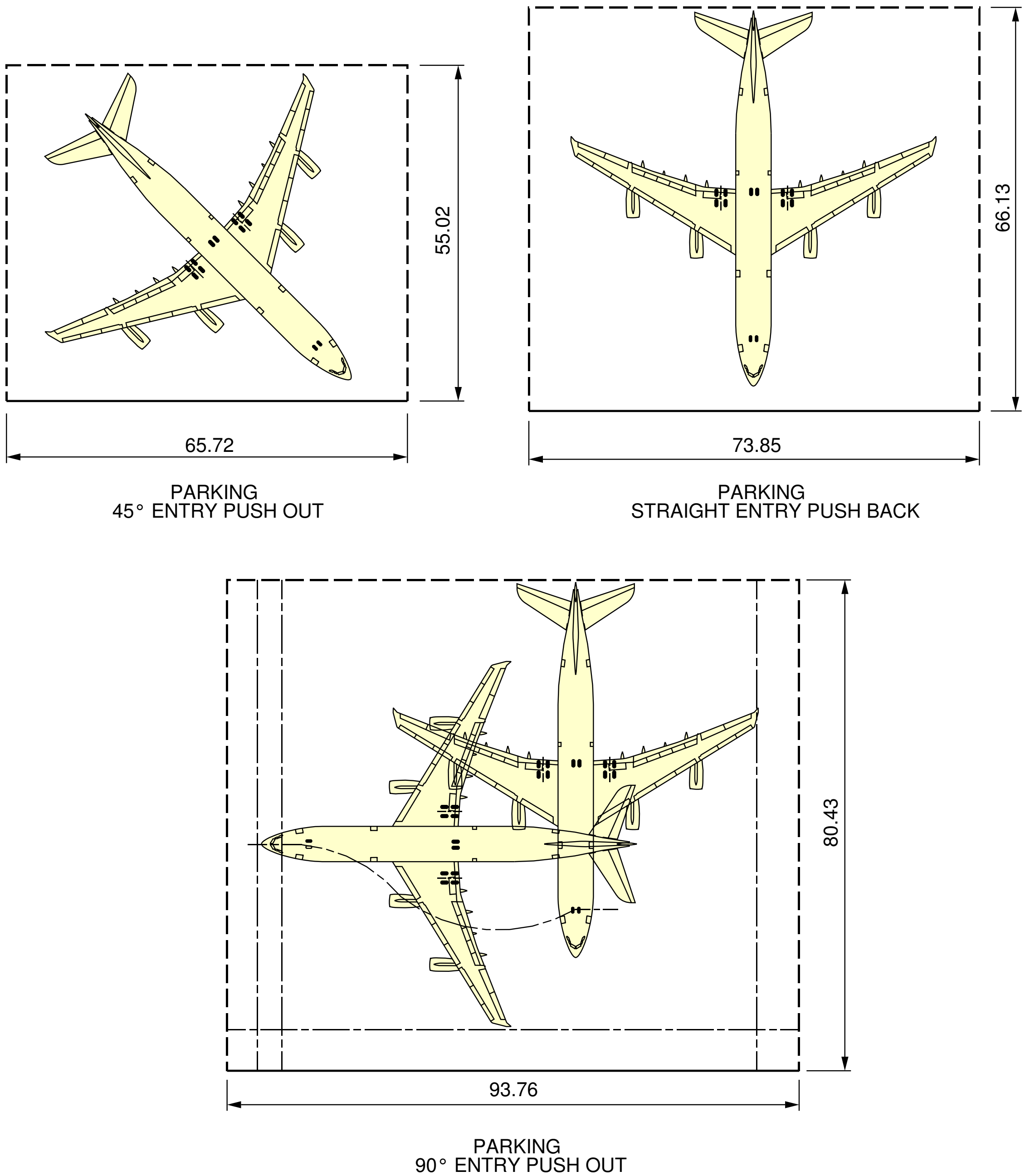
Airplane Parking
Steering Geometry
FIGURE-4-7-0-991-008-A01

**ON A/C A340-300



Airplane Parking
Minimum Parking Space Requirements
FIGURE-4-7-0-991-009-A01

**ON A/C A340-200



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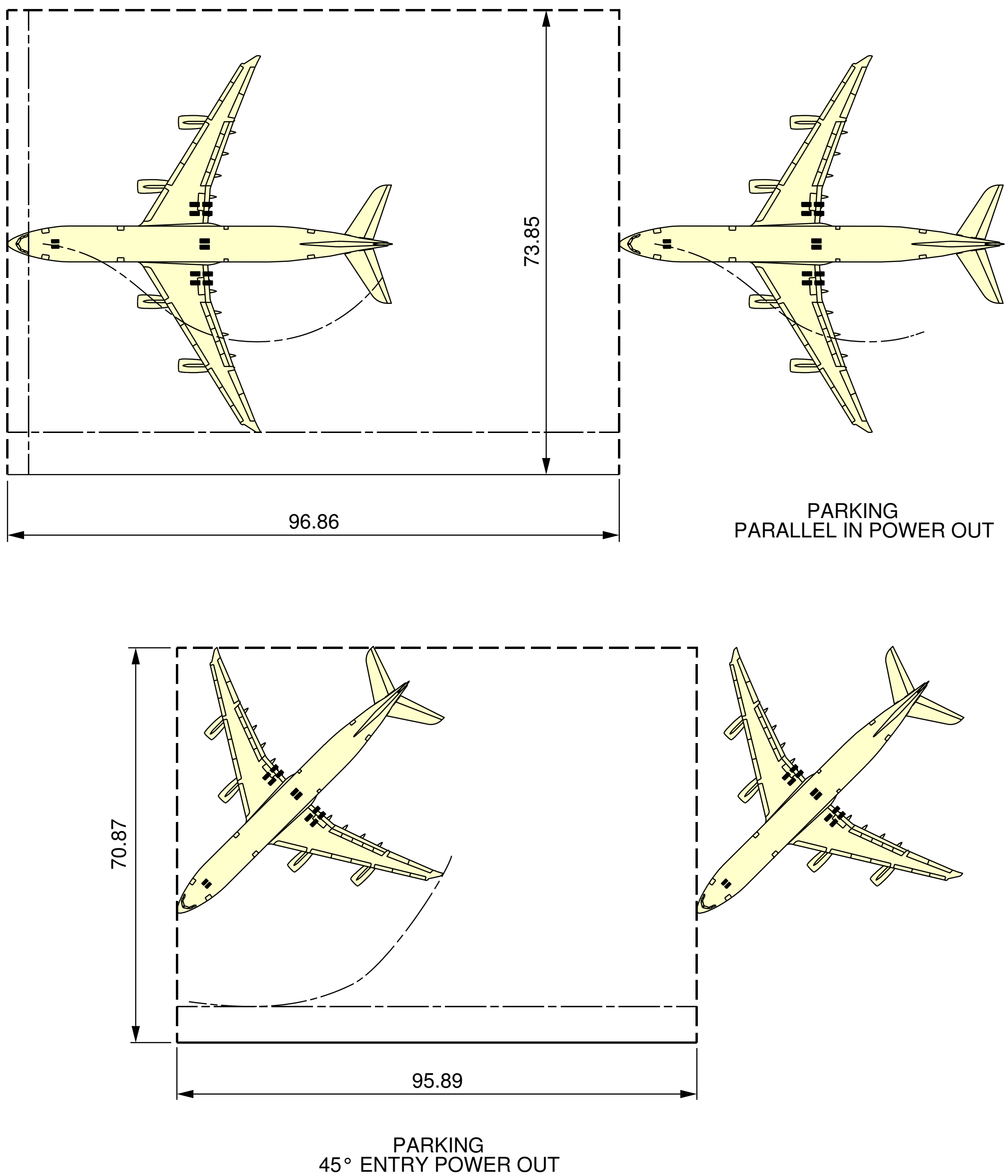
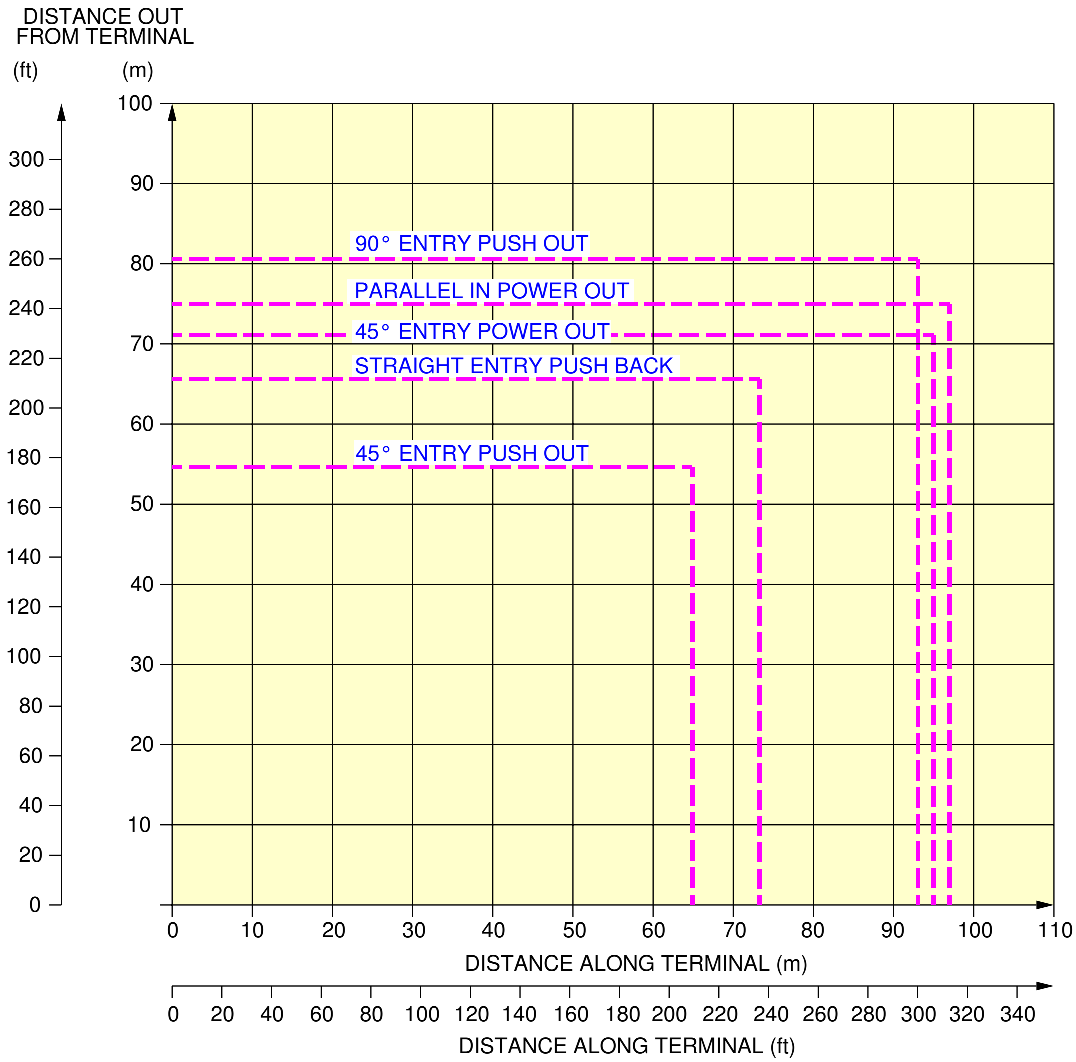
Airplane Parking
Steering Geometry
FIGURE-4-7-0-991-010-A01

**ON A/C A340-200



Airplane Parking
Steering Geometry
FIGURE-4-7-0-991-011-A01

**ON A/C A340-200



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Airplane Parking
Minimum Parking Space Requirements
FIGURE-4-7-0-991-012-A01

TERMINAL SERVICING

5-0-0 TERMINAL SERVICING

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

TERMINAL SERVICING

1. Terminal servicing

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

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

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

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

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

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

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

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

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

5-1-0 Aircraft Servicing Arrangements

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

Airplane Servicing Arrangements

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

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

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

5-1-1 Symbols Used on Servicing Diagrams

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

Symbols Used on Servicing Diagrams

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

Ground Support Equipment	
AC	AIR CONDITIONING UNIT
AS	AIR START UNIT
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

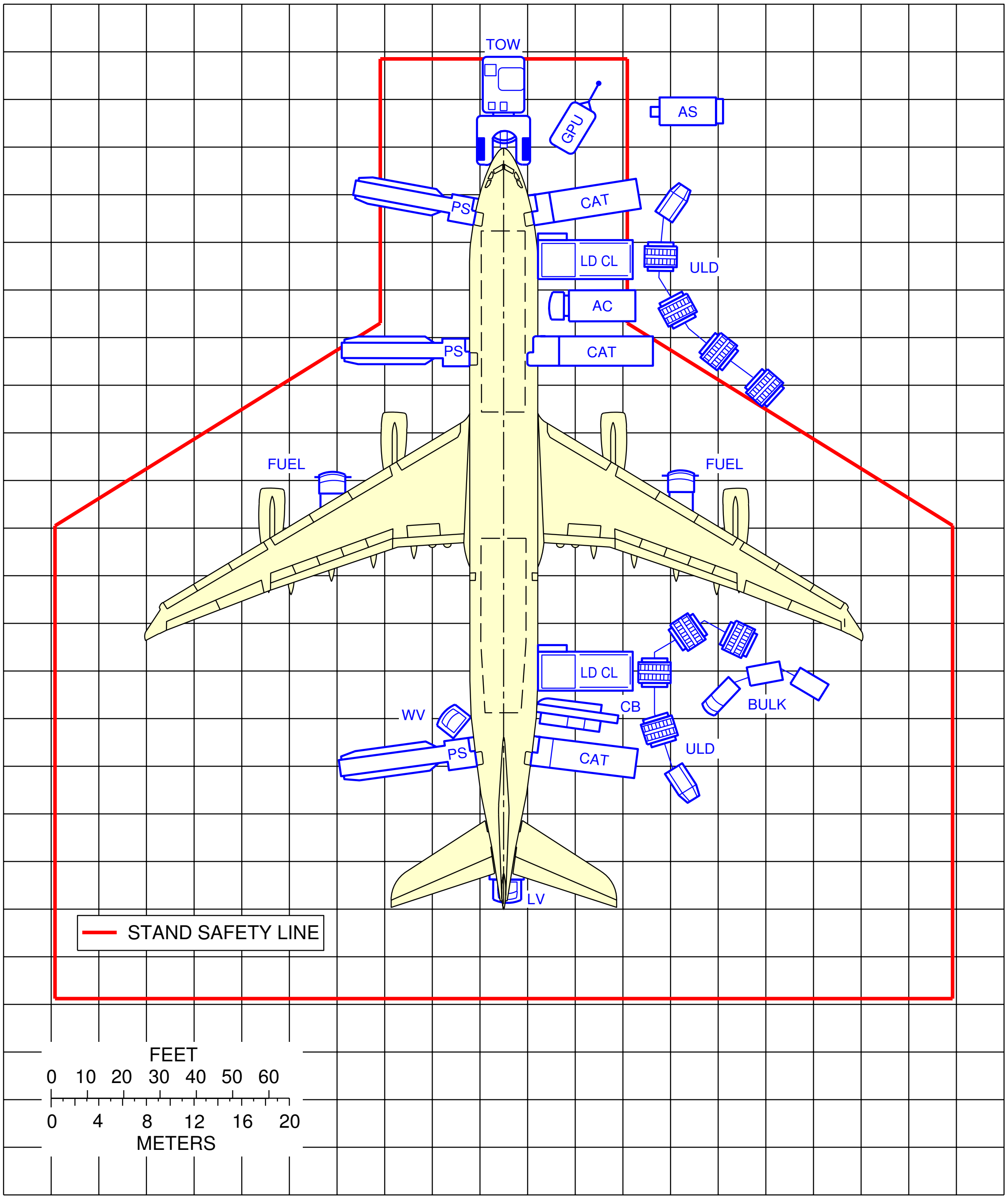
5-1-2 Typical Ramp Layout - Open Apron

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

Typical Ramp Layout - Open Apron

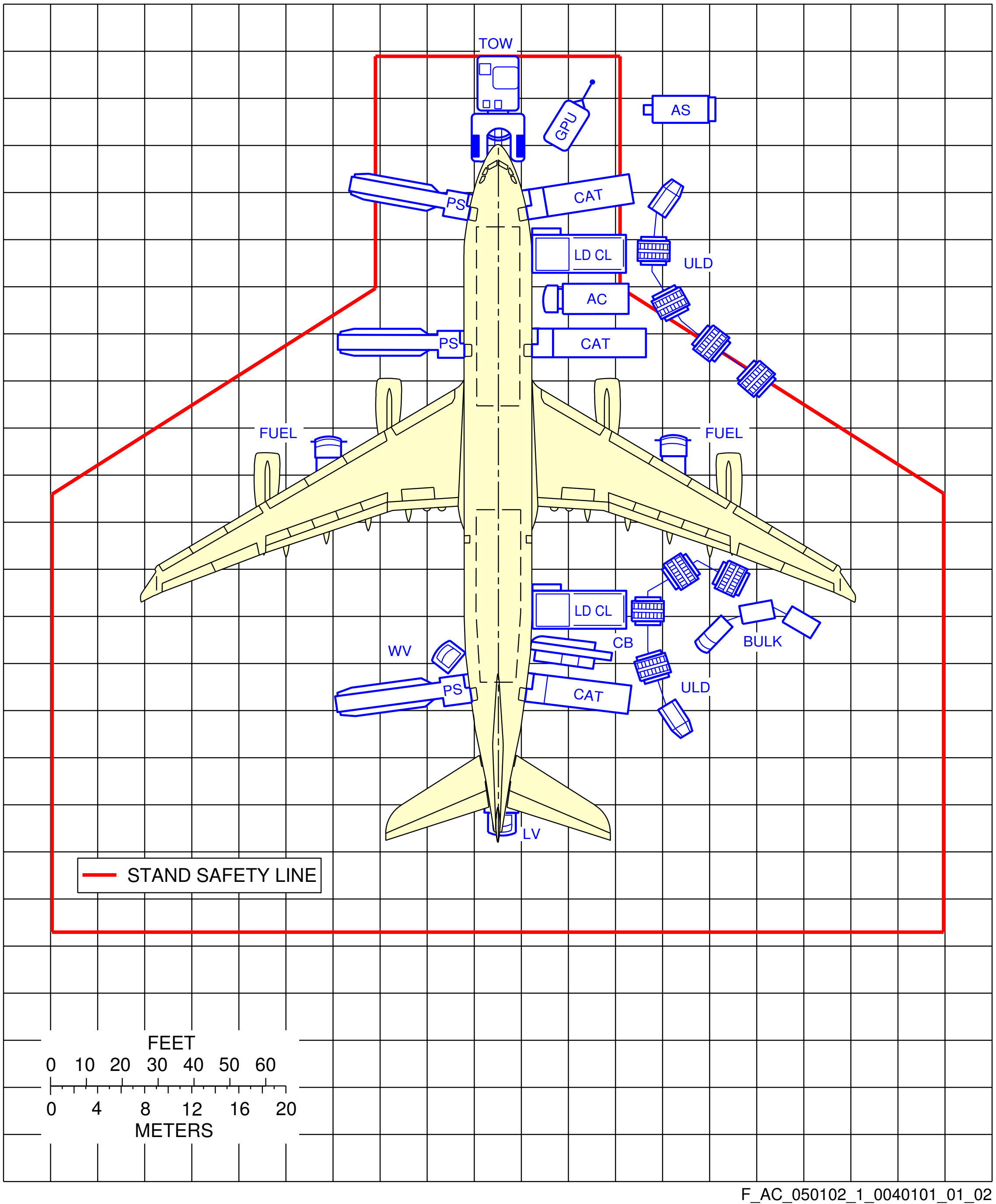
1. This section gives the typical servicing arrangements on the open apron, for the passenger version of the aircraft.
   The Stand Safety Line delimits the Aircraft Safety Area (minimum distance of 7.5 m (24.61 ft) from the aircraft). No vehicle must be parked in this area before complete stop of the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

**ON A/C A340-300



Typical Ramp Layout
Open Apron
FIGURE-5-1-2-991-003-A01

**ON A/C A340-200



Typical Ramp Layout
Open Apron
FIGURE-5-1-2-991-004-A01

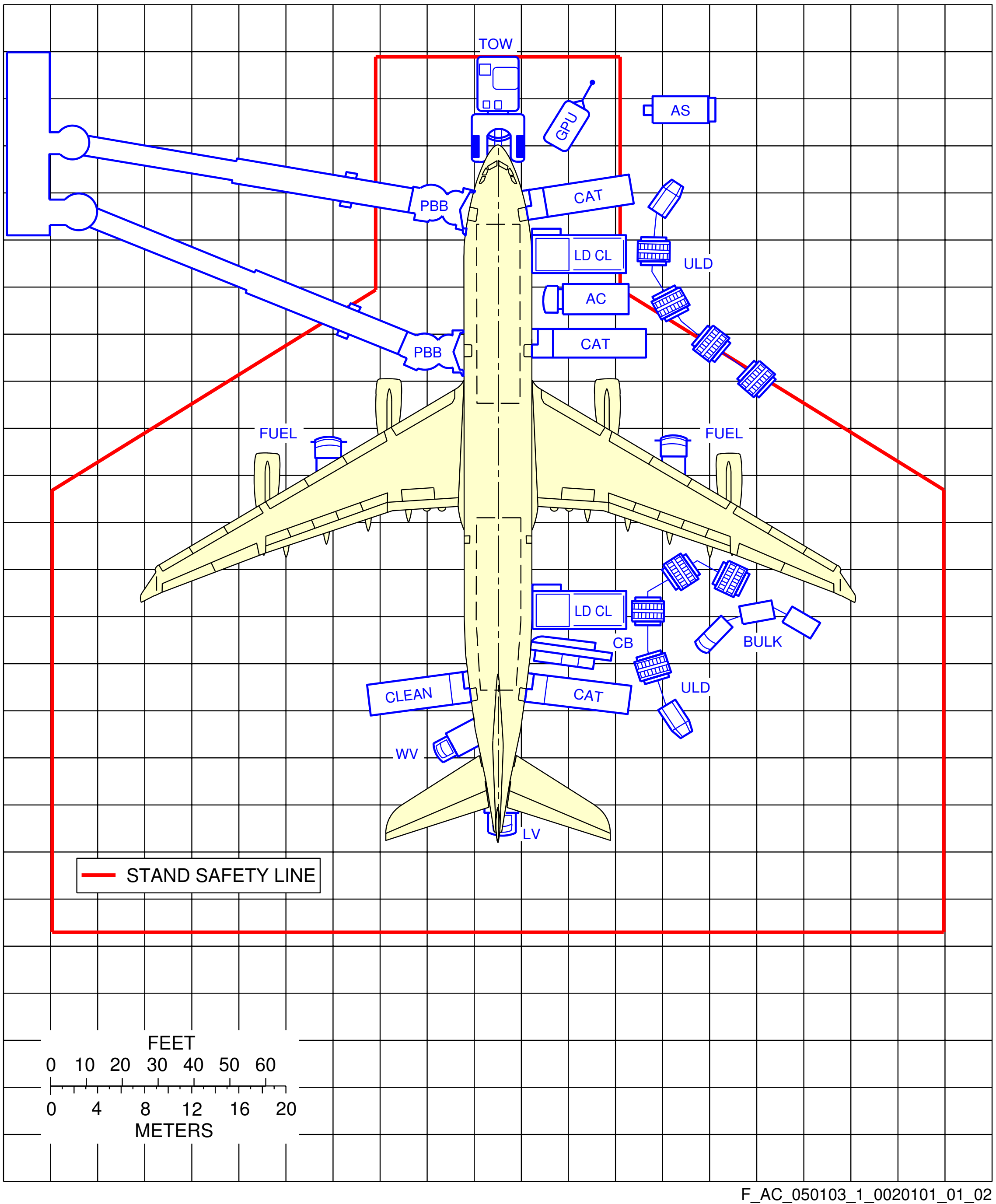
5-1-3 Typical Ramp Layout - Gate

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

Typical Ramp Layout - Gate

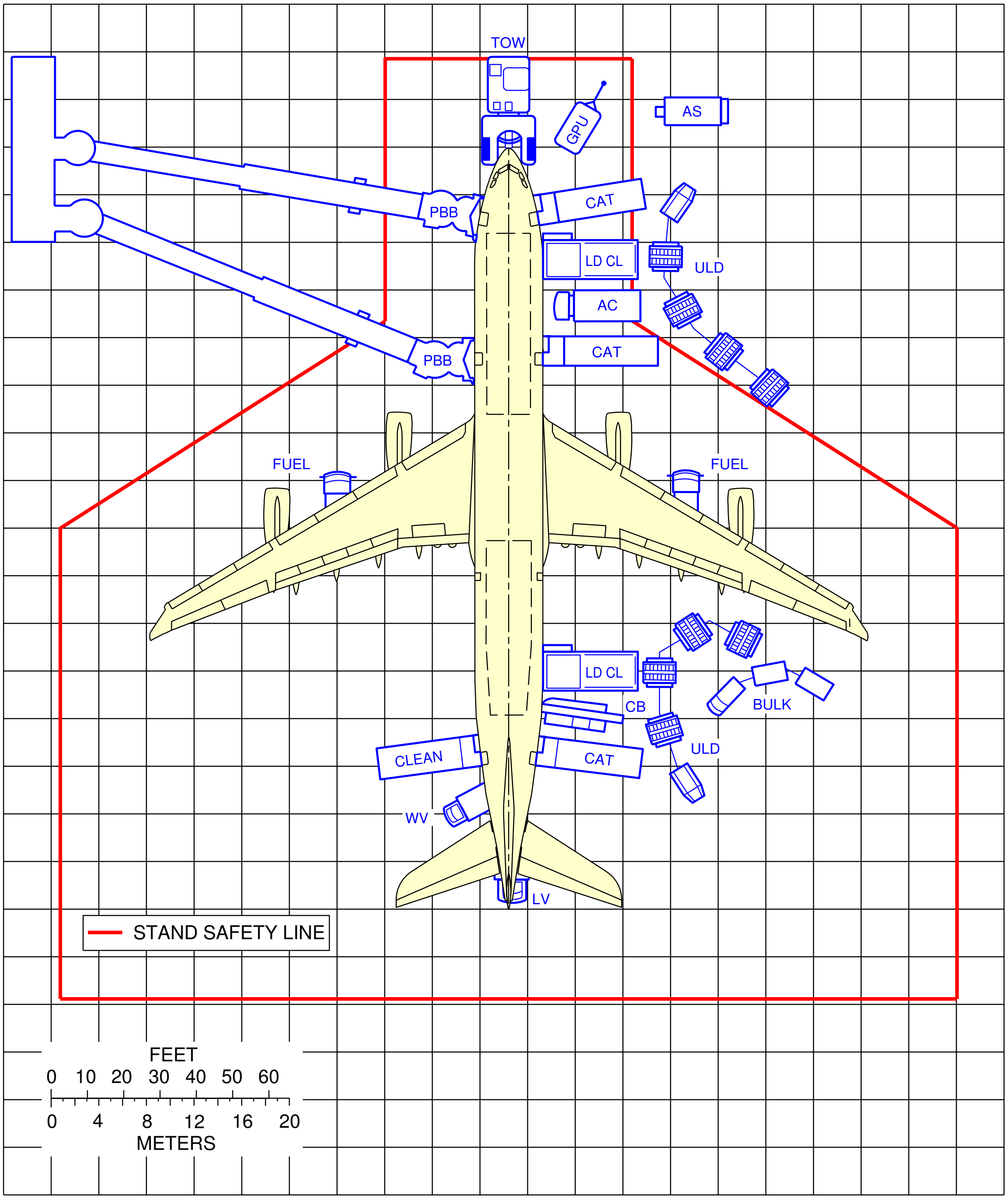
1. This section gives the typical servicing arrangements in the gate area for the passenger version of the aircraft, with two Passenger Boarding Bridges.
   The Stand Safety Line delimits the Aircraft Safety Area (minimum distance of 7.5 m (24.61 ft) from the aircraft). No vehicle must be parked in this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

**ON A/C A340-300



Typical Ramp Layout
Gate
FIGURE-5-1-3-991-002-A01

**ON A/C A340-200



Typical Ramp Layout
Gate
FIGURE-5-1-3-991-003-A01

5-2-0 Terminal Operations - Full Servicing

**ON A/C A340-300

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
      270 pax (10 F/C + 28 B/C + 232 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:
      - 135 pax at door L1 (10 F/C + 28 B/C + 97 Y/C)
      - 135 pax at door L2 (135 Y/C)
      - Deboarding rate = 25 pax/min per door
      - Priority deboarding for premium passengers

      Boarding:
      - 135 pax at door L1 (10 F/C + 28 B/C + 97 Y/C)
      - 135 pax at door L2 (135 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:
      - 8 LD3 + 2 pallets in AFT cargo compartment
      - 12 LD3 + 2 pallets in FWD 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 2 nozzles
127 000 l (33 550 US gal) at 50 psi (3.45 bar)
Dispenser positioning/removal = 3 min

D. CLEANING
Performed in available time

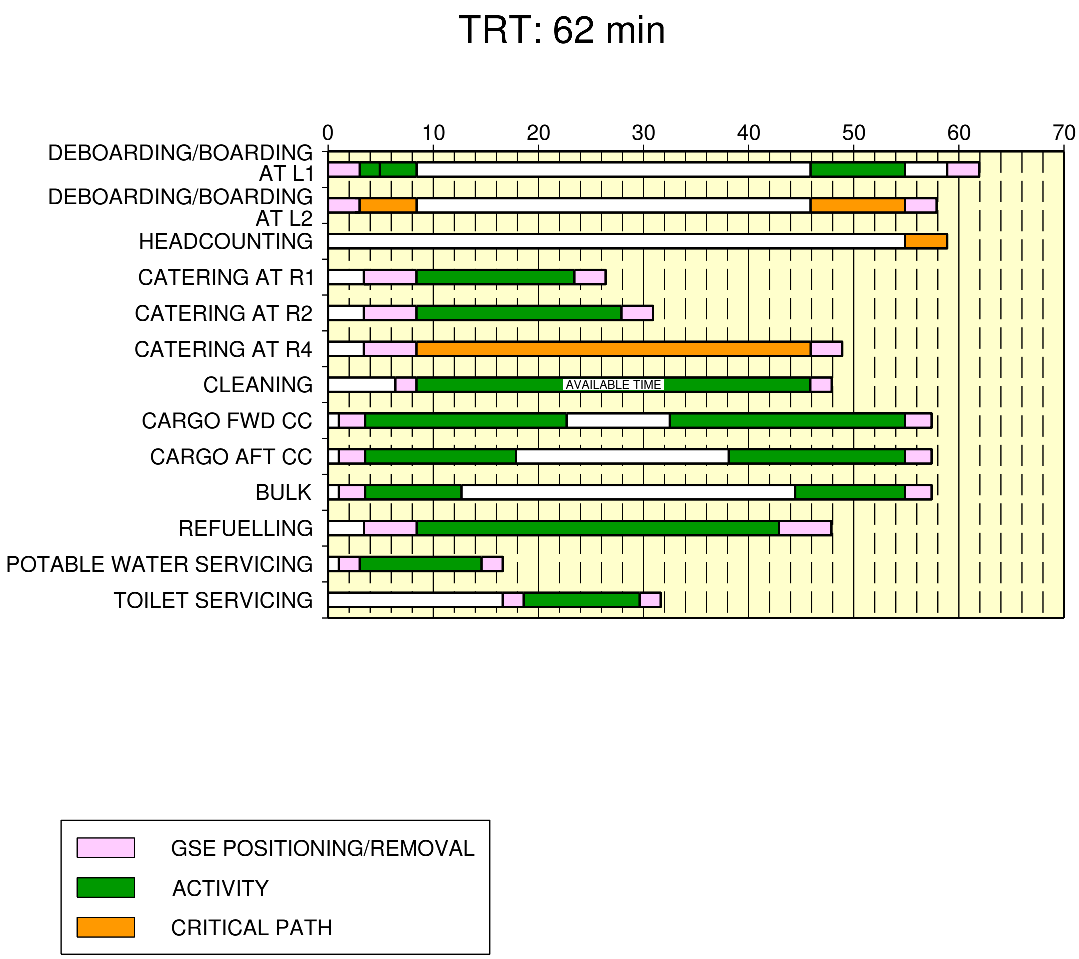
E. CATERING
3 catering trucks for servicing galleys at doors R1, R2 and R4
Equipment positioning + door opening = 5 min
Equipment removal + door closing = 3 min
Full Size Trolley Equivalent (FSTE) to unload and load: 48 FSTE
- 10 FSTE at door R1
- 13 FSTE at door R2
- 25 FSTE at door R4

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 A340-300



Full Servicing Turn Round Time Chart
FIGURE-5-2-0-991-004-A01

**ON A/C A340-200

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
      231 pax (10 F/C + 42 B/C + 179 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:
      - 116 pax at door L1 (10 F/C + 42 B/C + 64 Y/C)
      - 115 pax at door L2 (115 Y/C)
      - Deboarding rate = 25 pax/min per door
      - Priority deboarding for premium passengers

      Boarding:
      - 116 pax at door L1 (10 F/C + 42 B/C + 64 Y/C)
      - 115 pax at door L2 (115 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:
      - 6 LD3 + 2 pallets in AFT cargo compartment
      - 8 LD3 + 2 pallets in FWD 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
127 000 l (33 550 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: 36 FSTE
- 7 FSTE at door R1
- 9 FSTE at door R2
- 20 FSTE at door R4

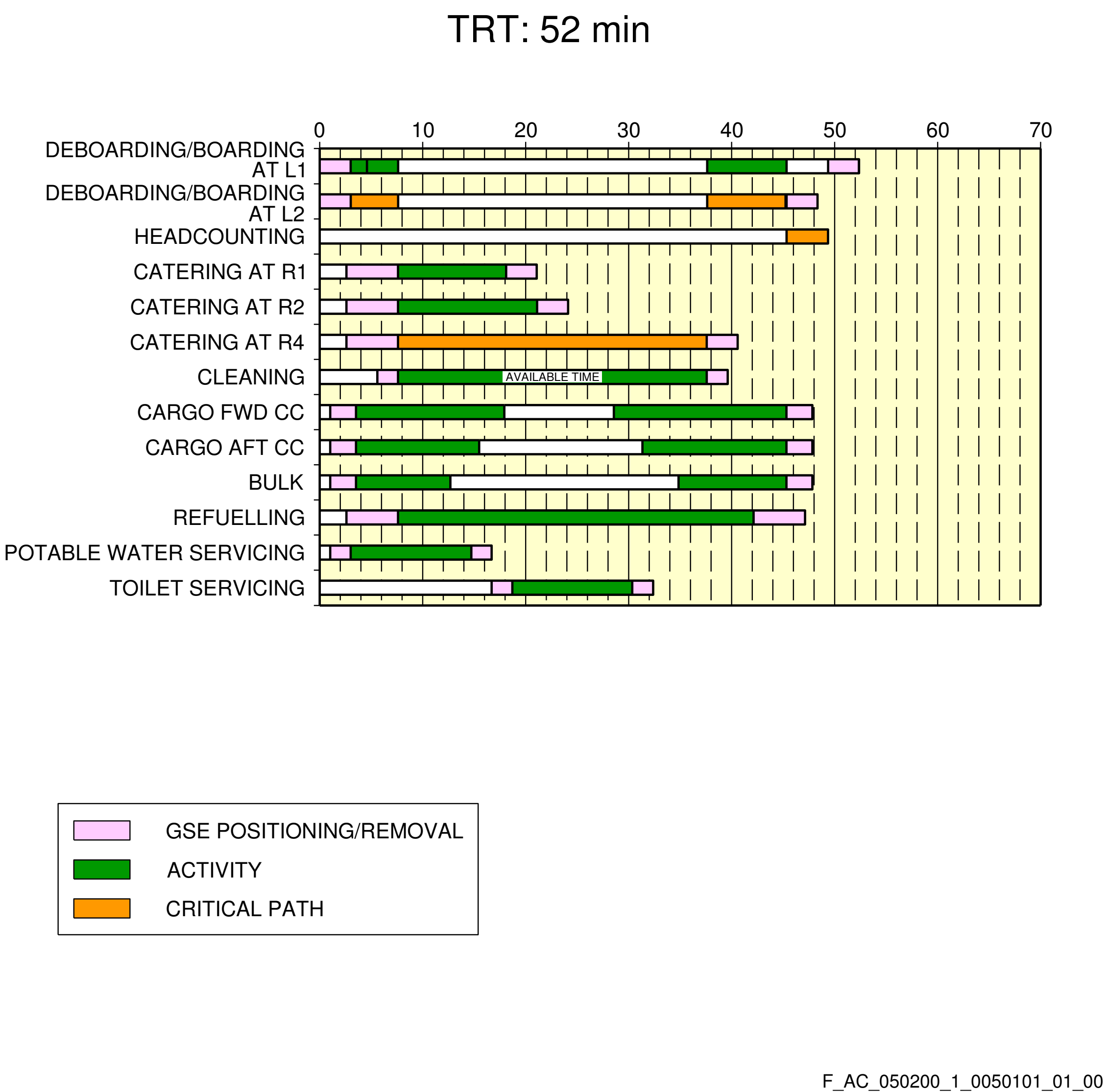
Time for trolley exchange = 1.5 min per FSTE

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 A340-200



Full Servicing Turn Round Time Chart
FIGURE-5-2-0-991-005-A01

5-3-0 Terminal Operations - Transit

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

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
   270 pax (10 F/C + 38 B/C + 222 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:
   - 135 pax at door L1
   - Deboarding rate = 25 pax/min per door

   Boarding:
   - 135 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

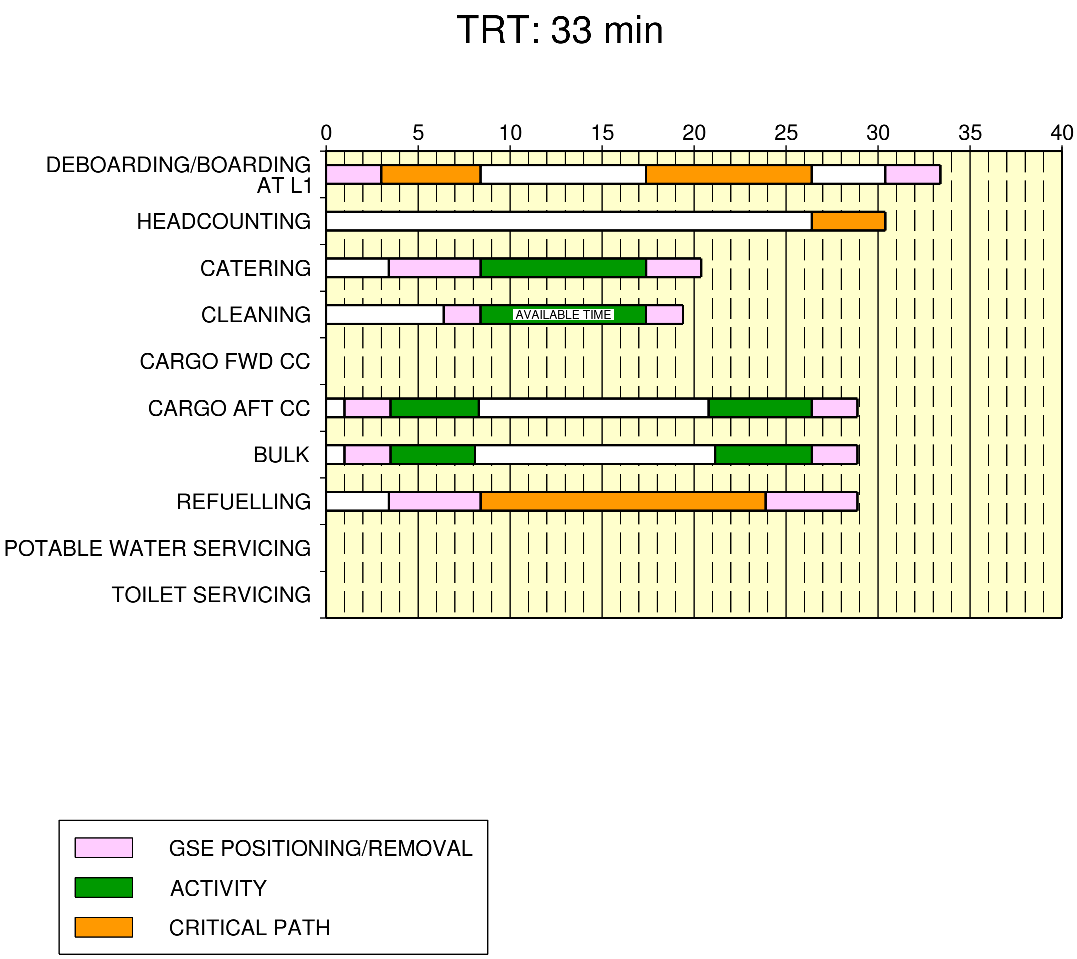
F. GROUND HANDLING/SERVICING

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 A340-300



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Minimum Servicing Turn-Round Time
FIGURE-5-3-0-991-005-A01

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

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
      231 pax (10 F/C + 42 B/C + 179 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:
      - 116 pax at door L1
      - Deboarding rate = 25 pax/min per door

      Boarding:
      - 116 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

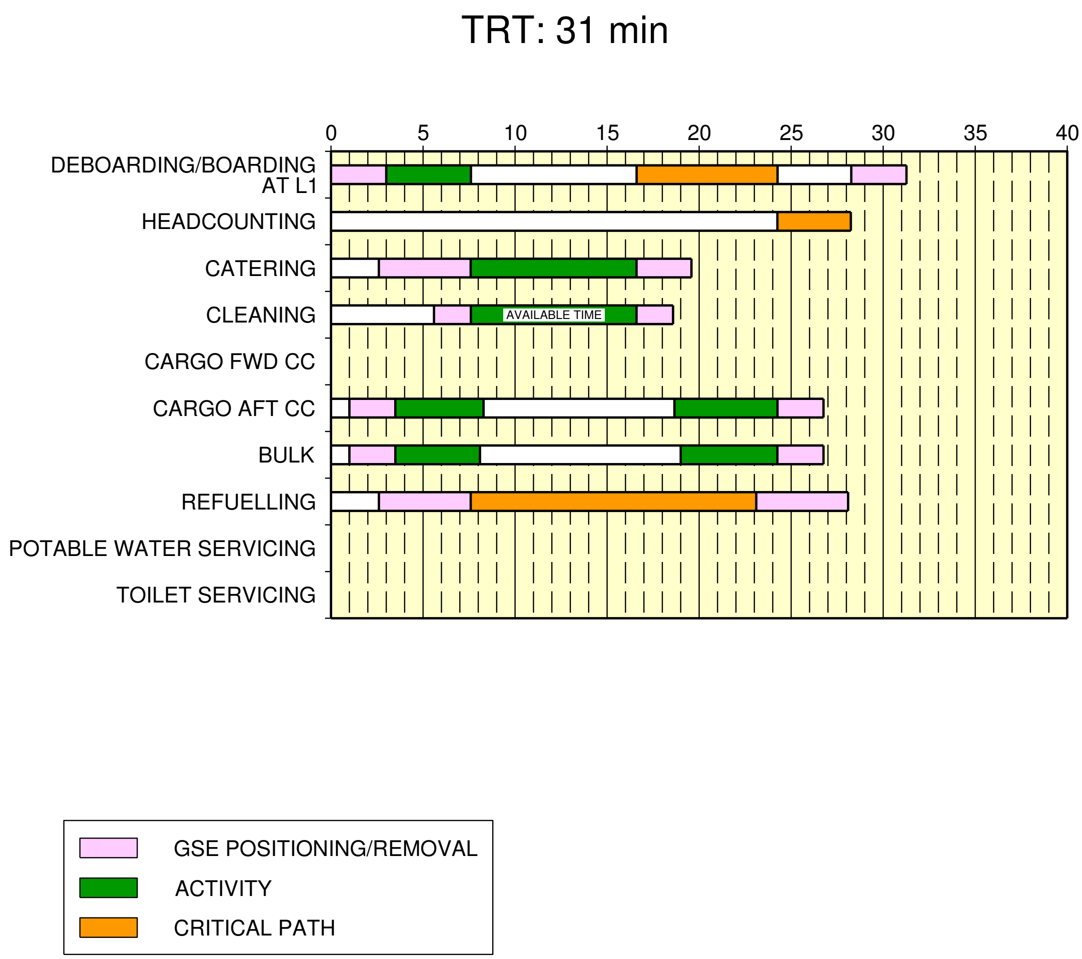
F. GROUND HANDLING/SERVICING

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 A340-200



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Minimum Servicing Turn-Round Time
FIGURE-5-3-0-991-006-A01

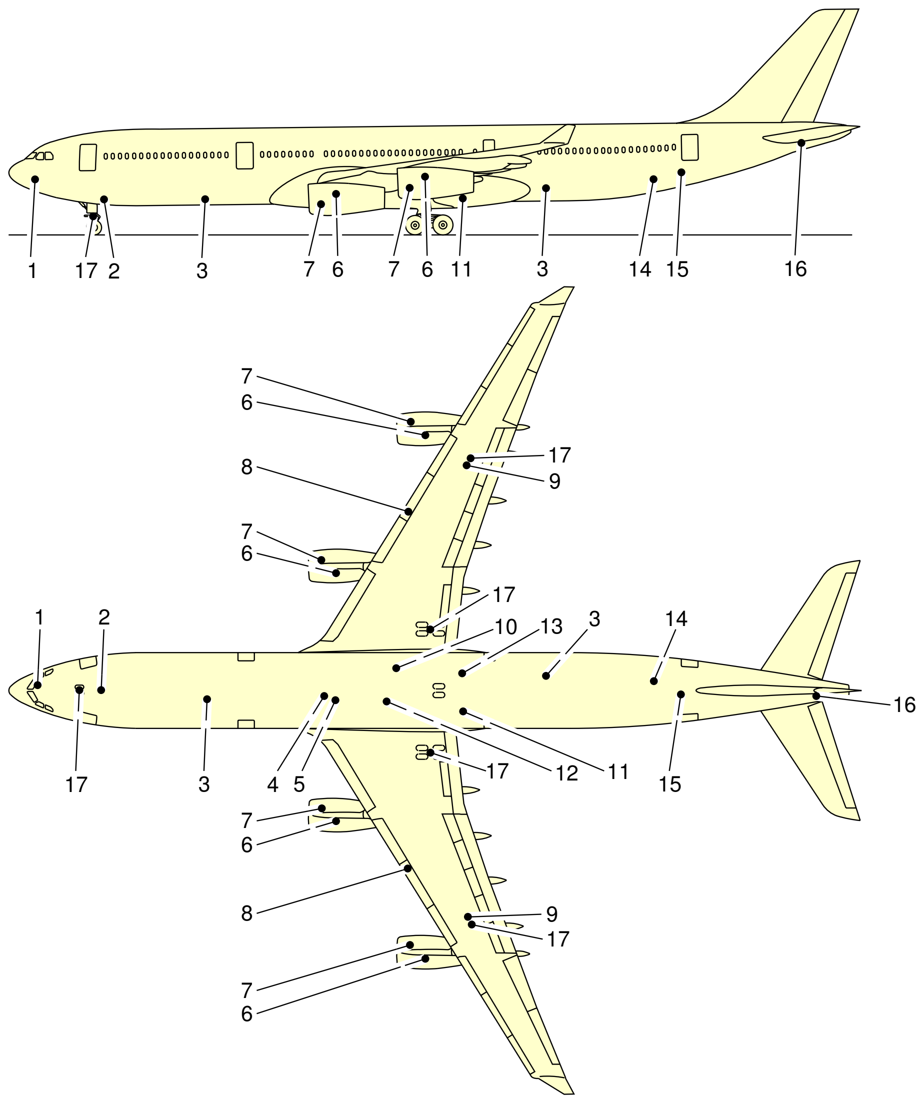
5-4-1 Ground Service Connections Layout

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

Ground Service Connections Layout

1. This section gives the ground service connections layout.

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



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

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Ground Service Connections Layout
FIGURE-5-4-1-991-003-A01

5-4-2 Grounding Points

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

Grounding Points

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

1. Grounding Points.

	DISTANCE: Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
On Nose Landing Gear leg:	6.57 m (21.56 ft)	on centerline		1.40 m (4.59 ft)
On left Main Landing Gear leg:	31.58 m (103.61 ft)		5.34 m (17.52 ft)	1.50 m (4.92 ft)
On right Main Landing Gear leg:	31.58 m (103.61 ft)	5.34 m (17.52 ft)		1.50 m (4.92 ft)

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

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

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

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

2. Grounding Points.

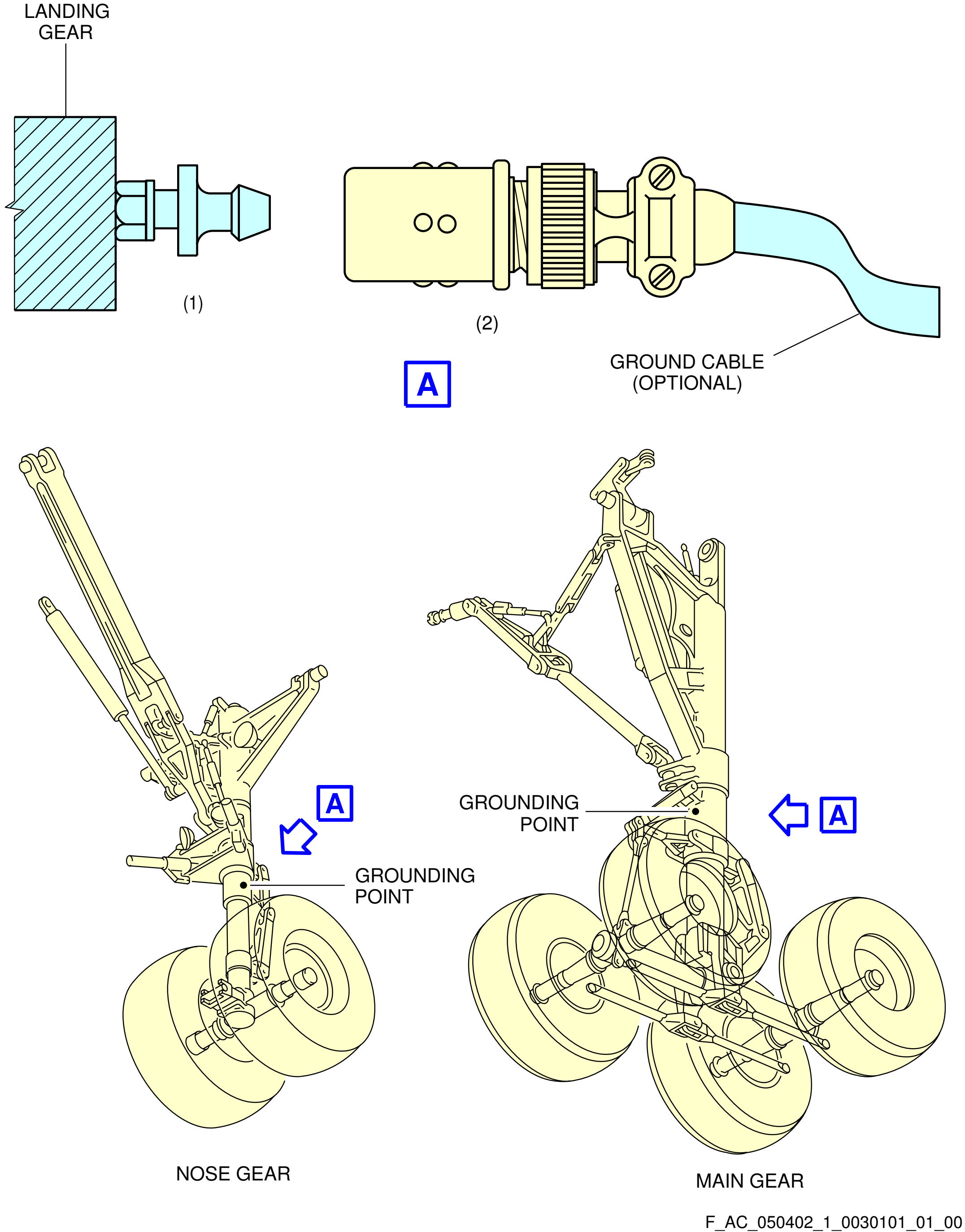
	DISTANCE: Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		R SIDE	L SIDE	
On Nose Landing Gear leg:	6.57 m (21.56 ft)	on centerline		1.40 m (4.59 ft)
On left Main Landing Gear leg:	29.40 m (96.46 ft)		5.34 m (17.52 ft)	1.50 m (4.92 ft)
On right Main Landing Gear leg:	29.40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

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

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

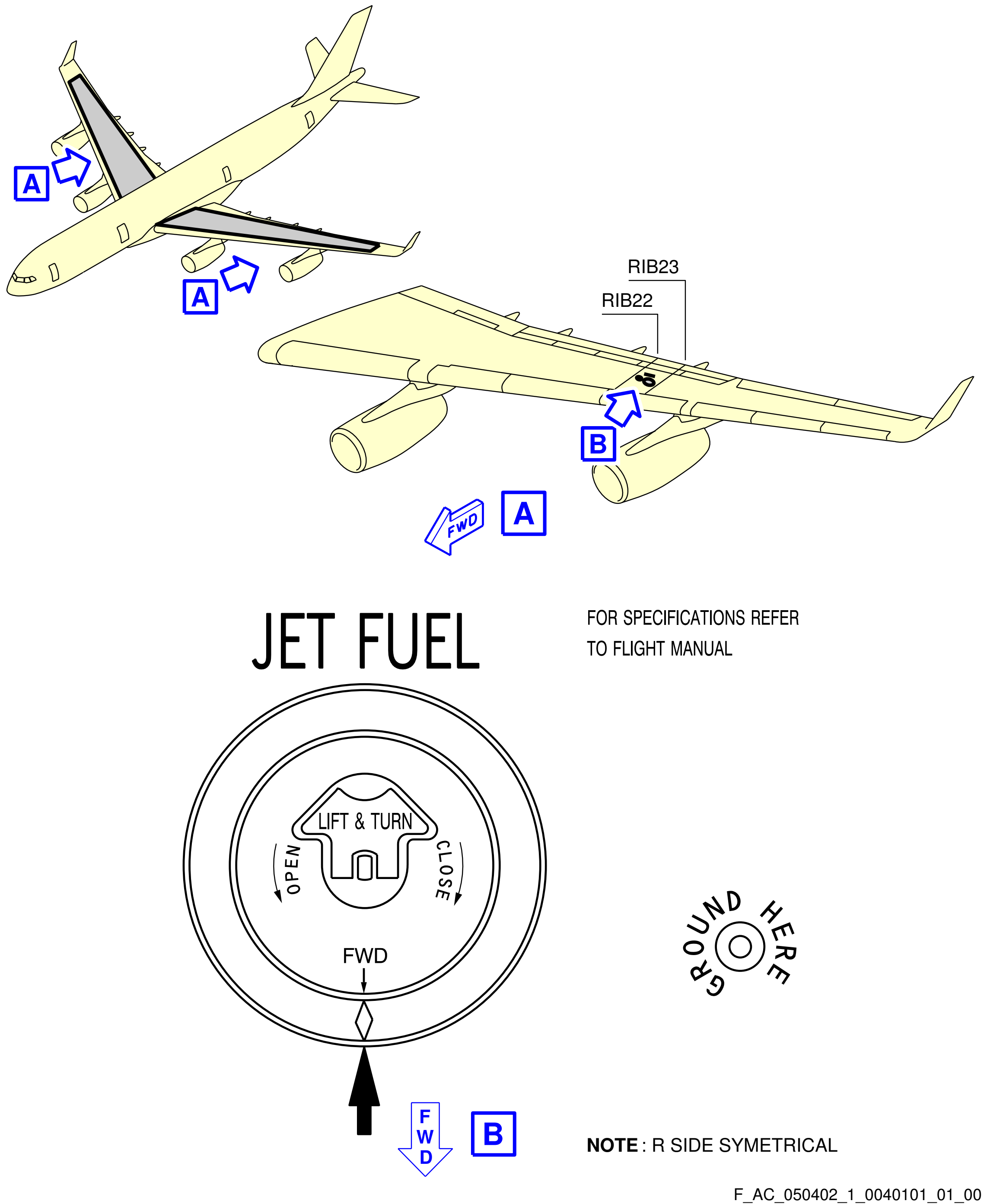
NOTE : In all other conditions, the electrostatic discharge through the tyre is sufficient.

