

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

HIGHLIGHTS

Revision No. 9 - Jan 01/11

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
CHAPTER 2		
Section 2-1		
Subject 2-1-1		
General Airplane Characteristics Data	R	PART EFFECTIVITY ADDED/REVISED/DELETED
Section 2-6	R	
Subject 02-06-02	D	
Subject 02-06-03	D	
CHAPTER 4 Section 4-2		
Subject 4-2-0	-	DADT FFFFCTIVITY
Turning Radii	R	PART EFFECTIVITY ADDED/REVISED/DELETED NOTE AMENDED
FIGURE Turning Radii - Turning Radii	R	ILLUSTRATION REVISED ILLUSTRATION REVISED
FIGURE Turning Radii - Turning Radii	R	ILLUSTRATION REVISED ILLUSTRATION REVISED
FIGURE Turning Radii - Steady State Turning Radii	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE Turning Radii - Steady State Turning Radii	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
Section 4-5		
Subject 4-5-1		
135° Turn - Runway to Taxiway	R	
FIGURE 135° Turn - Runway to Taxiway - Judgemental Oversteering Method	R	ILLUSTRATION REVISED
FIGURE 135° Turn - Runway to Taxiway - Cockpit Over Centerline Method	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE 135° Turn - Runway to Taxiway - Judgemental Oversteering Method	R	ILLUSTRATION REVISED
FIGURE 135° Turn - Runway to Taxiway - Cockpit Over Centerline Method	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
Subject 4-5-2		
90° Turn - Runway to Taxiway	R	
FIGURE 90° Turn - Runway to Taxiway - Judgement Oversteering Method	R	ILLUSTRATION REVISED
FIGURE 90° Turn - Runway to Taxiway - Cockpit Over Centerline Method	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE 90° Turn - Runway to Taxiway - Judgement Oversteering Method	R	
FIGURE 90° Turn - Runway to Taxiway - Cockpit Over Centerline Method	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
Subject 4-5-3		
FIGURE 180° Turn on a Runway - 75° Nose Wheel Steering	R	
FIGURE 180° Turn on a Runway - 70° Nose Wheel Steering	R	
Subject 4-5-4		
135° Turn - Taxiway to Taxiway	R	
FIGURE 135° Turn - Taxiway to Taxiway - Judgement Oversteering Method	R	ILLUSTRATION REVISED
FIGURE 135° Turn - Taxiway to Taxiway - Cockpit Over Centerline Method	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE 135° Turn - Taxiway to Taxiway - Judgement Oversteering Method	R	ILLUSTRATION REVISED
FIGURE 135° Turn - Taxiway to Taxiway - Cockpit Over Centerline Method	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
Subject 4-5-5		
90° Turn - Taxiway to Taxiway	R	
FIGURE 90° Turn - Taxiway to Taxiway - Judgemental Oversteering Method	R	ILLUSTRATION REVISED

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE 90° Turn - Taxiway to Taxiway - Cockpit Over Centerline Method	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE 90° Turn - Taxiway to Taxiway - Judgemental Oversteering Method	R	ILLUSTRATION REVISED
FIGURE 90° Turn - Taxiway to Taxiway - Cockpit Over Centerline Method	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
Section 4-6 Subject 4-6-0		
Runway Holding Bay (Apron)	R	
FIGURE Runway Holding Bay (Apron) - Runway Holding Bay (Apron)	R	ILLUSTRATION REVISED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
CHAPTER 5		
Section 5-4		
Subject 5-4-2		
FIGURE Ground Service Connections - Grounding Points	R	ILLUSTRATION REVISED
Subject 5-4-6		
Fuel System	R	
Section 5-8		
Subject 5-8-0		
Ground Towing Requirements	R	UPDATE OF THE TOWBAR CATEGORY
CHAPTER 7		
Section 7-1		
Subject 7-1-0		
General Information	R	
Section 7-2		
Subject 7-2-0		
Landing Gear Footprint	R	PART EFFECTIVITY ADDED/REVISED/DELETED