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



Ground Service Connections
Grounding Points
FIGURE-5-4-2-991-003-A01

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



Ground Service Connections
Grounding Points
FIGURE-5-4-2-991-004-A01

5-4-3 Hydraulic System

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

Hydraulic System

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

1. Ground Service Panels

ACCESS	DISTANCE			
	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
Green System: (Access Door 197CB)	41.3 m (135.5 ft)	-	1.34 m (4.4 ft)	2.23 m (7.32 ft)
Yellow System: (Access Door 196BB)	35.4 m (116.14 ft)	1.3 m (4.27 ft)	-	1.95 m (6.4 ft)
Blue System: (Access Door 195BB)	34.41 m (112.89 ft)	-	1.28 m (4.2 ft)	1.94 m (6.36 ft)

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

2. Ground Service Panels

ACCESS	DISTANCE			
	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
Green System: (Access Door 197CB)	39.17 m (128.51 ft)	-	1.34 m (4.4 ft)	2.23 m (7.32 ft)
Yellow System: (Access Door 196BB)	33.27 m (109.15 ft)	1.3 m (4.27 ft)	-	1.95 m (6.4 ft)
Blue System: (Access Door 195BB)	32.28 m (105.91 ft)	-	1.28 m (4.2 ft)	1.94 m (6.36 ft)

**ON A/C A340-300

3. Reservoir Pressurization

ACCESS	DISTANCE			
	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
One 1/4 in. self-sealing connection common to the 3 reservoirs. (Blue System Ground Service Panel): (Access Door 195BB)	34.47 m (113.09 ft)	-	1.41 m (4.63 ft)	1.89 m (6.2 ft)

**ON A/C A340-200

4. Reservoir Pressurization

ACCESS	DISTANCE			
	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
One 1/4 in. self-sealing connection common to the 3 reservoirs. (Blue System Ground Service Panel): (Access Door 195BB)	32.34 m (106.1 ft)	-	1.41 m (4.63 ft)	1.89 m (6.2 ft)

**ON A/C A340-300

5. Accumulator Charging

Five connections (one for each accumulator):

ACCESS	DISTANCE			
	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
Yellow System Accumulator: (Access Door 196BB)	35.55 m (116.63 ft)	1.43 m (4.69 ft)	-	1.91 m (6.27 ft)
Green System Accumulator: (Access Door 197CB)	41.52 m (136.22 ft)	-	1.33 m (4.36 ft)	2.19 m (7.19 ft)
Blue System Aaccumulator: (Access Door 195BB)	34.54 m (113.32 ft)	-	1.38 m (4.53 ft)	1.9 m (6.23 ft)
Blue System Brake Accumulator: (Access Door 195BB)	34.54 m (113.32 ft)	-	1.24 m (4.07 ft)	1.9 m (6.23 ft)

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

6. Accumulator Charging

Five connections (one for each accumulator):

ACCESS	DISTANCE			
	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
Yellow System Accumulator: (Access Door 196BB)	33.42 m (109.65 ft)	1.43 m (4.69 ft)	-	1.91 m (6.27 ft)
Green System Accumulator: (Access Door 197CB)	39.39 m (129.23 ft)	-	1.33 m (4.36 ft)	2.19 m (7.19 ft)
Blue System Accumulator: (Access Door 195BB)	32.41 m (106.33 ft)	-	1.38 m (4.53 ft)	1.9 m (6.23 ft)
Blue System Brake Accumulator: (Access Door 195BB)	32.41 m (106.33 ft)	-	1.18 m 3.87 ft	1.9 m (6.23 ft)

**ON A/C A340-300

7. Reservoir Filling

Two connections (one self-sealing connection for pressurized supply on the Green system ground service panel).

ACCESS	DISTANCE			
	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
One handpump filling connection (Access Door 197CB)	41.31 m (135.53 ft)	-	1.3 m (4.27 ft)	2.11 m (6.92 ft)

**ON A/C A340-200

8. Reservoir Filling

Two connections (one self-sealing connection for pressurized supply on the Green system ground service panel).

ACCESS	DISTANCE			
	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
One handpump filling connection (Access Door 197CB)	39.18 m (128.54 ft)	-	1.3 m (4.27 ft)	2.11 m (6.92 ft)

**ON A/C A340-300

9. Reservoir Drain

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

ACCESS	DISTANCE			
	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
Yellow System	29.03 m (95.24 ft)	2.12 m (6.96 ft)	-	2.4 m (7.87 ft)
Green System	33.17 m (108.83 ft)	-	0.7 m (2.3 ft)	3.8 m (12.47 ft)
Blue System	29.03 m (95.24 ft)	-	2.12 m (6.96 ft)	2.4 m (7.87 ft)

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

10. Reservoir Drain

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

ACCESS	DISTANCE			
	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
Yellow System	26.9 m (88.25 ft)	2.12 m (6.96 ft)	-	2.4 m (7.87 ft)
Green System	31.04 m (101.84 ft)	-	0.7 m (2.3 ft)	3.8 m (12.47 ft)
Blue System	26.9 m (88.25 ft)	-	2.12 m (6.96 ft)	2.4 m (7.87 ft)

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

11. Ground Test

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

ACCESS	DISTANCE			
	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
Green System Ground Service Panel: (Access Door 197CB)	34.92 m (114.57 ft)	-	1.35 m (4.43 ft)	2.2 m (7.22 ft)
Yellow System Ground Service Panel: (Access Door 196BB)	29.03 m (95.24 ft)	1.3 m (4.27 ft)	-	2 m (6.56 ft)
Blue System Ground Service Panel: (Access Door 195BB)	28.03 m (91.96 ft)	-	1.28 m (4.2 ft)	2 m (6.56 ft)

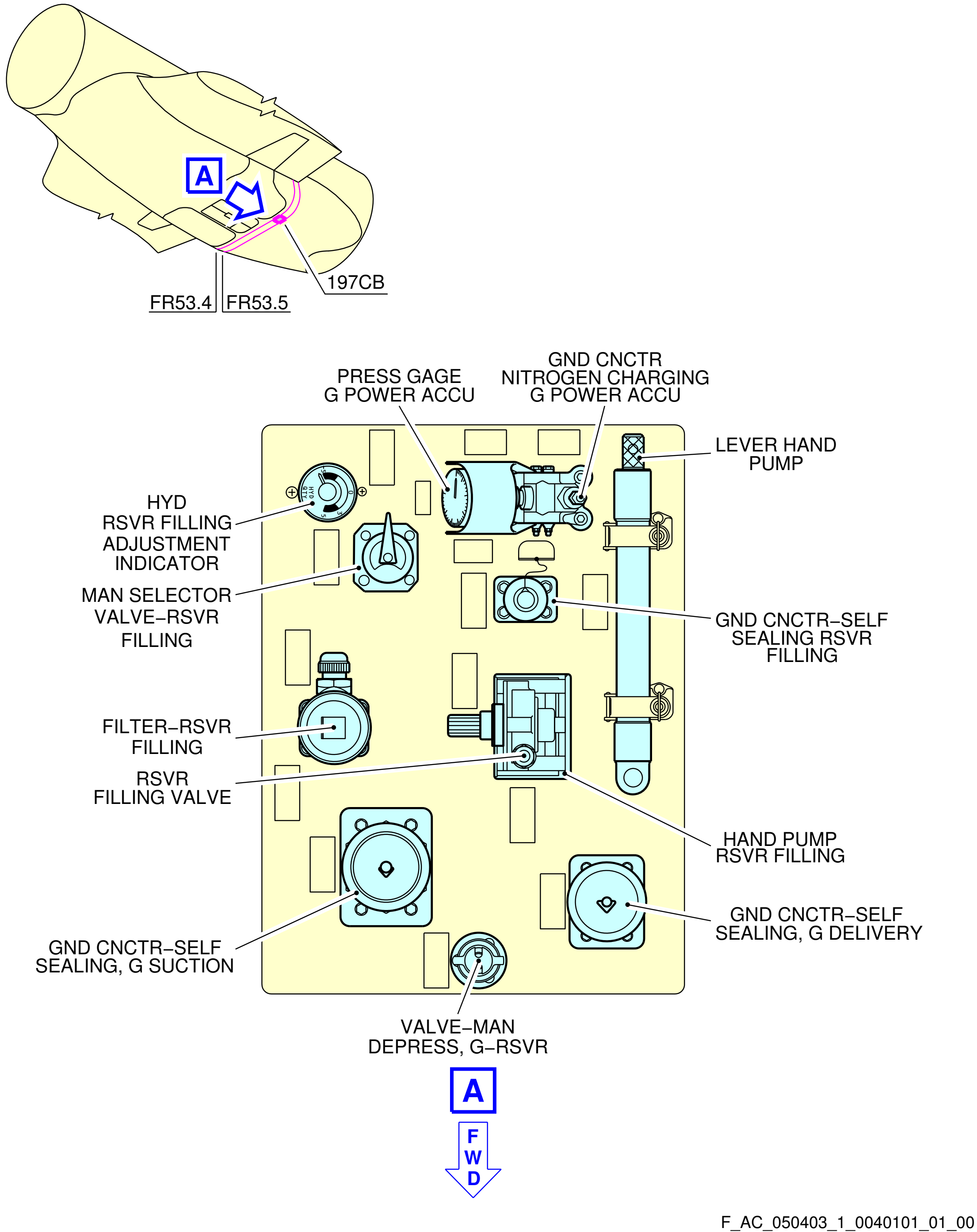
****ON A/C A340-200**

12. Ground Test

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

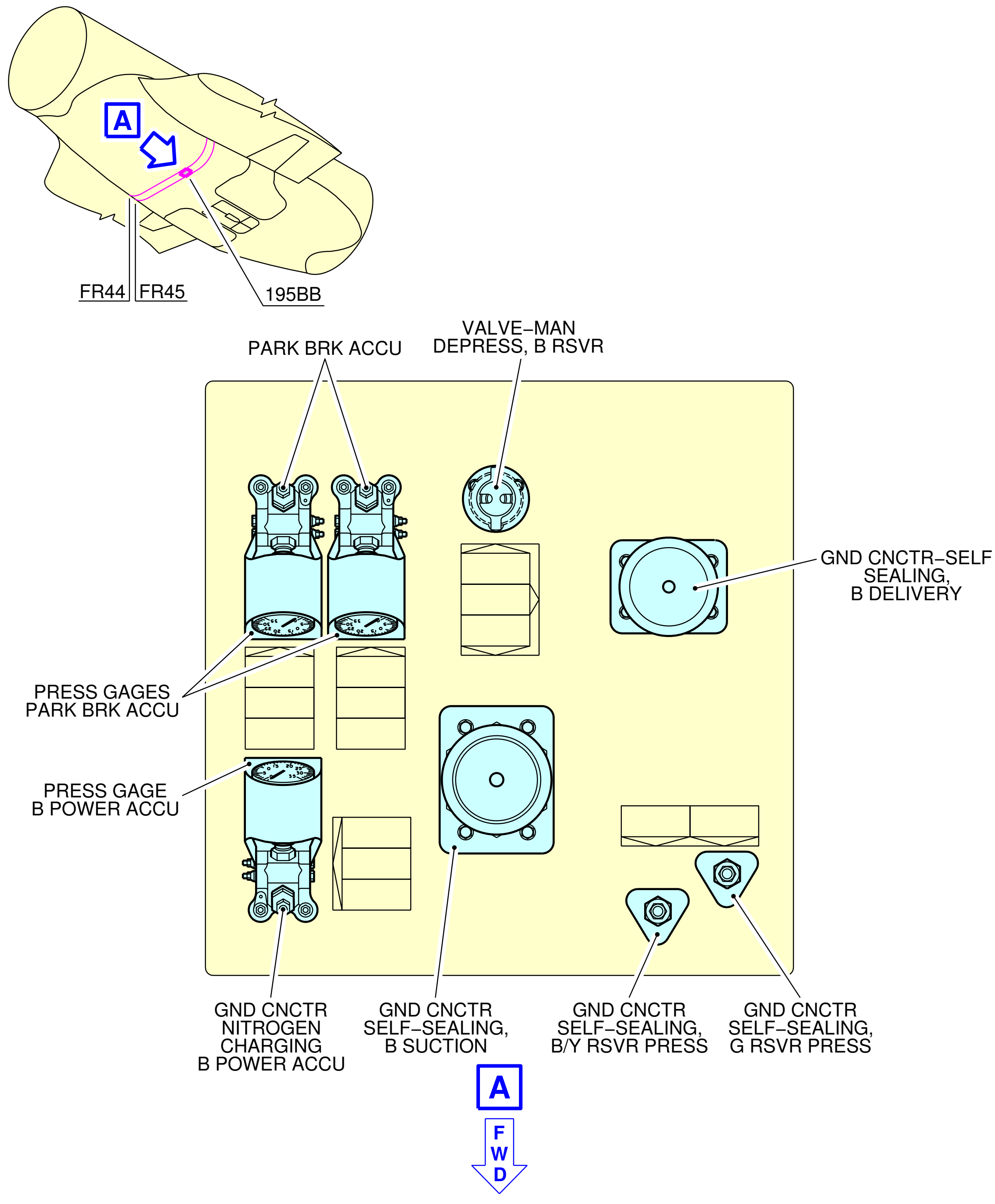
ACCESS	DISTANCE			
	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
Green System Ground Service Panel: (Access Door 197CB)	32.79 m (107.58 ft)	-	1.35 m (4.43 ft)	2.2 m (7.22 ft)
Yellow System Ground Service Panel: (Access Door 196BB)	26.9 m (88.25 ft)	1.3 m (4.27 ft)	-	2 m (6.56 ft)
Blue System Ground Service Panel: (Access Door 195BB)	25.9 m (84.97 ft)	-	1.28 m (4.2 ft)	2 m (6.56 ft)

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



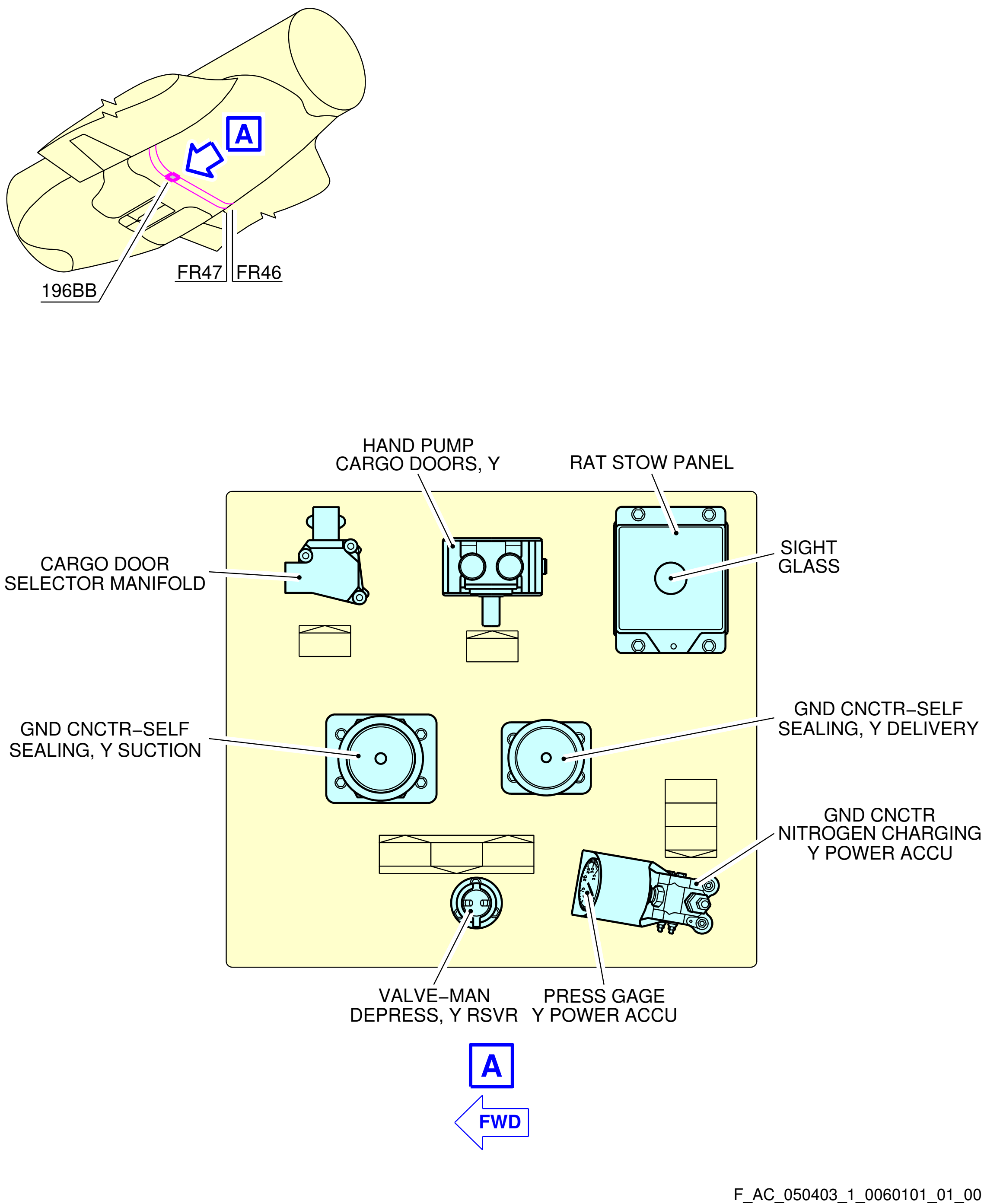
Ground Service Connections
Green System Ground Service Panel
FIGURE-5-4-3-991-004-A01

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



Ground Service Connections
Blue System Ground Service Panel
FIGURE-5-4-3-991-005-A01

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



Ground Service Connections
Yellow System Ground Service Panel
FIGURE-5-4-3-991-006-A01

5-4-4 Electrical System

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

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	7.01 m (23 ft)	On centerline		1.98 m (6.5 ft)

NOTE : Distances are approximate.

2. Technical Specifications

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

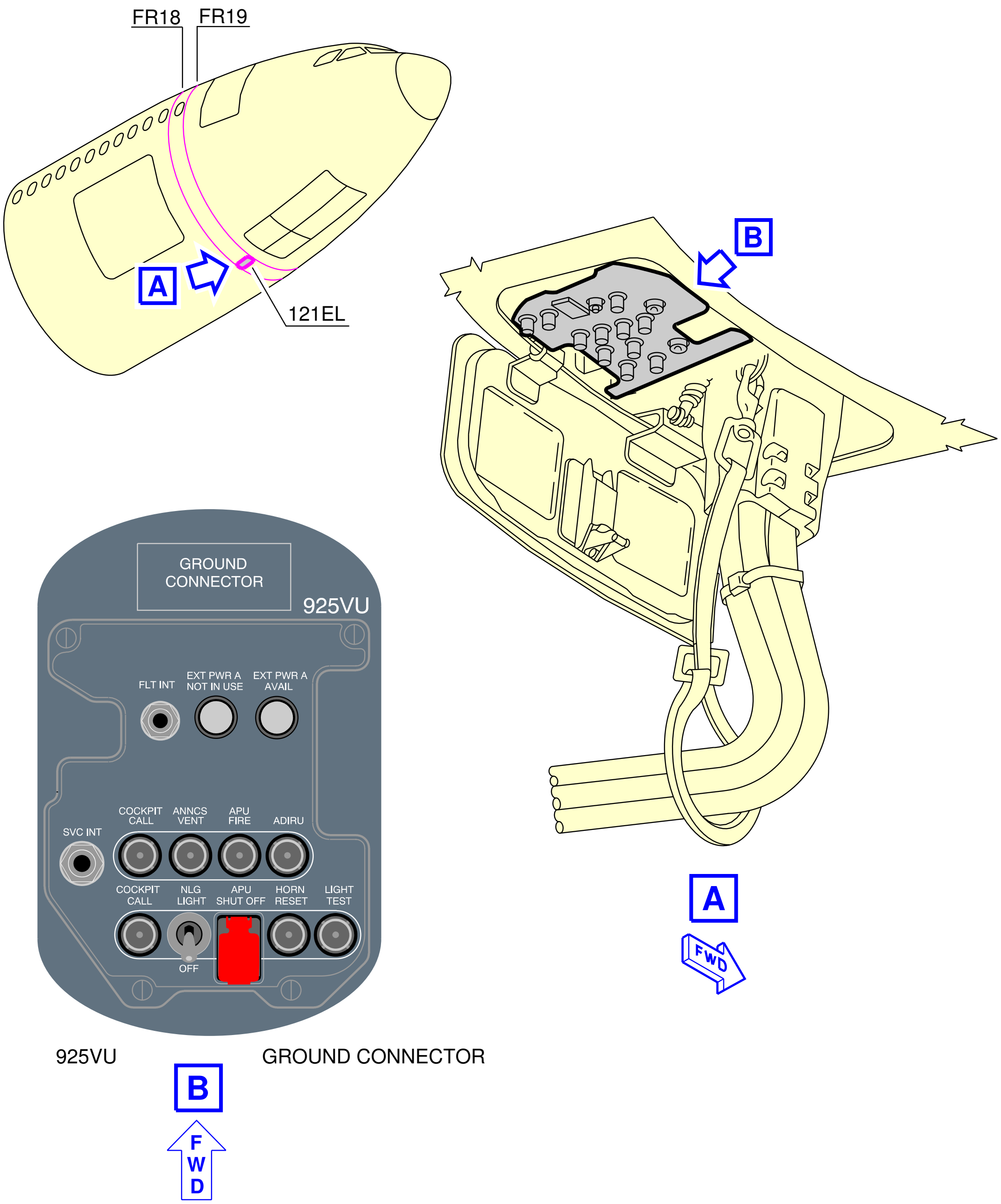
   B. Power Supply:
      - Three-phase, 115 V, 400 Hz.

   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: 20 $\times$ 3 kVA
      - Air Conditioning/ventilation: 50.1 kVA
      - Fuel pumps: 12.6 kVA
      - Lighting (commercial): 12.3 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 A340-200 A340-300



Ground Service Connections
Electrical Service Panel
FIGURE-5-4-4-991-002-A01

5-4-5 Oxygen System

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

Oxygen System

1. Oxygen System

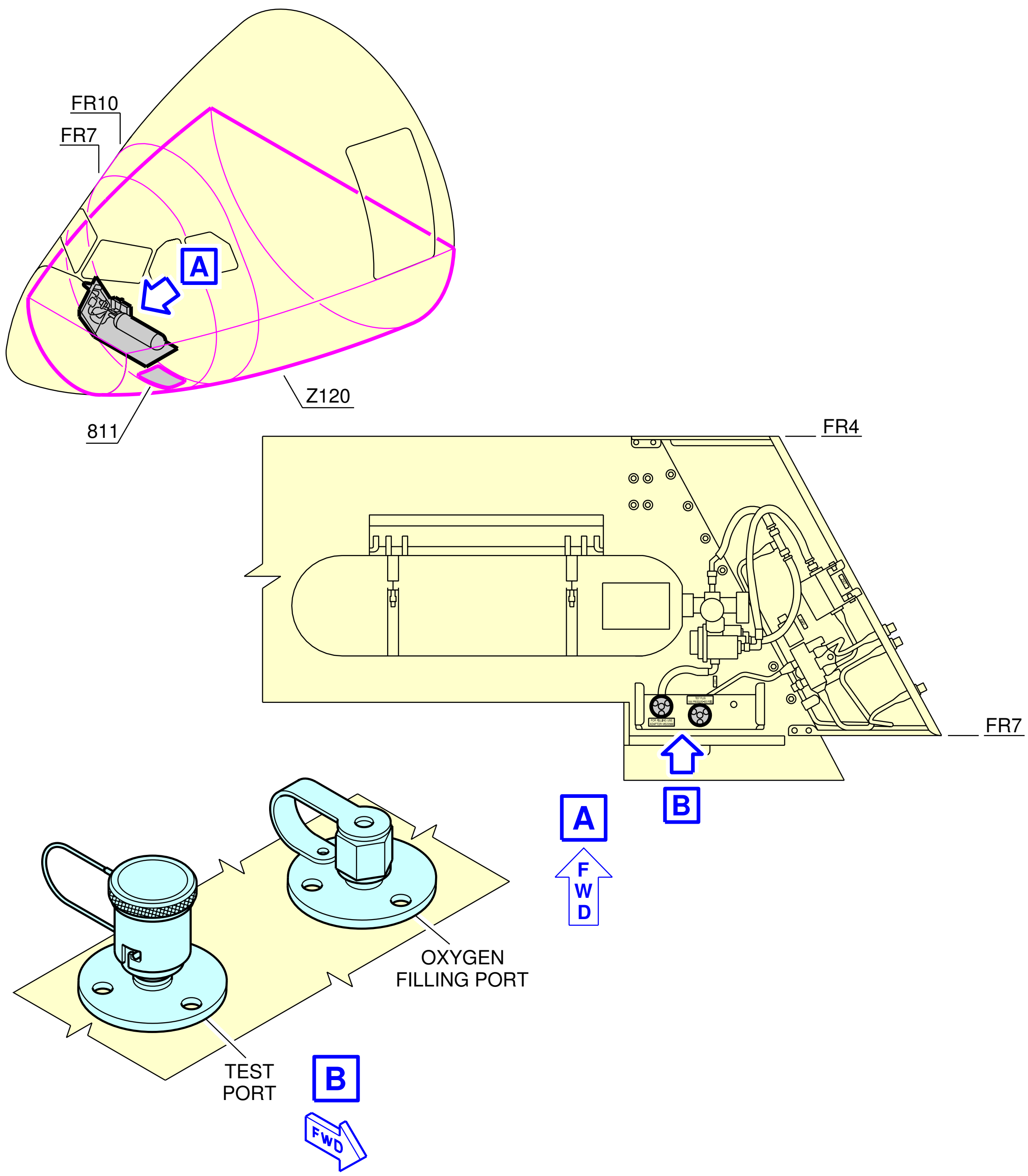
ACCESS	DISTANCE			
	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
Oxygen Replenishment (Option 1): Access Door 811	2.5 m (8.2 ft)	0.53 m (1.74 ft)	-	3.2 m (10.5 ft)
Oxygen Replenishment (Option 2): Access Door 811	2.5 m (8.2 ft)	0.68 m (2.23 ft)	-	3.2 m (10.5 ft)

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

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

NOTE : Internal charging connection provided.

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



NOTE:
THE NUMBER OF OXYGEN CYLINDERS DEPENDS ON THE SYSTEM CONFIGURATION.

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Ground Service Connections
Oxygen System
FIGURE-5-4-5-991-003-A01

5-4-6 Fuel System

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

Fuel System

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

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	27.8 m (91.21 ft)	-	12.6 m (41.34 ft)	5 m (16.4 ft)
Refuel/Defuel Coupling, Right: Access Door 622HB	27.8 m (91.21 ft)	12.6 m (41.34 ft)	-	5 m (16.4 ft)
Overwing Gravity Refuel Cap	31.2 m (102.36 ft)	17.2 m (56.43 ft)	17.2 m (56.43 ft)	5.8 m (19.03 ft)

A. Four standard 2.5 in. ISO 45 connections.

B. Two service connections (gravity refuel).

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 198DB	32.2 m (105.64 ft)	0.8 m (2.62 ft)	-	1.9 m (6.23 ft)

A. Flow rate: 1250 l/min (330 US gal/min) per connection.

B. Maximum pressure: 50 psi (3.45 bar).

3. Overpressure Protector and NACA Flame Arrestor

	DISTANCE			
	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
Overpressure Protector	37.36 m (122.57 ft)	27.17 m (89.14 ft)	27.17 m (89.14 ft)	5.75 m (18.86 ft)
NACA Flame Arrestor	37 m (121.39 ft)	26.53 m (87.04 ft)	26.53 m (87.04 ft)	5.7 m (18.7 ft)

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

4. 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	30 m (98.43 ft)	-	12.6 m (41.34 ft)	5 m (16.4 ft)
Refuel/Defuel Coupling, Right: Access Door 622HB	30 m (98.43 ft)	12.6 m (41.34 ft)	-	5 m (16.4 ft)
Overwing Gravity Refuel Cap	34.5 m (113.19 ft)	17.2 m (56.43 ft)	17.2 m (56.43 ft)	5.8 m (19.03 ft)

A. Four standard 2.5 in. ISO 45 connections.

B. Two service connections (gravity refuel).

5. 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 198DB	34.3 m (112.53 ft)	0.8 m (2.62 ft)	-	1.9 m (6.23 ft)

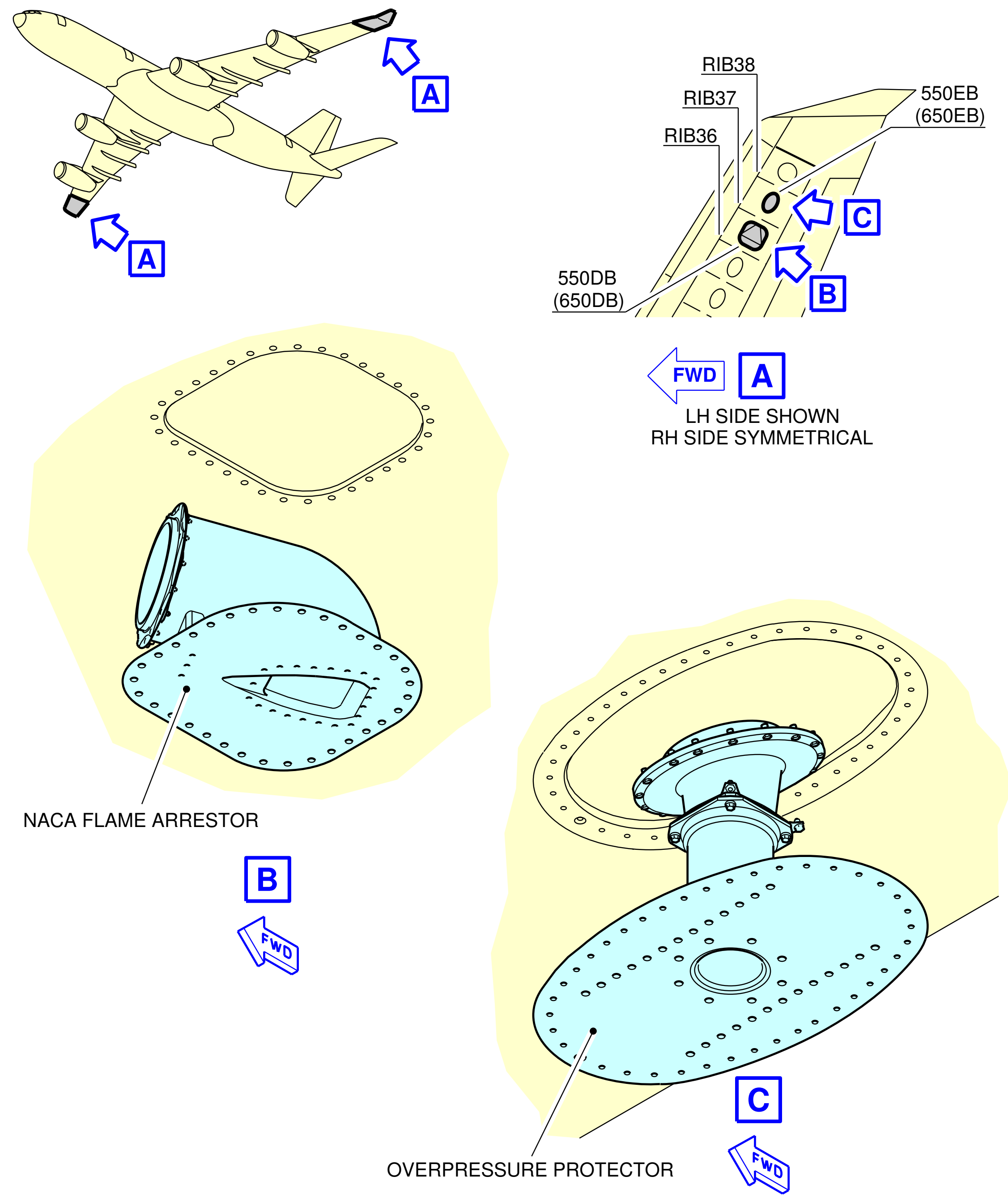
A. Flow rate: 1250 l/min (330 US gal/min) per connection.

B. Maximum pressure: 50 psi (3.45 bar).

6. Overpressure Protector and NACA Flame Arrestor

	DISTANCE			
	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
Overpressure Protector	39.48 m (129.53 ft)	27.17 m (89.14 ft)	27.17 m (89.14 ft)	5.75 m (18.86 ft)
NACA Flame Arrestor	39.12 m (128.35 ft)	26.53 m (87.04 ft)	26.53 m (87.04 ft)	5.7 m (18.7 ft)

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



Overpressure Protector and NACA Flame Arrestor
FIGURE-5-4-6-991-003-A01

5-4-7 Pneumatic System

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

Pneumatic System

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

1. High Pressure Air Connection

	DISTANCE			
	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
HP Connectors: Access door 193CB	23.9 m (78.41 ft)	-	0.84 m (2.76 ft)	1.79 m (5.87 ft)
	24.25 m (79.56 ft)	-	0.84 m (2.76 ft)	1.79 m (5.87 ft)

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

2. Low Pressure Connection

	DISTANCE			
	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
LP Connectors: Access door 191EB	22.48 m (73.75 ft)	-	0.31 m (1.02 ft)	1.86 m (6.1 ft)
	22.48 m (73.75 ft)	-	0.76 m (2.49 ft)	1.89 m (6.2 ft)

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

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

3. High Pressure Air Connection

	DISTANCE			
	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
HP Connectors: Access door 193CB	21.77 m (71.42 ft)	-	0.84 m (2.76 ft)	1.79 m (5.87 ft)
	22.12 m (72.57 ft)	-	0.84 m (2.76 ft)	1.79 m (5.87 ft)

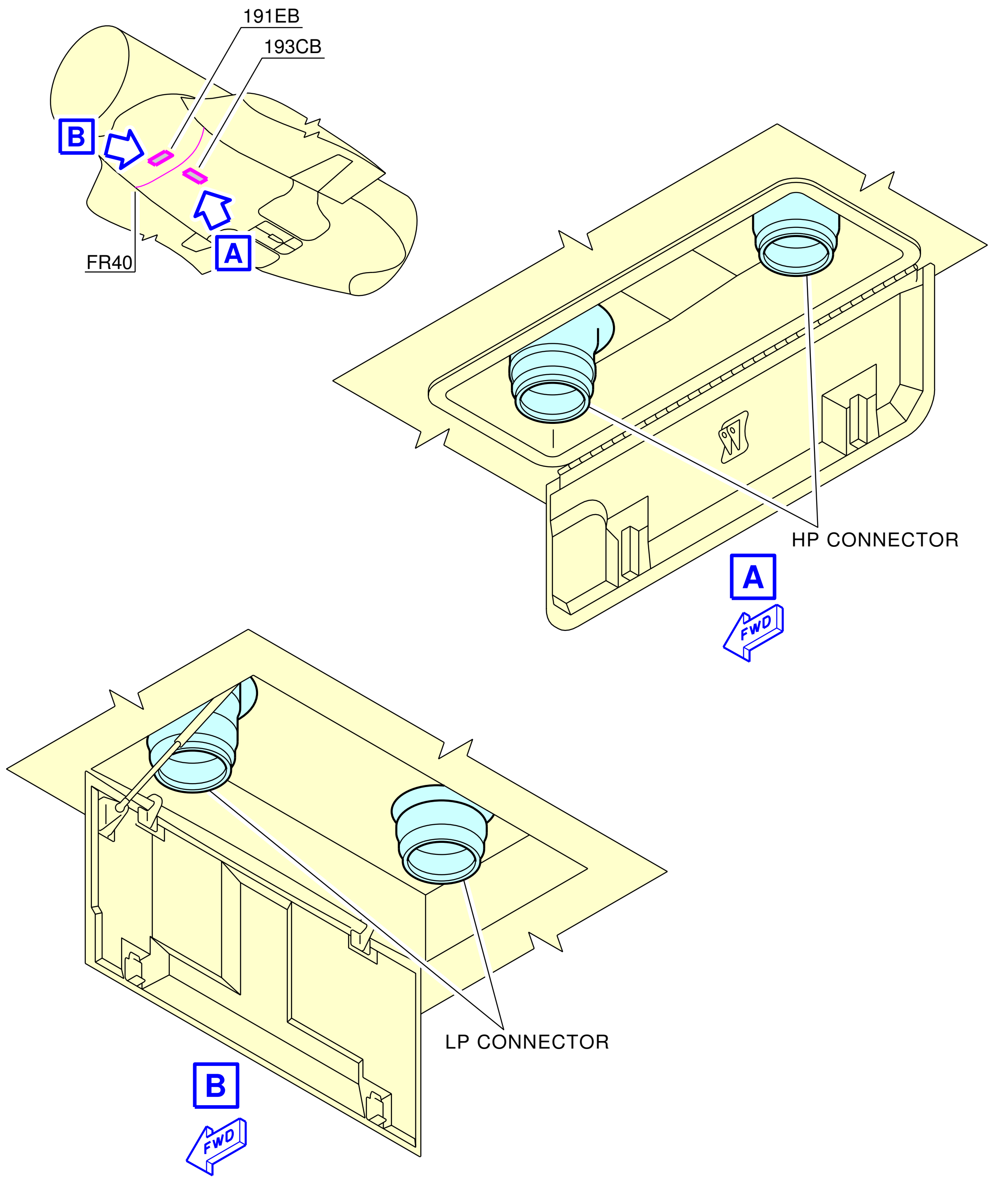
A. Connectors:
- Two standard 3 in. ISO 2026 connections.

4. Low Pressure Air Connection

	DISTANCE			
	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
LP Connectors: Access door 191EB	20.35 m (66.77 ft)	-	0.31 m (1.02 ft)	1.86 m (6.1 ft)
	20.35 m (66.77 ft)	-	0.76 m (2.49 ft)	1.89 m (6.2 ft)

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

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



Ground Service Connections
LP and HP Ground Connectors
FIGURE-5-4-7-991-002-A01

5-4-8 Potable Water System

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

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 164AR	48.15 m (157.97 ft)	0.51 m (1.67 ft)	-	3.15 m (10.33 ft)
FWD Drain Panel: Access Door 133BL	14.7 m (48.23 ft)	-	0.6 m (1.97 ft)	1.9 m (6.23 ft)
AFT Drain Panel: Access Door 154AR	40.18 m (131.82 ft)	0.72 m (2.36 ft)	-	2.46 m (8.07 ft)

NOTE : Distances are approximate.

2. Technical Specifications

   A. Connections

      (1) On the potable-water service panel (Access Door 164AR):
         - One heated 3/4 in. quick release filling connection
         - One heated 3/4 in. overflow and discharge connection
         - One ground pressurization connection.

      (2) On the FWD drain panel (Access Door 133BL):
         - One standard 3/4 in. drain connection with back-up mechanical control.

      (3) On the AFT drain panel (Access Door 154AR):
         - One standard 3/4 in. drain connection with back-up mechanical control
         - One standard 3/4 in. overflow and discharge connection with back-up mechanical control.

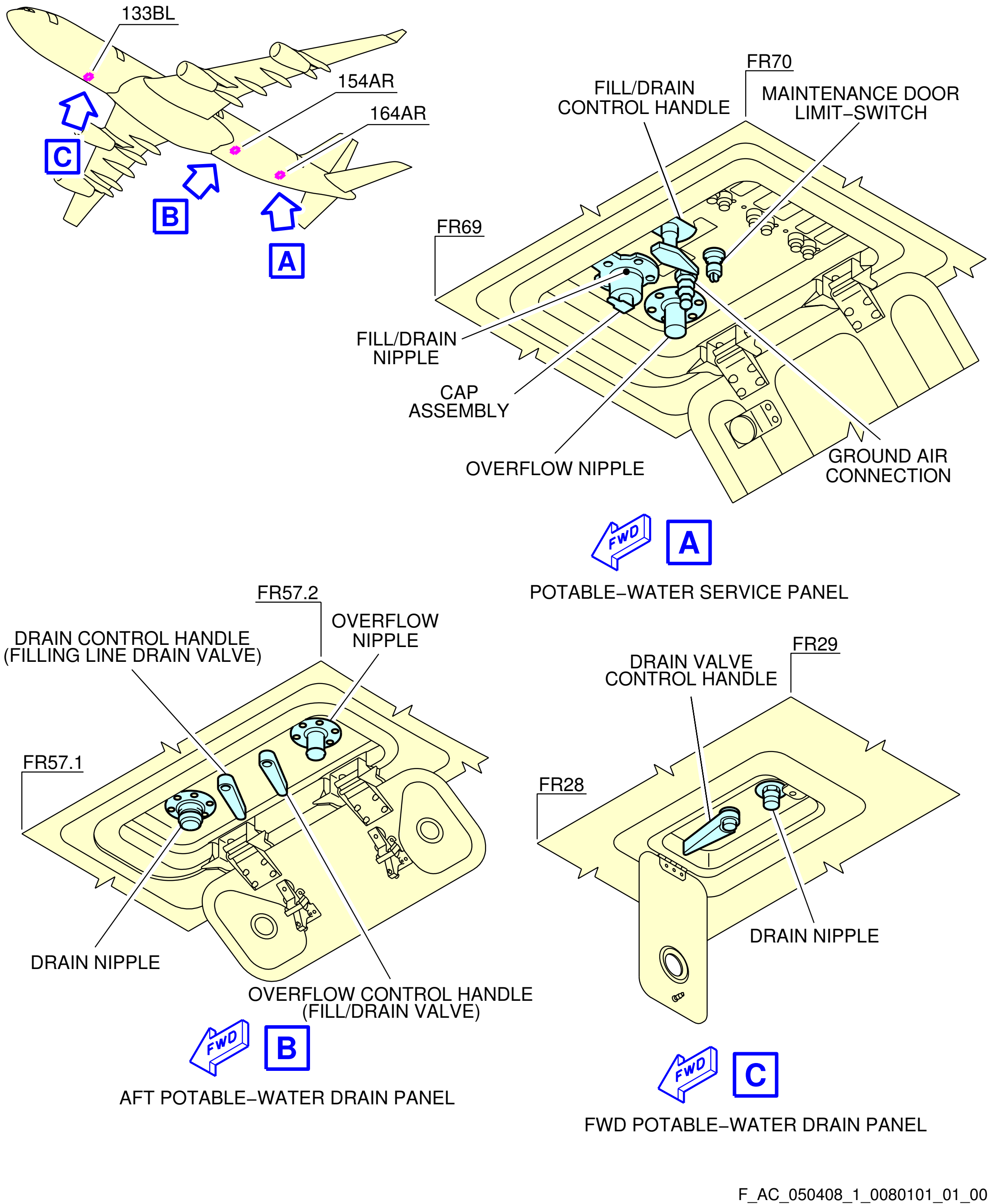
   B. Capacity
      - 700 l (184.92 US gal) standard
      - 1050 l (277.38 US gal) standard option.

   C. Filling Pressure and Flow Rate

      FWD tank:
      - Filling pressure: 50/125 psi (3.45/8.62 bar)
      - Flow rate: 45/73 l/min (11.89/19.28 US gal/min).

AFT tank:
- Filling pressure: 50/125 psi (3.45/8.62 bar)
- Flow rate: 56/85 l/min (14.79/22.45 US gal/min).

**ON A/C A340-300



Ground Service Connections
Potable-Water Ground Service Panels
FIGURE-5-4-8-991-008-A01

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

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 164AR	43.88 m (143.96 ft)	0.51 m (1.67 ft)	-	3.13 m (10.27 ft)
FWD Drain Panel: Access Door 133BL	14.7 m (48.23 ft)	-	0.6 m (1.97 ft)	1.92 m (6.3 ft)
AFT Drain Panel: Access Door 154AR	36.51 m (119.78 ft)	0.72 m (2.36 ft)	-	2.44 m (8.01 ft)

NOTE : Distances are approximate.

2. Technical Specifications

A. Connections

(1) On the potable-water service panel (Access Door 164AR):
- One heated 3/4 in. quick release filling connection
- One heated 3/4 in. overflow and discharge connection
- One ground pressurization connection.

(2) On the FWD drain panel (Access Door 133BL):
- One standard 3/4 in. drain connection with back-up mechanical control.

(3) On the AFT drain panel (Access Door 154AR):
- One standard 3/4 in. drain connection with back-up mechanical control
- One standard 3/4 in. overflow and discharge connection with back-up mechanical control.

B. Capacity
- 700 l (184.92 US gal) standard
- 1050 l (277.38 US gal) standard option.

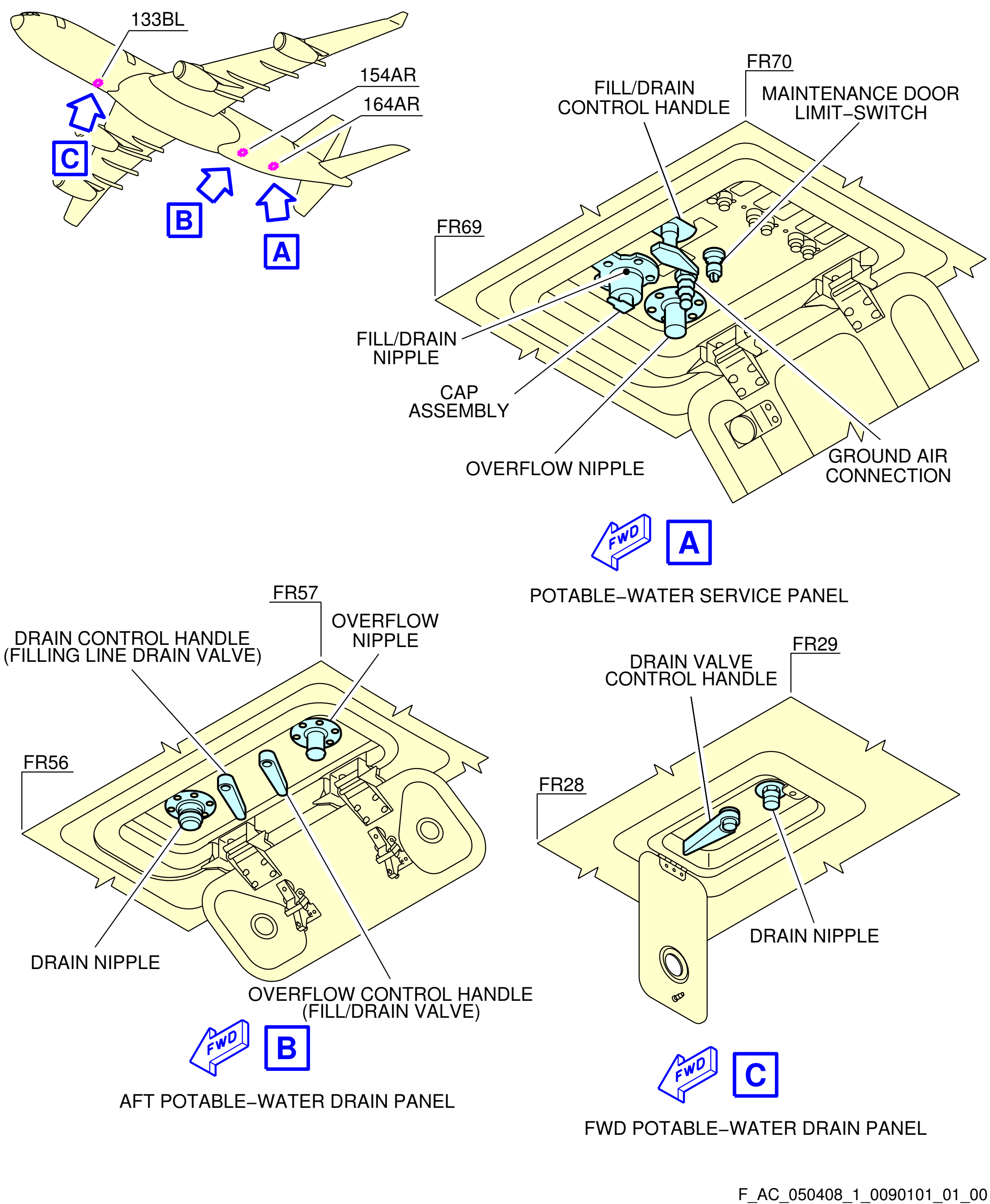
C. Filling Pressure and Flow Rate

FWD tank:
- Filling pressure: 50/125 psi (3.45/8.62 bar)
- Flow rate: 45/73 l/min (11.89/19.28 US gal/min).

AFT tank:

- Filling pressure: 50/125 psi (3.45/8.62 bar)
- Flow rate: 56/85 l/min (14.79/22.45 US gal/min).

**ON A/C A340-200



Ground Service Connections
Potable-Water Ground Service Panels
FIGURE-5-4-8-991-009-A01

5-4-9 Oil System

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

Oil System

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

1. Engine Oil Tank and IDG for CFM56-5C2 series engine.
   A. Engine Oil Replenishment:

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

	DISTANCE: Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		LH SIDE	RH SIDE	
Engine Oil Gravity Filling Cap:	Engine 1-4 31.03 m (101.80 ft) Engine 2-3 24.46 m (80.25 ft)	Engine 1 20.56 m (67.45 ft) Engine 2 10.33 m (33.89 ft)	Engine 3 8.41 m (27.59 ft) Engine 4 18.64 m (61.15 ft)	Engine 1-4 3.47 m (11.38 ft) Engine 2-3 2.20 m (7.22 ft)
Engine Oil Pressure Filling Port:	Engine 1-4 30.90 m (101.38 ft) Engine 2-3 24.32 m (79.79 ft)	Engine 1 20.64 m (67.72 ft) Engine 2 10.41 m (34.15 ft)	Engine 3 8.32 m (27.30 ft) Engine 4 18.56 m (60.89 ft)	Engine 1-4 3.47 m (11.38 ft) Engine 2-3 2.20 m (7.22 ft)

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

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

   B. IDG Oil Replenishment:

      One pressure filling connection per engine.

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

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

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

2. Engine Oil Tank and IDG for CFM56-5C2 series engine.

   A. Engine Oil Replenishment:

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

	DISTANCE: Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		LH SIDE	RH SIDE	
Engine Oil Gravity Filling Cap:	Engine 1-4 28.90 m (94.82 ft) Engine 2-3 22.33 m (73.26 ft)	Engine 1 20.56 m (67.45 ft) Engine 2 10.33 m (33.89 ft)	Engine 3 8.41 m (27.59 ft) Engine 4 18.64 m (61.15 ft)	Engine 1-4 3.47 m (11.38 ft) Engine 2-3 2.20 m (7.22 ft)
Engine Oil Pressure Filling Port:	Engine 1-4 28.77 m (94.39 ft) Engine 2-3 22.19 m (72.80 ft)	Engine 1 20.64 m (67.72 ft) Engine 2 10.41 m (34.15 ft)	Engine 3 8.32 m (27.30 ft) Engine 4 18.56 m (60.89 ft)	Engine 1-4 3.47 m (11.38 ft) Engine 2-3 2.20 m (7.22 ft)

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

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

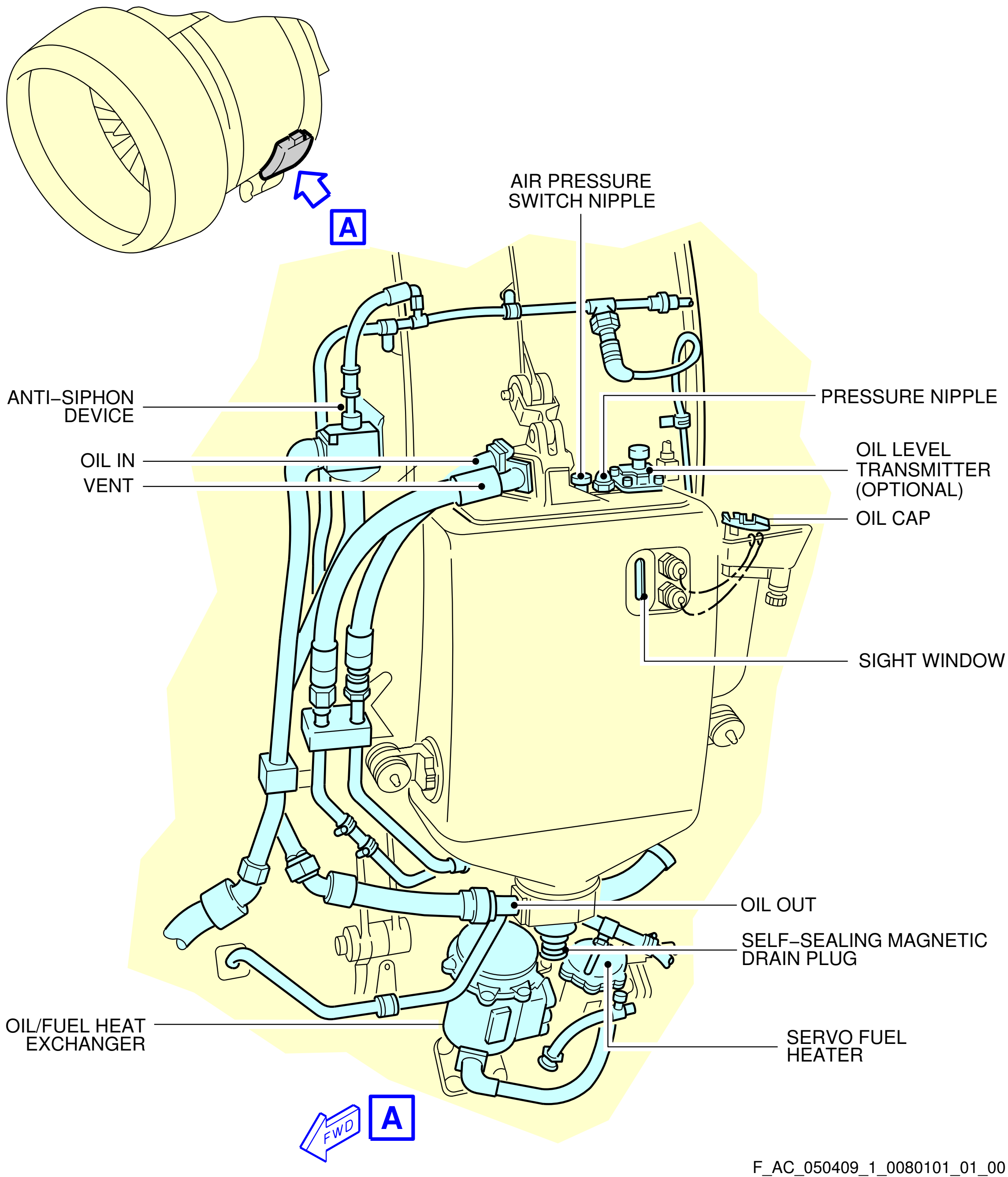
B. IDG Oil Replenishment:

One pressure filling connection per engine.

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

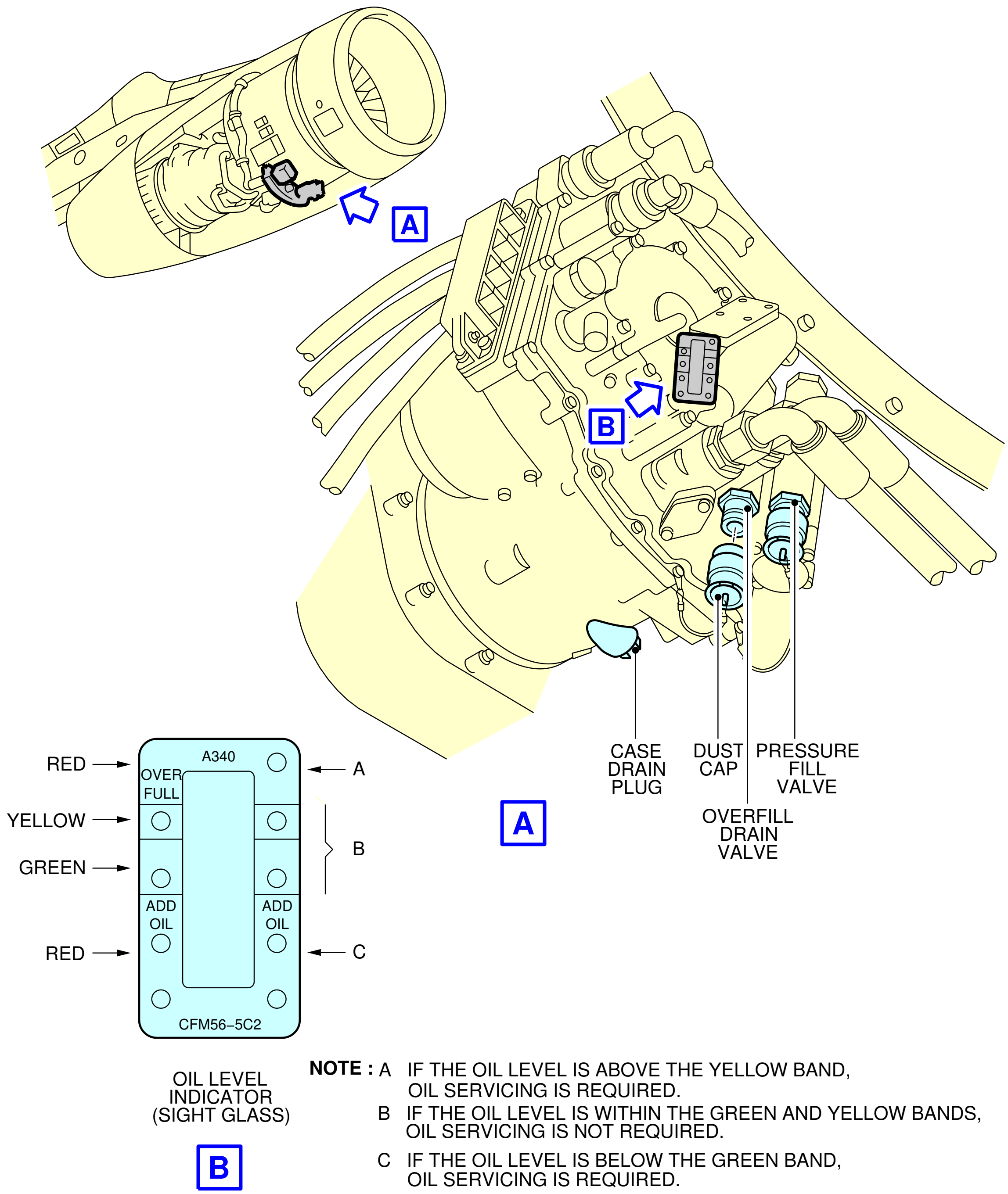
- Max delivery pressure required: 40 psi (2.76 bar).
- Max OIL capacity of IDG: 1.10 US gal (4.16 l).

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



Ground Service Connections
Engine Oil Tank - CFM56-5C2 series engine
FIGURE-5-4-9-991-008-A01

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



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

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Ground Service Connections
IDG Oil Tank - CFM56-5C2 series engine
FIGURE-5-4-9-991-009-A01

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

APU Oil System

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

1. APU Oil System
   APU oil gravity filling cap.

	DISTANCE			
	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
APU Oil Replenishment: Access Doors 316AR, 315AL	60.3 m (197.83 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).

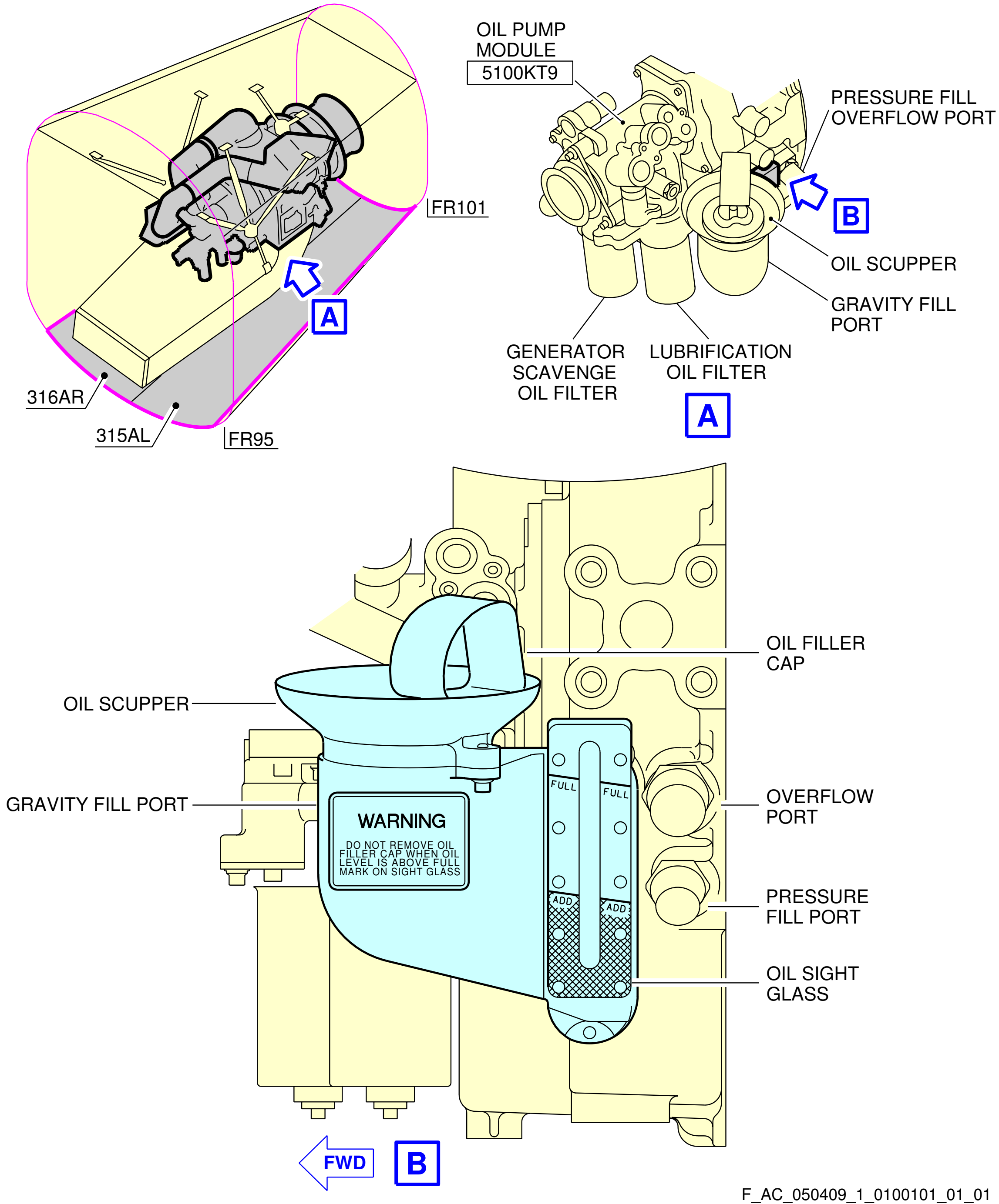
****ON A/C A340-200**

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	56 m (183.73 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 A340-200 A340-300



Ground Service Connections
APU Oil Servicing
FIGURE-5-4-9-991-010-A01

5-4-10 Vacuum Toilet System

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

Vacuum Toilet System

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

1. Vacuum Toilet System

	DISTANCE			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
Waste Water Ground Service Panel: Access Door 171AL	50 m (164.04 ft)	-	0.09 m (0.3 ft)	3.6 m (11.81 ft)

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

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

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

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

2. Vacuum Toilet System

	DISTANCE			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT FROM GROUND
		RH SIDE	LH SIDE	
Waste Water Ground Service Panel: Access Door 171AL	45.72 m (150.00 ft)	-	0.09 m (0.3 ft)	3.6 m (11.81 ft)

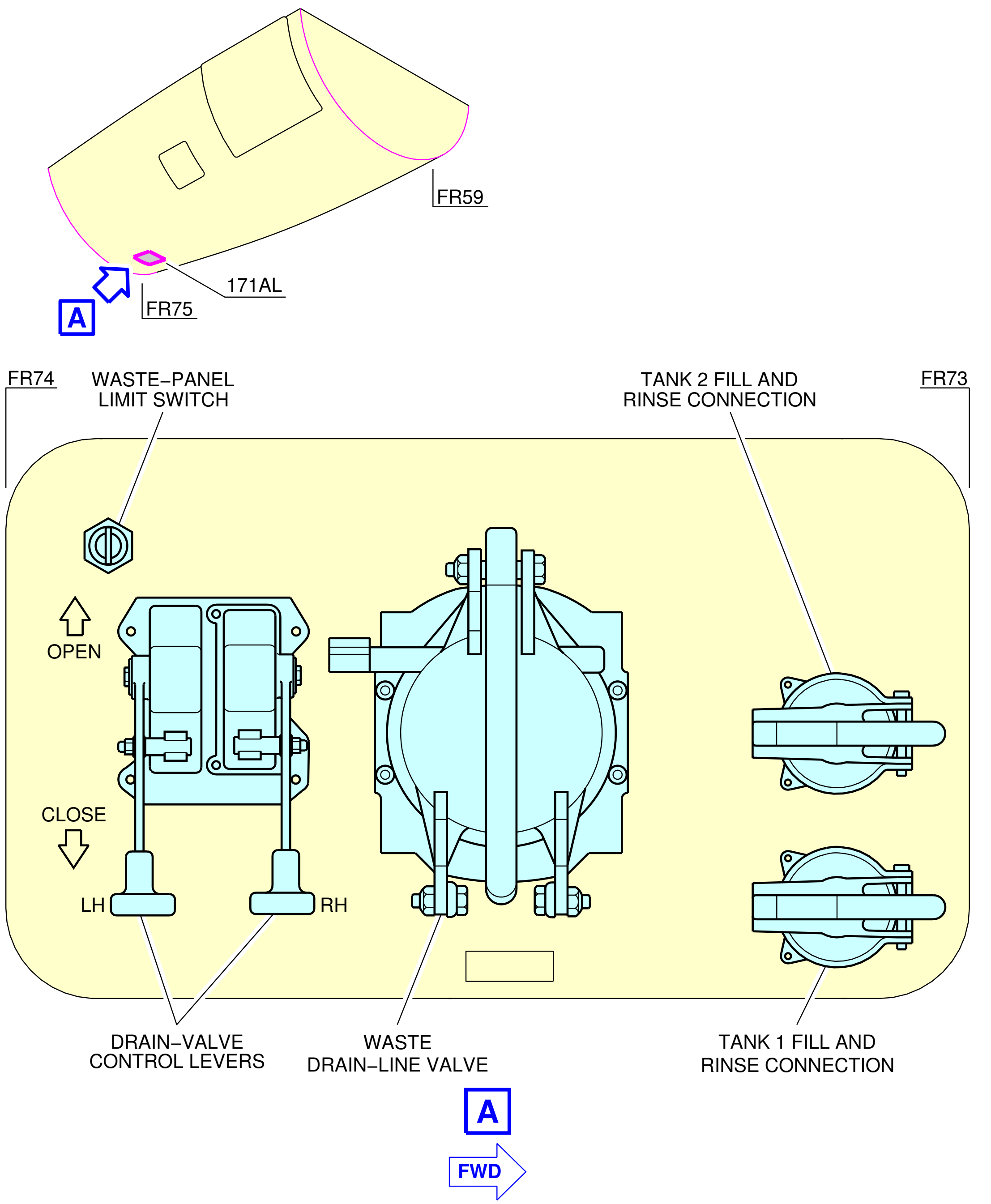
A. Waste water ground service panel comprising:
- Standard: One standard 4 in. drain connection and two 1 in. flushing connections
- Standard option: One standard 4 in. drain connection and three 1 in. flushing connections.

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

- Standard option: 1050 l (277.38 US gal).

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

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



Ground Service Connections
Waste Water Ground Service Panel
FIGURE-5-4-10-991-002-A01

5-5-0 Engine Starting Pneumatic Requirements

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

Engine Starting Pneumatic Requirements

1. The purpose of this section is to provide the minimum air data requirements at the aircraft connection, needed to start the engine within no more than 70 seconds, at sea level (0 feet), for a set of Outside Air Temperatures (OAT).

ABBREVIATION	DEFINITION
A/C	Aircraft
ASU	Air Start Unit
HPGC	High Pressure Ground Connection
OAT	Outside Air Temperature

A. Air data (discharge temperature, absolute discharge pressure) are given at the HPGC.

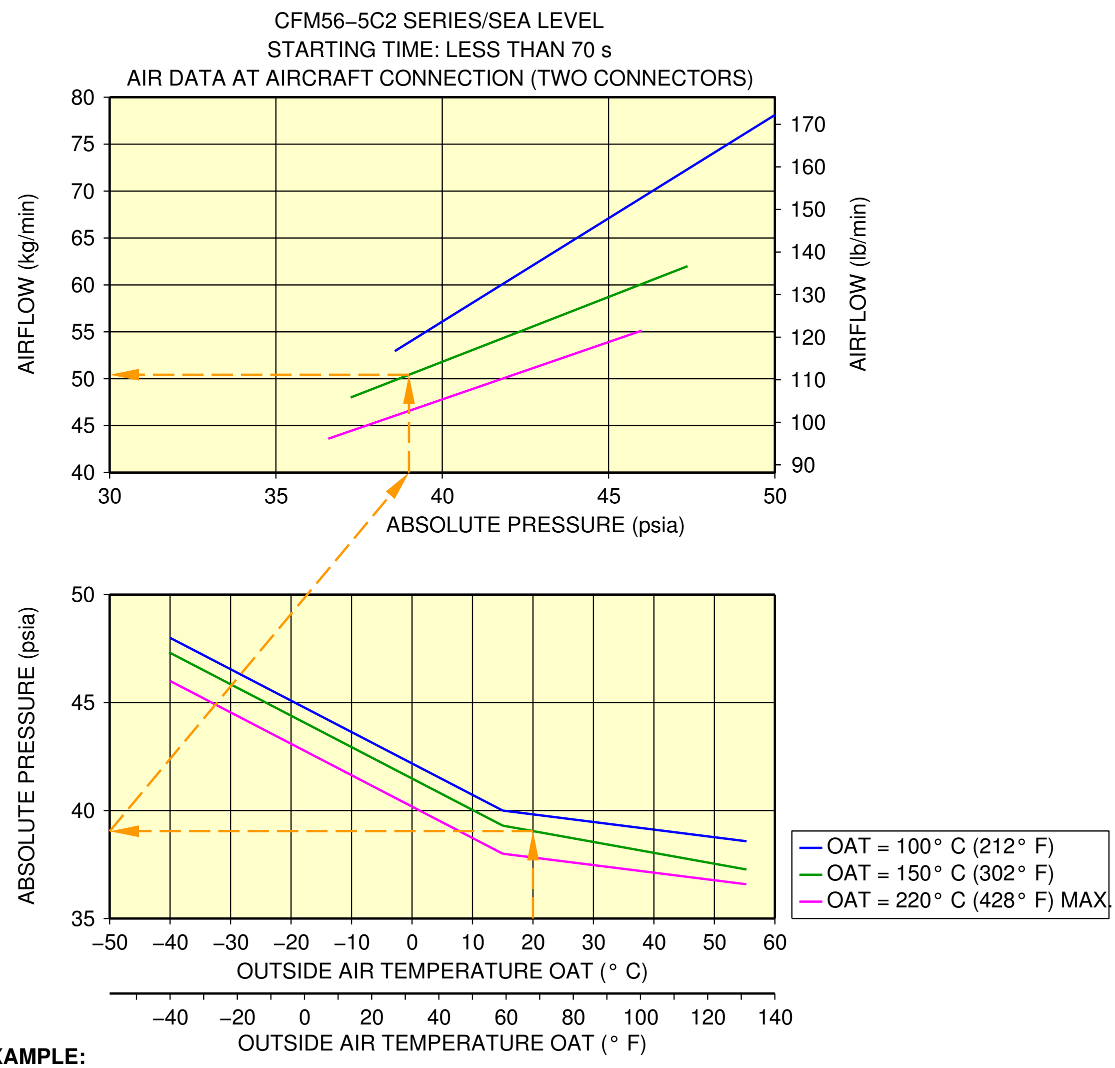
B. For the requirements below, the configuration with two HPGC is used. Using one connector only (for a given mass flow rate and discharge pressure from the ASU) will increase the pressure loss in the ducts of the bleed system and therefore lower the performances at the engine starter.

C. For a given OAT the following charts are used to determine an acceptable combination for air discharge temperature, absolute discharge pressure and mass flow rate.

D. This section is addressing requirements for the ASU only, and is not representative of the start performance of the aircraft using the APU or engine cross bleed procedure.

E. To protect the A/C, the charts feature, if necessary:
   - The maximum discharge pressure at the HPGC
   - The maximum discharge temperature at the HPGC.

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



EXAMPLE:

FOR AN OAT OF 20° C (68° F) AND AN ASU PROVIDING A DISCHARGE TEMPERATURE OF 150° C (302° F) AT HPGC:
– THE REQUIRED PRESSURE AT HPGC IS 39 psia
– THE REQUIRED AIRFLOW AT HPGC IS 50.5 kg/min.

NOTE:

IN CASE THE ACTUAL DISCHARGE TEMPERATURE OF THE ASU DIFFERS SUBSTANTIALLY FROM THE ONES GIVEN IN THE CHARTS, A SIMPLE INTERPOLATION (LINEAR) IS SUFFICIENT TO DETERMINE THE REQUIRED AIR DATA.

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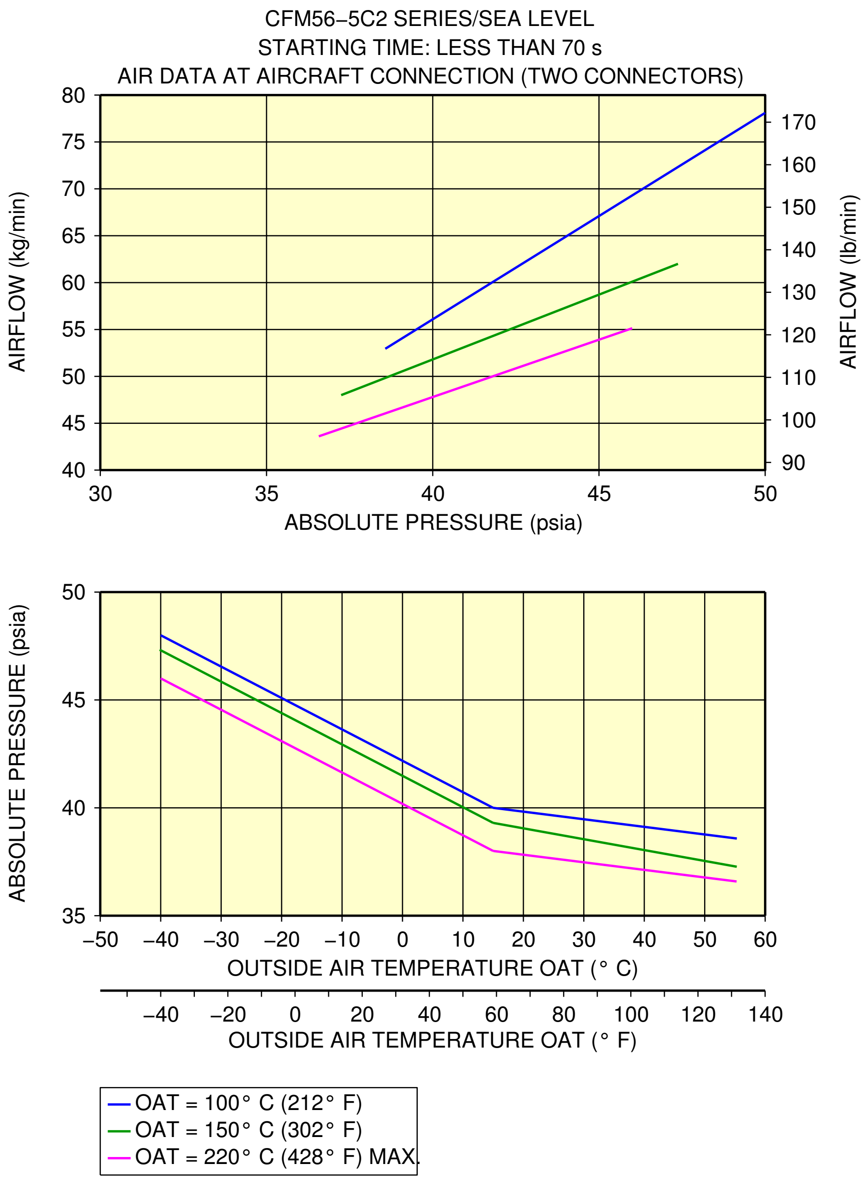
Example for Use of the Charts
FIGURE-5-5-0-991-002-A01

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



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Engine Starting Pneumatic Requirements
CFM56-5C2 Series
FIGURE-5-5-0-991-008-A01

5-6-0 Ground Pneumatic Power Requirements

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

Ground Pneumatic Power Requirements

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

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

A. The air flow rates and temperature requirements for the GSE, provided in Sections 5.6 and 5.7, are given at A/C ground connection.

NOTE : The maximum air flow is driven by pressure limitation at the ground connection.

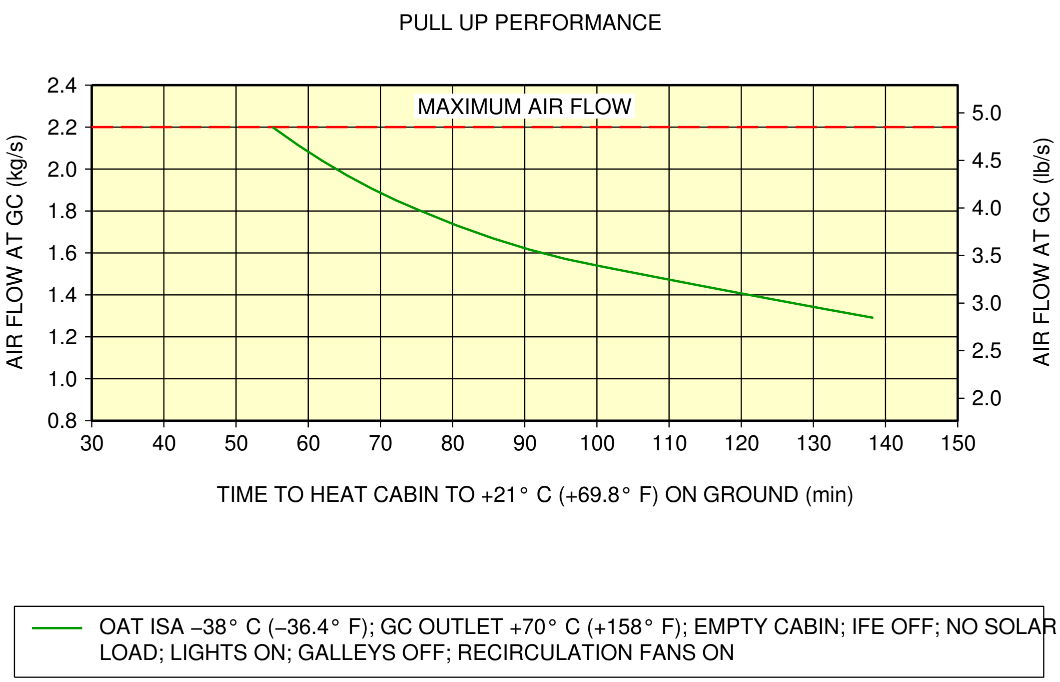
B. The air flow rates and temperature requirements for the GSE are given for the A/C in the configuration "2 LP ducts connected".

NOTE : The cooling capacity of the equipment (kW) is only indicative and is not sufficient by itself to ensure the performance (outlet temperature and flow rate combinations are the requirements needed for ground power).
An example of cooling capacity calculation is given in Section 5.7.

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

2. Ground Pneumatic Power Requirements
This section provides the ground pneumatic power requirements for:
- Heating (pull up) the cabin, initially at OAT, up to 21°C (69.8°F) FIGURE 5---0-99--002-A
- Cooling (pull down) the cabin, initially at OAT, down to 27°C (80.6°F) FIGURE 5---0-99--004-A.

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



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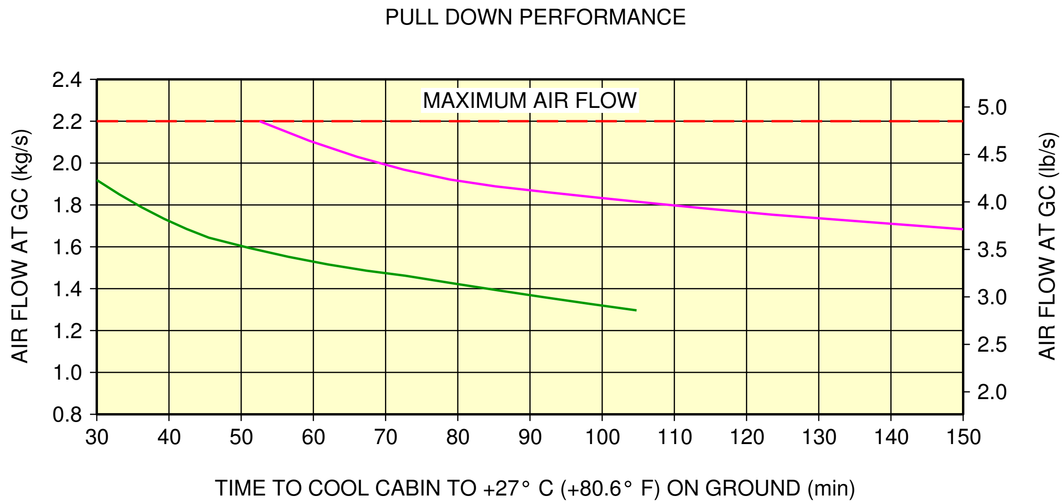
Ground Pneumatic Power Requirements
Heating
FIGURE-5-6-0-991-002-A01

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



OAT ISA +23° C (+73.4° F); GC OUTLET +2° C (+35.6° F); EMPTY CABIN; IFE OFF; SOLAR LOAD; LIGHTS ON; GALLEYS OFF; RECIRCULATION FANS ON

OAT ISA +23° C (+73.4° F); GC OUTLET −10° C (+14° F); EMPTY CABIN; IFE OFF; SOLAR LOAD; LIGHTS ON; GALLEYS OFF; RECIRCULATION FANS ON

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Ground Pneumatic Power Requirements
Cooling
FIGURE-5-6-0-991-004-A01

5-7-0 Preconditioned Airflow Requirements

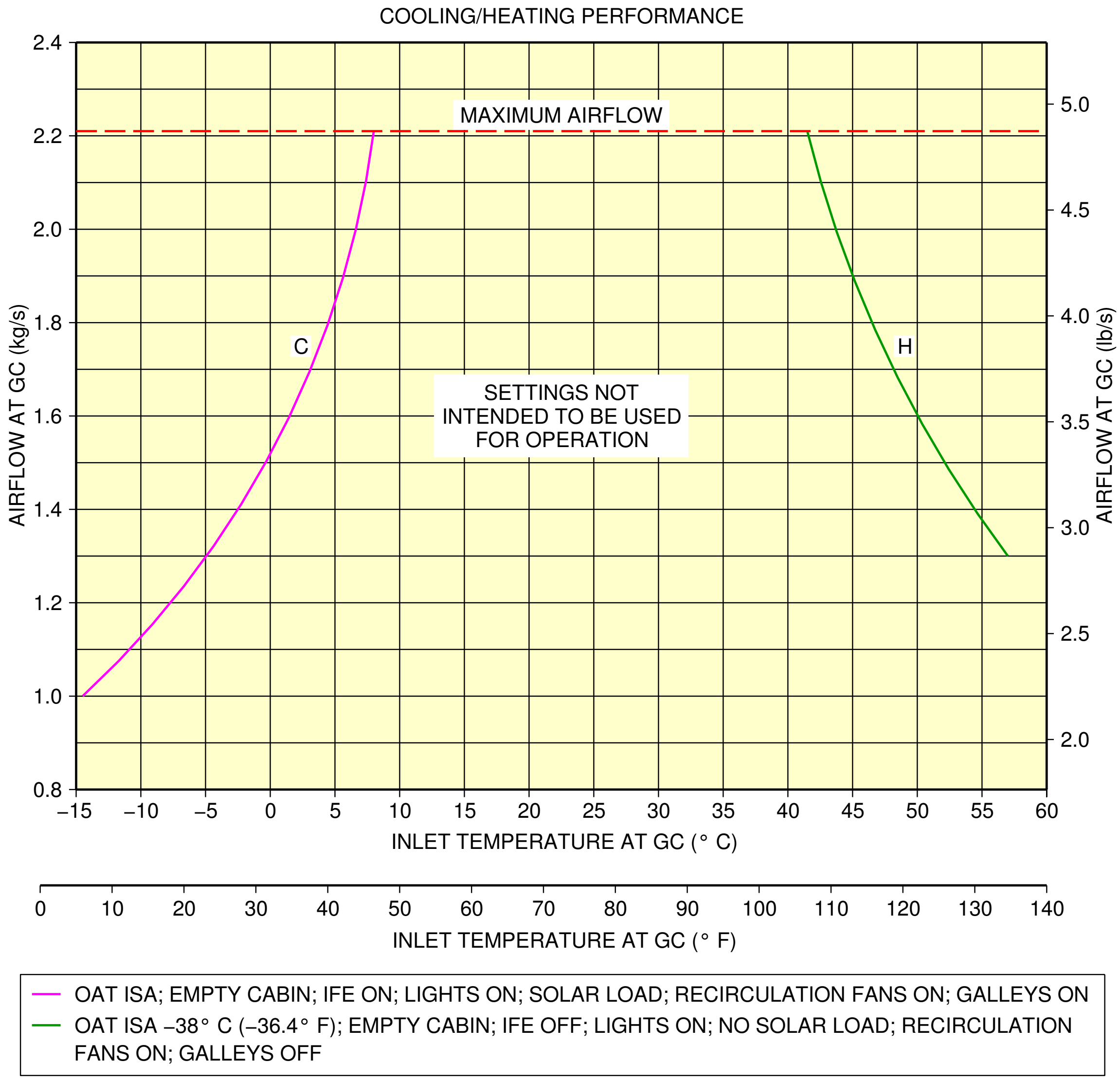
**ON A/C A340-200 A340-300

Preconditioned Airflow Requirements

1. This section provides the preconditioned airflow rate and temperature needed to maintain the cabin temperature at 27 °C (80.6 °F).

   These settings are not intended to be used for operation (they are not a substitute for the settings given in the AMM). They are based on theoretical simulations and give the picture of a real steady state. The purpose of the air conditioning operation (described in the AMM) is to maintain the cabin temperature below 27 °C (80.6 °F) during boarding (therefore it is not a steady state).

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



EXAMPLE:

COOLING CAPACITY CALCULATION:
FOR THE CONDITIONS "C", THE COOLING CAPACITY OF 1.9 kg/s x 1 kJ/(kg.° C) x (27– 5) = 41.8 kW
(OR 12.5 TONS COOLING CAPACITY) IS NEEDED TO MAINTAIN THE CABIN TEMPERATURE AT 27° C (80.6° F)
(1.9 kg/s AT 5° C (41° F) FOR AIR AT GC INLET).

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Preconditioned Airflow Requirements
FIGURE-5-7-0-991-003-A01

5-8-0 Ground Towing Requirements

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

Ground Towing Requirements

1. This section provides information on aircraft towing.

   The A340-200/-300 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 A340-200 and -300 aircraft.

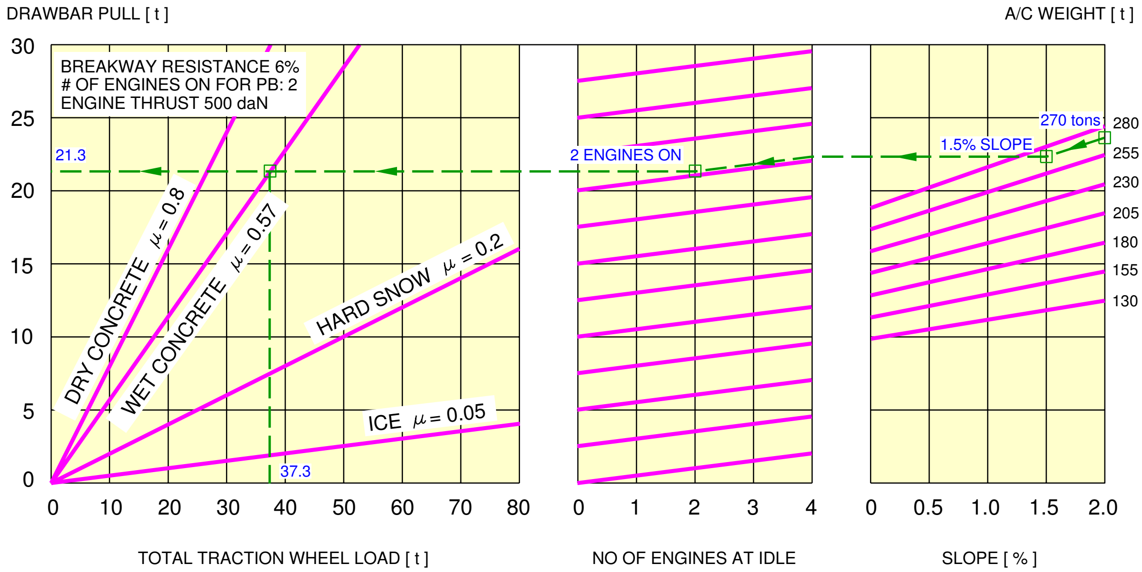
2. Towbar design guidelines

   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 28 620 daN (64 340 lbf),
   - A torsion pin calibrated at 3 130 m.daN (276 991 lbf.in).

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

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



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

- ON THE RIGHT HAND SIDE OF THE GRAPH, CHOOSE THE RELEVANT AIRCRAFT WEIGHT (270 t),
- FROM THIS POINT DRAW A PARALLEL LINE TO THE REQUIRED SLOPE PERCENTAGE (1.5%),
- FROM THIS POINT OBTAINED DRAW A STRAIGHT HORIZONTAL LINE UNTIL NO OF ENGINES AT IDLE = 4,
- FROM THIS POINT DRAW A PARALLEL LINE TO THE REQUESTED NUMBER OF ENGINES (1),
- FROM THIS POINT DRAW A STRAIGHT HORIZONTAL LINE TO THE DRAWBAR PULL AXIS,
- THE Y−COORDINATE OBTAINED IS THE NECESSARY DRAWBAR PULL FOR THE TRACTOR (21.3 t),
- SEARCH THE INTERSECTION WITH THE "WET CONCRETE" LINE.
  THE OBTAINED X−COORDINATE IS THE RECOMMENDED MINIMUM TRACTOR WEIGHT (37.3 t).

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Ground Towing Requirements
FIGURE-5-8-0-991-006-A01

5-9-0 De-Icing and External Cleaning

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

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 A340-200**

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
A340-200	306	3 294	11	118	65	700	91	980

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
A340-200	294	3 165	55	592	821	8 837

NOTE : Dimensions are approximate.

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

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
A340-300	306	3 294	11	118	65	700	91	980

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
A340-300	319	3 434	55	592	847	9 117

NOTE : Dimensions are approximate.

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

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
A340-200	306	3 294	340	3 660	11	118	65	700	65	700

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
A340-200	91	980	896	9 644	200	2 153	1 982	21 334

NOTE : Dimensions are approximate.

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

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
A340-300	306	3 294	340	3 660	11	118	65	700	65	700

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
A340-300	91	980	971	10 452	200	2 153	2 057	22 141

NOTE : Dimensions are approximate.