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE Landing Gear Footprint - MTOW 365 000 kg	R	ILLUSTRATION REVISED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Landing Gear Footprint - MTOW 368 000 kg	R	ILLUSTRATION REVISED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Landing Gear Footprint - MTOW 365 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE Landing Gear Footprint - MTOW 380 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE Landing Gear Footprint - MTOW 368 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE Landing Gear Footprint - MTOW 372 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE Landing Gear Footprint - MTOW 374 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE Landing Gear Footprint - MTOW 372 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE Landing Gear Footprint - MTOW 380 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
Section 7-3		
Subject 7-3-0 Maximum Pavement Loads	R	PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Maximum Pavement Loads - Maximum Pavement Loads	R	ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Maximum Pavement Loads - Maximum Pavement Loads	R	ILLUSTRATION REVISED AND COMPLETED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE Maximum Pavement Loads - Maximum Pavement Loads	R	ILLUSTRATION REVISED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Maximum Pavement Loads - Maximum Pavement Loads	R	ILLUSTRATION REVISED AND COMPLETED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Maximum Pavement Loads - Maximum Pavement Loads Section 7-4	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
Subject 7-4-0		
Landing Gear Loading on Pavement	R	PART EFFECTIVITY ADDED/REVISED/DELETED
Subject 7-4-1		
Landing Gear Loading on Pavement	R	PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Landing Gear Loading on Pavement - MTOW 365 000 kg	R	ILLUSTRATION REVISED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Landing Gear Loading on Pavement - MTOW 368 000 kg	R	ILLUSTRATION REVISED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Landing Gear Loading on Pavement - MTOW 365 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE Landing Gear Loading on Pavement - MTOW 380 000 kg	R	ILLUSTRATION REVISED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Landing Gear Loading on Pavement - MTOW 368 000 kg	R	ILLUSTRATION REVISED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE Landing Gear Loading on Pavement - MTOW 372 000 kg	R	ILLUSTRATION REVISED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Landing Gear Loading on Pavement - MTOW 374 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE Landing Gear Loading on Pavement - MTOW 374 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE Landing Gear Loading on Pavement - MTOW 372 000 kg	R	NEW ILLUSTRATION ADDED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Landing Gear Loading on Pavement - MTOW 380 000 kg	N	ILLUSTRATION REVISED ILLUSTRATION ADDED
Subject 7-4-2		
Wing Gear and Center Landing Gear Loading on Pavement	R	PART EFFECTIVITY ADDED/REVISED/DELETED
Subject 7-4-3		
Wing Gear and Center Landing Gear Loading on Pavement	R	PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Wing Gear and Center Landing Gear Loading on Pavement - MTOW 365 000 kg	R	ILLUSTRATION REVISED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Wing Gear and Center Landing Gear Loading on Pavement - MTOW 368 000 kg	R	ILLUSTRATION REVISED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Wing Gear and Center Landing Gear Loading on Pavement - MTOW 365 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE Wing Gear and Center Landing Gear Loading on Pavement - MTOW 380 000 kg	R	ILLUSTRATION REVISED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE Wing Gear and Center Landing Gear Loading on Pavement - MTOW 368 0000 kg	R	ILLUSTRATION REVISED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Wing Gear and Center Landing Gear Loading on Pavement - MTOW 372 000 kg	R	ILLUSTRATION REVISED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Wing Gear and Center Landing Gear Loading on Pavement - MTOW 374 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE Wing Gear and Center Landing Gear Loading on Pavement - MTOW 372 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE Wing Gear and Center Landing Gear Loading on Pavement - MTOW 380 000 kg	R	ILLUSTRATION REVISED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
Section 7-5		
Subject 7-5-0 Flexible Pavement Requirements - U.S. Army Corps of Engineers Design Method	R	PART EFFECTIVITY ADDED/REVISED/DELETED
Subject 7-5-1		
Flexible Pavement Requirements - U.S. Army Corps of Engineers Design Method	R	PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Flexible Pavement Requirements - MTOW 365 000 kg	R	ILLUSTRATION REVISED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Flexible Pavement Requirements - MTOW 368 000 kg	R	ILLUSTRATION REVISED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Flexible Pavement Requirements - MTOW 365 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE Flexible Pavement Requirements - MTOW 380 000 kg	R	ILLUSTRATION REVISED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Flexible Pavement Requirements - MTOW 368 000 kg	R	ILLUSTRATION REVISED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Flexible Pavement Requirements - MTOW 372 000 kg	R	ILLUSTRATION REVISED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Flexible Pavement Requirements - MTOW 374 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE Flexible Pavement Requirements - MTOW 372 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE Flexible Pavement Requirements - MTOW 380 000 kg	R	ILLUSTRATION REVISED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
Section 7-6		
Subject 7-6-0 Flexible Pavement Requirements - LCN Conversion	R	PART EFFECTIVITY ADDED/REVISED/DELETED
Subject 7-6-1		
Flexible Pavement Requirements - LCN Conversion	R	PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Flexible Pavement Requirements - MTOW 365 000 kg	R	ILLUSTRATION REVISED AND COMPLETED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE Flexible Pavement Requirements - MTOW 368 000 kg	R	ILLUSTRATION REVISED AND COMPLETED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Flexible Pavement Requirements - MTOW 365 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE Flexible Pavement Requirements - MTOW 380 000 kg	R	ILLUSTRATION REVISED AND COMPLETED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Flexible Pavement Requirements - MTOW 368 000 kg	R	ILLUSTRATION REVISED AND COMPLETED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Flexible Pavement Requirements - MTOW 372 000 kg	R	ILLUSTRATION REVISED AND COMPLETED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Flexible Pavement Requirements - MTOW 374 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE Flexible Pavement Requirements - MTOW 372 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE Flexible Pavement Requirements - MTOW 380 000 kg	R	ILLUSTRATION REVISED AND COMPLETED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
Section 7-7		
Subject 7-7-0	_	
Rigid Pavement Requirements - Portland Cement Association Design Method	R	PART EFFECTIVITY ADDED/REVISED/DELETED
Subject 7-7-1		