OPERATING CONDITIONS

6-1-0 Engine Exhaust Velocities and Temperatures

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

Engine Exhaust Velocities and Temperatures

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

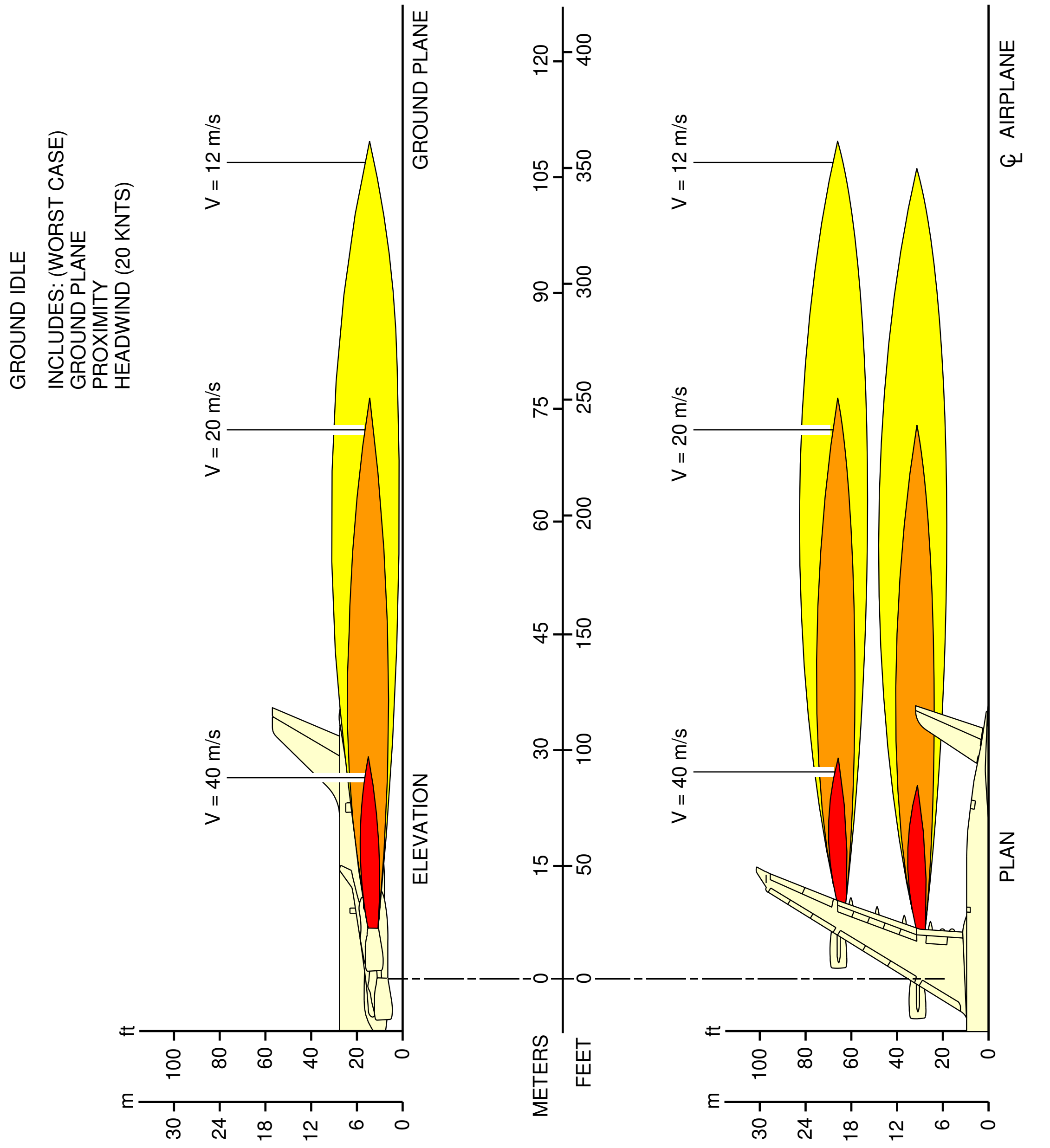
6-1-1 Engine Exhaust Velocities Contours - Ground Idle Power

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

Engine Exhaust Velocities Contours - Ground Idle Power

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

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



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Engine Exhaust Velocities
Ground Idle Power - CFM56-5C series engine
FIGURE-6-1-1-991-004-A01

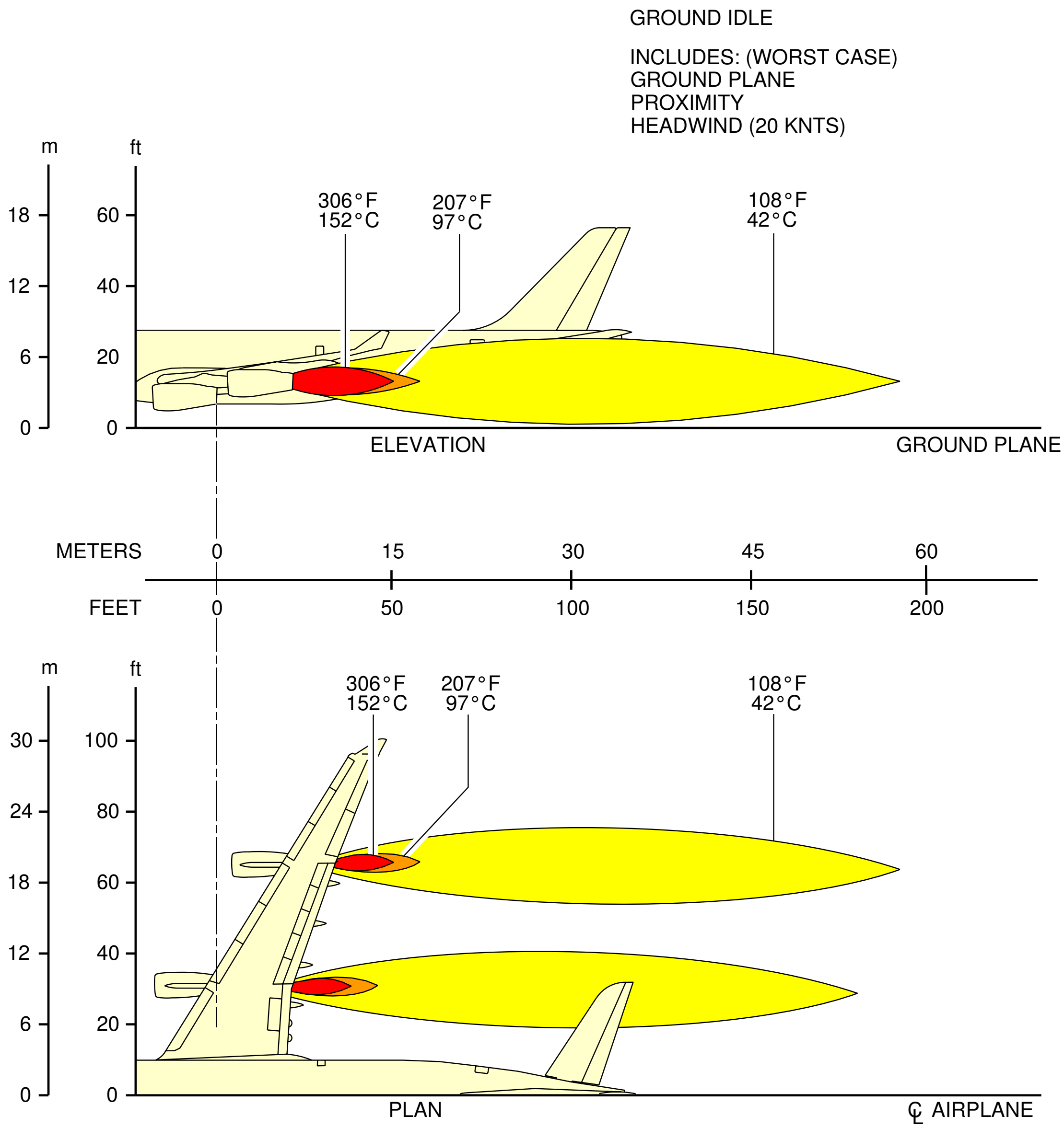
6-1-2 Engine Exhaust Temperatures Contours - Ground Idle Power

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

Engine Exhaust Temperatures Contours - Ground Idle Power

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

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



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Engine Exhaust Temperatures
Ground Idle Power - CFM56-5C series engine
FIGURE-6-1-2-991-004-A01

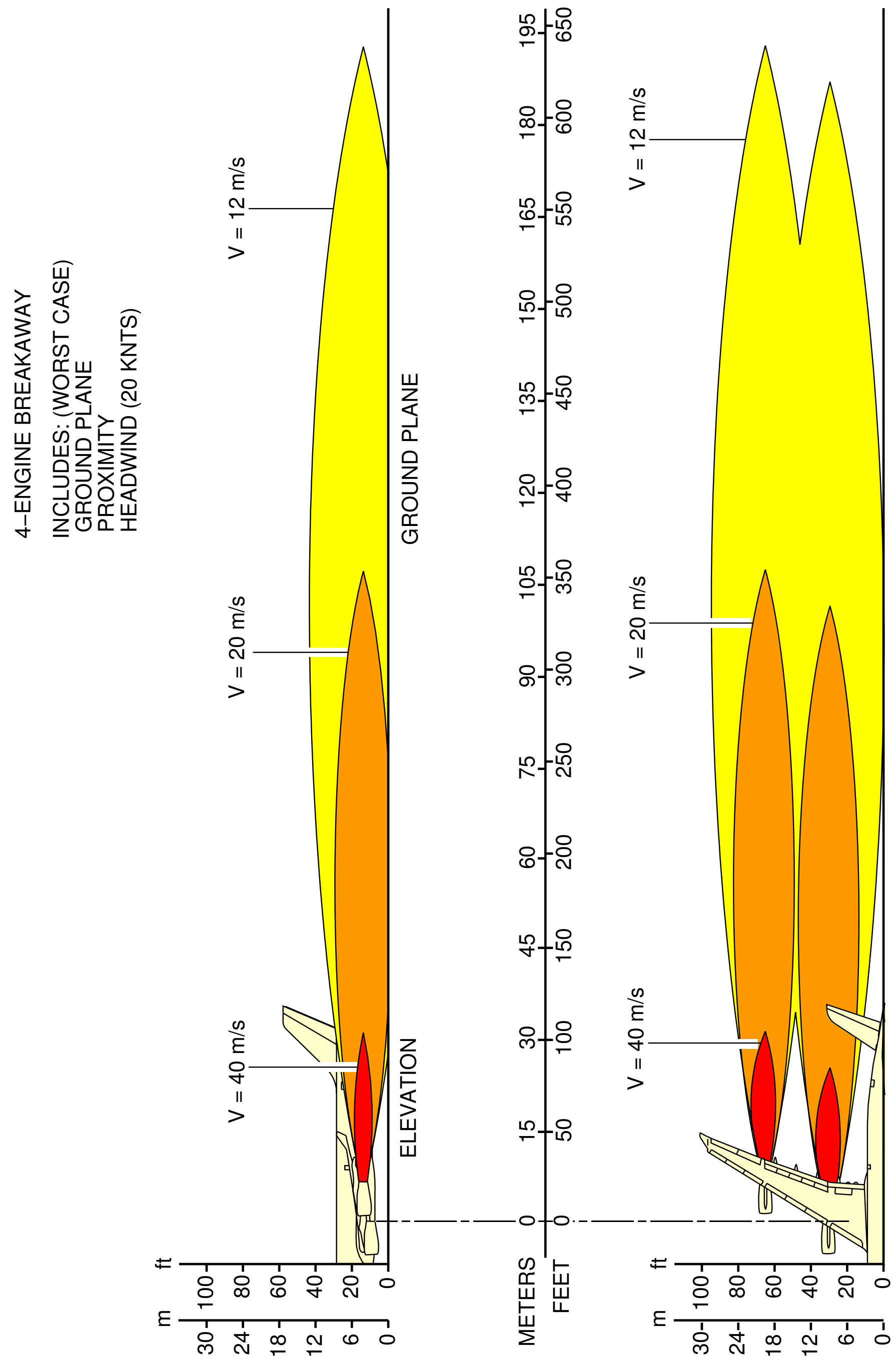
6-1-3 Engine Exhaust Velocities Contours - Breakaway Power

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

Engine Exhaust Velocities Contours - Breakaway Power

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

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



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Engine Exhaust Velocities
Breakaway Power - CFM56-5C series engine
FIGURE-6-1-3-991-004-A01

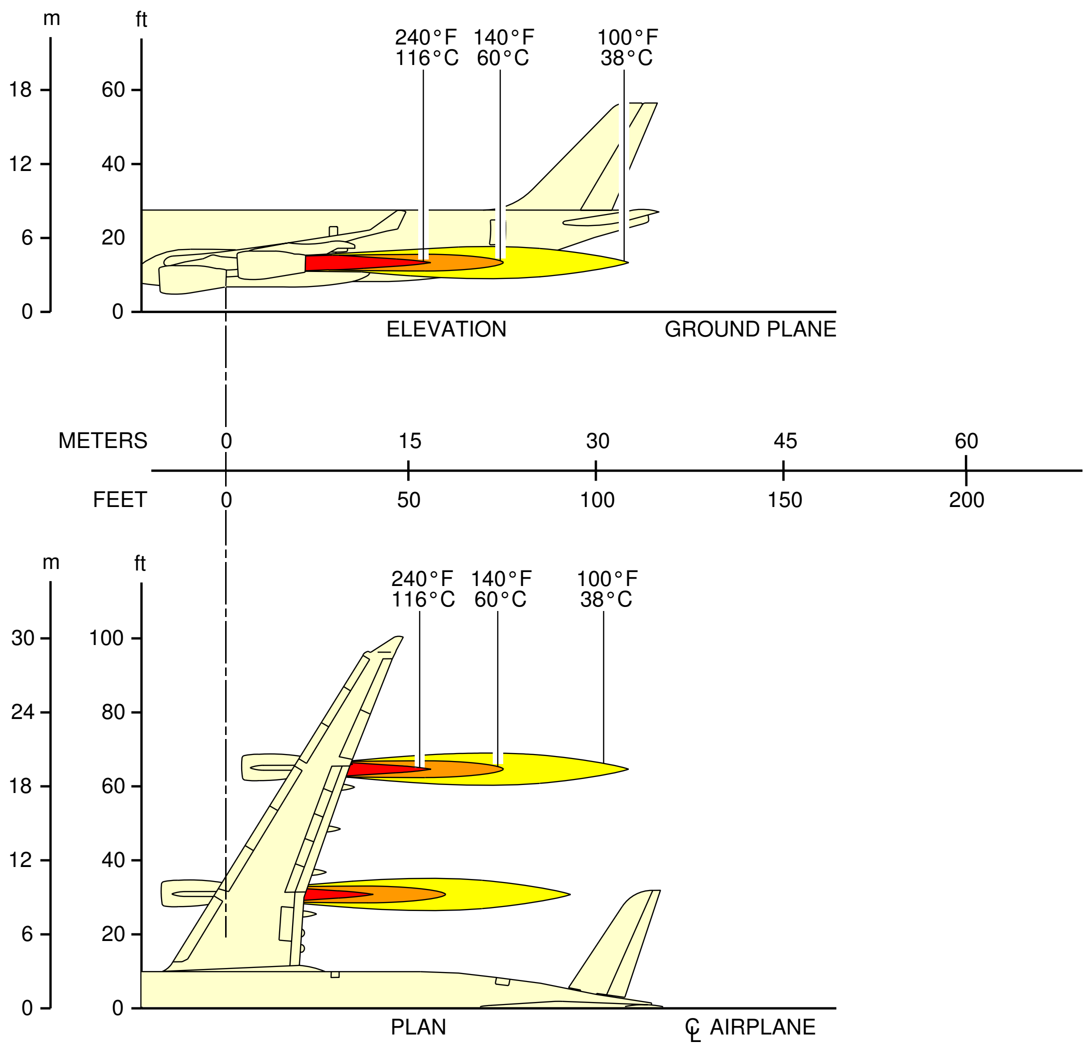
6-1-4 Engine Exhaust Temperatures Contours - Breakaway Power

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

Engine Exhaust Temperatures Contours - Breakaway Power

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

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



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Engine Exhaust Temperatures
Breakaway Power - CFM56-5C series engine
FIGURE-6-1-4-991-004-A01

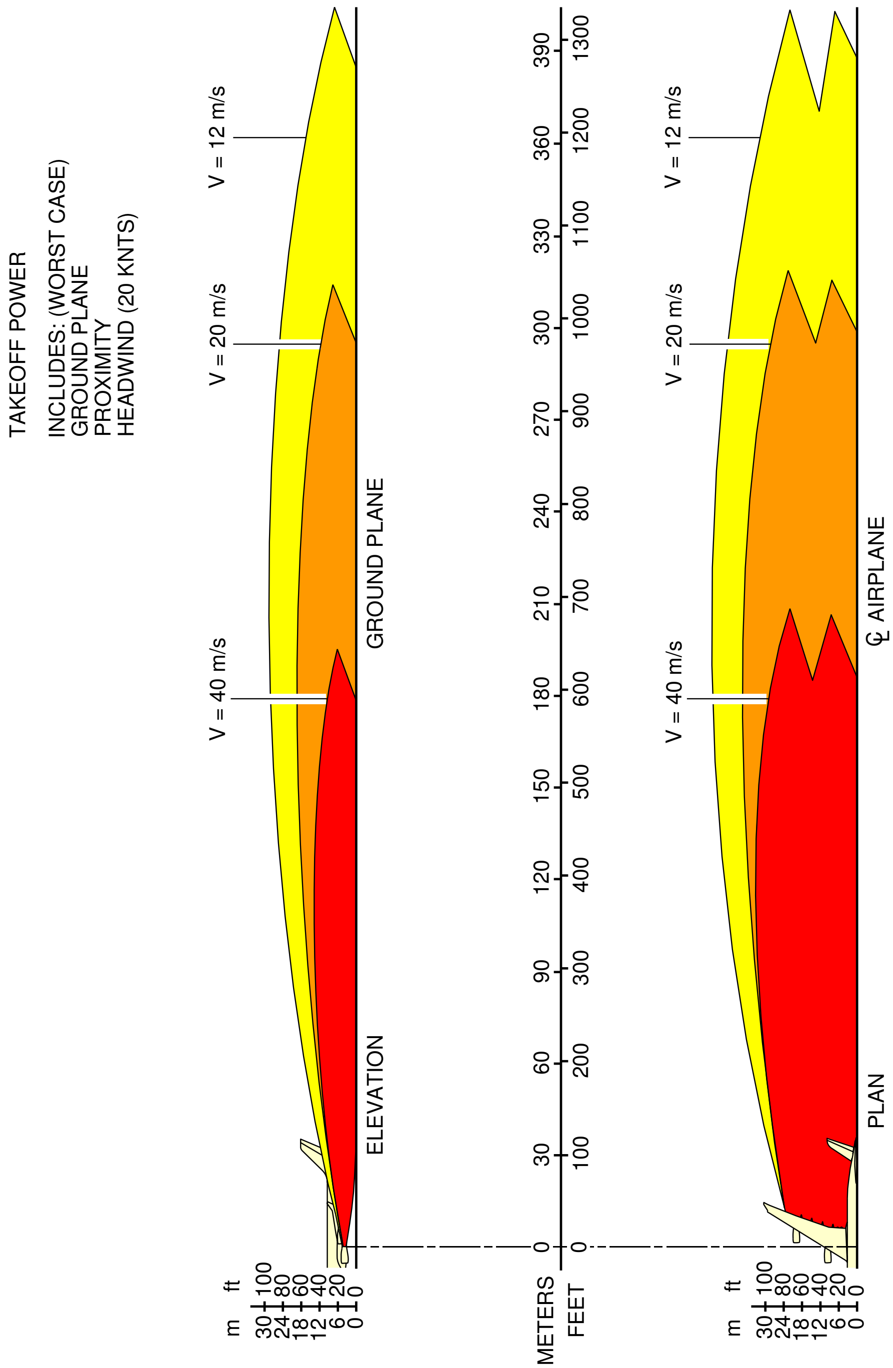
6-1-5 Engine Exhaust Velocities Contours - Takeoff Power

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

Engine Exhaust Velocities Contours - Takeoff Power

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

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



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Engine Exhaust Velocities
Takeoff Power - CFM56-5C series engine
FIGURE-6-1-5-991-004-A01

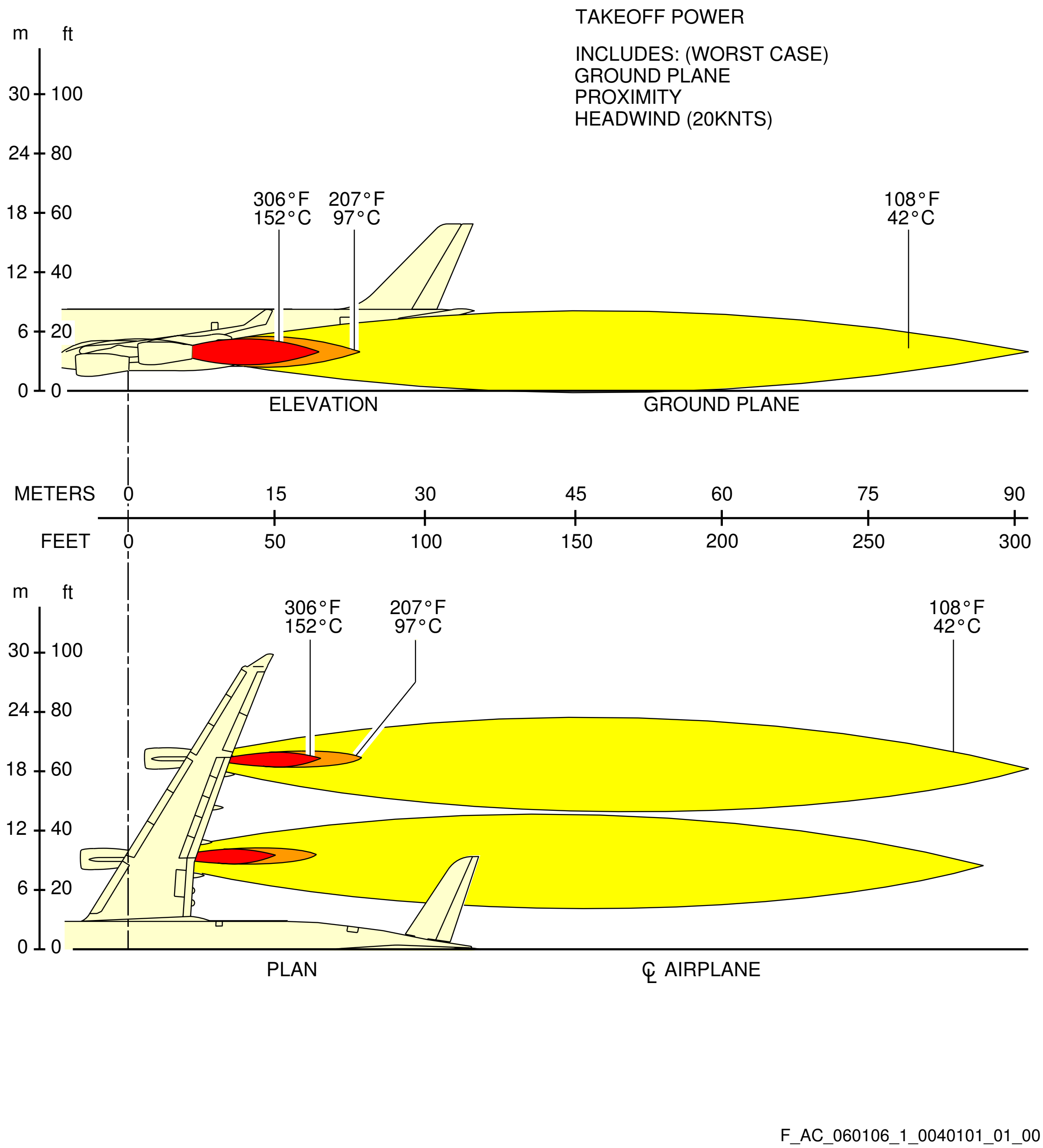
6-1-6 Engine Exhaust Temperatures Contours - Takeoff Power

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

Engine Exhaust Temperatures Contours - Takeoff Power

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

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



Engine Exhaust Temperatures
Takeoff Power - CFM56-5C series engine
FIGURE-6-1-6-991-004-A01

6-2-0 Airport and Community Noise

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

Airport and Community Noise Data

1. Airport and Community Noise Data

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

6-2-1 Noise Data

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

Noise Data

1. Noise Data for CFM56-5C series engine

   A. Description of test conditions:

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

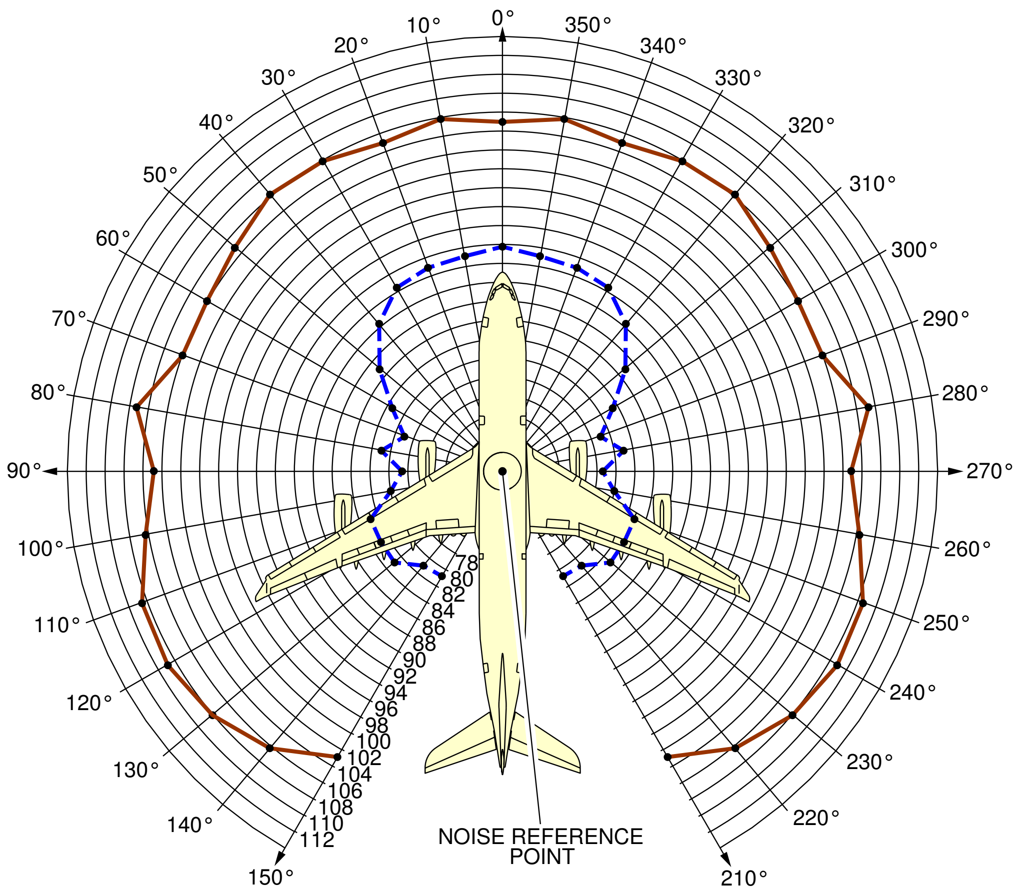
   B. Engine parameters: 2 engines running

   C. Meteorological data:

      The meteorological parameters measured 1.6 m (5.25 ft) from the ground on the day of test were as follows:
      - Temperature: 19°C (66°F)
      - Relative humidity: 68%
      - Atmospheric pressure: 1004 hPa
      - Wind speed: Negligible
      - No rain

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

	GROUND IDLE	MAX THRUST POSSIBLE ON BRAKES
N1	21%	92.7%
CURVE		



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Airport and Community Noise
CFM56-5C series engine
FIGURE-6-2-1-991-004-A01

6-3-0 Danger Areas of Engines

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

Danger Areas of Engines

1. Danger Areas of the Engines.

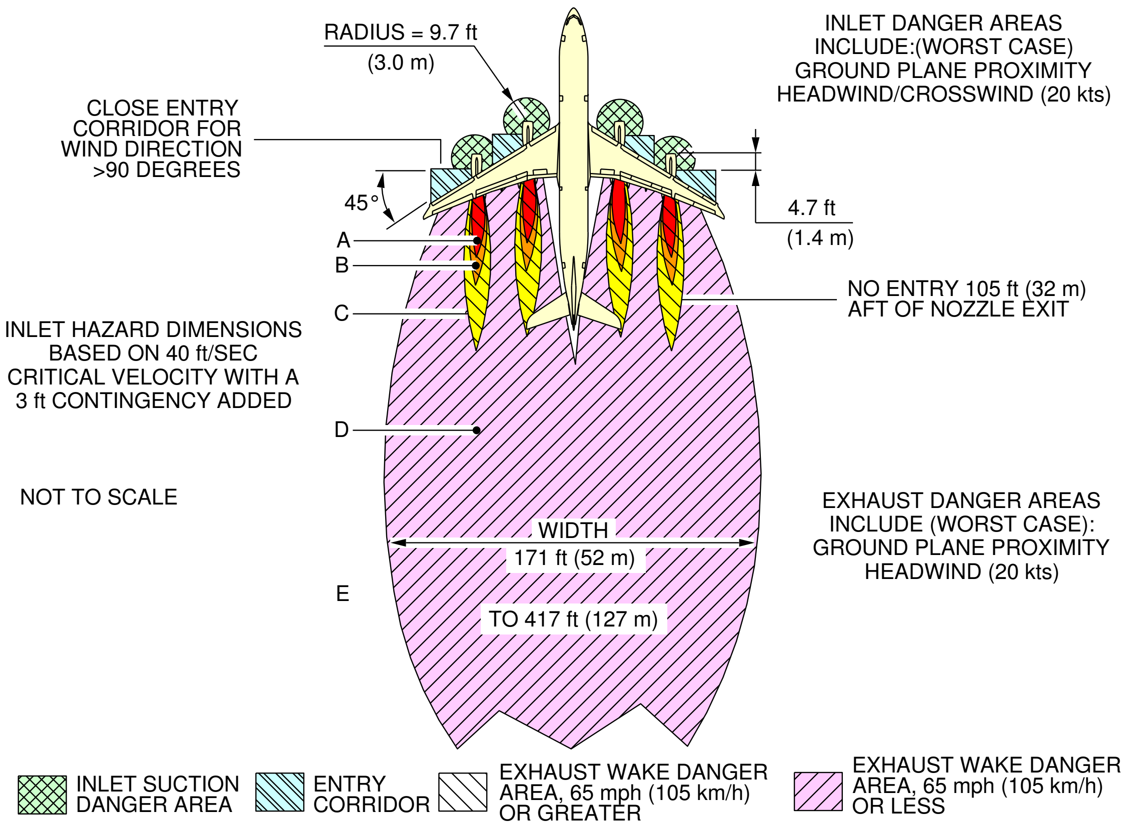
6-3-1 Ground Idle Power

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

Ground Idle Power

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

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



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

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Danger Areas of Engines
CFM56-5C series engine
FIGURE-6-3-1-991-004-A01

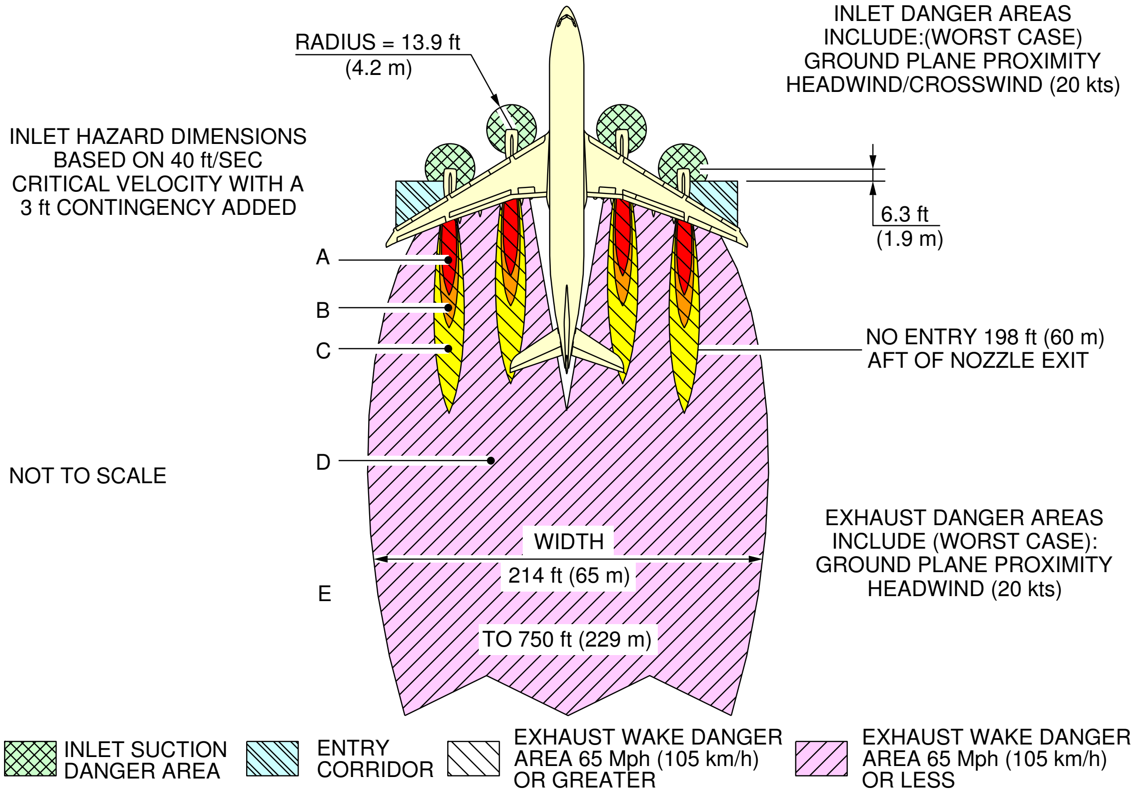
6-3-2 Breakaway Power

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

Breakaway Power

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

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



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

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Danger Areas of Engines
CFM56-5C series engine
FIGURE-6-3-2-991-004-A01

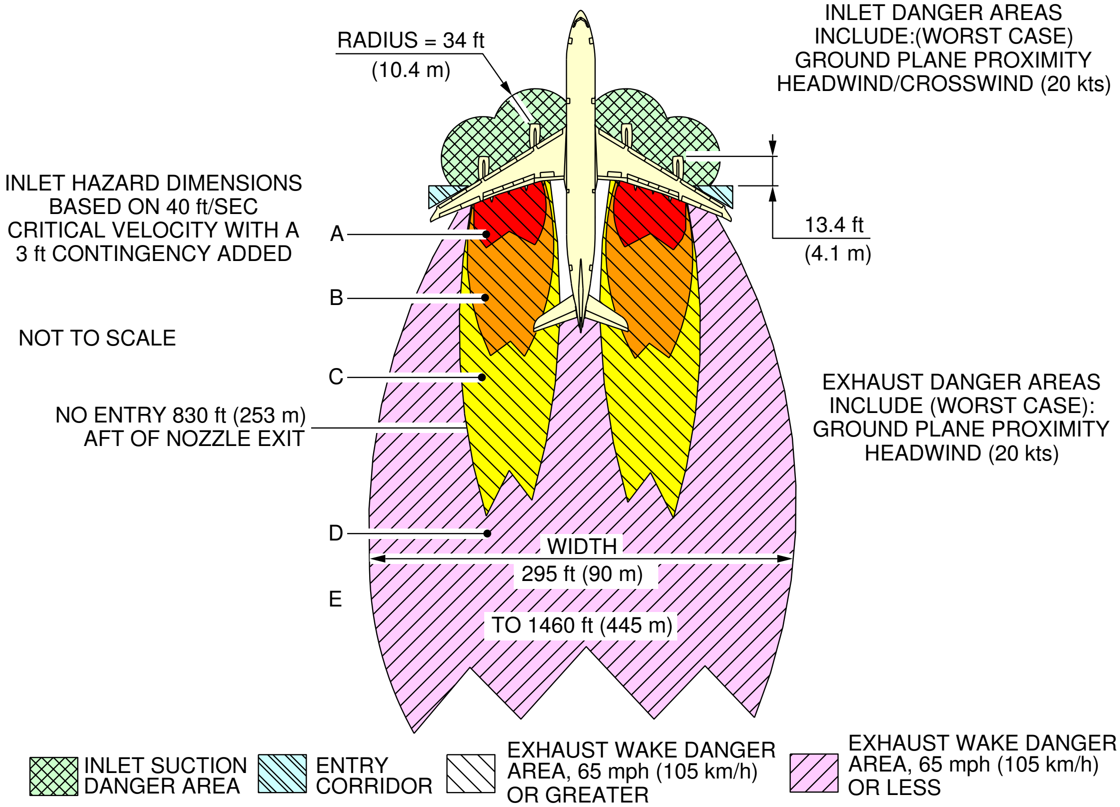
6-3-3 Takeoff Power

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

Takeoff Power

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

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



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

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Danger Areas of Engines
CFM56-5C series engine
FIGURE-6-3-3-991-004-A01

6-4-0 APU Exhaust Velocities and Temperatures

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

APU Exhaust Velocities and Temperatures

1. APU Exhaust Velocities and Temperatures.

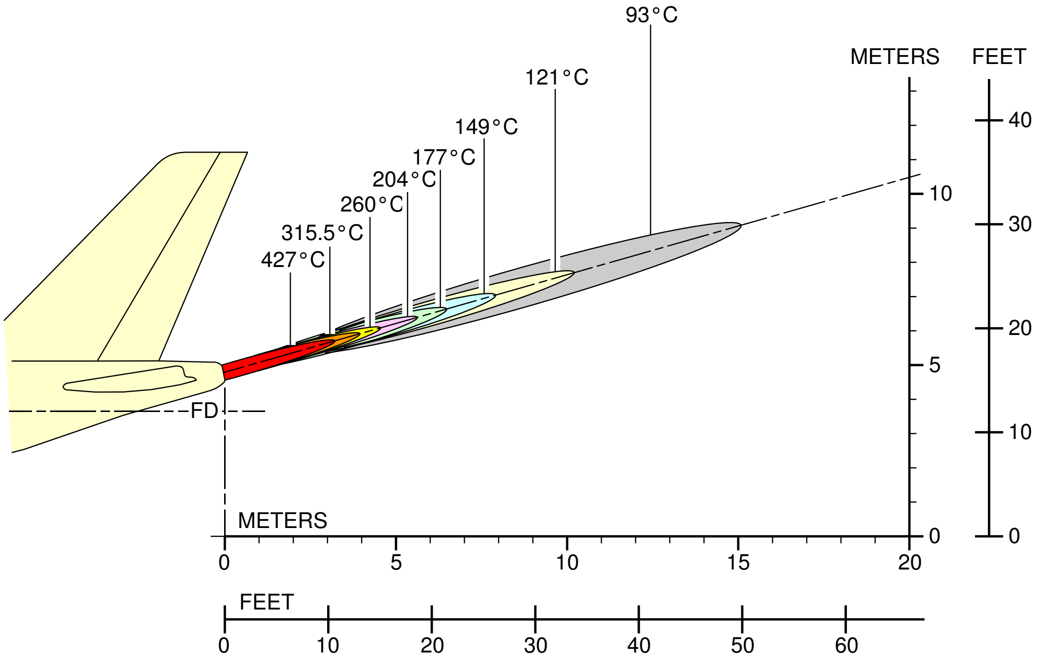
6-4-1 APU

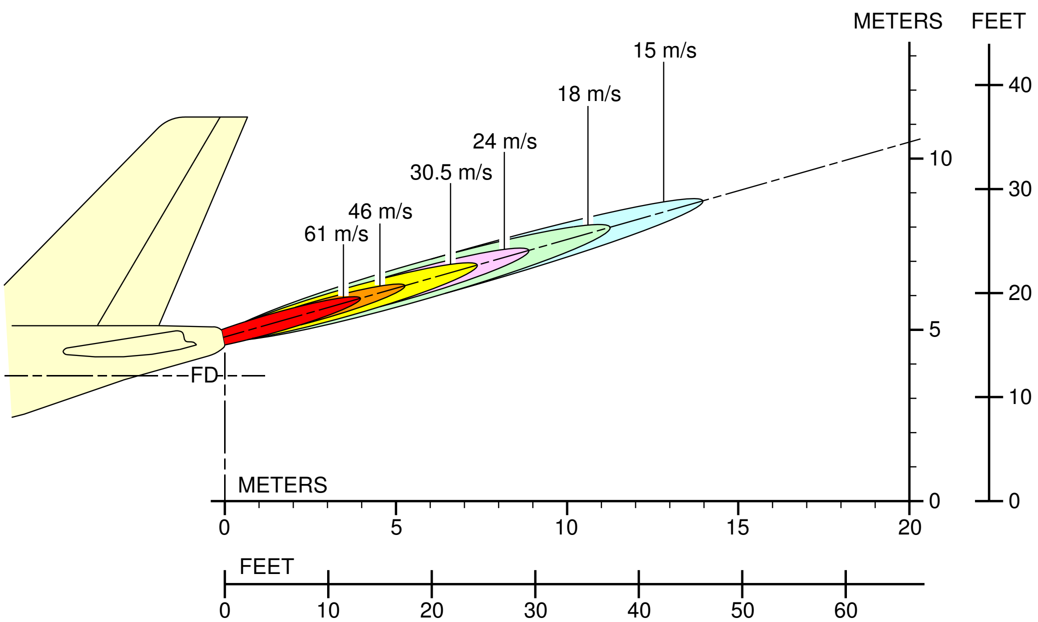
****ON A/C A340-200 A340-300**

APU - GARRETT

1. This section gives APU exhaust velocities and temperatures.

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





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Exhaust Velocities and Temperatures
GARRETT GTCP 331-350
FIGURE-6-4-1-991-002-A01

PAVEMENT DATA

7-1-0 General Information

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

General Information

1. General Information

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

To aid in the interpolation between the discrete values shown, each 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	A – High	W – No Limit	T – Technical
F – Flexible	B – Medium	X – To 1.5 Mpa (217 psi)	U – Using Aircraft
	C – Low	Y – To 1.0 Mpa (145 psi)	
	D – Ultra Low	Z – To 0.5 Mpa (73 psi)	

Section 7-9-0 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)

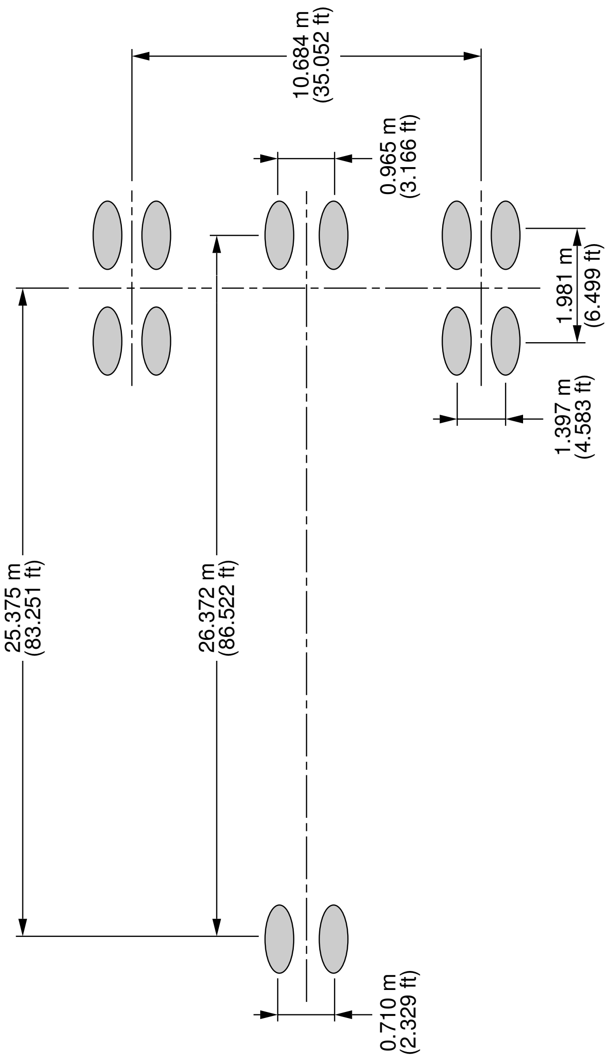
7-2-0 Landing Gear Footprint

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

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 A340-300



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
A340−300 WV001	257 900 kg (568 575 lb)	94.7%	1050x395R16	11.6 bar (168 psi)	1400x530R23 OR 54x21−23 (bias)	13.2 bar (191 psi)	1400x530R23 OR 54x21−23 (bias)	10.9 bar (158 psi)
A340−300 WV002	260 900 kg (575 175 lb)	93.8%	1050x395R16	11.6 bar (168 psi)	1400x530R23 OR 54x21−23 (bias)	13.2 bar (191 psi)	1400x530R23 OR 54x21−23 (bias)	10.9 bar (158 psi)
A340−300 WV003	257 900 kg (568 575 lb)	94.7%	1050x395R16	11.6 bar (168 psi)	1400x530R23 OR 54x21−23 (bias)	13.2 bar (191 psi)	1400x530R23 OR 54x21−23 (bias)	10.9 bar (158 psi)
A340−300 WV004	260 900 kg (575 175 lb)	93.8%	1050x395R16	11.6 bar (168 psi)	1400x530R23 OR 54x21−23 (bias)	13.2 bar (191 psi)	1400x530R23 OR 54x21−23 (bias)	10.9 bar (158 psi)
A340−300 WV020	271 900 kg (599 425 lb)	94.6%	1050x395R16	12.1 bar (175 psi)	1400x530R23 OR 54x21−23 (bias)	14.2 bar (206 psi)	1400x530R23 OR 54x21−23 (bias)	10.9 bar (158 psi)

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Landing Gear Footprint
(Sheet 1 of 2)
FIGURE-7-2-0-991-029-A01

**ON A/C A340-300

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
A340−300 WV021	275 900 kg (608 250 lb)	94.6%	1050x395R16	12.1 bar (175 psi)	1400x530R23 OR 54x21−23 (bias)	14.2 bar (206 psi)	1400x530R23 OR 54x21−23 (bias)	10.9 bar (158 psi)
A340−300 WV023	262 900 kg (579 600 lb)	94.7%	1050x395R16	12.1 bar (175 psi)	1400x530R23 OR 54x21−23 (bias)	14.2 bar (206 psi)	1400x530R23 OR 54x21−23 (bias)	10.9 bar (158 psi)
A340−300 WV024	275 900 kg (608 250 lb)	94.6%	1050x395R16	12.1 bar (175 psi)	1400x530R23 OR 54x21−23 (bias)	14.2 bar (206 psi)	1400x530R23 OR 54x21−23 (bias)	10.9 bar (158 psi)
A340−300 WV025 (CG 38.02%)	260 900 kg (575 175 lb)	94.7%	1050x395R16	12.1 bar (175 psi)	1400x530R23 OR 54x21−23 (bias)	14.2 bar (206 psi)	1400x530R23 OR 54x21−23 (bias)	10.9 bar (158 psi)
A340−300 WV025 (CG 38%)	260 900 kg (575 175 lb)	94.7%	1050x395R16	12.1 bar (175 psi)	1400x530R23 OR 54x21−23 (bias)	14.2 bar (206 psi)	1400x530R23 OR 54x21−23 (bias)	10.9 bar (158 psi)
A340−300 WV026	275 900 kg (608 250 lb)	94.6%	1050x395R16	12.1 bar (175 psi)	1400x530R23 OR 54x21−23 (bias)	14.2 bar (206 psi)	1400x530R23 OR 54x21−23 (bias)	10.9 bar (158 psi)
A340−300 WV027	271 900 kg (599 425 lb)	94.6%	1050x395R16	12.1 bar (175 psi)	1400x530R23 OR 54x21−23 (bias)	14.2 bar (206 psi)	1400x530R23 OR 54x21−23 (bias)	10.9 bar (158 psi)
A340−300 WV028	277 400 kg (611 550 lb)	93.8%	1050x395R16	12.1 bar (175 psi)	1400x530R23 OR 54x21−23 (bias)	14.2 bar (206 psi)	1400x530R23 OR 54x21−23 (bias)	10.9 bar (158 psi)
A340−300 WV029	260 900 kg (575 175 lb)	94.7%	1050x395R16	12.1 bar (175 psi)	1400x530R23 OR 54x21−23 (bias)	14.2 bar (206 psi)	1400x530R23 OR 54x21−23 (bias)	10.9 bar (158 psi)
A340−300 WV050	275 900 kg (608 250 lb)	94.6%	1050x395R16	12.1 bar (175 psi)	1400x530R23 OR 54x21−23 (bias)	14.2 bar (206 psi)	1400x530R23 OR 54x21−23 (bias)	10.9 bar (158 psi)
A340−300 WV051	275 900 kg (608 250 lb)	94.6%	1050x395R16	12.1 bar (175 psi)	1400x530R23 OR 54x21−23 (bias)	14.2 bar (206 psi)	1400x530R23 OR 54x21−23 (bias)	10.9 bar (158 psi)
A340−300 WV052	277 400 kg (611 550 lb)	93.8%	1050x395R16	12.1 bar (175 psi)	1400x530R23 OR 54x21−23 (bias)	14.2 bar (206 psi)	1400x530R23 OR 54x21−23 (bias)	10.9 bar (158 psi)
A340−300 WV053	277 400 kg (611 550 lb)	93.8%	1050x395R16	12.1 bar (175 psi)	1400x530R23 OR 54x21−23 (bias)	14.2 bar (206 psi)	1400x530R23 OR 54x21−23 (bias)	10.9 bar (158 psi)
A340−300 WV054	275 900 kg (608 250 lb)	94.6%	1050x395R16	12.1 bar (175 psi)	1400x530R23 OR 54x21−23 (bias)	14.2 bar (206 psi)	1400x530R23 OR 54x21−23 (bias)	10.9 bar (158 psi)