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
Rigid Pavement Requirements - Portland Cement Association Design Method	R	PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Rigid Pavement Requirements - MTOW 365 000 kg	R	ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Rigid Pavement Requirements - MTOW 368 000 kg	R	ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Rigid Pavement Requirements - MTOW 365 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE Rigid Pavement Requirements - MTOW 380 000 kg	R	ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Rigid Pavement Requirements - MTOW 368 000 kg	R	ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Rigid Pavement Requirements - MTOW 372 000 kg	R	ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Rigid Pavement Requirements - MTOW 374 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE Rigid Pavement Requirements - MTOW 372 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE Rigid Pavement Requirements - MTOW 380 000 kg	R	ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
Section 7-8		
Subject 7-8-0 Rigid Pavement Requirements - LCN Conversion	R	PART EFFECTIVITY ADDED/REVISED/DELETED
Subject 7-8-2		
Rigid Pavement Requirements - LCN Conversion	R	PART EFFECTIVITY ADDED/REVISED/DELETED

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE Rigid Pavement Requirements LCN - MTOW 365 000 kg	R	ILLUSTRATION COMPLETED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Rigid Pavement Requirements LCN - MTOW 368 000 kg	R	ILLUSTRATION COMPLETED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Rigid Pavement Requirements LCN - MTOW 365 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE Rigid Pavement Requirements LCN - MTOW 380 000 kg	R	ILLUSTRATION COMPLETED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Rigid Pavement Requirements LCN - MTOW 368 000 kg	R	ILLUSTRATION COMPLETED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Rigid Pavement Requirements LCN - MTOW 372 000 kg	R	ILLUSTRATION COMPLETED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Rigid Pavement Requirements LCN - MTOW 374 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE Rigid Pavement Requirements LCN - MTOW 372 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE Rigid Pavement Requirements LCN - MTOW 380 000 kg	R	ILLUSTRATION COMPLETED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
Subject 7-8-3		
Radius of Relative Stiffness (Other values of "E" and "L")	R	
Section 7-9		
Subject 7-9-0		

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
ACN/PCN Reporting System - Flexible and Rigid Pavements	R	PART EFFECTIVITY ADDED/REVISED/DELETED
Subject 7-9-1		
Aircraft Classification Number - Flexible Pavement	R	PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Aircraft Classification Number – Flexible Pavement - MTOW 365 000 kg	R	ILLUSTRATION COMPLETED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Aircraft Classification Number – Flexible Pavement - MTOW 368 000 kg	R	ILLUSTRATION COMPLETED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Aircraft Classification Number – Flexible Pavement - MTOW 365 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE Aircraft Classification Number – Flexible Pavement - MTOW 380 000 kg	R	ILLUSTRATION COMPLETED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Aircraft Classification Number – Flexible Pavement - MTOW 368 000 kg	R	ILLUSTRATION COMPLETED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Aircraft Classification Number – Flexible Pavement - MTOW 372 000 kg	R	ILLUSTRATION COMPLETED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Aircraft Classification Number – Flexible Pavement - MTOW 374 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE Aircraft Classification Number – Flexible Pavement - MTOW 372 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE Aircraft Classification Number – Flexible Pavement - MTOW 380 000 kg	R	ILLUSTRATION COMPLETED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
Subject 7-9-2		
Aircraft Classification Number - Rigid Pavement	R	PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 365 000 kg	R	ILLUSTRATION REVISED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 368 000 kg	R	ILLUSTRATION REVISED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 365 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 380 000 kg	R	ILLUSTRATION REVISED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 368 000 kg	R	ILLUSTRATION REVISED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 372 000 kg	R	ILLUSTRATION REVISED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 374 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 372 000 kg	N	NEW ILLUSTRATION ADDED ILLUSTRATION ADDED
FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 380 000 kg	R	ILLUSTRATION REVISED ILLUSTRATION REVISED PART EFFECTIVITY ADDED/REVISED/DELETED

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

LIST OF EFFECTIVE CONTENT

Revision No. 9 - Jan 01/11

CONTENT	CHG CODE	LAST REVISION DATE
CHAPTER 1		
Subject 1-1-0		
Purpose		May 01/07
Subject 1-2-0		
Introduction		May 01/07
CHAPTER 2		
Subject 2-1-0		
General Airplane Characteristics		May 01/07
Subject 2-1-1		
General Airplane Characteristics Data	R	Jan 01/11
Subject 2-2-0		
General Airplane Dimensions		May 01/07
FIGURE General Airplane Dimensions - General Airplane Dimensions		May 01/07
FIGURE General Airplane Dimensions - General Airplane Dimensions		May 01/07
Subject 2-3-0		
Ground Clearances		May 01/07
FIGURE Ground Clearances - Ground Clearances		May 01/07
FIGURE Ground Clearances - Ground Clearances		May 01/07
Subject 2-4-0		
Interior Arrangements		May 01/07
Subject 2-4-1		
Typical Configuration		May 01/07
FIGURE Typical Configuration - Typical Configuration		May 01/07
FIGURE Typical Configuration - Typical Configuration		May 01/07
Subject 2-5-0		
Passenger Compartment Cross-section		May 01/07

CONTENT	CHG CODE	LAST REVISION DATE
FIGURE Passenger Compartment Cross-section - Passenger Compartment Cross-section		May 01/07
FIGURE Passenger Compartment Cross-section - Passenger Compartment Cross-section		May 01/07
FIGURE Passenger Compartment Cross-section - Passenger Compartment Cross-section		May 01/07
Subject 2-6-0		
Cargo Compartment		May 01/07
Subject 2-6-1		
Lower Deck Cargo Compartments		May 01/07
FIGURE Lower Deck Cargo Compartments - Lower Deck Cargo Compartments		May 01/07
FIGURE Loading Combinations - Loading Combinations		May 01/07
Subject 2-7-0		
Doors Clearances		May 01/07
Subject 2-7-1		
Forward Passenger / Crew Door		May 01/07
FIGURE Forward Passenger / Crew Doors - Forward Passenger / Crew Doors		May 01/07
Subject 2-7-2		
Mid Passenger / Crew Door		May 01/07
FIGURE Mid Passenger / Crew Door - Mid Passenger / Crew Door		May 01/07
FIGURE Mid Passenger / Crew Door - Mid Passenger / Crew Door		May 01/07
Subject 2-7-3		
Emergency Exits		May 01/07
FIGURE Emergency Exits - Emergency Exits		May 01/07
FIGURE Emergency Exits - Emergency Exits		May 01/07
Subject 2-7-4		
Aft Passenger / Crew Doors		May 01/07
FIGURE Aft Passenger / Crew Doors - Aft Passenger / Crew Doors		May 01/07
Subject 2-7-5		