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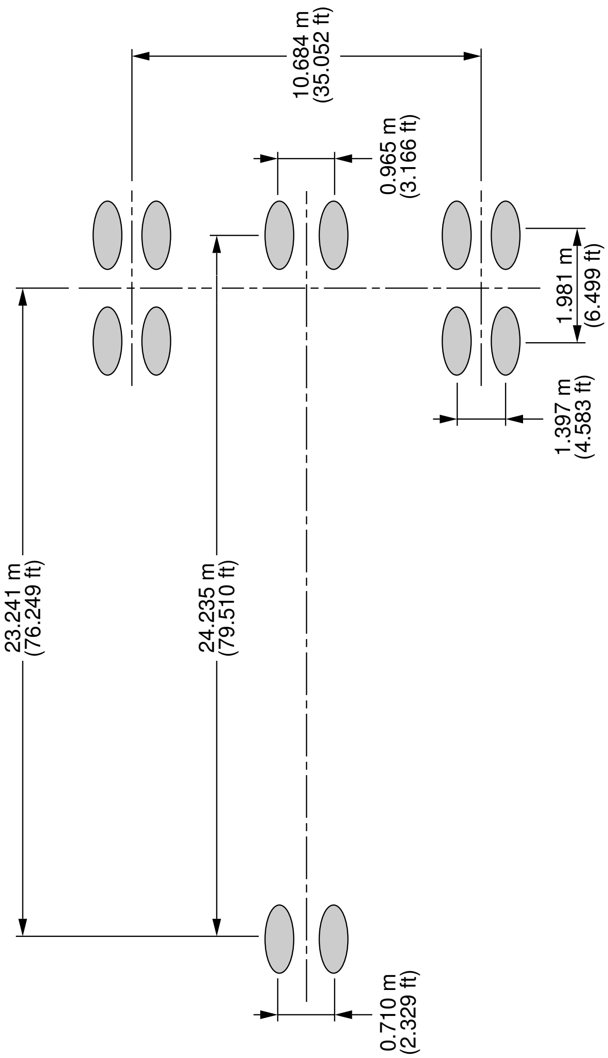
Landing Gear Footprint
(Sheet 2 of 2)
FIGURE-7-2-0-991-029-A01

**ON A/C A340-200



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
A340−200 WV000	254 400 kg (560 850 lb)	93.8%	1050x395R16	11.4 bar (165 psi)	1400x530R23 OR 54x21−23 (bias)	13 bar (189 psi)	1400x530R23 OR 54x21−23 (bias)	10.3 bar (149 psi)
A340−200 WV001	257 900 kg (568 575 lb)	93.7%	1050x395R16	11.6 bar (168 psi)	1400x530R23 OR 54x21−23 (bias)	13.2 bar (191 psi)	1400x530R23 OR 54x21−23 (bias)	10.9 bar (158 psi)
A340−200 WV002	260 900 kg (575 175 lb)	93.7%	1050x395R16	11.6 bar (168 psi)	1400x530R23 OR 54x21−23 (bias)	13.2 bar (191 psi)	1400x530R23 OR 54x21−23 (bias)	10.9 bar (158 psi)
A340−200 WV021	275 900 kg (608 250 lb)	93.6%	1050x395R16	13.1 bar (190 psi)	1400x530R23 OR 54x21−23 (bias)	14.2 bar (206 psi)	1400x530R23 OR 54x21−23 (bias)	10.9 bar (158 psi)

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Landing Gear Footprint
FIGURE-7-2-0-991-038-A01

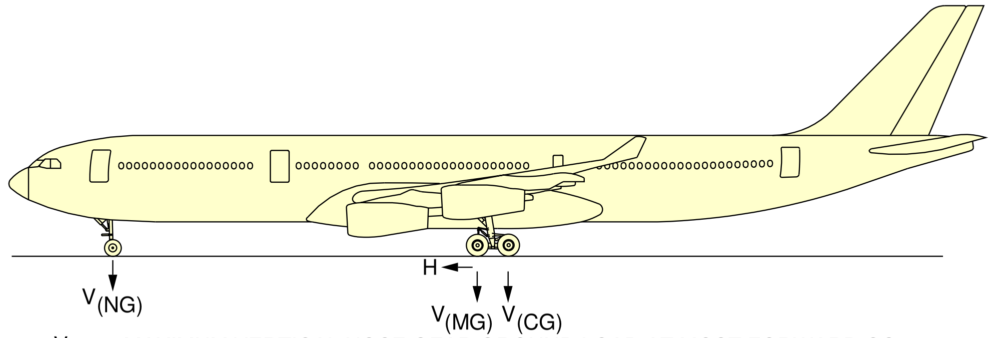
7-3-0 Maximum Pavement Loads

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

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 A340-300



$V_{(NG)}$ 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
A340−300 WV000	254 400 kg (560 850 lb)	25 570 kg (56 375 lb)	18% MAC (b)	38 070 kg (83 925 lb)	100 230 kg (220 975 lb)	38.18% MAC	40 510 kg (89 300 lb)	38.18% MAC (a)	39 530 kg (87 150 lb)	80 180 kg (176 775 lb)
A340−300 WV001	257 900 kg (568 575 lb)	25 570 kg (56 375 lb)	18% MAC (b)	38 050 kg (83 875 lb)	101 640 kg (224 100 lb)	38.05% MAC	40 910 kg (90 200 lb)	38.05% MAC (a)	40 080 kg (88 350 lb)	81 320 kg (179 275 lb)
A340−300 WV002	260 900 kg (575 175 lb)	25 570 kg (56 375 lb)	18% MAC (b)	37 980 kg (83 725 lb)	101 980 kg (224 825 lb)	35% MAC	40 850 kg (90 050 lb)	35% MAC (a)	40 550 kg (89 375 lb)	81 590 kg (179 875 lb)
A340−300 WV003	257 900 kg (568 575 lb)	25 570 kg (56 375 lb)	18% MAC (b)	38 050 kg (83 875 lb)	101 640 kg (224 100 lb)	38.05% MAC	40 910 kg (90 200 lb)	38.05% MAC (a)	40 080 kg (88 350 lb)	81 320 kg (179 275 lb)
A340−300 WV004	260 900 kg (575 175 lb)	25 570 kg (56 375 lb)	18% MAC (b)	38 110 kg (84 025 lb)	101 980 kg (224 825 lb)	35% MAC	40 850 kg (90 050 lb)	35% MAC (a)	40 550 kg (89 375 lb)	81 590 kg (179 875 lb)
A340−300 WV020	271 900 kg (599 425 lb)	27 480 kg (60 575 lb)	21.5% MAC (a)	42 220 kg (93 075 lb)	107 700 kg (237 450 lb)	37.63% MAC	41 800 kg (92 150 lb)	37.63% MAC (a)	42 250 kg (93 150 lb)	86 160 kg (189 950 lb)
A340−300 WV021	275 900 kg (608 250 lb)	27 550 kg (60 750 lb)	21.9% MAC (a)	42 490 kg (93 675 lb)	109 460 kg (241 300 lb)	37.5% MAC	41 990 kg (92 575 lb)	37.5% MAC (a)	42 880 kg (94 525 lb)	87 570 kg (193 050 lb)

NOTE:
(a) LOADS CALCULATED USING AIRCRAFT AT MRW
(b) LOADS CALCULATED USING AIRCRAFT AT 231 000 kg (509 267 lb)

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Maximum Pavement Loads
(Sheet 1 of 2)
FIGURE-7-3-0-991-007-A01

**ON A/C A340-300

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
A340−300 WV023	262 900 kg (579 600 lb)	27 330 kg (60 250 lb)	20.5% MAC (a)	41 610 kg (91 750 lb)	103 800 kg (228 825 lb)	37.9% MAC	41 250 kg (90 950 lb)	37.9% MAC (a)	40 860 kg (90 075 lb)	83 040 kg (183 075 lb)
A340−300 WV024	275 900 kg (608 250 lb)	27 550 kg (60 750 lb)	21.9% MAC (a)	42 490 kg (93 675 lb)	109 460 kg (241 300 lb)	37.5% MAC	41 990 kg (92 575 lb)	37.5% MAC (a)	42 880 kg (94 525 lb)	87 570 kg (193 050 lb)
A340−300 WV025 (CG 38.02%)	260 900 kg (575 175 lb)	27 270 kg (60 125 lb)	20.3% MAC (a)	41 450 kg (91 375 lb)	102 960 kg (226 975 lb)	38.02% MAC	41 120 kg (90 650 lb)	38.02% MAC (a)	40 550 kg (89 375 lb)	82 370 kg (181 575 lb)
A340−300 WV025 (CG 38%)	260 900 kg (575 175 lb)	26 710 kg (58 900 lb)	18% MAC (c)	39 810 kg (87 775 lb)	102 950 kg (226 975 lb)	38% MAC	41 120 kg (90 650 lb)	38% MAC (a)	40 550 kg (89 375 lb)	82 370 kg (181 575 lb)
A340−300 WV026	275 900 kg (608 250 lb)	27 550 kg (60 750 lb)	21.9% MAC (a)	42 490 kg (93 675 lb)	109 460 kg (241 300 lb)	37.5% MAC	41 990 kg (92 575 lb)	37.5% MAC (a)	42 880 kg (94 525 lb)	87 570 kg (193 050 lb)
A340−300 WV027	271 900 kg (599 425 lb)	27 480 kg (60 575 lb)	21.5% MAC (a)	42 220 kg (93 075 lb)	107 700 kg (237 450 lb)	37.63% MAC	41 800 kg (92 150 lb)	37.63% MAC (a)	42 250 kg (93 150 lb)	86 160 kg (189 950 lb)
A340−300 WV028	277 400 kg (611 550 lb)	27 460 kg (60 550 lb)	21.9% MAC (d)	42 340 kg (93 350 lb)	109 190 kg (240 725 lb)	35% MAC	41 950 kg (92 475 lb)	35% MAC (a)	43 110 kg (95 050 lb)	87 350 kg (192 575 lb)
A340−300 WV029	260 900 kg (575 175 lb)	27 270 kg (60 125 lb)	20.3% MAC (a)	41 450 kg (91 375 lb)	102 950 kg (226 975 lb)	38% MAC	41 120 kg (90 650 lb)	38% MAC (a)	40 550 kg (89 375 lb)	82 360 kg (181 575 lb)
A340−300 WV050	275 900 kg (608 250 lb)	27 550 kg (60 750 lb)	21.9% MAC (a)	42 490 kg (93 675 lb)	109 460 kg (241 300 lb)	37.5% MAC	41 990 kg (92 575 lb)	37.5% MAC (a)	42 880 kg (94 525 lb)	87 570 kg (193 050 lb)
A340−300 WV051	275 900 kg (608 250 lb)	27 550 kg (60 750 lb)	21.9% MAC (a)	42 490 kg (93 675 lb)	109 460 kg (241 300 lb)	37.5% MAC	41 990 kg (92 575 lb)	37.5% MAC (a)	42 880 kg (94 525 lb)	87 570 kg (193 050 lb)
A340−300 WV052	277 400 kg (611 550 lb)	27 460 kg (60 550 lb)	21.9% MAC (d)	42 340 kg (93 350 lb)	109 190 kg (240 725 lb)	35% MAC	41 950 kg (92 475 lb)	35% MAC (a)	43 110 kg (95 050 lb)	87 350 kg (192 575 lb)
A340−300 WV053	277 400 kg (611 550 lb)	27 460 kg (60 550 lb)	21.9% MAC (d)	42 340 kg (93 350 lb)	109 190 kg (240 725 lb)	35% MAC	41 950 kg (92 475 lb)	35% MAC (a)	43 110 kg (95 050 lb)	87 350 kg (192 575 lb)
A340−300 WV054	275 900 kg (608 250 lb)	27 550 kg (60 750 lb)	21.9% MAC (a)	42 490 kg (93 675 lb)	109 460 kg (241 300 lb)	37.5% MAC	41 990 kg (92 575 lb)	37.5% MAC (a)	42 880 kg (94 525 lb)	87 570 kg (193 050 lb)

NOTE:
(a) LOADS CALCULATED USING AIRCRAFT AT MRW
(c) LOADS CALCULATED USING AIRCRAFT AT 241 000 kg (531 313 lb)
(d) LOADS CALCULATED USING AIRCRAFT AT 275 000 kg (606 270 lb)

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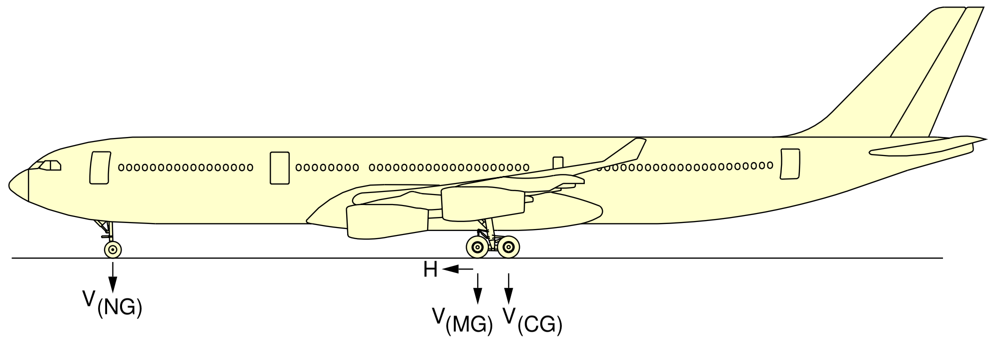
Maximum Pavement Loads
(Sheet 2 of 2)
FIGURE-7-3-0-991-007-A01

**ON A/C A340-200



$V_{(NG)}$ MAXIMUM VERTICAL NOSE GEAR GROUND LOAD AT MOST FORWARD CG
$V_{(MG)}$ MAXIMUM VERTICAL MAIN GEAR GROUND LOAD AT MOST AFT CG
$V_{(CG)}$ 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
A340−200 WV000	254 400 kg (560 850 lb)	27 330 kg (60 250 lb)	20% MAC (b)	40 730 kg (89 800 lb)	99 410 kg (219 150 lb)	37.7% MAC	39 700 kg (87 525 lb)	37.7% MAC (a)	39 530 kg (87 150 lb)	79 530 kg (175 325 lb)
A340−200 WV001	257 900 kg (568 575 lb)	27 330 kg (60 250 lb)	20% MAC (b)	40 720 kg (89 775 lb)	100 730 kg (222 075 lb)	37.6 MAC	40 240 kg (88 725 lb)	37.6% MAC (a)	40 080 kg (88 350 lb)	80 590 kg (177 675 lb)
A340−200 WV002	260 900 kg (575 175 lb)	27 330 kg (60 250 lb)	20% MAC (b)	40 700 kg (89 725 lb)	101 950 kg (224 775 lb)	37.5% MAC	40 550 kg (89 400 lb)	37.5% MAC (a)	40 550 kg (89 375 lb)	81 560 kg (179 800 lb)
A340−200 WV021	275 900 kg (608 250 lb)	30 030 kg (66 200 lb)	23.7% MAC (a)	46 210 kg (101 875 lb)	108 220 kg (238 575 lb)	37% MAC	41 690 kg (91 900 lb)	37% MAC (a)	42 880 kg (94 525 lb)	86 580 kg (190 875 lb)

NOTE:
(a) LOADS CALCULATED USING AIRCRAFT AT MRW
(b) LOADS CALCULATED USING AIRCRAFT AT 227 000 kg (500 448 lb)

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Maximum Pavement Loads
FIGURE-7-3-0-991-009-A01

7-4-0 Landing Gear Loading on Pavement

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

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 lowest and the highest MRW of each type of aircraft.
2. MLG Loading on Pavement
   Example, see FIGURE 7---0-99--005-A (sheet 1), calculation of the total weight on the MLG for:
   - An aircraft with a MRW of 254 400 kg (560 850 lb),
   - The aircraft gross weight is 200 000 kg (440 925 lb).
   - A percentage of weight on MLG of 93,8% (percentage of weight on MLG at MRW and CG max aft).

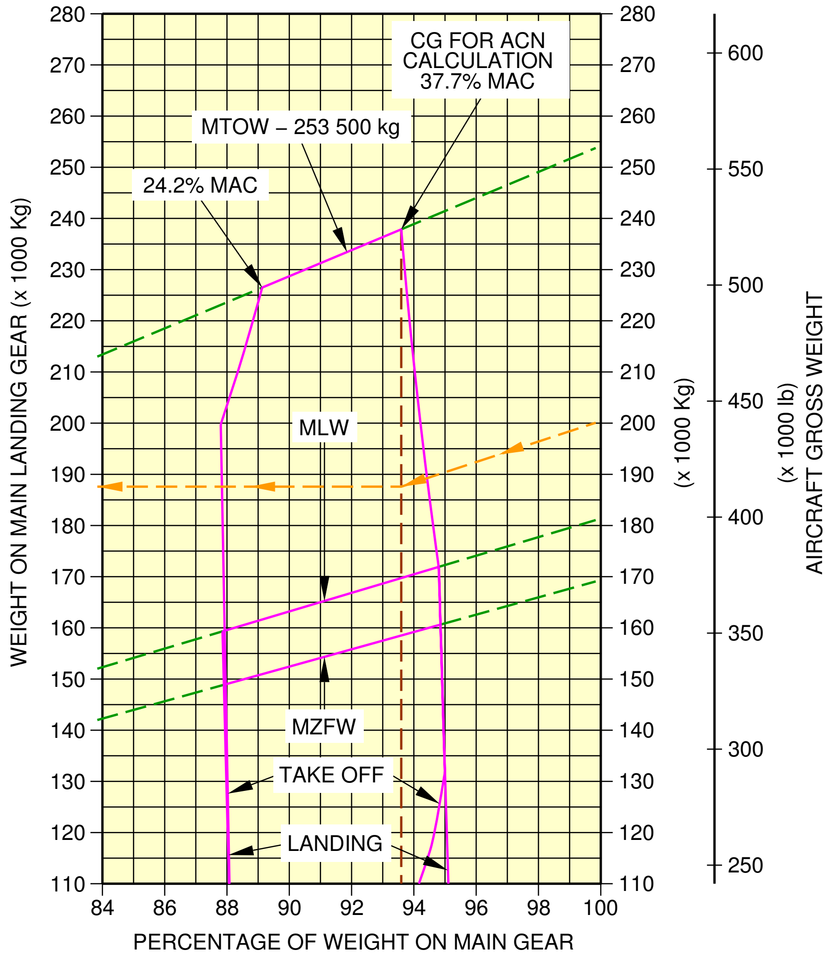
   The total weight on the MLG group is 187 510 kg (413 400 lb).
3. Main Gear and Center Gear Loading on Pavement
   The MLG Group consists of two main gears (4 wheel bogies) plus one center gear (2 wheels).

   Example, see FIGURE 7---0-99--005-A (sheet 2), calculation of the total weight on the MLG for:
   - An aircraft with a MRW of 254 400 kg (560 850 lb),
   - The aircraft gross weight is 200 000 kg (440 925 lb).

   The load on the two main gears is 162 875 kg (359 100 lb) and the load on the center gear is 25 050 kg (55 200 lb).
   The total weight on the MLG group is 187 510 kg (413 400 lb).

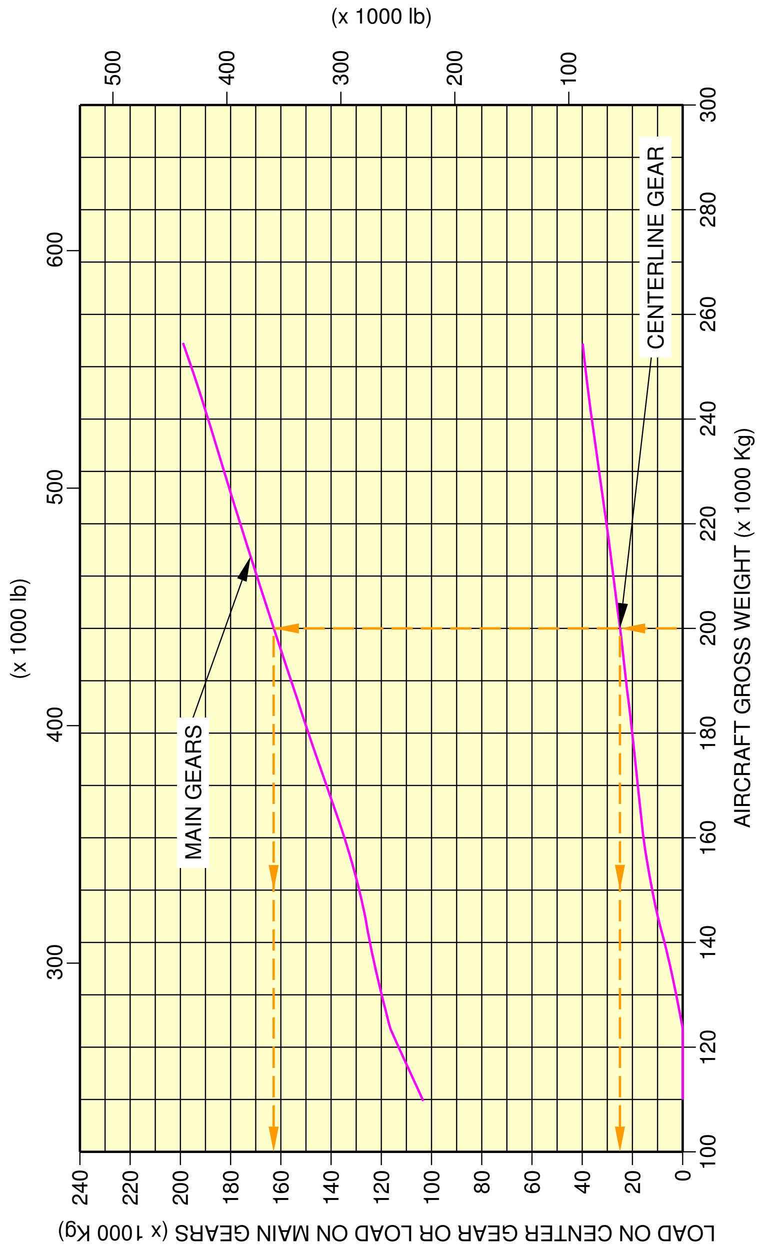
   NOTE : The CG in the figure title is the CG used for ACN / LCN calculation

**ON A/C A340-200



Landing Gear Loading on Pavement
WV000, MRW 254 400 kg (Sheet 1 of 2)
FIGURE-7-4-0-991-005-A01

**ON A/C A340-200



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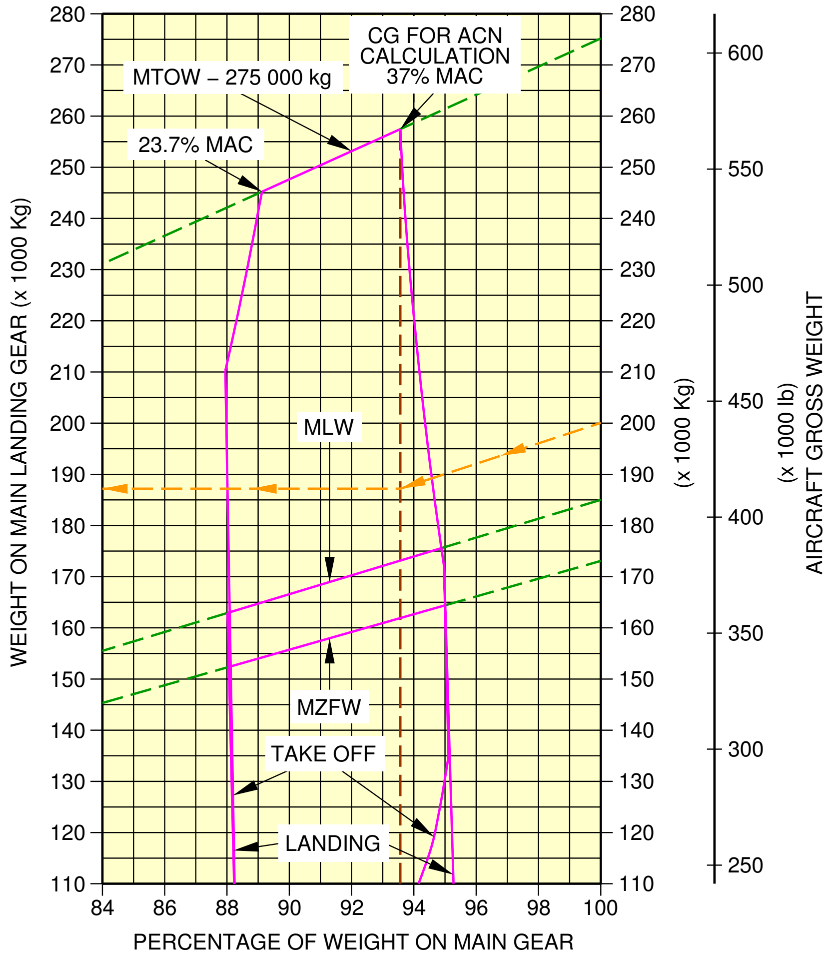
Landing Gear Loading on Pavement
WV000, MRW 254 400 kg, CG 37.7 % (Sheet 2 of 2)
FIGURE-7-4-0-991-005-A01

**ON A/C A340-200



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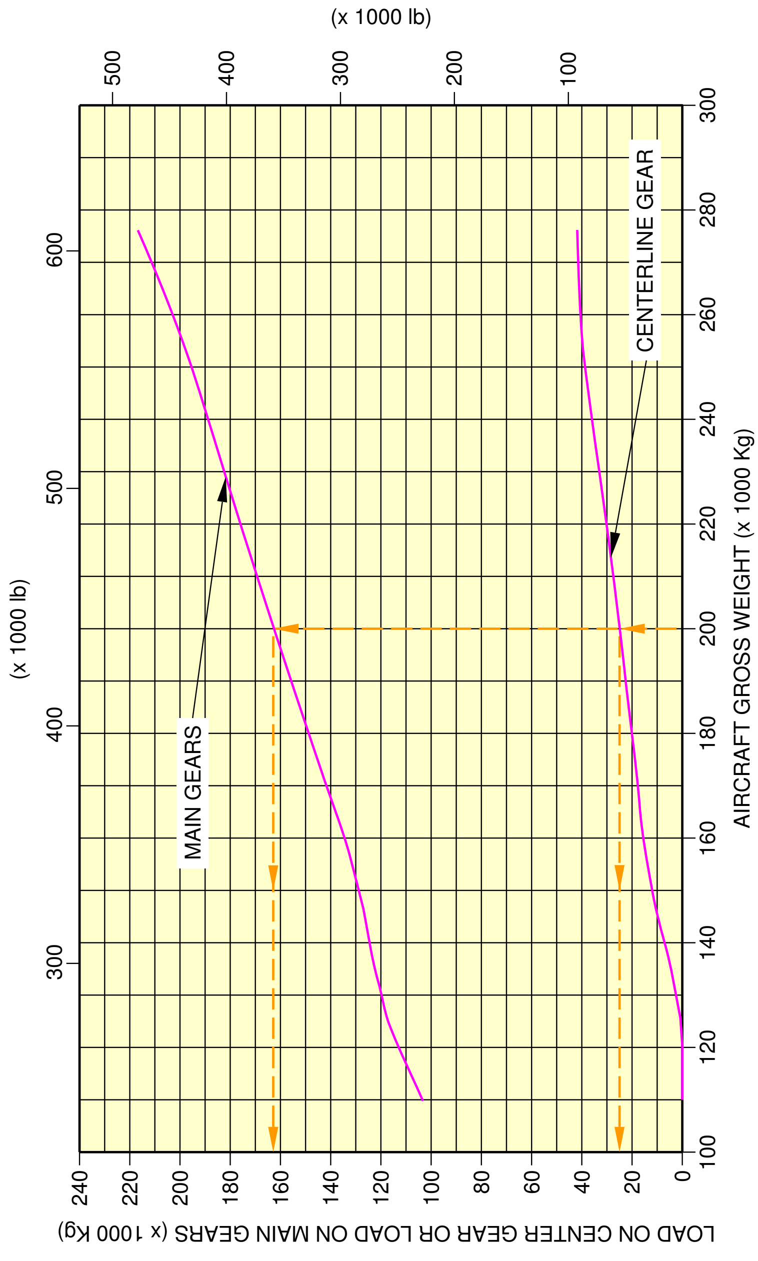
Landing Gear Loading on Pavement
WV021, MRW 275 900 kg (Sheet 1 of 2)
FIGURE-7-4-0-991-006-A01

**ON A/C A340-200



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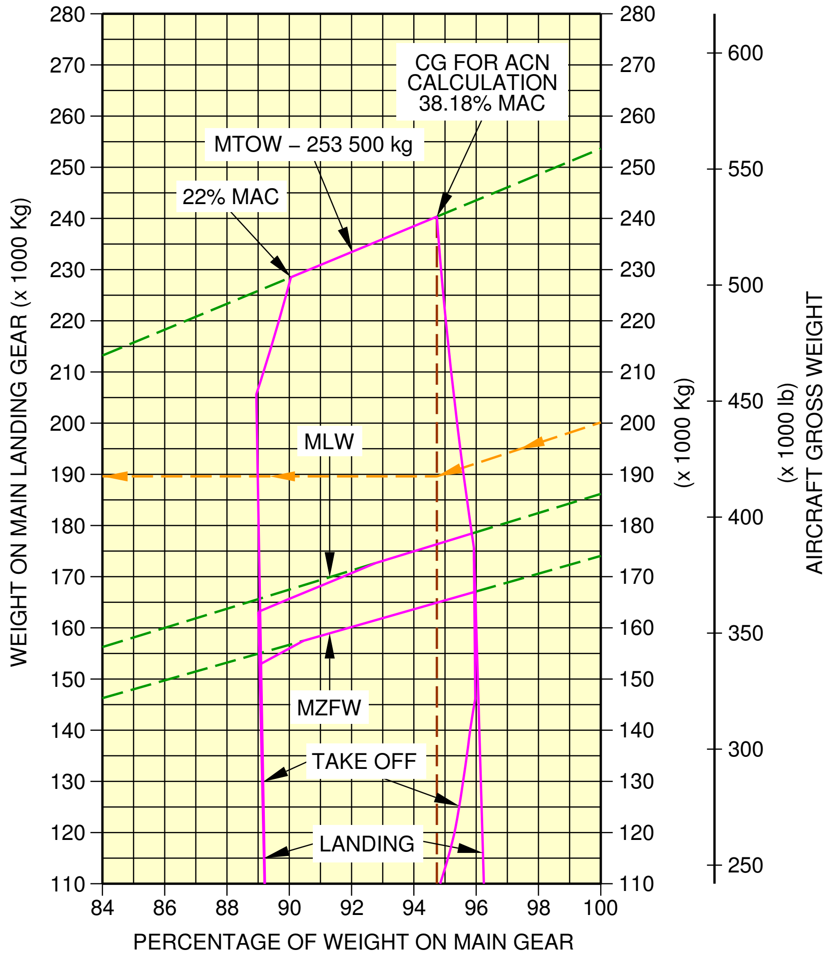
Landing Gear Loading on Pavement
WV021, MRW 275 900 kg, CG 37 % (Sheet 2 of 2)
FIGURE-7-4-0-991-006-A01

**ON A/C A340-300



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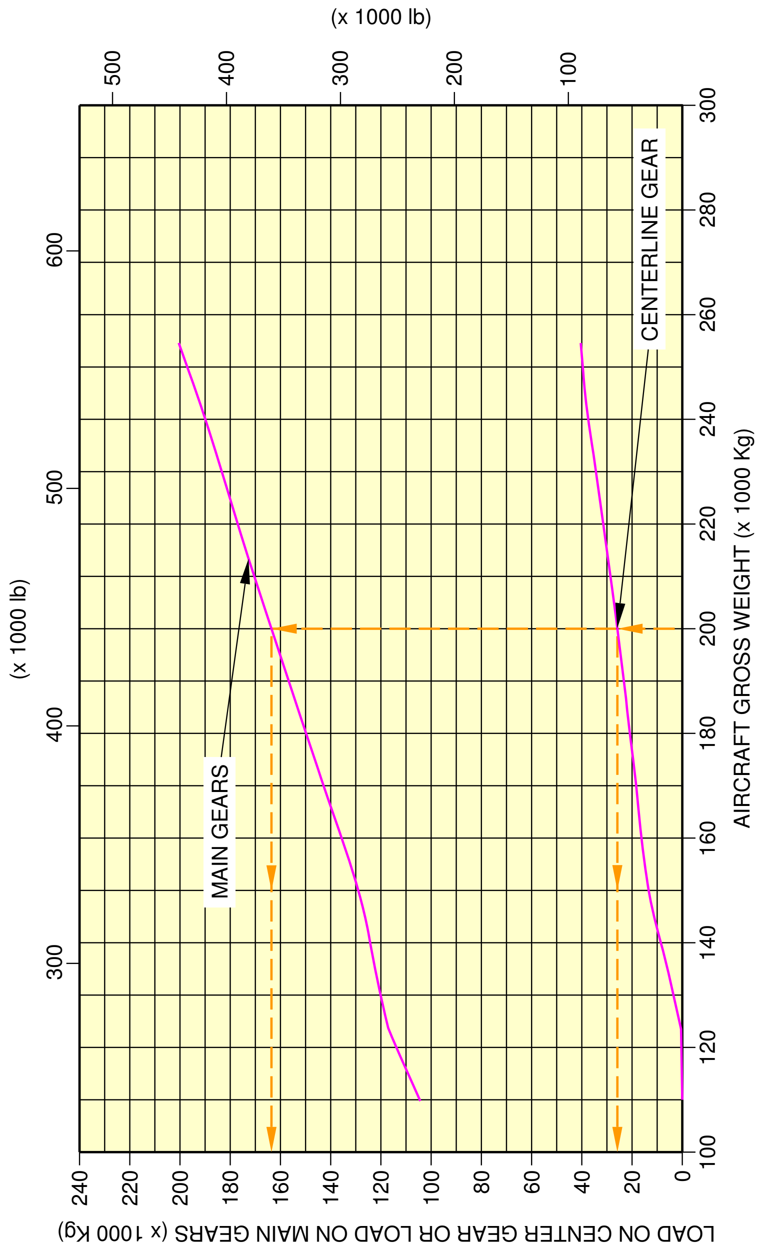
Landing Gear Loading on Pavement
WV000, MRW 254 400 kg (Sheet 1 of 2)
FIGURE-7-4-0-991-007-A01

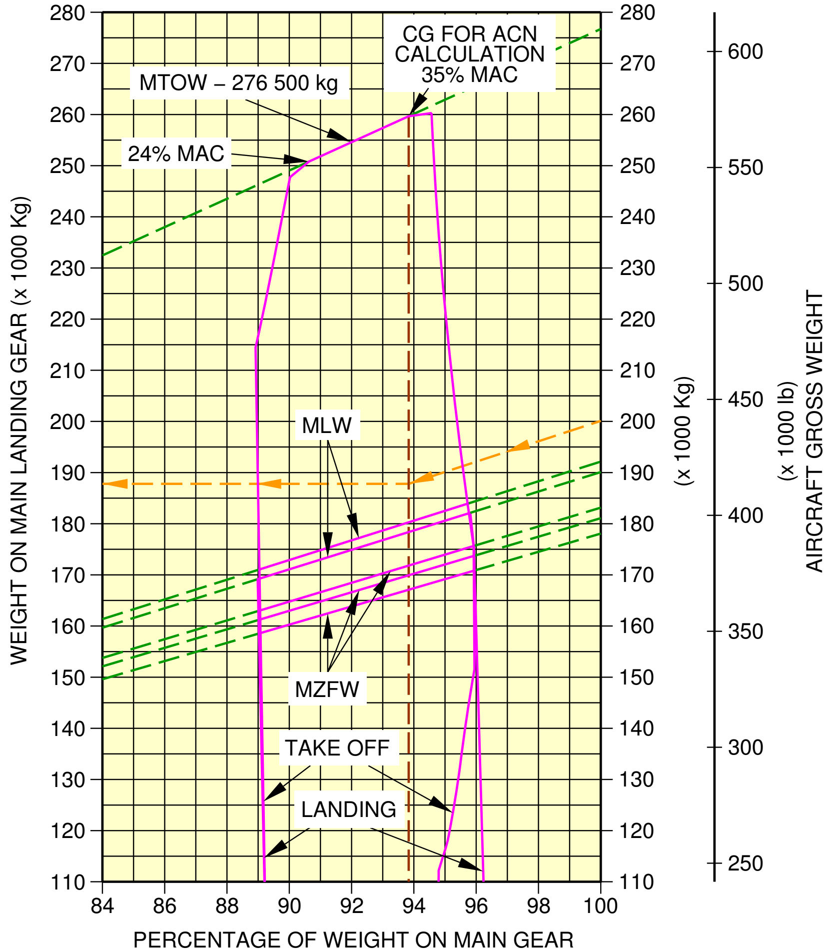
**ON A/C A340-300



F_AC_070400_1_0070102_01_00

Landing Gear Loading on Pavement
WV000, MRW 254 400 kg, CG 38.18 % (Sheet 2 of 2)
FIGURE-7-4-0-991-007-A01

**ON A/C A340-300



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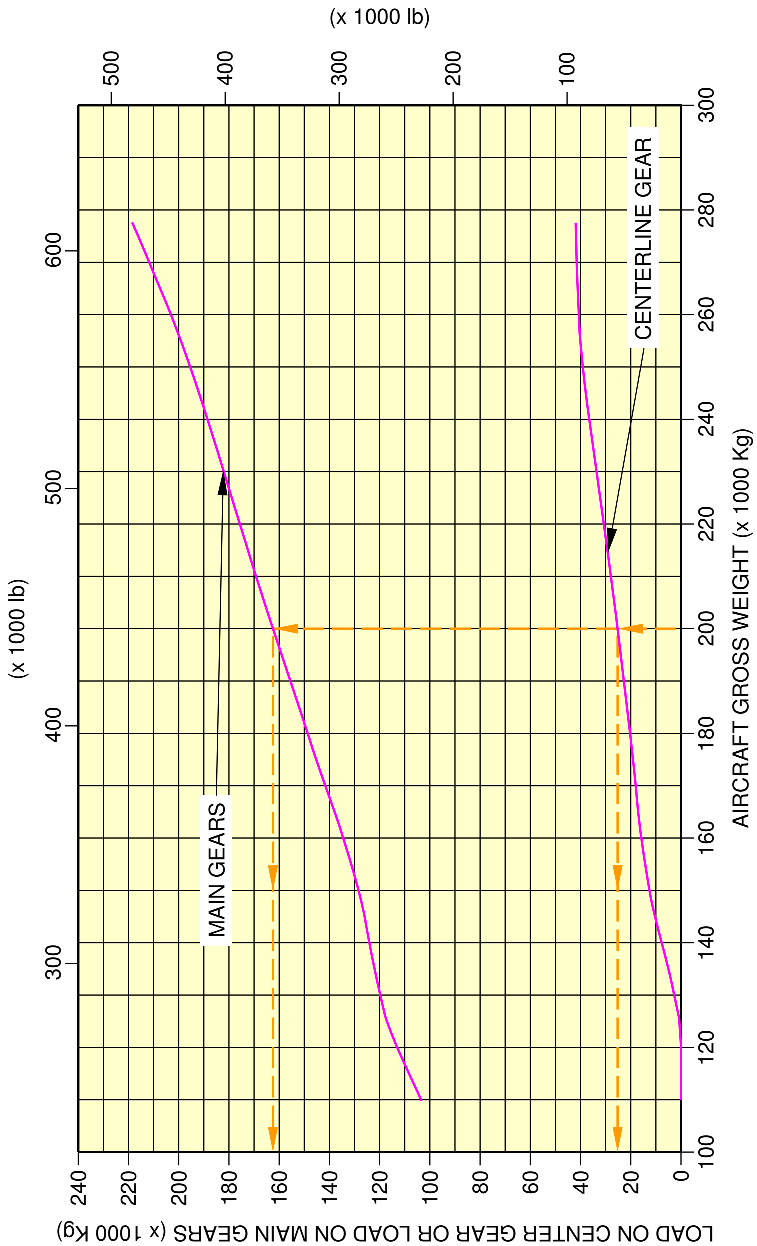
Landing Gear Loading on Pavement
WV028, MRW 277 400 kg (Sheet 1 of 2)
FIGURE-7-4-0-991-008-A01

**ON A/C A340-300



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Landing Gear Loading on Pavement
WV028, MRW 277 400 kg, CG 35 % (Sheet 2 of 2)
FIGURE-7-4-0-991-008-A01

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

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

Flexible Pavement Requirements - US Army Corps of Engineers Design Method S-77-1

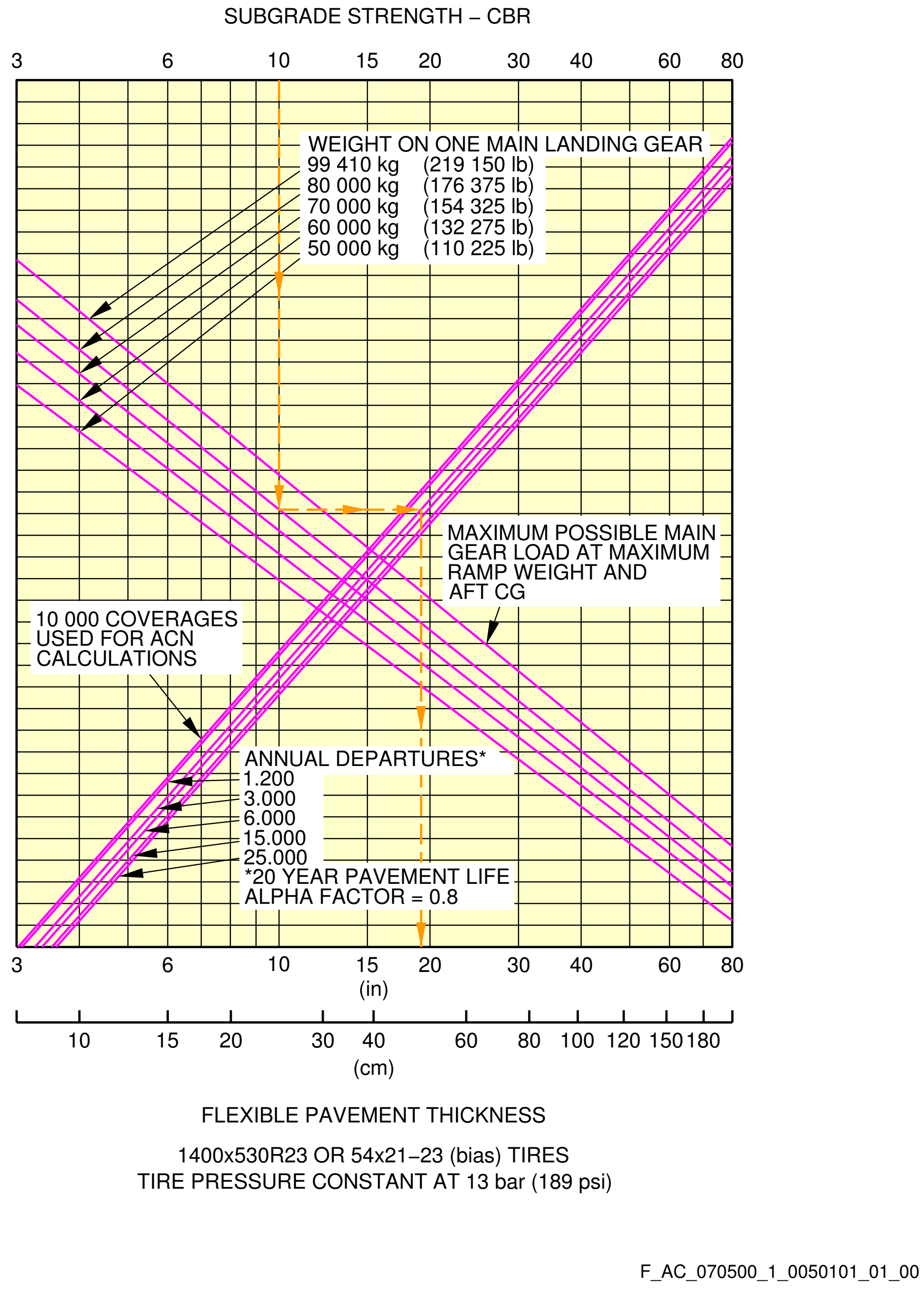
1. This section gives data about the flexible pavement requirements.
   The flexible pavement requirements graphs are given for the lowest and the highest MRW of each type of aircraft.
   They are calculated with the US Army Corps of Engineers Design Method.
   To find a flexible pavement thickness, you must know the Subgrade Strength (CBR), the annual departure level and the weight on one MLG.
   The line that shows 10 000 coverages is used to calculate the Aircraft Classification Number (ACN).
   The procedure that follows is used to develop flexible pavement design curves:
   - With the scale for pavement thickness at the bottom and the scale for CBR at the top, a random line is made to show 10 000 coverages,
   - A plot is then made of the incremental values of the weight on the MLG,
   - Annual departure lines are made based on the load lines of the weight on the MLG that is shown on the graph.

   Example, see FIGURE 7---0-99--005-A, calculation of the thickness of the flexible pavement for:
   - An aircraft with a MRW of 254 400 kg (560 850 lb),
   - A "CBR" value of 10,
   - An annual departure level of 3 000,
   - The load on one MLG of 80 000 kg (176 375 lb).

   The required flexible pavement thickness is 48.5 cm (19 in).

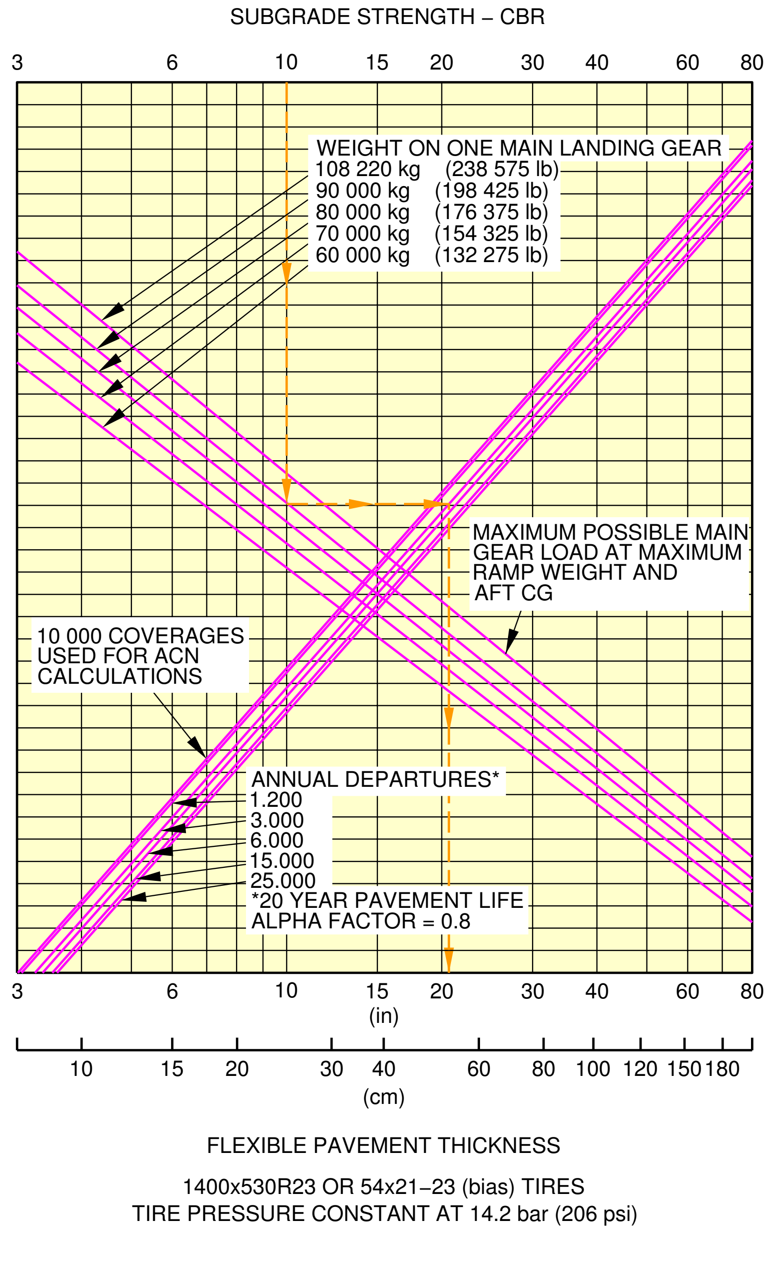
   NOTE : The CG in the figure title is the CG used for ACN / LCN calculation

**ON A/C A340-200



Flexible Pavement Requirements
WV000, MRW 254 400 kg, CG 37.7 % (Sheet 1 of 2)
FIGURE-7-5-0-991-005-A01

**ON A/C A340-200



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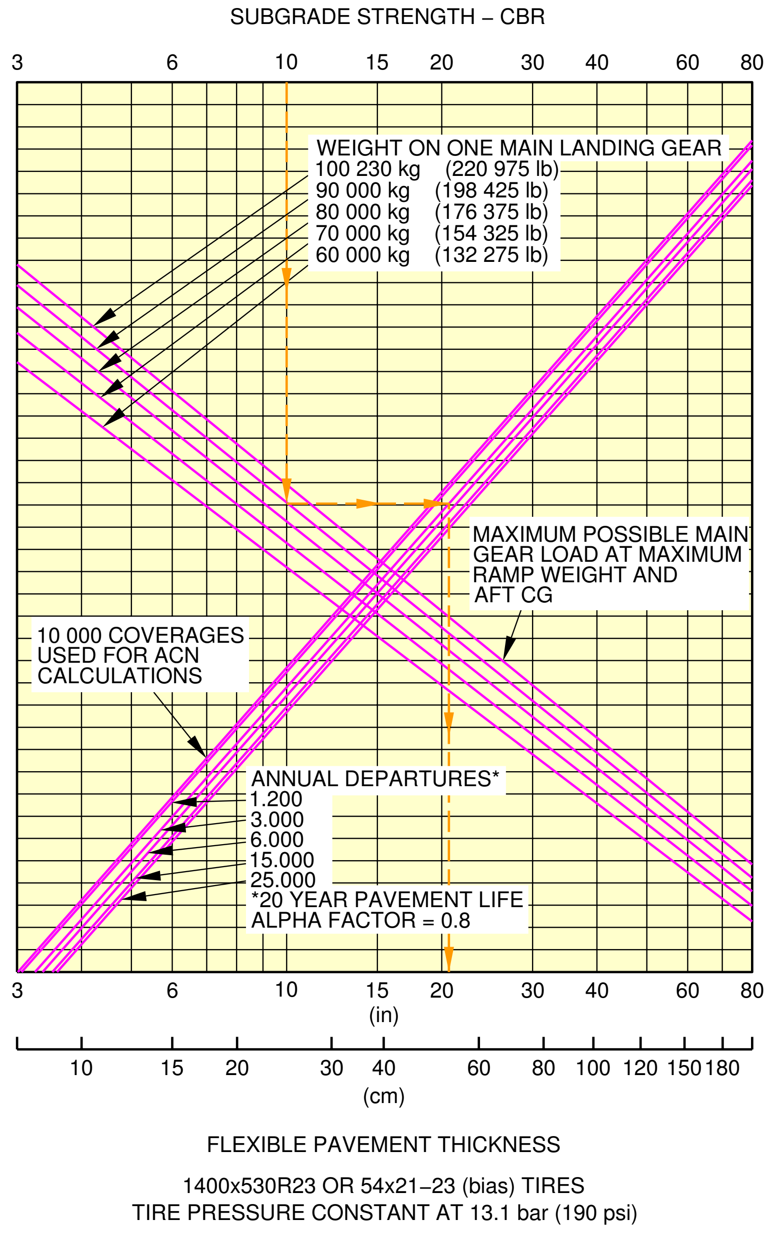
Flexible Pavement Requirements
WV021, MRW 275 900 kg, CG 37 % (Sheet 2 of 2)
FIGURE-7-5-0-991-005-A01

**ON A/C A340-300



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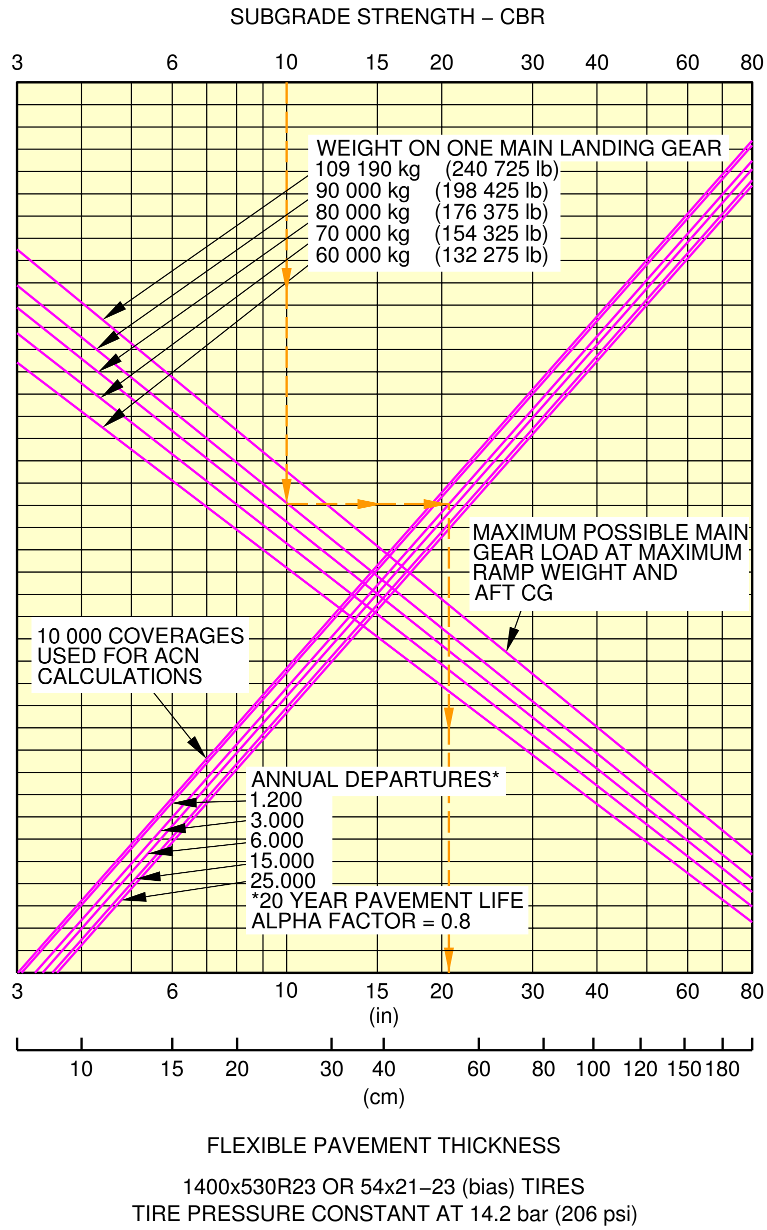
Flexible Pavement Requirements
WV000, MRW 254 400 kg, CG 38.18 % (Sheet 1 of 2)
FIGURE-7-5-0-991-006-A01

**ON A/C A340-300



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Flexible Pavement Requirements
WV028, MRW 277 400 kg, CG 35 % (Sheet 2 of 2)
FIGURE-7-5-0-991-006-A01

7-6-0 Flexible Pavement Requirements - LCN Conversion

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

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 for the lowest and the highest MRW of each type of aircraft.
   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--004-A, calculation of the thickness of the flexible pavement for:
   - An aircraft with a MRW of 254 400 kg (560 850 lb),
   - The flexible pavement thickness is 1143 mm (45 in) with a related LCN of 103.