CONTENT	CHG CODE	LAST REVISION DATE
Forward Cargo Compartment Doors		May 01/07
FIGURE Forward Cargo Compartment Doors - Forward Cargo Compartment Doors		May 01/07
Subject 2-7-6		
Aft Cargo Compartment Doors		May 01/07
FIGURE Aft Cargo Compartment Doors - Aft Cargo Compartment Doors		May 01/07
Subject 2-7-7		
Bulk Cargo Compartment Doors		May 01/07
FIGURE Bulk Cargo Compartment Doors - 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 - Main and Center Landing Gear Doors		May 01/07
Subject 2-7-9		
Radome		May 01/07
FIGURE Radome - Radome		May 01/07
Subject 2-7-10		
APU and Nose Landing Gear Doors		May 01/07
FIGURE APU and Nose Landing Gear Doors - APU and Nose Landing Gear Doors		May 01/07
FIGURE APU and Nose Landing Gear Doors - APU and Nose Landing Gear Doors		May 01/07
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

CONTENT	CHG CODE	LAST REVISION DATE
FIGURE PAYLOAD / RANGE - RB 211 TRENT 556 engine		May 01/07
FIGURE PAYLOAD / RANGE - RB 211 TRENT 553 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 - RB 211 TRENT 556 engine		May 01/07
FIGURE FAR / JAR Takeoff Weight Limitation - ISA Conditions – RB 211 TRENT 553 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 $+15^{\circ}$ C (ISA $+27^{\circ}$ F) Conditions - RB 211 TRENT 556 engine		May 01/07
FIGURE FAR $/$ JAR Takeoff Weight Limitation - ISA $+15^{\circ}$ C (ISA $+27^{\circ}$ F) Conditions - RB 211 TRENT 553 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 – RB 211 TRENT 556 engine		May 01/07
FIGURE FAR / JAR Landing Field Length - ISA Conditions – RB 211 TRENT 553 engine		May 01/07
Subject 3-5-0		
Final Approach Speed		May 01/07
Subject 3-5-1		
Final Approach Speed		May 01/07
FIGURE Final Approach Speed - RB 211 TRENT 556 engine		May 01/07
FIGURE Final Approach Speed - RB 211 TRENT 553 engine		May 01/07

CONTENT	CHG CODE	LAST REVISION DATE
CHAPTER 4		
Subject 4-1-0		
General Information		May 01/07
Subject 4-2-0		
Turning Radii	R	Jan 01/11
FIGURE Turning Radii - Turning Radii	R	Jan 01/11
FIGURE Turning Radii - Turning Radii	R	Jan 01/11
FIGURE Turning Radii - Steady State Turning Radii	N	Jan 01/11
FIGURE Turning Radii - Steady State Turning Radii	N	Jan 01/11
Subject 4-3-0		
Minimum Turning Radii		May 01/07
FIGURE Minimum Turning Radii - Minimum Turning Radii		May 01/07
FIGURE Minimum Turning Radii - Minimum Turning Radii		May 01/07
Subject 4-4-0		
Visibility from Cockpit in Static Position		May 01/07
FIGURE Visibility from Cockpit in Static Position - Visibility from Cockpit in Static Position		May 01/07
Subject 4-5-0		
Runway and Taxiway Turn Paths		May 01/07
Subject 4-5-1		
135° Turn - Runway to Taxiway	R	Jan 01/11
FIGURE 135° Turn - Runway to Taxiway - Judgemental Oversteering Method	R	Jan 01/11
FIGURE 135° Turn - Runway to Taxiway - Cockpit Over Centerline Method	N	Jan 01/11
FIGURE 135° Turn - Runway to Taxiway - Judgemental Oversteering Method	R	Jan 01/11
FIGURE 135° Turn - Runway to Taxiway - Cockpit Over Centerline Method	N	Jan 01/11
Subject 4-5-2		
90° Turn - Runway to Taxiway	R	Jan 01/11

CONTENT	CHG CODE	LAST REVISION DATE
FIGURE 90° Turn - Runway to Taxiway - Judgement Oversteering Method	R	Jan 01/11
FIGURE 90° Turn - Runway to Taxiway - Cockpit Over Centerline Method	N	Jan 01/11
FIGURE 90° Turn - Runway to Taxiway - Judgement Oversteering Method	R	Jan 01/11
FIGURE 90° Turn - Runway to Taxiway - Cockpit Over Centerline Method	N	Jan 01/11
Subject 4-5-3		
180° Turn on a Runway		May 01/07
FIGURE 180° Turn on a Runway - 75° Nose Wheel Steering	R	Jan 01/11
FIGURE 180° Turn on a Runway - 70° Nose Wheel Steering	R	Jan 01/11
Subject 4-5-4		
135° Turn - Taxiway to Taxiway	R	Jan 01/11
FIGURE 135° Turn - Taxiway to Taxiway - Judgement Oversteering Method	R	Jan 01/11
FIGURE 135° Turn - Taxiway to Taxiway - Cockpit Over Centerline Method	N	Jan 01/11
FIGURE 135° Turn - Taxiway to Taxiway - Judgement Oversteering Method	R	Jan 01/11
FIGURE 135° Turn - Taxiway to Taxiway - Cockpit Over Centerline Method	N	Jan 01/11
Subject 4-5-5		
90° Turn - Taxiway to Taxiway	R	Jan 01/11
FIGURE 90° Turn - Taxiway to Taxiway - Judgemental Oversteering Method	R	Jan 01/11
FIGURE 90° Turn - Taxiway to Taxiway - Cockpit Over Centerline Method	N	Jan 01/11
FIGURE 90° Turn - Taxiway to Taxiway - Judgemental Oversteering Method	R	Jan 01/11
FIGURE 90° Turn - Taxiway to Taxiway - Cockpit Over Centerline Method	N	Jan 01/11
Subject 4-6-0		
Runway Holding Bay (Apron)	R	Jan 01/11

CONTENT	CHG CODE	LAST REVISION DATE
FIGURE Runway Holding Bay (Apron) - Runway Holding Bay (Apron)	R	Jan 01/11
Subject 4-7-0		
Airplane Parking		May 01/07
FIGURE Airplane Parking - Steering Geometry		May 01/07
FIGURE Airplane Parking - Steering Geometry		May 01/07
FIGURE Airplane Parking - Minimum Parking Space Requirements		May 01/07
FIGURE Airplane Parking - Steering Geometry		May 01/07
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		. 01/10
Airplane Servicing Arrangements		Jan 01/10
Subject 5-1-1		
Symbols Used on Servicing Diagrams		Jan 01/10
Subject 5-1-2		
Loading (Open Apron)		Jan 01/10
FIGURE Airplane Servicing Arrangements - Typical Ramp Layout (Open Apron)		Jan 01/10
FIGURE Airplane Servicing Arrangements - Typical Ramp Layout (Open Apron)		Jan 01/10
Subject 5-1-3		
Loading (Passenger Bridge)		Jan 01/10
FIGURE Airplane Servicing Arrangements - Typical Ramp Layout (gate area)		Jan 01/10
FIGURE Airplane Servicing Arrangements - Typical Ramp Layout (gate area)		Jan 01/10
Subject 5-2-0		

CONTENT	CHG CODE	LAST REVISION DATE
Terminal Operations - Full Servicing Turn Round Charts		Jan 01/10
Subject 5-2-1		·
Full Servicing Turn Round Charts		Jan 01/10
FIGURE Turn around charts - Turn Round Time 63 min.		Jan 01/10
FIGURE Turn around charts - Turn Round Time 74 min.		Jan 01/10
Subject 5-3-0		
Terminal Operations - Transit Turn Round Charts		Jan 01/10
Subject 5-3-1		
Transit Turn Round Charts		Jan 01/10
FIGURE Transit Turn Round Charts - Turn Round Time 40 min.		Jan 01/10
FIGURE Transit Turn Round Charts - Turn Round Time 46 min.		Jan 01/10
Subject 5-4-0		
Ground Service Connections		May 01/07
Subject 5-4-1		
Ground Service Connections Layout		May 01/07
FIGURE Ground Service Connections - Ground Service Connections Layout		May 01/07
FIGURE Ground Service Connections - Ground Service Connections Layout		May 01/07
Subject 5-4-2		
Grounding Points		May 01/07
FIGURE Ground Service Connections - Grounding Points	R	Jan 01/11
Subject 5-4-3		
Hydraulic System		May 01/07
Subject 5-4-4		
Electrical System		May 01/07
Subject 5-4-5		
Oxygen System		May 01/07
Subject 5-4-6		
Fuel System	R	Jan 01/11