   The weight on one MLG is 80 000 kg (176 375 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 A340-200**

AIRCRAFT TYPE	ALL UP MASS (kg)	LOAD ON ONE MAIN GEAR LEG (%)	TIRE PRESSURE (Mpa)	FLEXIBLE PAVEMENT ESWL x 1000 kg	FLEXIBLE PAVEMENT ESWL x 1000 lb	FLEXIBLE PAVEMENT LCN
				h = 510 mm (20 in)		
A340–200 WV000	254 400	39.1	1.30	25	56	84
	130 000	46.1		15	33	54
A340–200 WV001	257 900	39.1	1.32	26	57	85
	130 000	46.1		15	33	54
A340–200 WV002	260 900	39.1	1.32	26	57	86
	130 000	46.1		15	33	54
A340–200 WV021	275 900	39.2	1.42	28	61	95
	130 000	46.0		15	33	57

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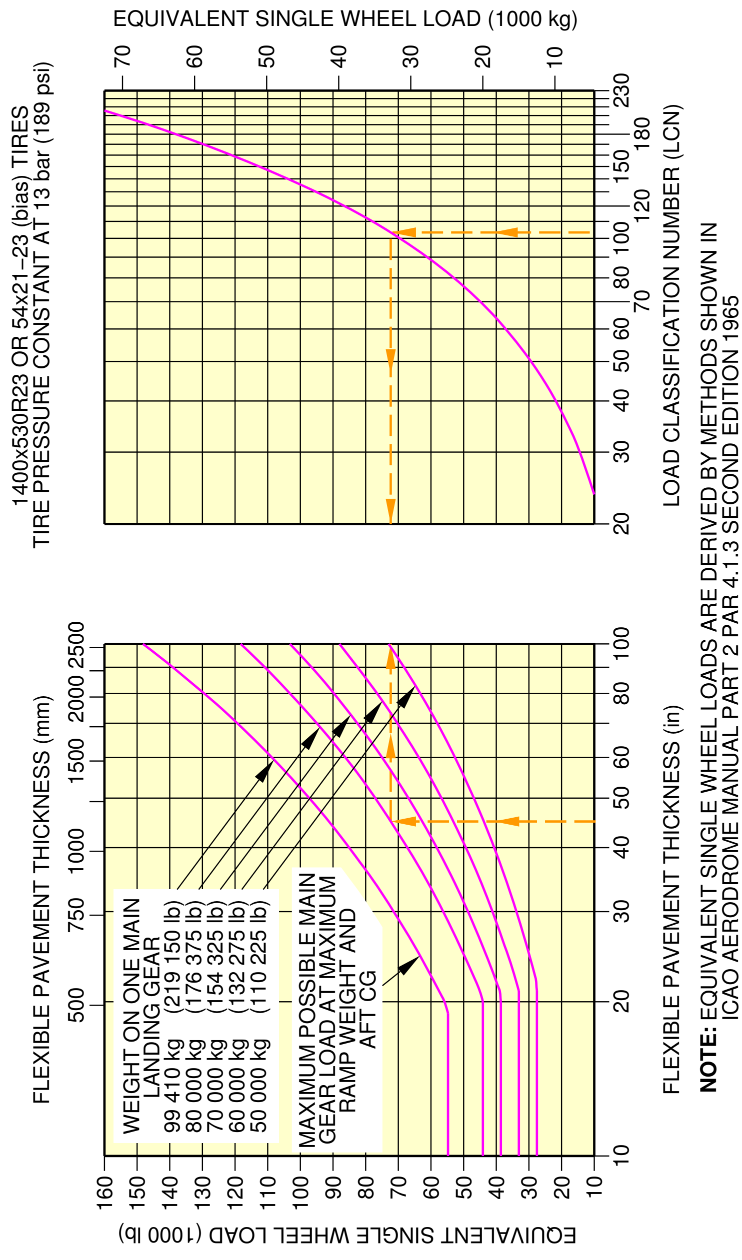
Flexible Pavement Requirements
LCN table
FIGURE-7-6-0-991-013-A01

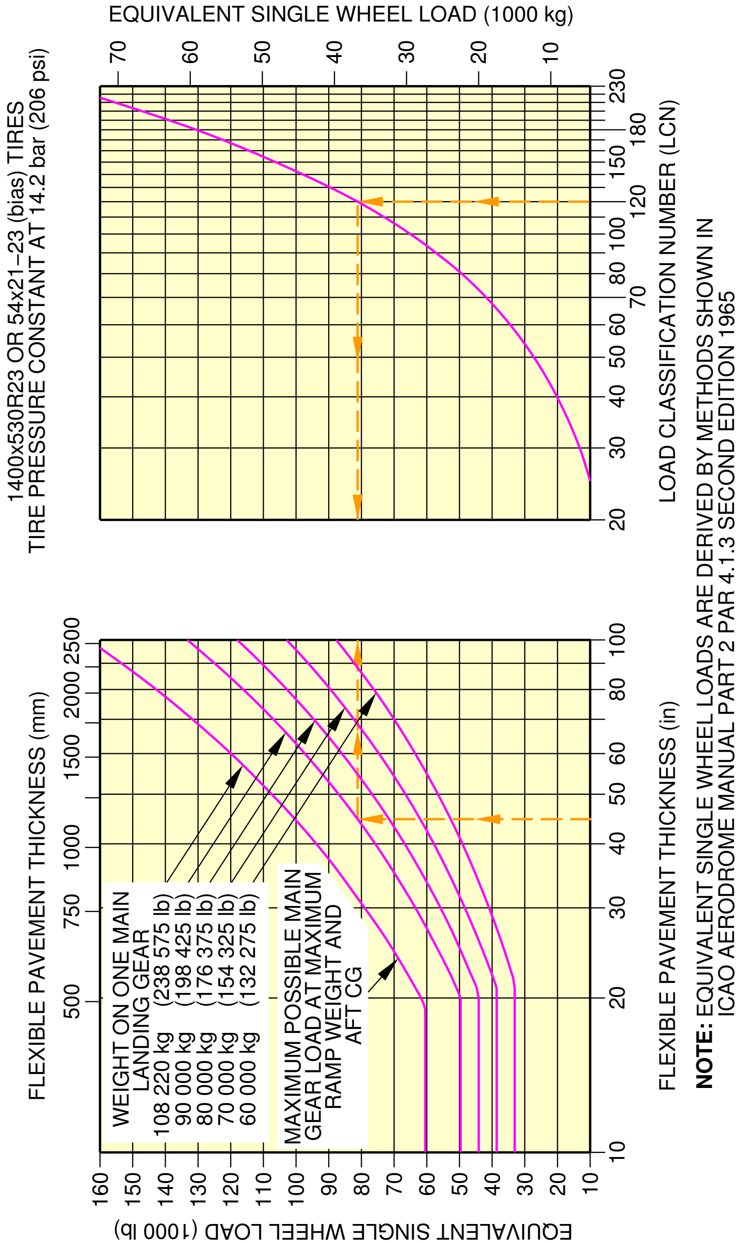
**ON A/C A340-200



F_AC_070600_1_0040101_01_00

Flexible Pavement Requirements - LCN
WV000, MRW 254 400 kg, CG 37.7 % (Sheet 1 of 2)
FIGURE-7-6-0-991-004-A01

**ON A/C A340-200



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Flexible Pavement Requirements - LCN
WV021, MRW 275 900 kg, CG 37 % (Sheet 2 of 2)
FIGURE-7-6-0-991-004-A01

**ON A/C A340-300

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)		
A340−300 WV000	254 400	39.4	1.31	26	56	85
	130 000	46.2		15	33	54
A340−300 WV001	257 900	39.4	1.32	26	57	86
	130 000	46.2		15	33	55
A340−300 WV002	260 900	39.1	1.32	26	57	86
	130 000	46.0		15	33	54
A340−300 WV003	257 900	39.4	1.32	26	57	86
	130 000	46.2		15	33	55
A340−300 WV004	260 900	39.1	1.32	26	57	86
	130 000	46.0		15	33	54
A340−300 WV020	271 900	39.6	1.42	27	60	94
	130 000	46.2		15	33	57
A340−300 WV021	275 900	39.7	1.42	28	62	96
	130 000	46.2		15	33	57
A340−300 WV023	262 900	39.5	1.42	26	58	91
	130 000	46.2		15	33	57
A340−300 WV024	275 900	39.7	1.42	28	62	96
	130 000	46.2		15	33	57
A340−300 WV025 (CG 38.02%)	260 900	39.5	1.42	26	57	91
	130 000	46.2		15	33	57
A340−300 WV025 (CG 38%)	260 900	39.5	1.42	26	57	91
	130 000	46.2		15	33	57
A340−300 WV026	275 900	39.7	1.42	28	62	96
	130 000	46.2		15	33	57
A340−300 WV027	271 900	39.6	1.42	27	60	94
	130 000	46.2		15	33	57
A340−300 WV028	277 400	39.4	1.42	28	61	96
	130 000	46.0		15	33	57
A340−300 WV029	260 900	39.5	1.42	26	57	91
	130 000	46.2		15	33	57
A340−300 WV050	275 900	39.7	1.42	28	62	96
	130 000	46.2		15	33	57
A340−300 WV051	275 900	39.7	1.42	28	62	96
	130 000	46.2		15	33	57
A340−300 WV052	277 400	39.4	1.42	28	61	96
	130 000	46.0		15	33	57
A340−300 WV053	277 400	39.4	1.42	28	61	96
	130 000	46.0		15	33	57
A340−300 WV054	275 900	39.7	1.42	28	62	96
	130 000	46.2		15	33	57

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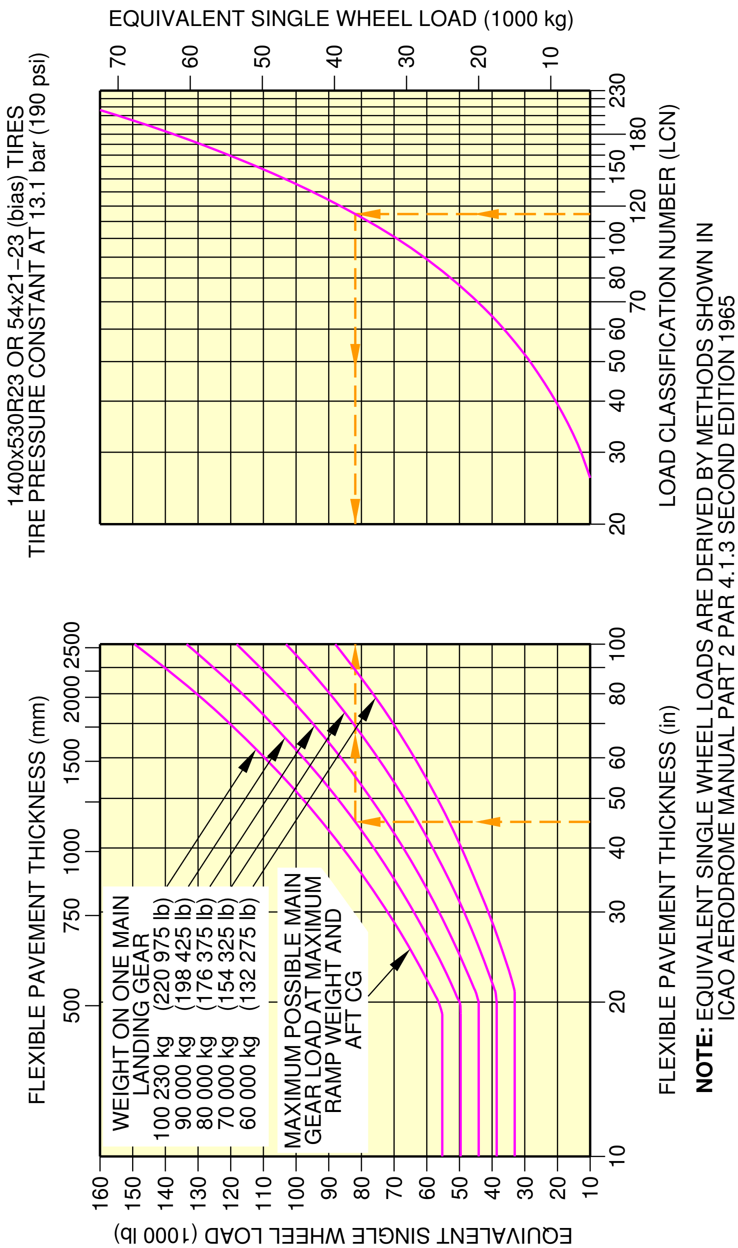
Flexible Pavement Requirements
LCN table
FIGURE-7-6-0-991-014-A01

**ON A/C A340-300



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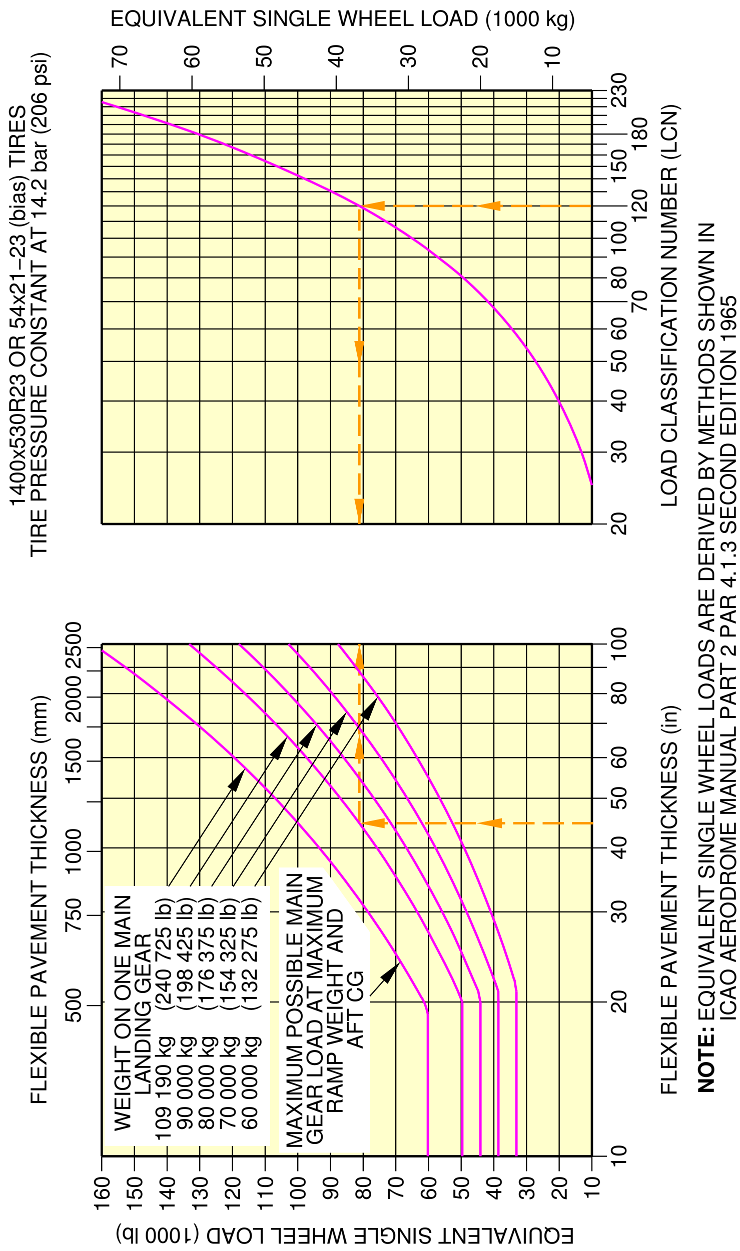
Flexible Pavement Requirements - LCN
WV000, MRW 254 400 kg, CG 38.18 % (Sheet 1 of 2)
FIGURE-7-6-0-991-005-A01

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



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Flexible Pavement Requirements - LCN
WV028, MRW 277 400 kg, CG 35 % (Sheet 2 of 2)
FIGURE-7-6-0-991-005-A01

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

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

Rigid Pavement Requirements - Portland Cement Association Design Method

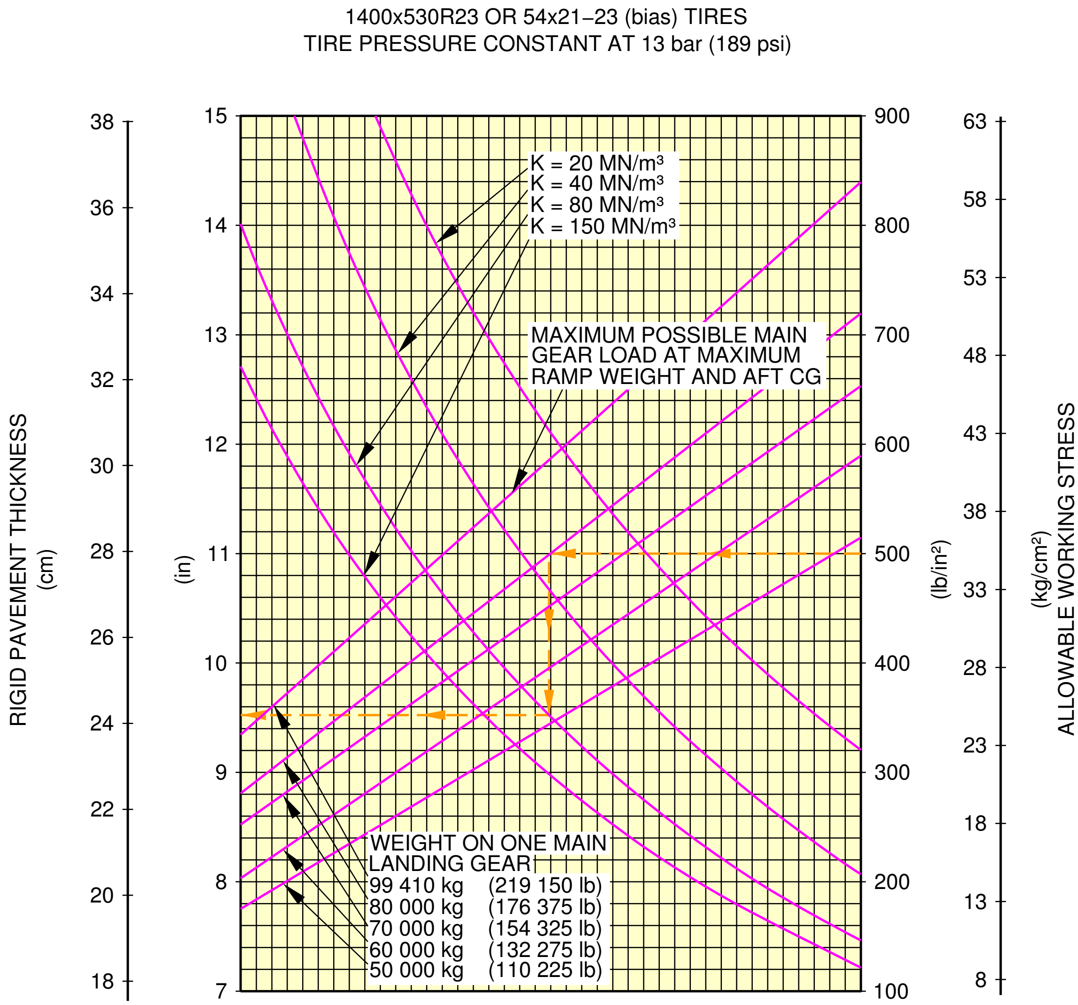
1. This section gives data about the rigid pavement requirements for the PCA (Portland Cement Association) design method.
   The rigid pavement requirements graphs are given for the lowest and the highest MRW of each type of aircraft.
   To find a rigid pavement thickness, you must know the Subgrade Modulus (K), the permitted working stress and the weight on one MLG.
   The procedure that follows is used to develop rigid pavement design curves:
   - With the scale for pavement thickness on the left and the scale for permitted working stress on the right, a random load line is made.
     This represents the MLG maximum weight to be shown.
   - A plot is then made of all values of the subgrade modulus (k values).
   - More load lines for the incremental values of 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--004-A, calculation of the thickness of the rigid pavement for:
   - An aircraft with a MRW of 254 400 kg (560 850 lb),
   - A k value of 80 MN/m3 (300 lb/in3).
   - A permitted working stress of 35.15 kg/cm2 (500 lb/in2).
   - The load on one MLG is 80 000 kg (176 375 lb).

   The required rigid pavement thickness is 242 mm (10 in).

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

**ON A/C A340-200



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

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

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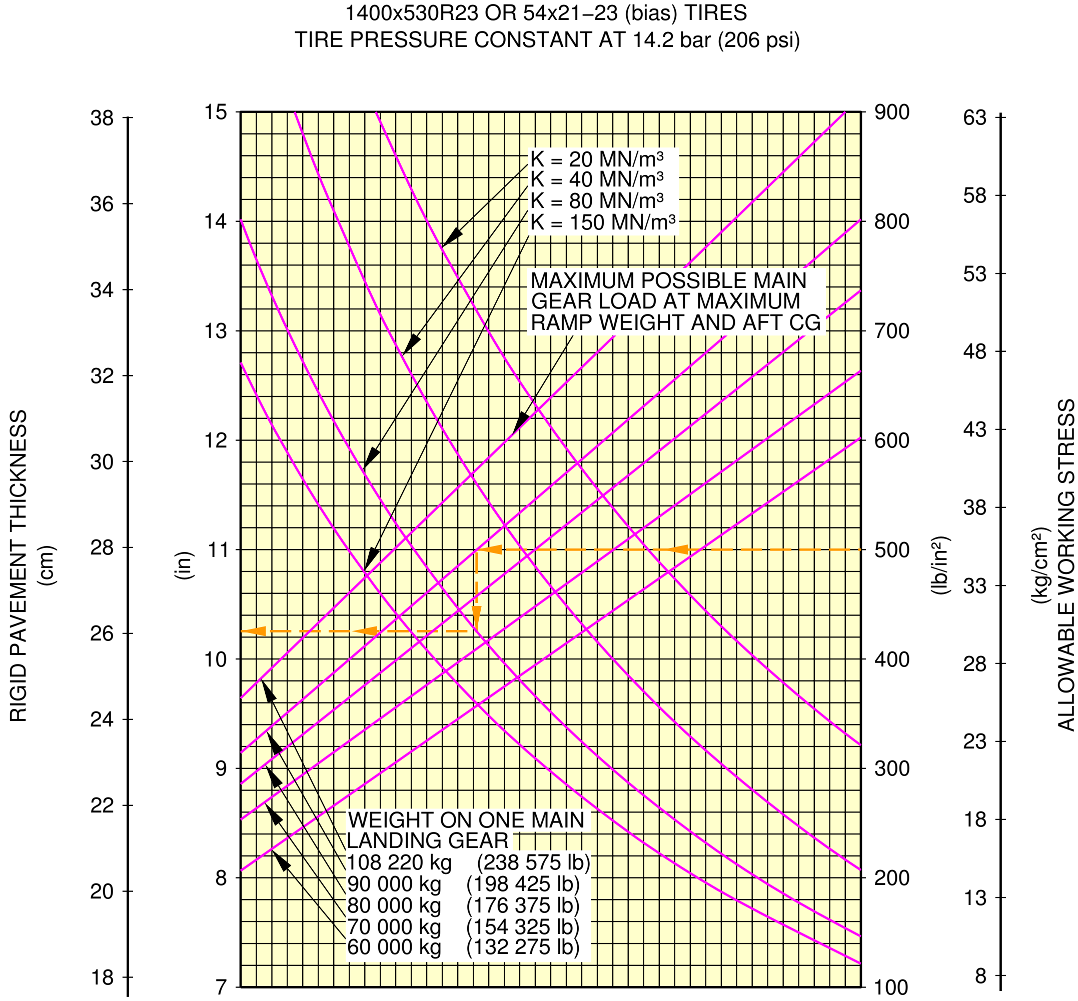
Rigid Pavement Requirements
WV000, MRW 254 400 kg, CG 37.7 % (Sheet 1 of 2)
FIGURE-7-7-0-991-004-A01

**ON A/C A340-200



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

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

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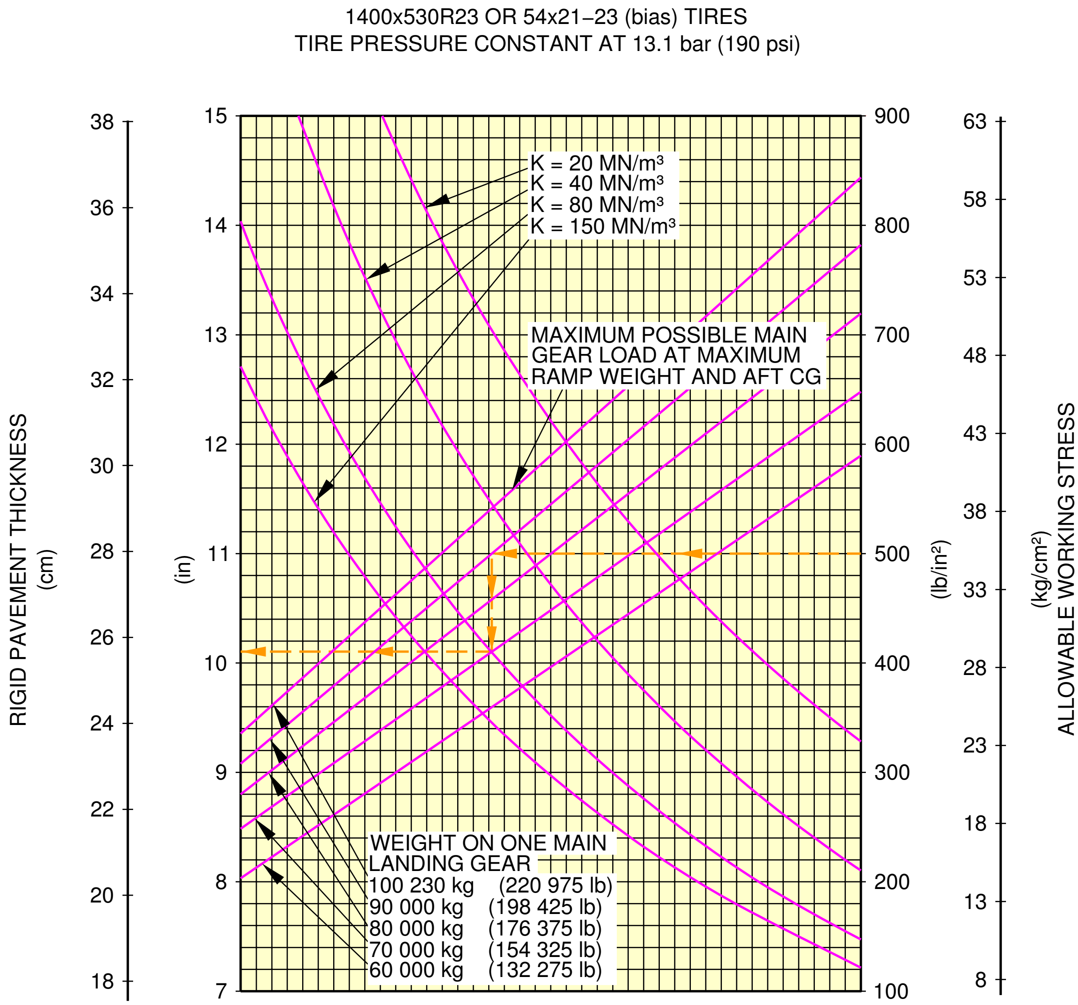
Rigid Pavement Requirements
WV021, MRW 275 900 kg, CG 37 % (Sheet 2 of 2)
FIGURE-7-7-0-991-004-A01

**ON A/C A340-300



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

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

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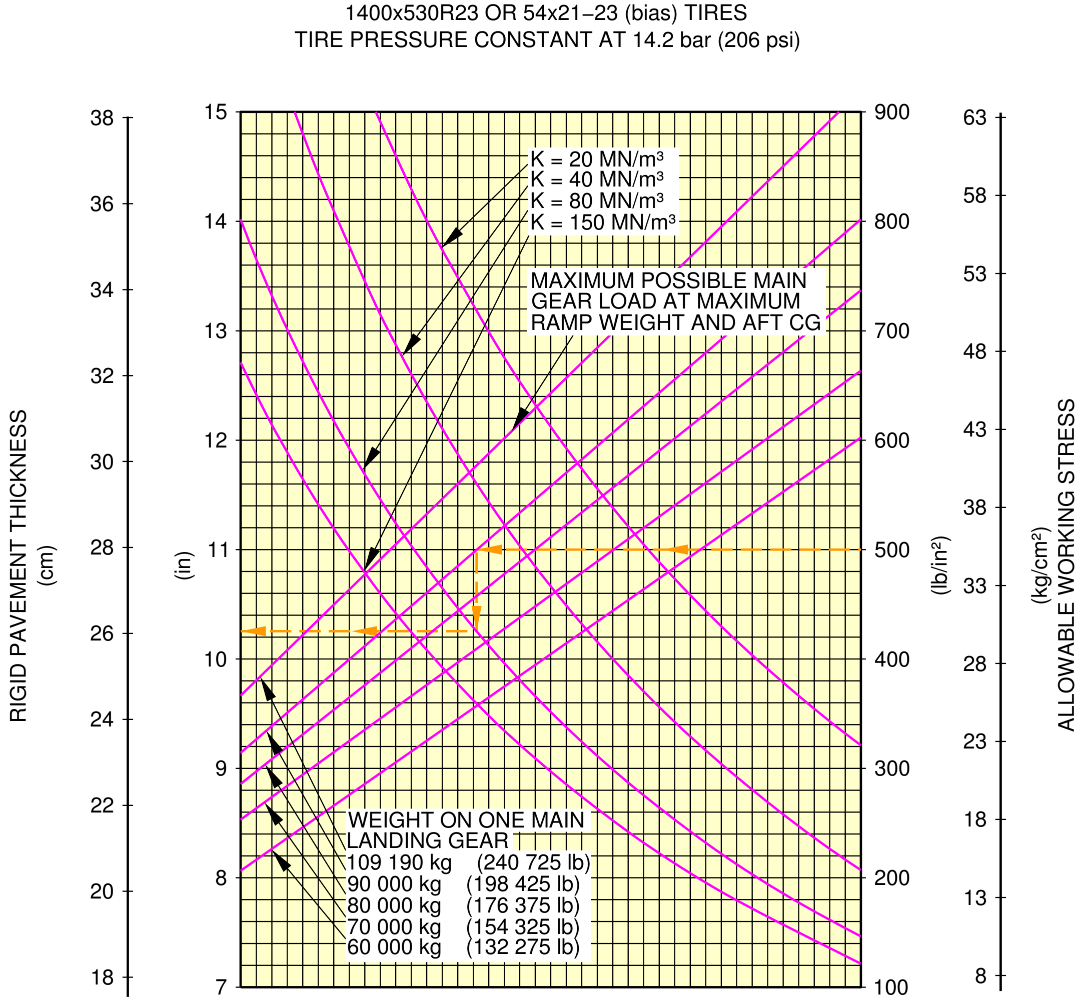
Rigid Pavement Requirements
WV000, MRW 254 400 kg, CG 38.18 % (Sheet 1 of 2)
FIGURE-7-7-0-991-005-A01

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



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

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

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Rigid Pavement Requirements
WV028, MRW 277 400 kg, CG 35 % (Sheet 2 of 2)
FIGURE-7-7-0-991-005-A01

7-8-0 Rigid Pavement Requirements - LCN Conversion

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

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 for the lowest and the highest MRW of each type of aircraft.
   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--002-A.

   Example, see FIGURE 7---0-99--008-AFIGURE 7---0-99--008-B, calculation of the aircraft weight through the radius of relative stiffness (L) of the rigid pavement for:
   - An aircraft with a MRW of 254 400 kg (560 850 lb),
   - The radius of relative stiffness is shown at 1143 mm (45 in) with a related LCN of 79.

   The weight on one MLG is 80 000 kg (176 375 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--015-A.
   The table in FIGURE 7---0-99--002-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--015-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--002-A multiplied by 0.931.

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

**ON A/C A340-200

AIRCRAFT TYPE	ALL UP MASS (kg)	LOAD ON ONE MAIN GEAR LEG (%)	TIRE PRESSURE (Mpa)	RIGID PAVEMENT ESWL x 1000 kg	RIGID PAVEMENT ESWL x 1000 lb	RIGID PAVEMENT LCN
				L = 760 mm (30 in)		
A340−200 WV000	254 400	39.1	1.30	24	52	79
	130 000	46.1		14	31	51
A340−200 WV001	257 900	39.1	1.32	24	53	81
	130 000	46.1		14	31	51
A340−200 WV002	260 900	39.1	1.32	24	53	81
	130 000	46.1		14	31	51
A340−200 WV021	275 900	39.2	1.42	26	56	90
	130 000	46.0		14	31	52

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Rigid Pavement Requirements
LCN table
FIGURE-7-8-0-991-018-A01

**ON A/C A340-300

AIRCRAFT TYPE	ALL UP MASS (kg)	LOAD ON ONE MAIN GEAR LEG (%)	TIRE PRESSURE (Mpa)	RIGID PAVEMENT		
				ESWL		LCN
				x 1000 kg	x 1000 lb	
				L = 760 mm (30 in)		
A340−300 WV000	254 400	39.4	1.31	24	52	80
	130 000	46.2		14	31	51
A340−300 WV001	257 900	39.4	1.32	24	53	81
	130 000	46.2		14	31	51
A340−300 WV002	260 900	39.1	1.32	24	53	81
	130 000	46.0		14	31	51
A340−300 WV003	257 900	39.4	1.32	24	53	81
	130 000	46.2		14	31	51
A340−300 WV004	260 900	39.1	1.32	24	53	81
	130 000	46.0		14	31	51
A340−300 WV020	271 900	39.6	1.42	25	56	89
	130 000	46.2		14	31	53
A340−300 WV021	275 900	39.7	1.42	26	57	90
	130 000	46.2		14	31	53
A340−300 WV023	262 900	39.5	1.42	25	54	87
	130 000	46.2		14	31	53
A340−300 WV024	275 900	39.7	1.42	26	57	90
	130 000	46.2		14	31	53
A340−300 WV025 (CG 38.02%)	260 900	39.5	1.42	24	54	86
	130 000	46.2		14	31	53
A340−300 WV025 (CG 38%)	260 900	39.5	1.42	24	54	86
	130 000	46.2		14	31	53
A340−300 WV026	275 900	39.7	1.42	26	57	90
	130 000	46.2		14	31	53
A340−300 WV027	271 900	39.6	1.42	25	56	89
	130 000	46.2		14	31	53
A340−300 WV028	277 400	39.4	1.42	26	57	90
	130 000	46.0		14	31	52
A340−300 WV029	260 900	39.5	1.42	24	54	86
	130 000	46.2		14	31	53
A340−300 WV050	275 900	39.7	1.42	26	57	90
	130 000	46.2		14	31	53
A340−300 WV051	275 900	39.7	1.42	26	57	90
	130 000	46.2		14	31	53
A340−300 WV052	277 400	39.4	1.42	26	57	90
	130 000	46.0		14	31	52
A340−300 WV053	277 400	39.4	1.42	26	57	90
	130 000	46.0		14	31	52
A340−300 WV054	275 900	39.7	1.42	26	57	90
	130 000	46.2		14	31	53

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Rigid Pavement Requirements
LCN table
FIGURE-7-8-0-991-019-A01

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

RADIUS OF RELATIVE STIFFNESS (L)
VALUES IN INCHES

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

WHERE E = YOUNG'S MODULUS = 4×10^6 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

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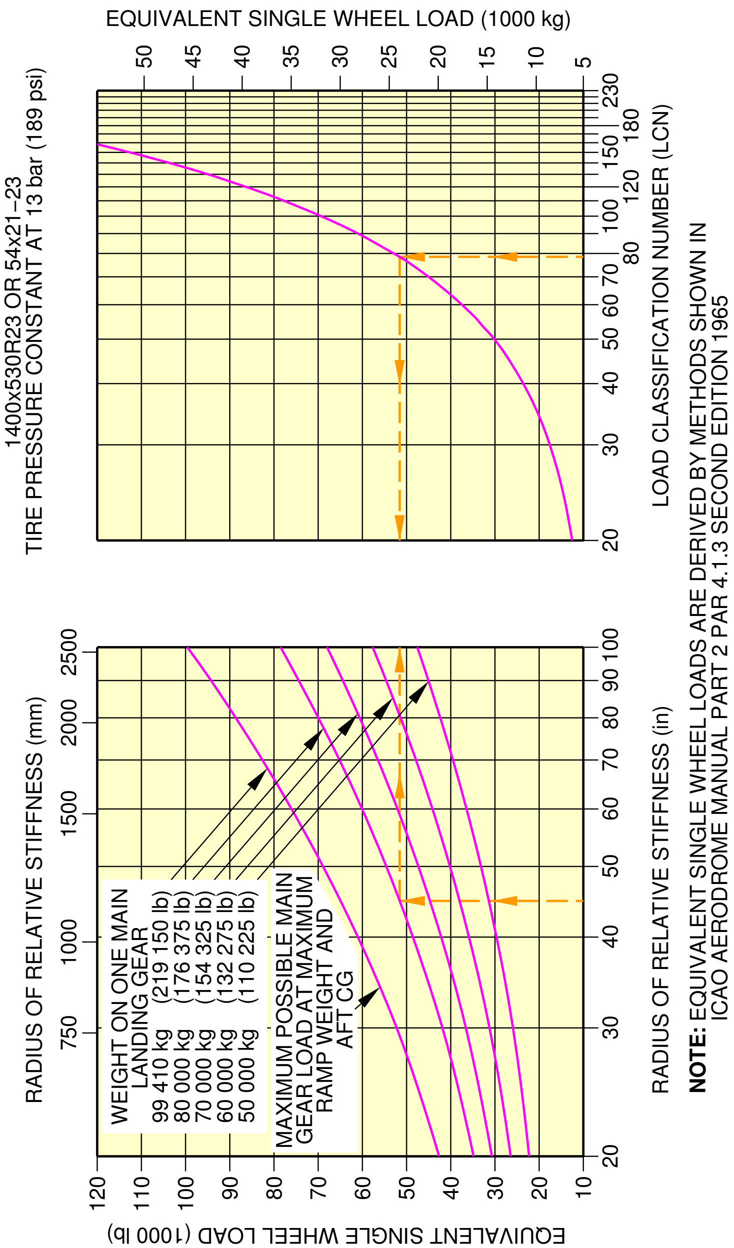
Radius of Relative Stiffness (L)
FIGURE-7-8-0-991-002-A01

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



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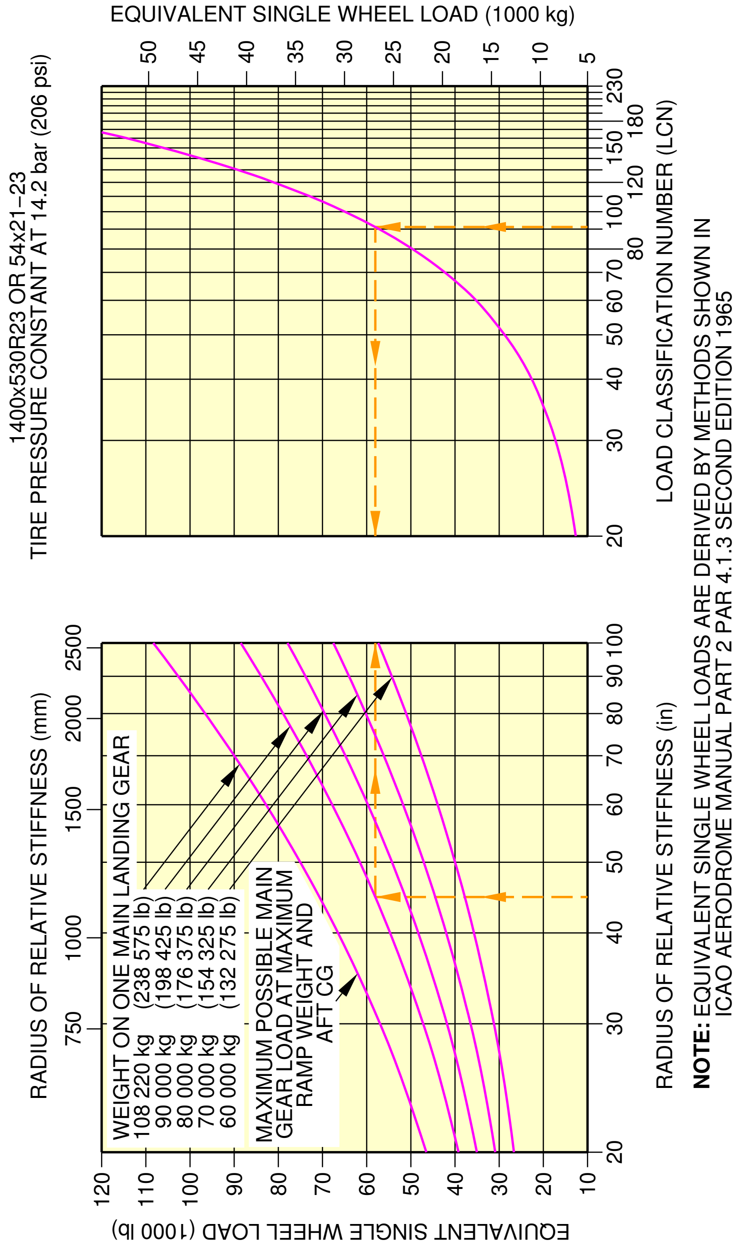
Rigid Pavement Requirements - LCN
WV000, MRW 254 400 kg, CG 37.7 %
FIGURE-7-8-0-991-008-A01

**ON A/C A340-300



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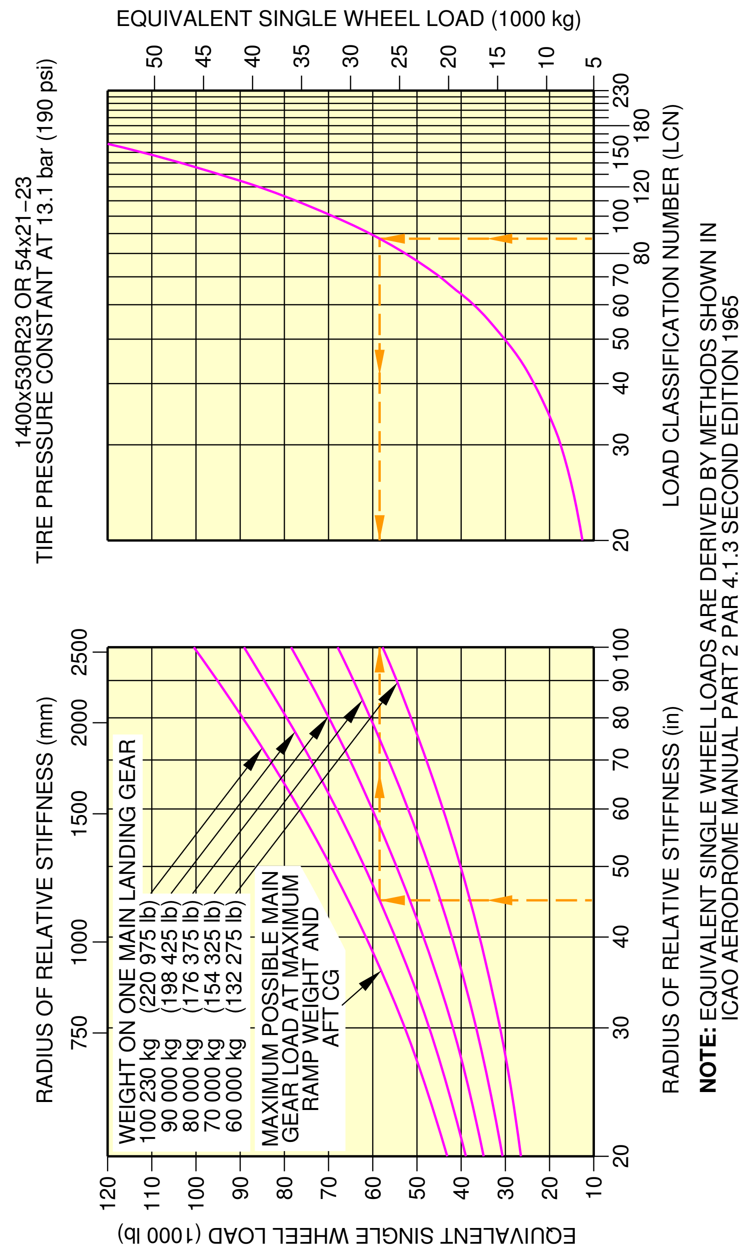
Rigid Pavement Requirements - LCN
WV021, MRW 275 900 kg, CG 37 %
FIGURE-7-8-0-991-008-B01

**ON A/C A340-300



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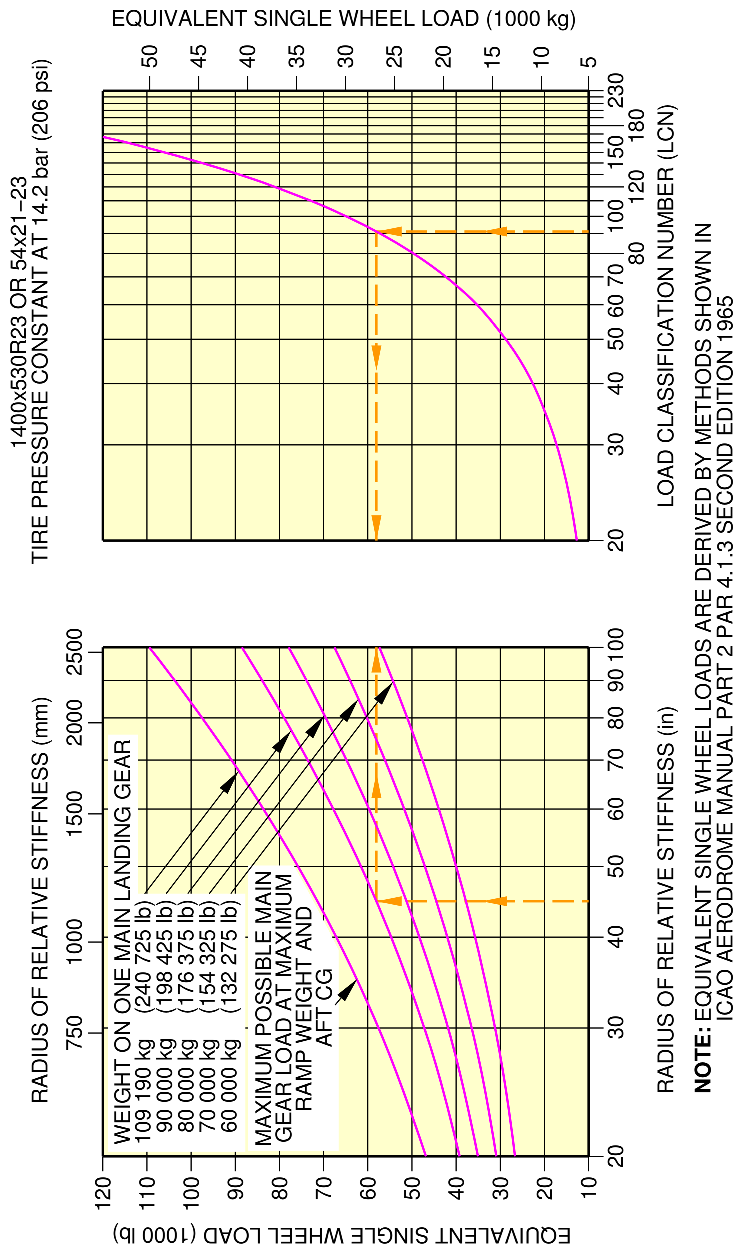
Rigid Pavement Requirements - LCN
WV000, MRW 254 400 kg, CG 38.18 %
FIGURE-7-8-0-991-009-A01

**ON A/C A340-200



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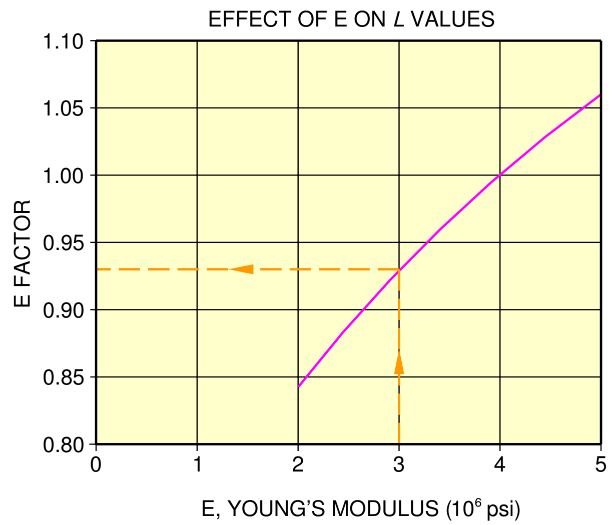
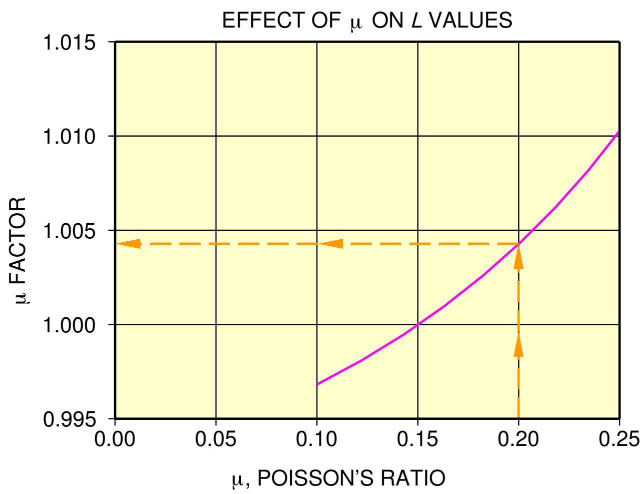
Rigid Pavement Requirements - LCN
WV028, MRW 277 400 kg, CG 35 %
FIGURE-7-8-0-991-009-B01

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





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

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Radius of Relative Stiffness (Effect E and μ ON "L" values)
FIGURE-7-8-0-991-015-A01

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

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

Aircraft Classification Number - 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 for the lowest and the highest MRW of each type of aircraft.
   To find the ACN of an aircraft on flexible and rigid pavement, you must know the aircraft gross weight and the subgrade strength.