CONTENT	CHG CODE	LAST REVISION DATE
Subject 5-4-7		
Pneumatic System		May 01/07
Subject 5-4-8		
Potable Water System		May 01/07
Subject 5-4-9		
Oil System		May 01/07
FIGURE Ground Service Connections - Engine Oil Tank - RR TRENT 500 series engine		May 01/07
FIGURE Ground Service Connections - IDG Oil Tank - RR TRENT 500 series engine		May 01/07
FIGURE Ground Service Connections - Starter Oil Tank - RR TRENT 500 series engine		May 01/07
APU Oil System		Jan 01/10
FIGURE Ground Service Connections - APU Oil Tank		Jan 01/10
Subject 5-4-10		
Vacuum Toilet System		May 01/07
Subject 5-5-0		
Engine Starting Pneumatic Requirements		May 01/07
Subject 5-5-1		
Low Temperature -40 °C (-40 °F)		May 01/07
FIGURE Engine Starting Pneumatic Requirements - Temperature -40 °C (-40 °F) - RB 211 TRENT 500 series engine		May 01/07
Subject 5-5-2		
Ambient Temperature +15°C (+59°F)		May 01/07
FIGURE Engine Starting Pneumatic Requirements - Temperature $+15^{\circ}\text{C}\ (+59^{\circ}\text{F})$ - RB 211 TRENT 500 series engine		May 01/07
Subject 5-5-3		
High Temperature +50°C (122°F)		May 01/07
FIGURE Engine Starting Pneumatic Requirements - Temperature $+50^{\circ}\mathrm{C}\ (+122^{\circ}\mathrm{F})$ - RB 211 TRENT 500 series engine		May 01/07
Subject 5-6-0		

CONTENT	CHG CODE	LAST REVISION DATE
Ground Pneumatic Power Requirements		May 01/07
Subject 5-6-1		
Heating		May 01/07
FIGURE Ground Pneumatic Power Requirements - Heating		May 01/07
Subject 5-6-2		
Cooling		May 01/07
FIGURE Ground Pneumatic Power Requirements - Cooling		May 01/07
Subject 5-7-0		
Preconditioned Airflow Requirements		May 01/07
FIGURE Preconditioned Airflow Requirements - Preconditioned Airflow Requirements		May 01/07
Subject 5-8-0		
Ground Towing Requirements	R	Jan 01/11
FIGURE Ground Towing Requirements - Ground Towing Requirements		Jan 01/10
FIGURE Ground Towing Requirements - Typical tow bar configuration 1		Jan 01/10
FIGURE Ground Towing Requirements - Typical tow bar configuration 2		Jan 01/10
FIGURE Ground Towing Requirements - Maximum Extension of the NLG Shock Absorber		Jan 01/10
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 - RR TRENT 500 series engine		May 01/07
Subject 6-1-2		
Engine Exhaust Temperatures Contours - Ground Idle Power		May 01/07

CONTENT	CHG CODE	LAST REVISION DATE
FIGURE Engine Exhaust Temperatures - Ground Idle Power - RR TRENT 500 series engine		May 01/07
Subject 6-1-3		
Engine Exhaust Velocities Contours - Breakaway Power		May 01/07
FIGURE Engine Exhaust Velocities - Breakaway Power - RR TRENT 500 series engine		May 01/07
Subject 6-1-4		
Engine Exhaust Temperatures Contours - Breakaway Power		May 01/07
FIGURE Engine Exhaust Temperatures - Breakaway Power - RR TRENT 500 series engine		May 01/07
Subject 6-1-5		
Engine Exhaust Velocities Contours - Takeoff Power		May 01/07
FIGURE Engine Exhaust Velocities - Takeoff Power - RR TRENT 500 series engine		May 01/07
Subject 6-1-6		
Engine Exhaust Temperatures Contours - Takeoff Power		May 01/07
FIGURE Engine Exhaust Temperatures - Takeoff Power - RR TRENT 500 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
FIGURE Airport and Community Noise - RR TRENT 500 series engine		May 01/07
Subject 6-3-0		
Danger Areas of Engines		May 01/07
Subject 6-3-1		
Ground Idle Power		May 01/07
FIGURE Danger Areas of Engines - RR TRENT 500 series engine		May 01/07
Subject 6-3-2		
Breakaway Power		May 01/07