   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--014-A (sheet 1), calculation of the ACN for flexible pavement for:
   - An aircraft with a MRW of 254 400 kg (560 850 lb),
   - An aircraft gross weight of 200 000 kg (440 925 lb),
   - A medium subgrade strength (code B).

   The ACN for flexible pavement is 42.

   Example, see FIGURE 7---0-99--014-A (sheet 2), calculation of the ACN for rigid pavement for:
   - An aircraft with a MRW of 254 400 kg (560 850 lb),
   - An aircraft gross weight of 200 000 kg (440 925 lb),
   - A medium subgrade strength (code B).

   The ACN for flexible pavement is 40.

2. Aircraft Classification Number - ACN table
   The table FIGURE 7---0-99--004-A and FIGURE 7---0-99--005-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 A340-200

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
A340–200 WV000	254 400	39.1	1.30	45	52	62	73	50	54	62	84
	130 000	46.1		28	28	32	37	28	29	32	39
A340–200 WV001	257 900	39.1	1.32	46	53	63	74	51	55	63	86
	130 000	46.1		28	28	32	37	28	29	32	39
A340–200 WV002	260 900	39.1	1.32	47	54	64	76	52	56	65	87
	130 000	46.1		28	28	32	37	28	29	32	39
A340–200 WV021	275 900	39.2	1.42	52	60	71	83	56	61	70	95
	130 000	46.0		29	29	33	38	28	29	32	39

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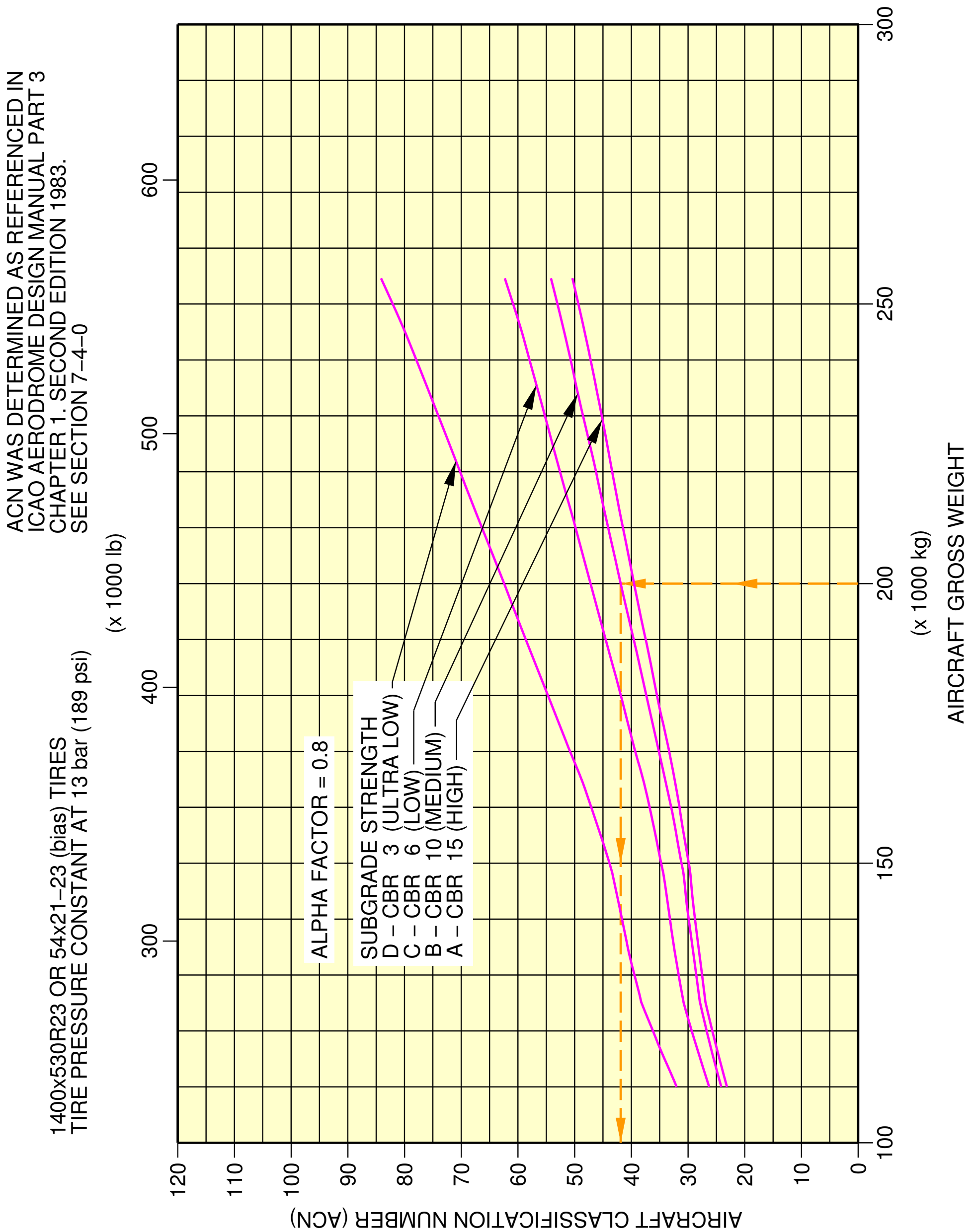
Aircraft Classification Number
ACN Table
FIGURE-7-9-0-991-004-A01

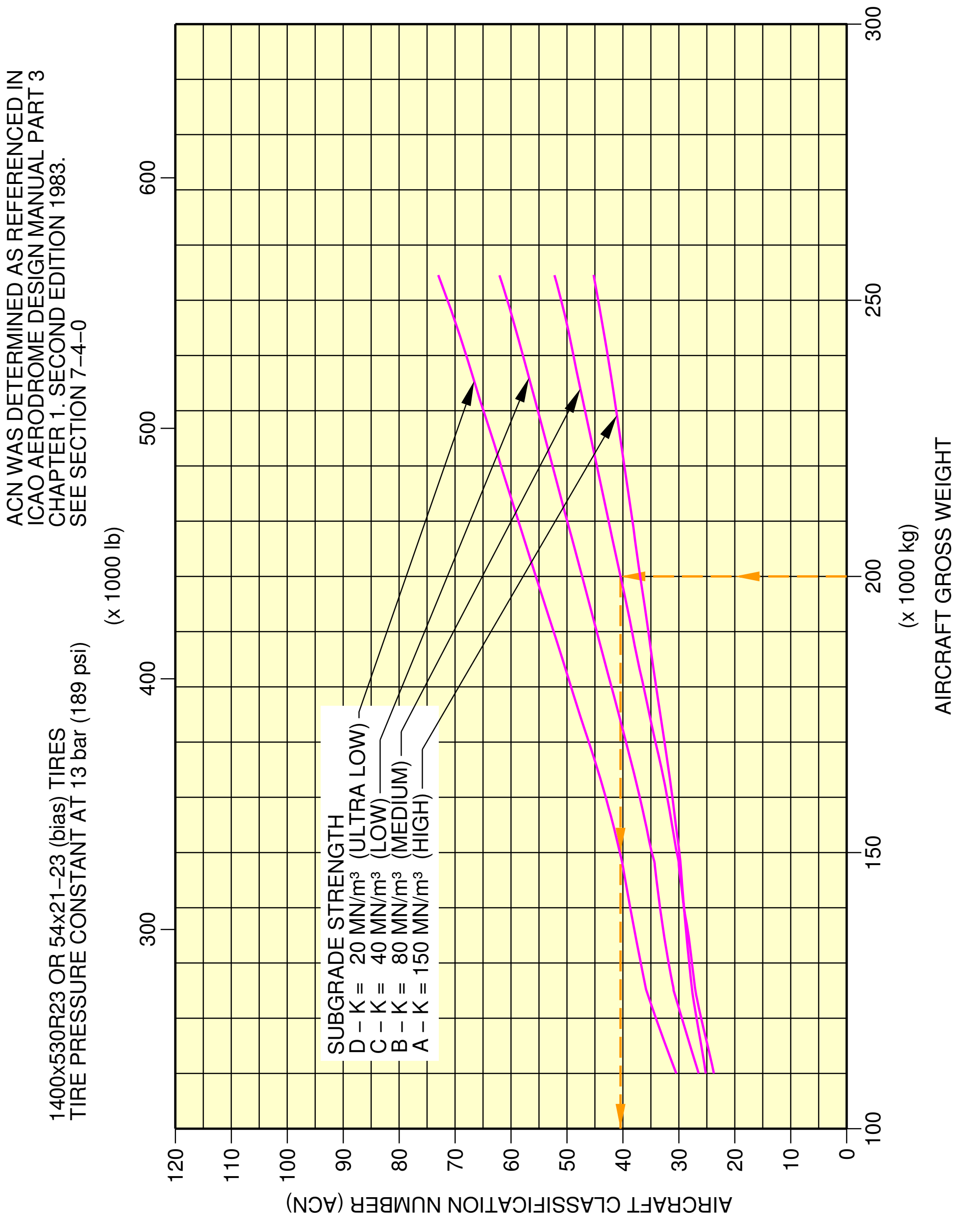
**ON A/C A340-200



F_AC_070900_1_0140101_01_00

Aircraft Classification Number
Flexible Pavement - WV000, MRW 254 400 kg, CG 37.7 % (Sheet 1 of 2)
FIGURE-7-9-0-991-014-A01

**ON A/C A340-200



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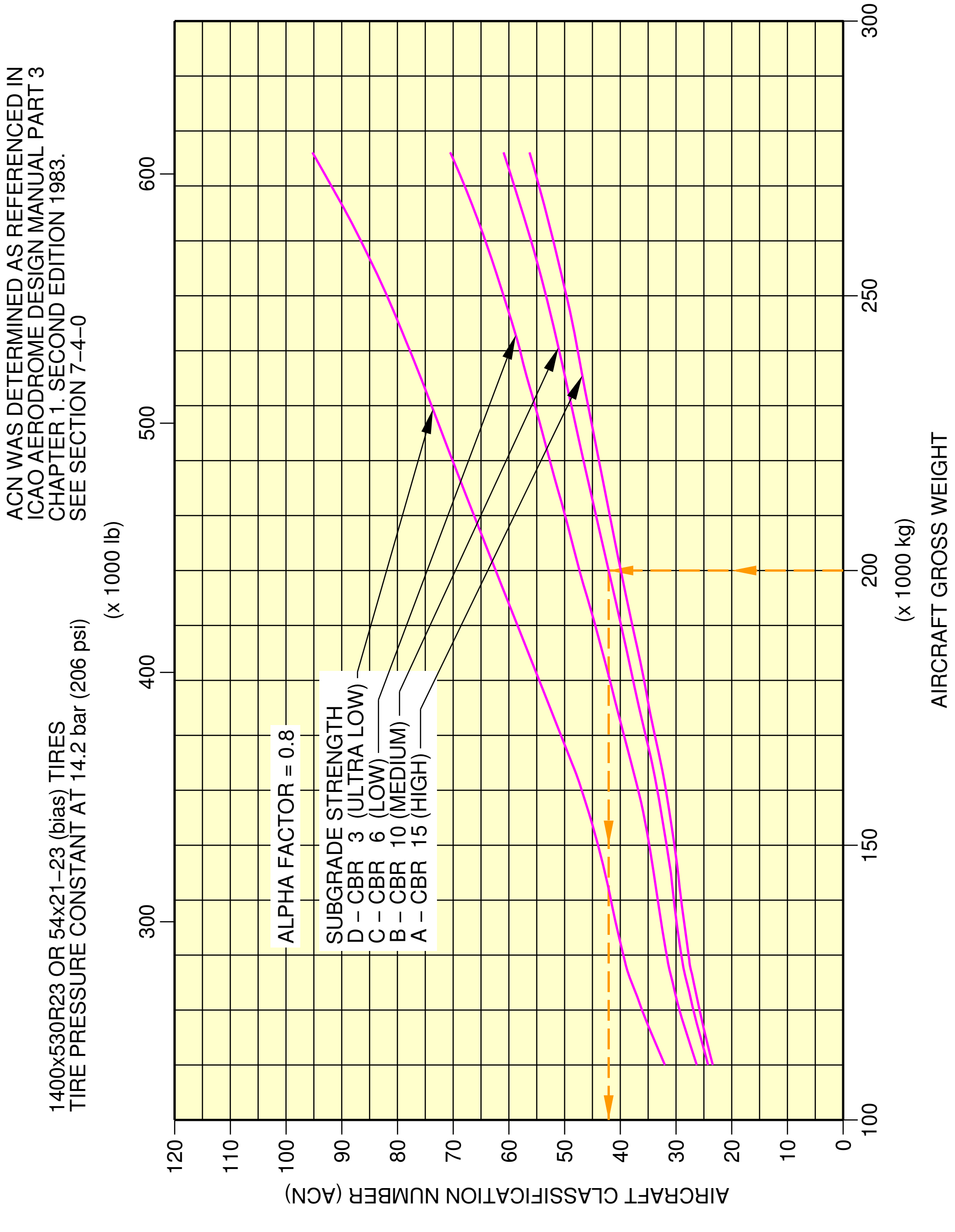
Aircraft Classification Number
Rigid Pavement - WV000, MRW 254 400 kg, CG 37.7 % (Sheet 2 of 2)
FIGURE-7-9-0-991-014-A01

**ON A/C A340-200



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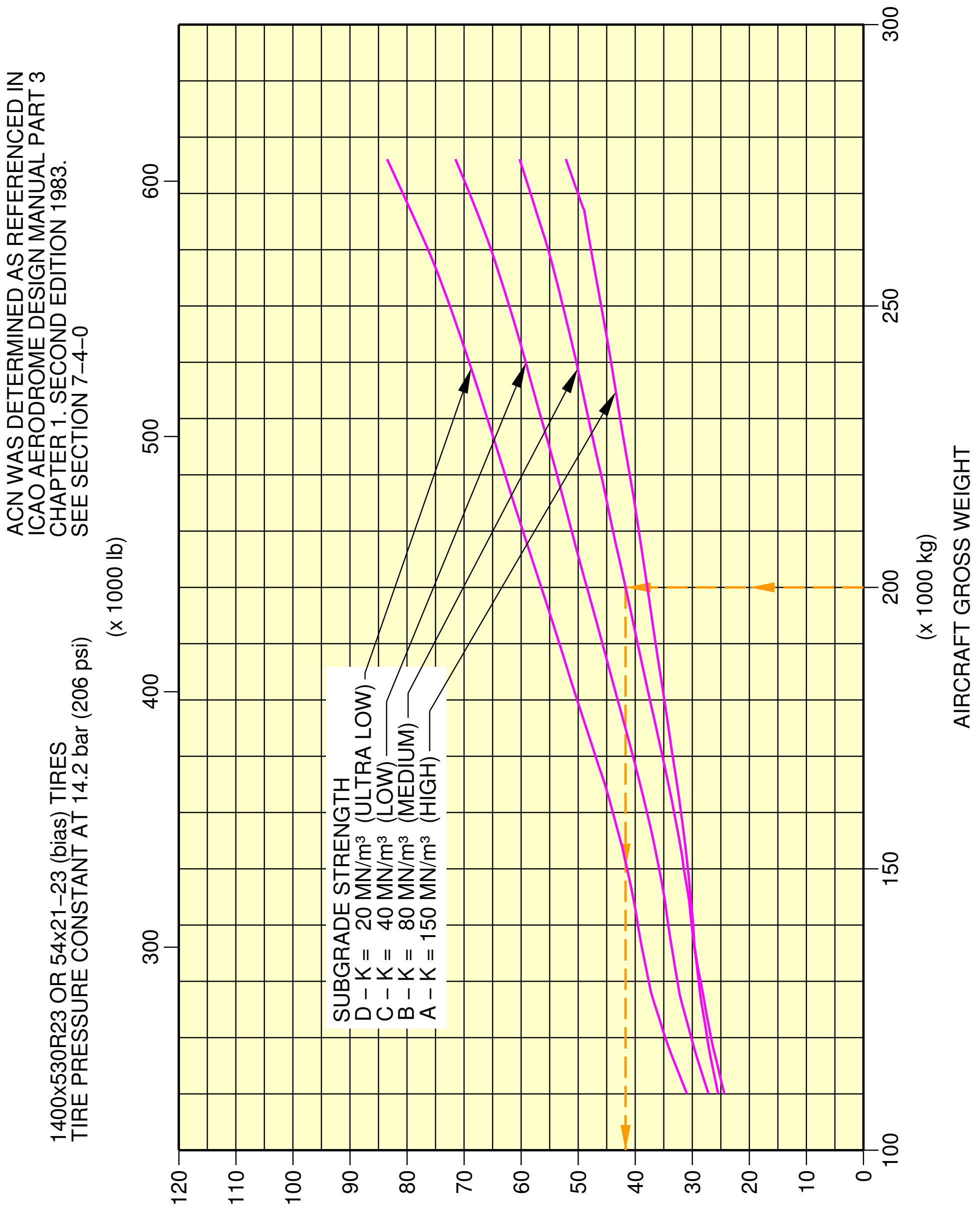
Aircraft Classification Number
Flexible Pavement - WV021, MRW 275 900 kg, CG 37 % (Sheet 1 of 2)
FIGURE-7-9-0-991-015-A01

**ON A/C A340-200



Aircraft Classification Number
Rigid Pavement - WV021, MRW 275 900 kg, CG 37 % (Sheet 2 of 2)
FIGURE-7-9-0-991-015-A01

**ON A/C A340-300

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	Ultra–low 20	High 15	Medium 10	Low 6	Ultra–low 3
A340–300 WV000	254 400	39.4	1.31	46	53	63	74	51	55	63	85
	130 000	46.2		28	28	32	37	28	29	32	40
A340–300 WV001	257 900	39.4	1.32	47	54	64	75	52	56	64	87
	130 000	46.2		28	28	32	37	28	29	32	40
A340–300 WV002	260 900	39.1	1.32	47	54	64	76	52	56	65	87
	130 000	46.0		28	28	32	37	28	29	32	39
A340–300 WV003	257 900	39.4	1.32	47	54	64	75	52	56	64	87
	130 000	46.2		28	28	32	37	28	29	32	40
A340–300 WV004	260 900	39.1	1.32	47	54	64	76	52	56	65	87
	130 000	46.0		28	28	32	37	28	29	32	39
A340–300 WV020	271 900	39.6	1.42	52	60	71	83	56	61	70	94
	130 000	46.2		29	29	33	38	28	29	32	40
A340–300 WV021	275 900	39.7	1.42	53	61	73	85	57	62	72	97
	130 000	46.2		29	29	33	38	28	29	32	40
A340–300 WV023	262 900	39.5	1.42	49	57	67	79	54	58	66	90
	130 000	46.2		29	29	33	38	28	29	32	40
A340–300 WV024	275 900	39.7	1.42	53	61	73	85	57	62	72	97
	130 000	46.2		29	29	33	38	28	29	32	40
A340–300 WV025 (CG 38.02%)	260 900	39.5	1.42	48	56	67	78	53	57	66	88
	130 000	46.2		29	29	33	38	28	29	32	40
A340–300 WV025 (CG 38%)	260 900	39.5	1.42	48	56	67	78	53	57	66	88
	130 000	46.2		29	29	33	38	28	29	32	40
A340–300 WV026	275 900	39.7	1.42	53	61	73	85	57	62	72	97
	130 000	46.2		29	29	33	38	28	29	32	40
A340–300 WV027	271 900	39.6	1.42	52	60	71	83	56	61	70	94
	130 000	46.2		29	29	33	38	28	29	32	40
A340–300 WV028	277 400	39.4	1.42	53	61	72	84	57	62	71	96
	130 000	46.0		29	29	33	38	28	29	32	39
A340–300 WV029	260 900	39.5	1.42	48	56	67	78	53	57	66	88
	130 000	46.2		29	29	33	38	28	29	32	40
A340–300 WV050	275 900	39.7	1.42	53	61	73	85	57	62	72	97
	130 000	46.2		29	29	33	38	28	29	32	40
A340–300 WV051	275 900	39.7	1.42	53	61	73	85	57	62	72	97
	130 000	46.2		29	29	33	38	28	29	32	40
A340–300 WV052	277 400	39.4	1.42	53	61	72	84	57	62	71	96
	130 000	46.0		29	29	33	38	28	29	32	39
A340–300 WV053	277 400	39.4	1.42	53	61	72	84	57	62	71	96
	130 000	46.0		29	29	33	38	28	29	32	39
A340–300 WV054	275 900	39.7	1.42	53	61	73	85	57	62	72	97
	130 000	46.2		29	29	33	38	28	29	32	40

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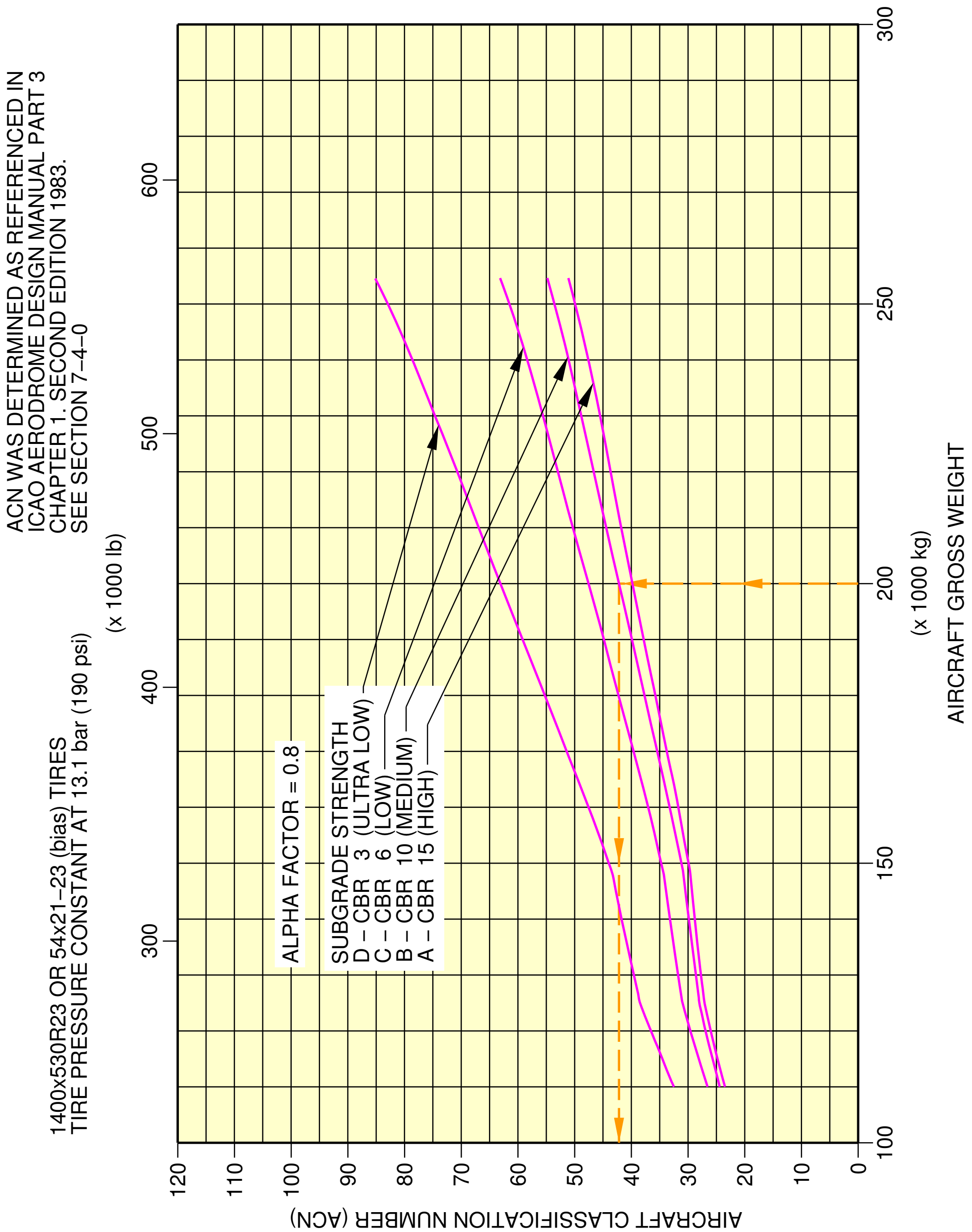
Aircraft Classification Number
ACN Table
FIGURE-7-9-0-991-005-A01

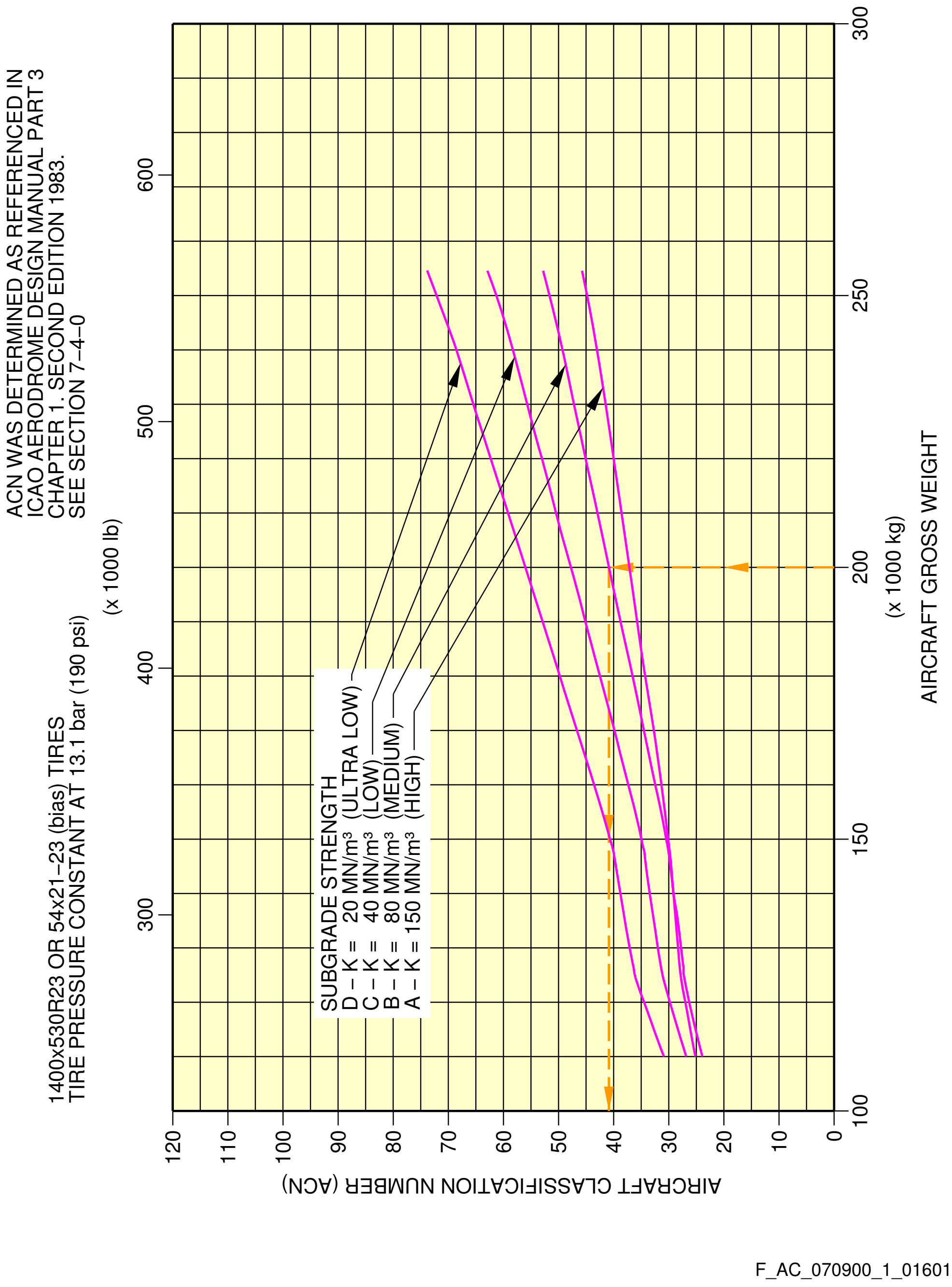
**ON A/C A340-300



F_AC_070900_1_0160101_01_00

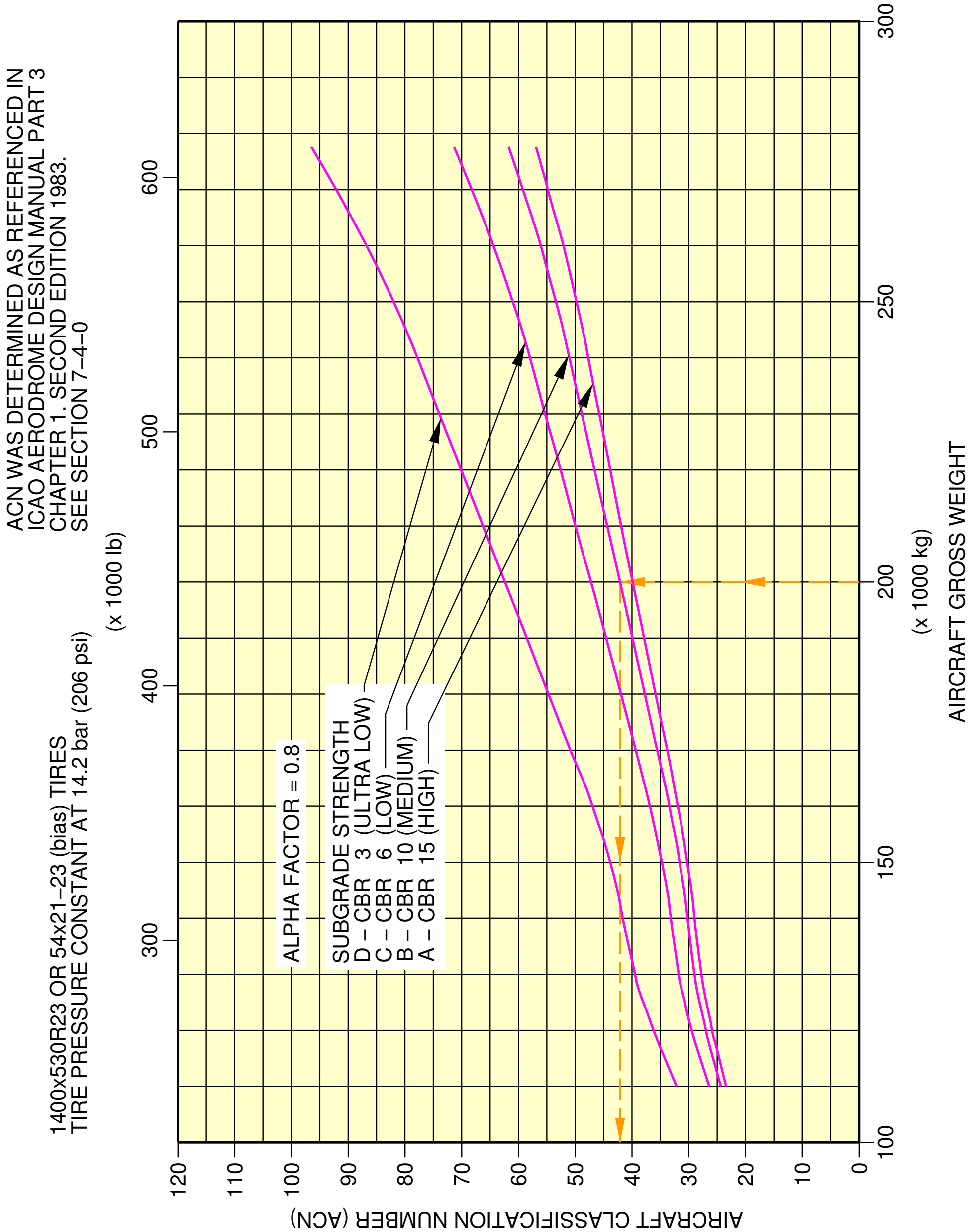
Aircraft Classification Number
Flexible Pavement - WV000, MRW 254 400 kg, CG 38.18 % (Sheet 1 of 2)
FIGURE-7-9-0-991-016-A01

**ON A/C A340-300



Aircraft Classification Number
Rigid Pavement - WV000, MRW 254 400 kg, CG 38.18 % (Sheet 2 of 2)
FIGURE-7-9-0-991-016-A01

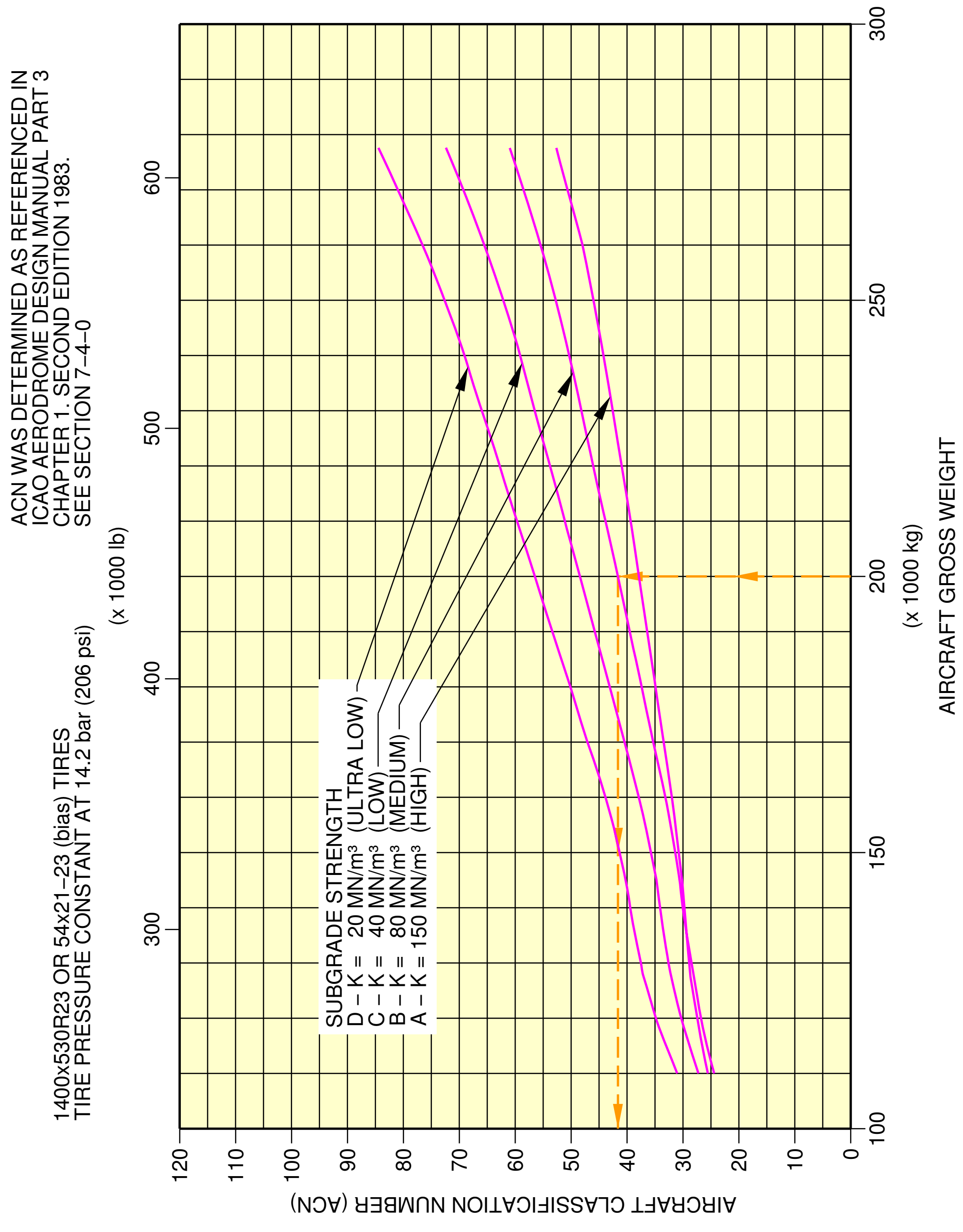
**ON A/C A340-200



F_AC_070900_1_0170101_01_00

Aircraft Classification Number
Flexible Pavement - WV028, MRW 277 400 kg, CG 35 % (Sheet 1 of 2)
FIGURE-7-9-0-991-017-A01

**ON A/C A340-200



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Aircraft Classification Number
Rigid Pavement - WV028, MRW 277 400 kg, CG 35 % (Sheet 2 of 2)
FIGURE-7-9-0-991-017-A01

SCALED DRAWINGS

8-0-0 SCALED DRAWINGS

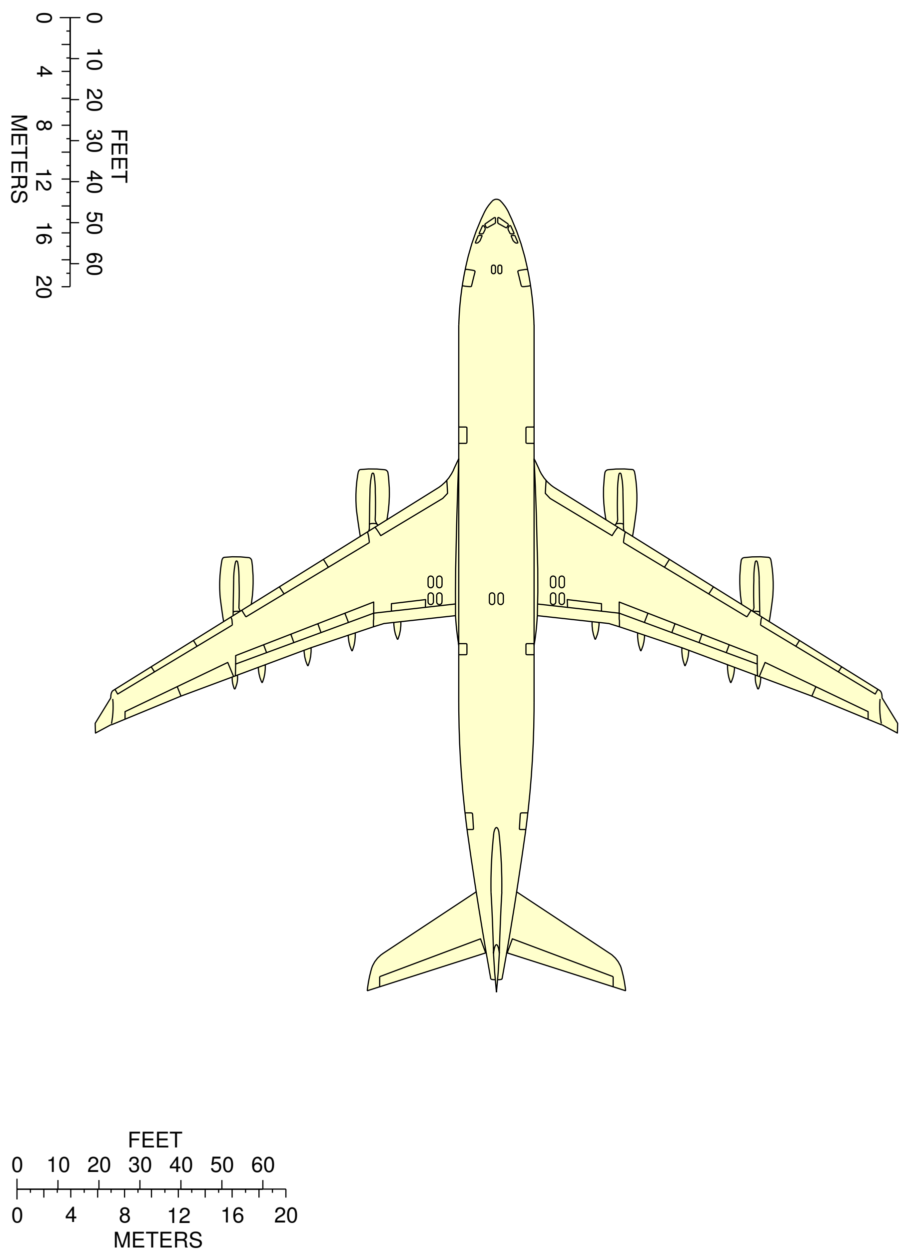
****ON A/C A340-200 A340-300**

Scaled Drawings

1. This section provides the scaled drawings.

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

**ON A/C A340-200



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

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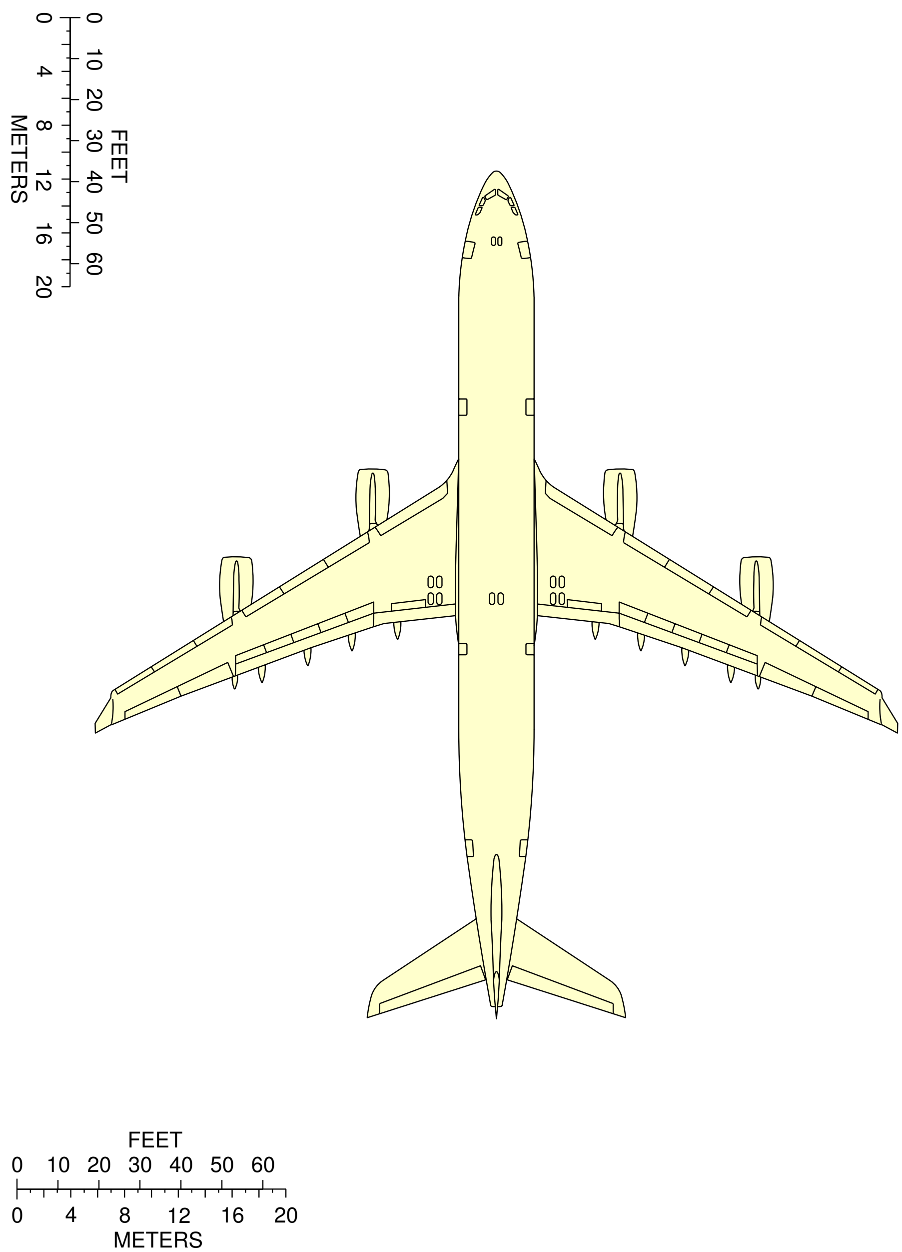
Scaled Drawing
FIGURE-8-0-0-991-003-A01

**ON A/C A340-300



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

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Scaled Drawing
FIGURE-8-0-0-991-003-B01

AIRCRAFT RESCUE AND FIRE FIGHTING

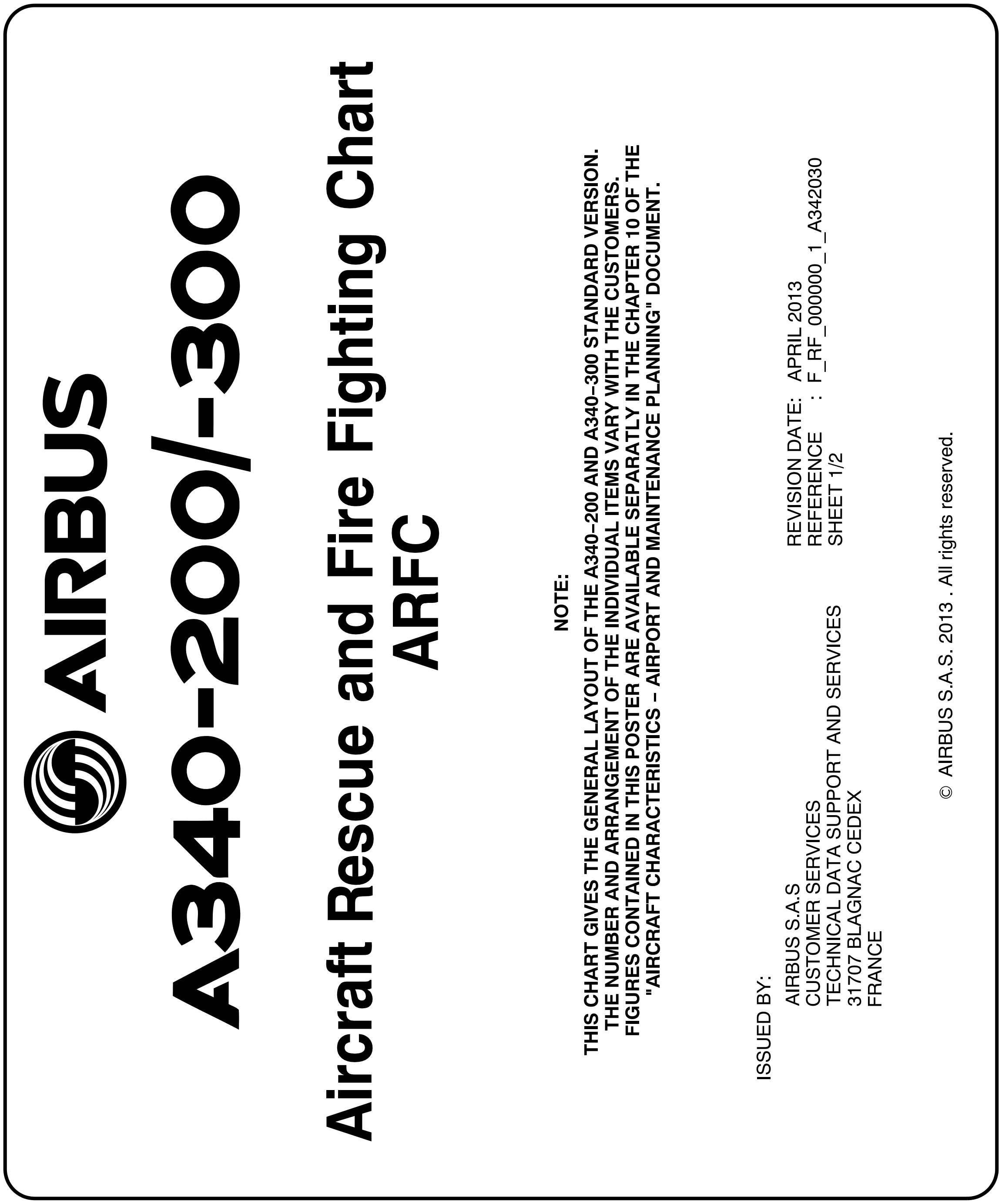
10-0-0 AIRCRAFT RESCUE AND FIRE FIGHTING

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

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 A340-200 A340-300



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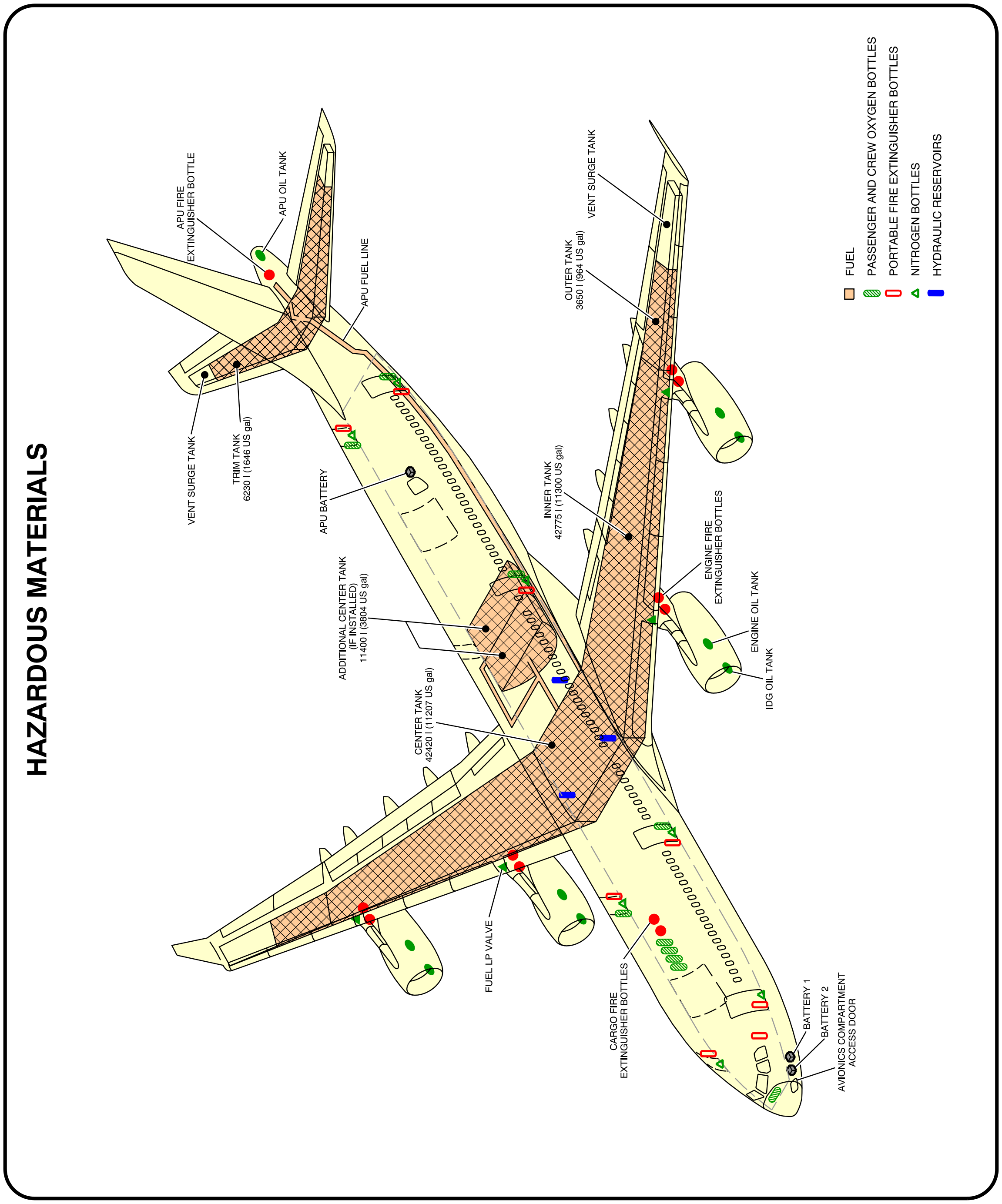
Front Page
FIGURE-10-0-0-991-027-A01

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



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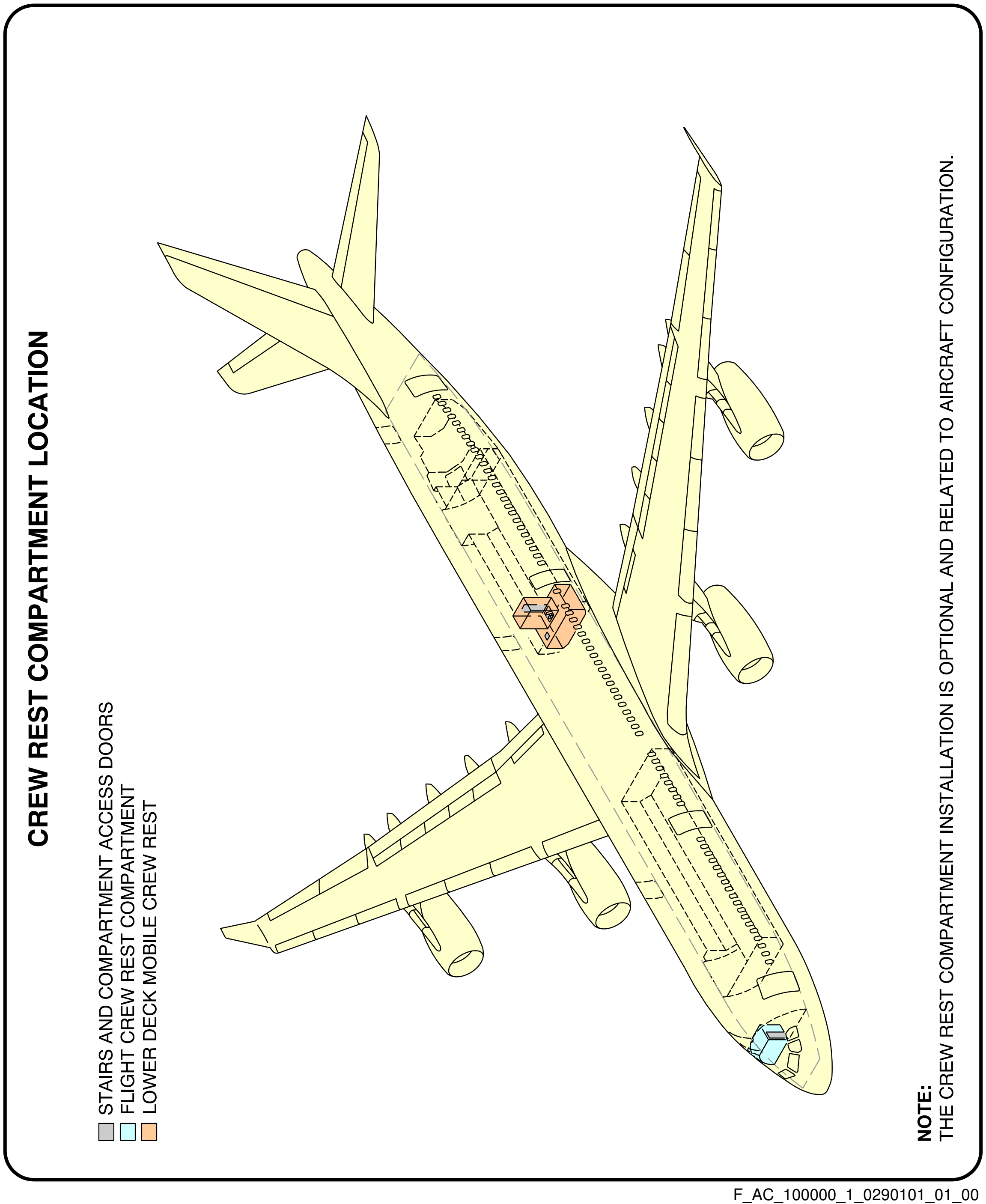
Highly Flammable and Hazardous Materials and Components
FIGURE-10-0-0-991-028-A01

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



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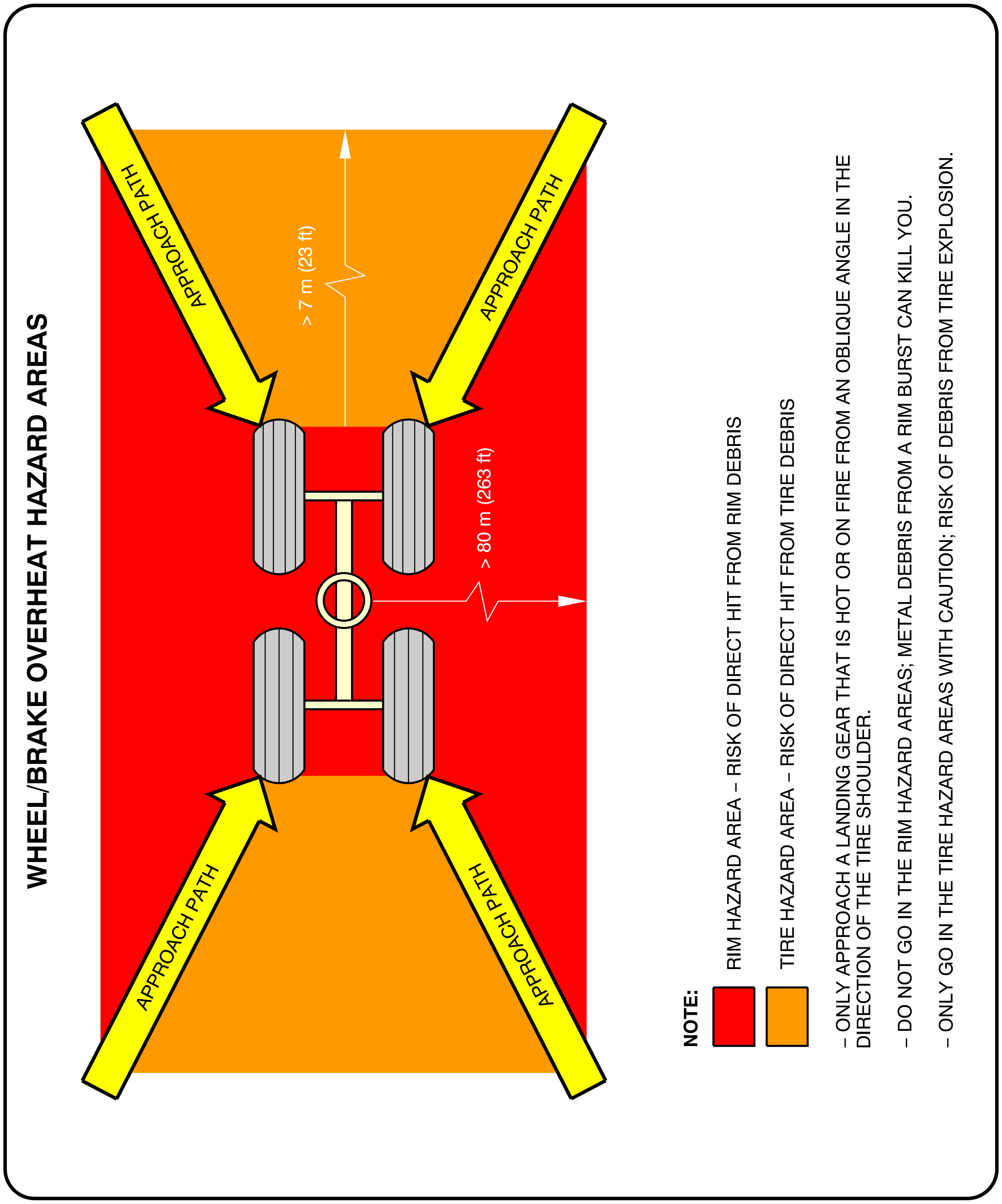
Crew Rest Compartments Location
FIGURE-10-0-0-991-029-A01

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



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Wheel/Brake Overheat
Wheel Safety Area (Sheet 1 of 2)
FIGURE-10-0-0-991-030-A01

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

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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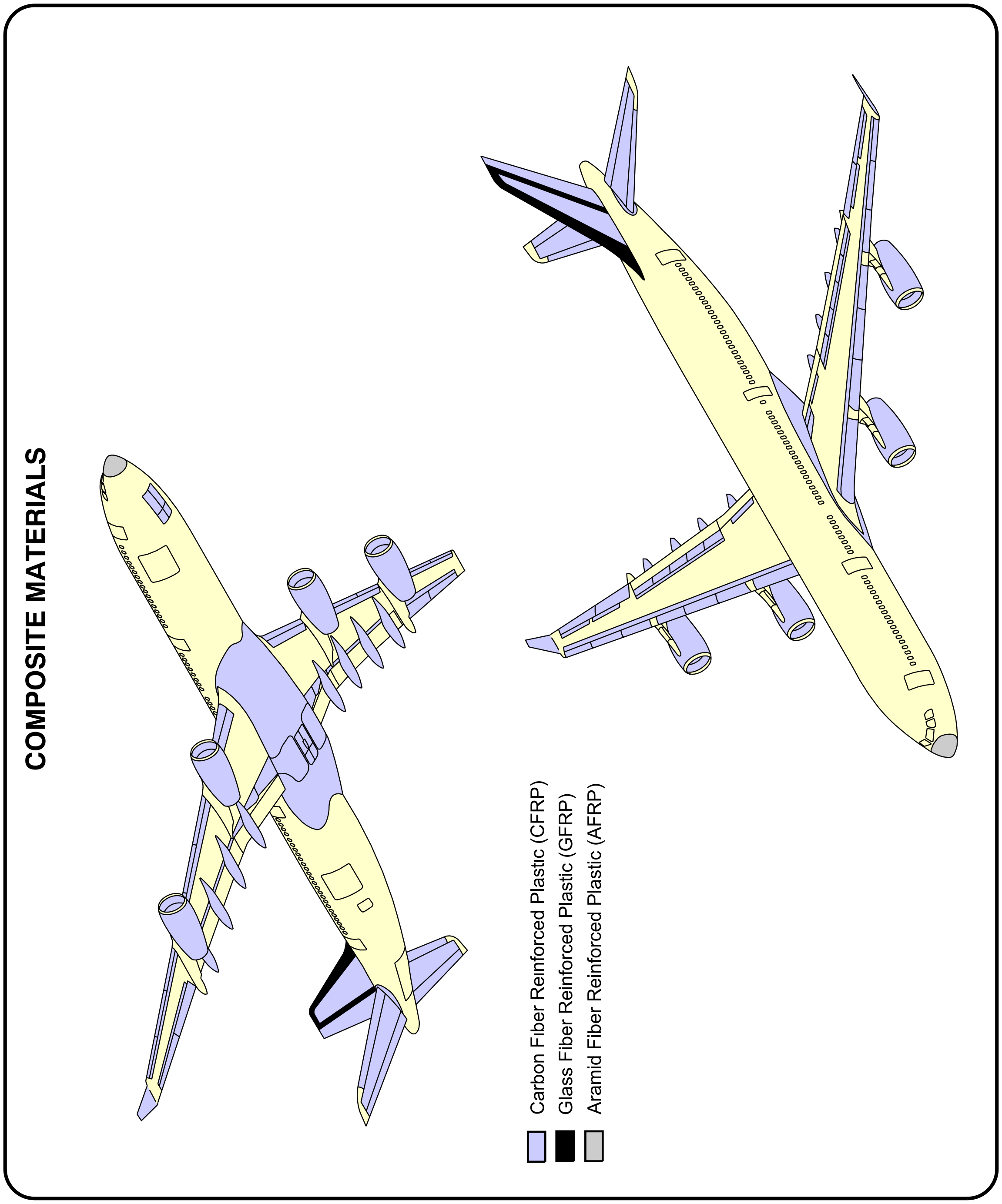
Wheel/Brake Overheat
Recommendations (Sheet 2 of 2)
FIGURE-10-0-0-991-030-A01

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



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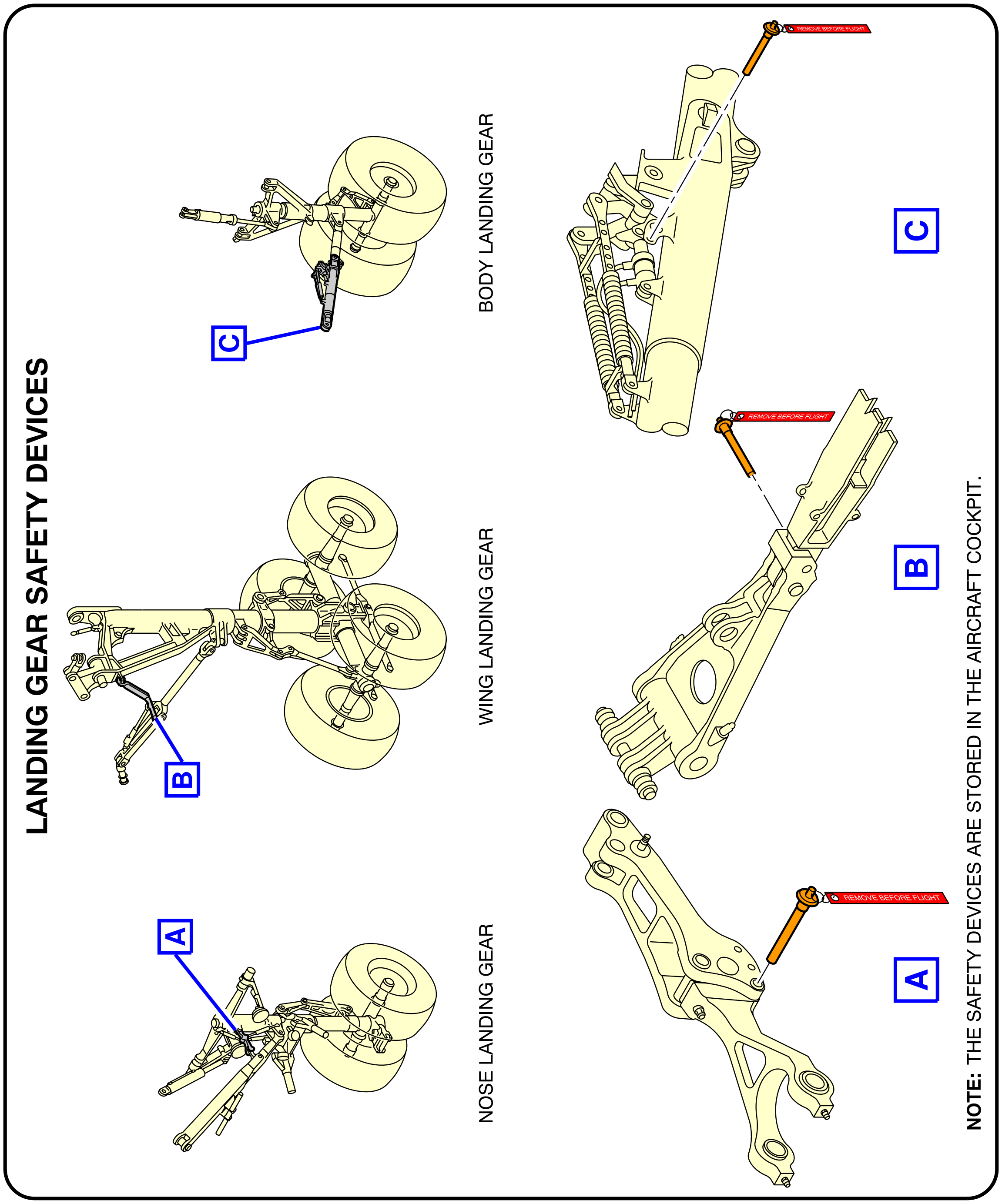
Composite Materials Location
FIGURE-10-0-0-991-031-A01

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



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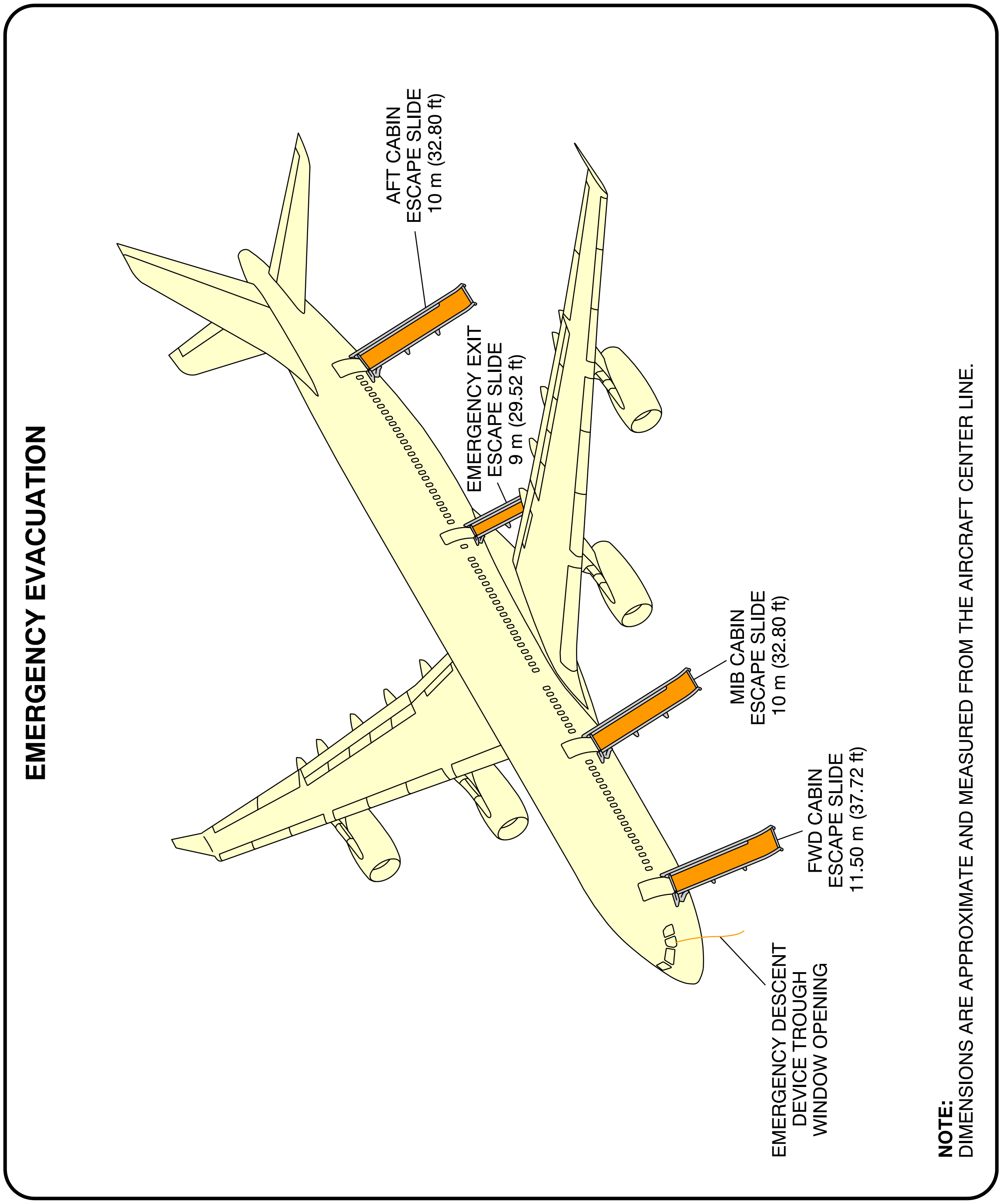
Ground Lock Safety Devices
FIGURE-10-0-0-991-032-A01

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



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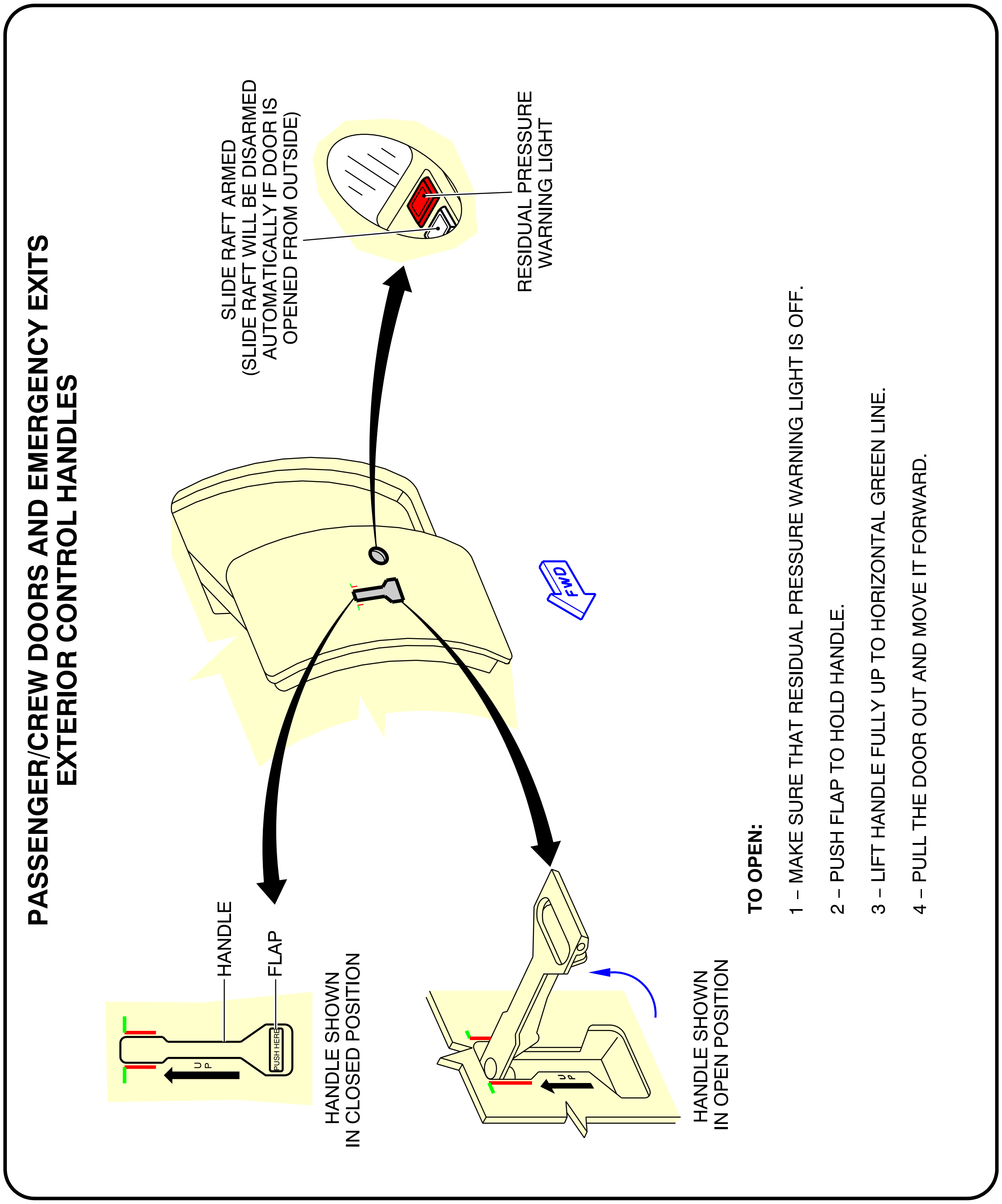
Emergency Evacuation Devices
FIGURE-10-0-0-991-033-A01

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



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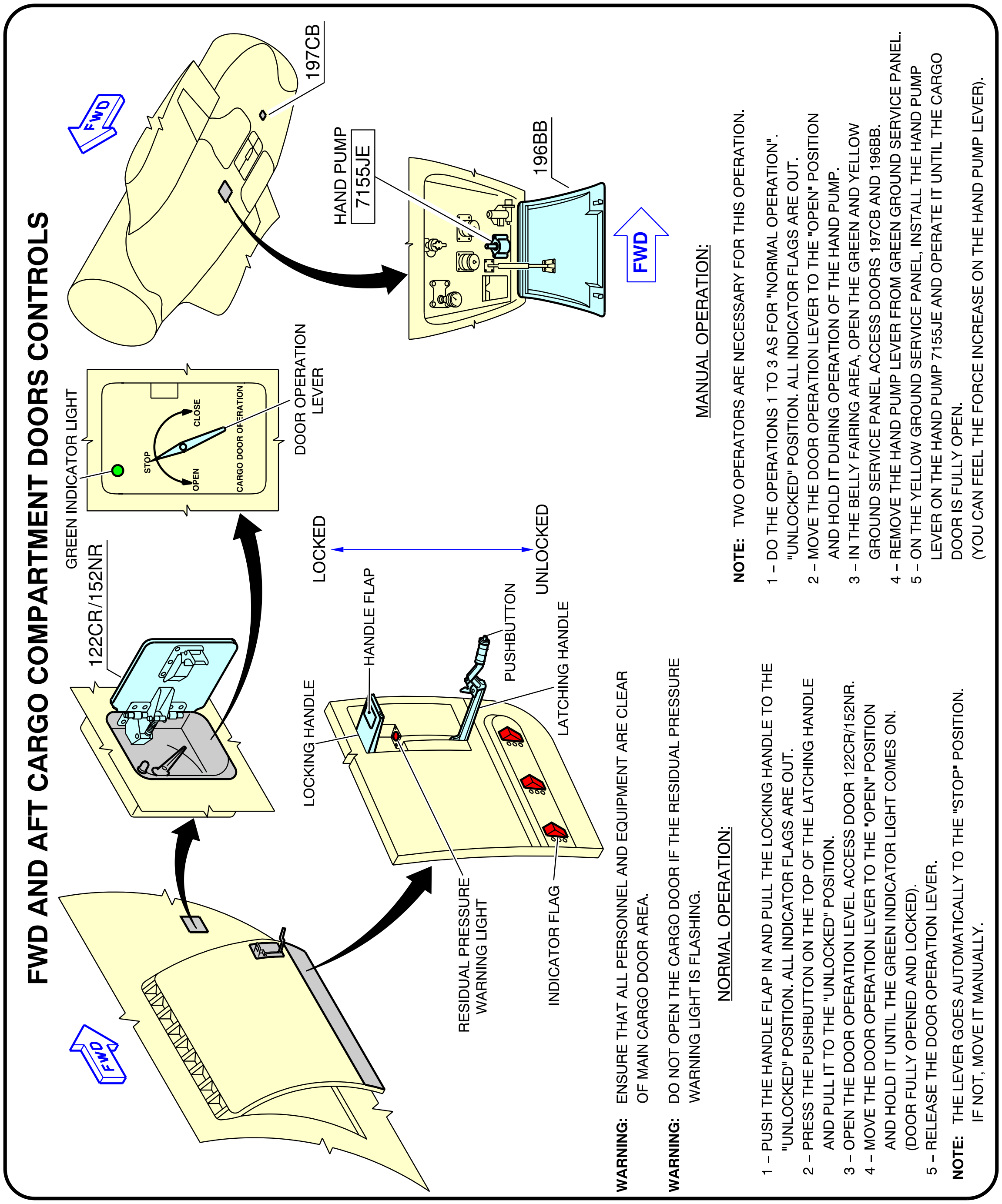
Pax/Crew Doors and Emergency Exits
FIGURE-10-0-0-991-034-A01

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



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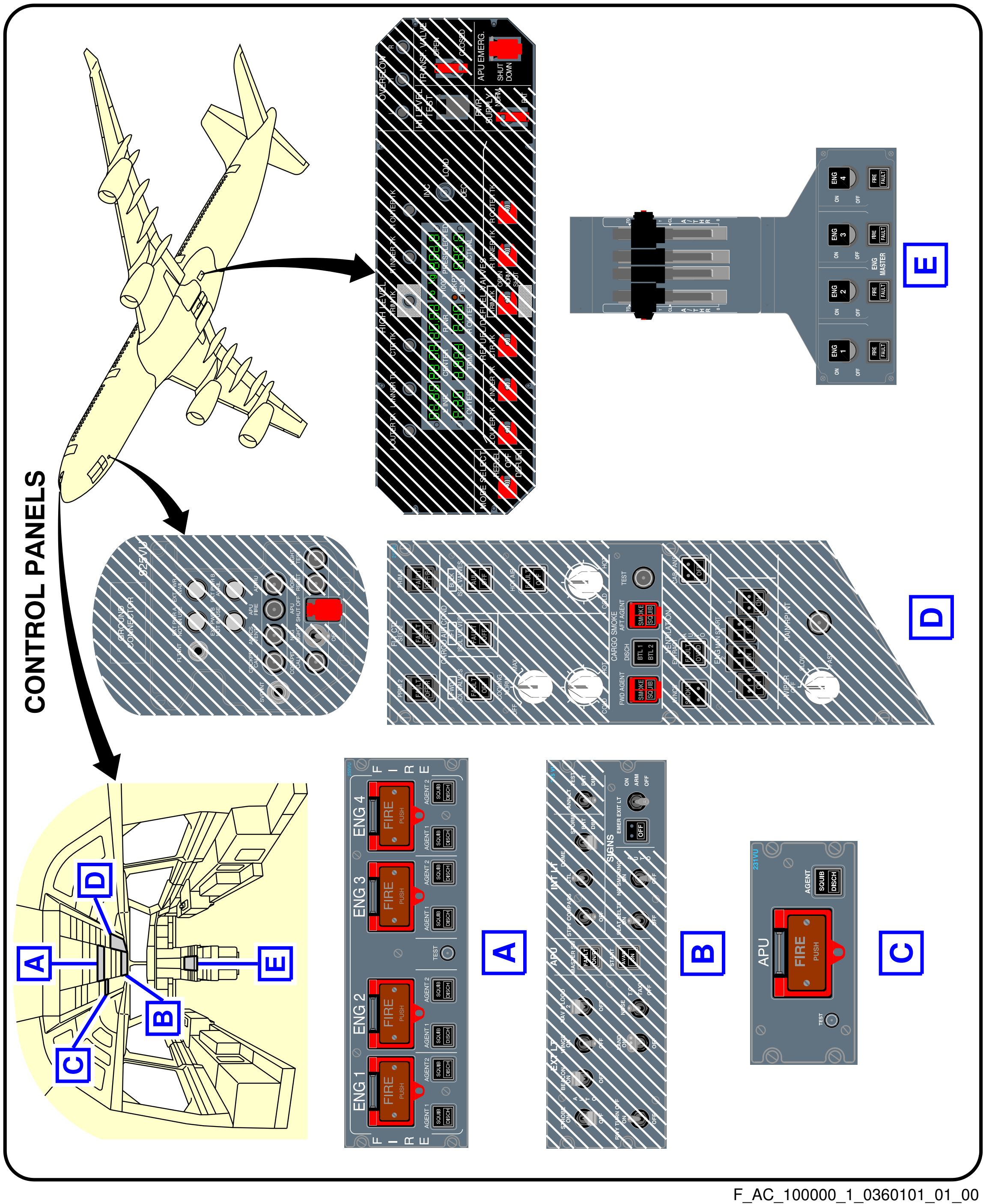
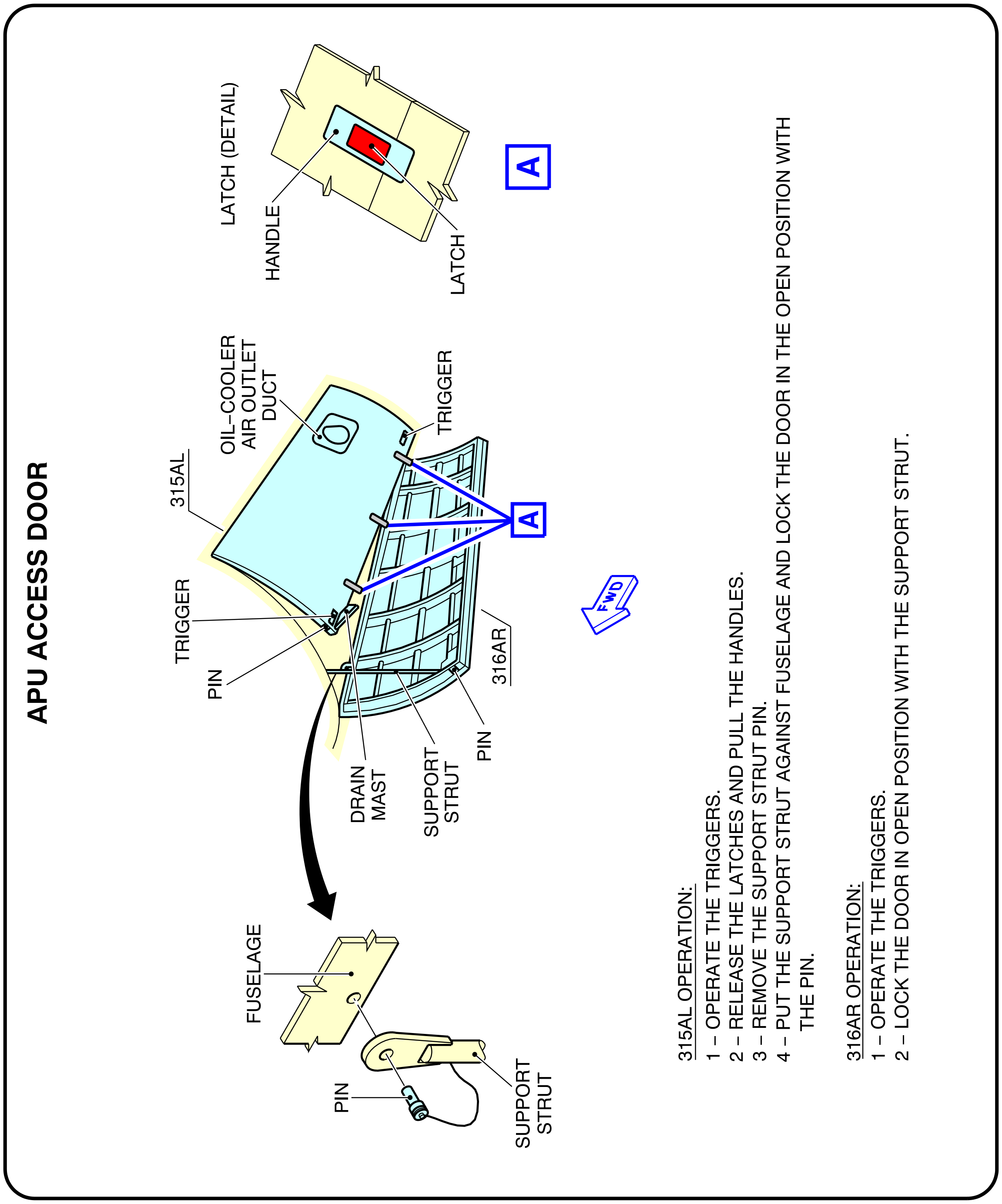
FWD and AFT Lower Deck Cargo Doors
FIGURE-10-0-0-991-035-A01

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



Control Panels
FIGURE-10-0-0-991-036-A01

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



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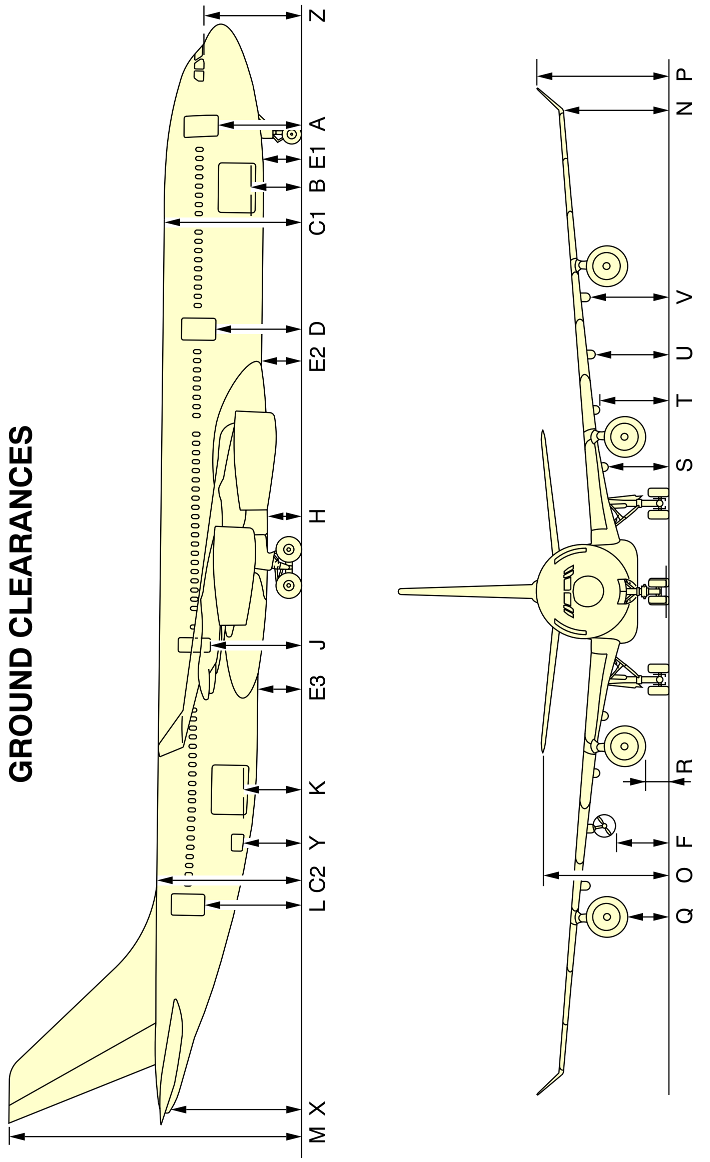
APU Compartment Access
FIGURE-10-0-0-991-037-A01

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

GROUND CLEARANCES



DIMENSIONS ARE RELATED TO AIRCRAFT WEIGHT AND CG CONFIGURATION

A/C CONFIGURATION	125 t AFT CG (31.9%)	
	m	ft
A	4.59	15.1
B	2.73	9
C1	7.76	25.5
C2	8.42	27.6
D	4.84	15.9
E1	2.13	7
E2	2.27	7.4
E3	2.37	7.8
F	3.40	11.2
H	2.02	6.6

A/C CONFIGURATION	125 t AFT CG (31.9%)	
	m	ft
J	5.31	17.4
K	3.44	11.3
L	5.70	18.7
M	17	55.7
N	6.35	20.8
O	8.14	26.7
P	7.91	25.9
Q	2.59	8.5
R	1.42	4.7
S	3.85	12.6

A/C CONFIGURATION	125 t AFT CG (31.9%)	
	m	ft
T	4.31	14.1
U	4.59	15.1
V	4.90	16.1
X	7.30	23.9
Y	3.58	11.7
Z	5.62	18.4

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

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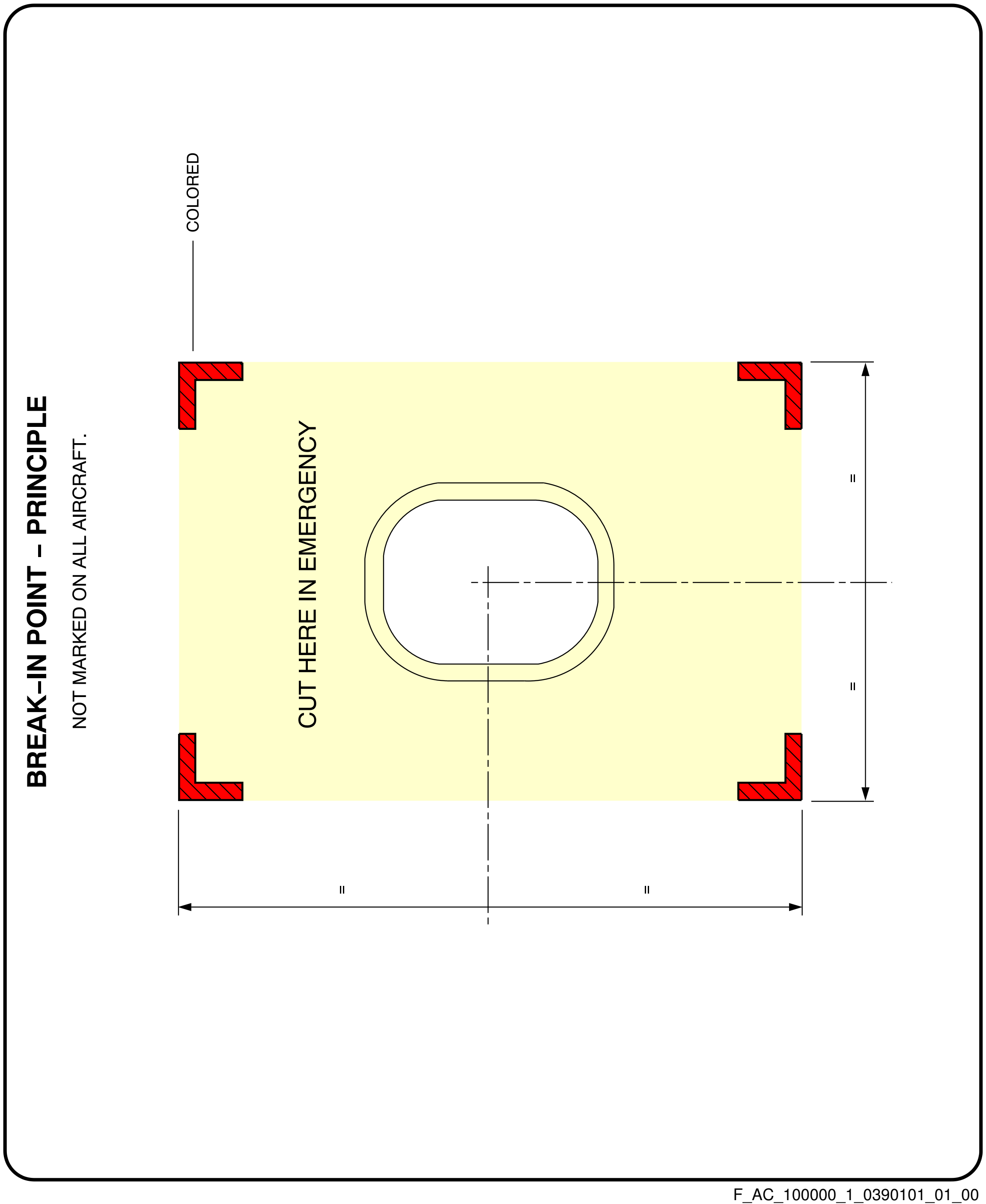
Ground Clearances
FIGURE-10-0-0-991-038-A01

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



Structural Break-in Points
FIGURE-10-0-0-991-039-A01