CONTENT	CHG CODE	LAST REVISION DATE
FIGURE Danger Areas of Engines - RR TRENT 500 series engine		May 01/07
Subject 6-3-3		,
Takeoff Power		May 01/07
FIGURE Danger Areas of Engines - RR TRENT 500 series engine		May 01/07
Subject 6-4-0		
APU Exhaust Velocities and Temperatures		May 01/07
Subject 6-4-1		
APU - GARRETT		May 01/07
FIGURE Exhaust Velocities and Temperatures - GARRETT GTCP 331-600 (A)		May 01/07
CHAPTER 7 Subject 7-1-0		
General Information	R	Jan 01/11
Subject 7-2-0	TX.	Jan Oi/II
Landing Gear Footprint	R	Jan 01/11
FIGURE Landing Gear Footprint - MTOW 365 000 kg	R	Jan 01/11
FIGURE Landing Gear Footprint - MTOW 368 000 kg	R	Jan 01/11
FIGURE Landing Gear Footprint - MTOW 365 000 kg	N	Jan 01/11
FIGURE Landing Gear Footprint - MTOW 380 000 kg	N	Jan 01/11
FIGURE Landing Gear Footprint - MTOW 368 000 kg	N	Jan 01/11
FIGURE Landing Gear Footprint - MTOW 372 000 kg	N	Jan 01/11
FIGURE Landing Gear Footprint - MTOW 374 000 kg	N	Jan 01/11
FIGURE Landing Gear Footprint - MTOW 372 000 kg	N	Jan 01/11
FIGURE Landing Gear Footprint - MTOW 380 000 kg	N	Jan 01/11
Subject 7-3-0		,
Maximum Pavement Loads		Jan 01/11
FIGURE Maximum Pavement Loads - Maximum Pavement Loads	R	Jan 01/11
FIGURE Maximum Pavement Loads - Maximum Pavement Loads	R	Jan 01/11
FIGURE Maximum Pavement Loads - Maximum Pavement Loads	R	Jan 01/11

CONTENT	CHG CODE	LAST REVISION DATE
FIGURE Maximum Pavement Loads - Maximum Pavement Loads	R	Jan 01/11
FIGURE Maximum Pavement Loads - Maximum Pavement Loads	N	Jan 01/11
Subject 7-4-0		
Landing Gear Loading on Pavement	R	Jan 01/11
Subject 7-4-1		
Landing Gear Loading on Pavement	R	Jan 01/11
FIGURE Landing Gear Loading on Pavement - MTOW 365 000 kg	R	Jan 01/11
FIGURE Landing Gear Loading on Pavement - MTOW 368 000 kg	R	Jan 01/11
FIGURE Landing Gear Loading on Pavement - MTOW 365 000 kg	N	Jan 01/11
FIGURE Landing Gear Loading on Pavement - MTOW 380 000 kg	R	Jan 01/11
FIGURE Landing Gear Loading on Pavement - MTOW 368 000 kg	R	Jan 01/11
FIGURE Landing Gear Loading on Pavement - MTOW 372 000 kg	R	Jan 01/11
FIGURE Landing Gear Loading on Pavement - MTOW 374 000 kg	N	Jan 01/11
FIGURE Landing Gear Loading on Pavement - MTOW 374 000 kg	N	Jan 01/11
FIGURE Landing Gear Loading on Pavement - MTOW 372 000 kg	R	Jan 01/11
FIGURE Landing Gear Loading on Pavement - MTOW 380 000 kg		Jan 01/11
Subject 7-4-2		
Wing Gear and Center Landing Gear Loading on Pavement		Jan 01/11
Subject 7-4-3		
Wing Gear and Center Landing Gear Loading on Pavement	R	Jan 01/11
FIGURE Wing Gear and Center Landing Gear Loading on Pavement - MTOW 365 000 kg	R	Jan 01/11
FIGURE Wing Gear and Center Landing Gear Loading on Pavement - MTOW 368 000 kg	R	Jan 01/11
FIGURE Wing Gear and Center Landing Gear Loading on Pavement - MTOW 365 000 kg	N	Jan 01/11
FIGURE Wing Gear and Center Landing Gear Loading on Pavement - MTOW 380 000 kg	R	Jan 01/11
FIGURE Wing Gear and Center Landing Gear Loading on Pavement - MTOW 368 0000 kg	R	Jan 01/11

CONTENT	CHG CODE	LAST REVISION DATE
FIGURE Wing Gear and Center Landing Gear Loading on Pavement - MTOW 372 000 kg	R	Jan 01/11
FIGURE Wing Gear and Center Landing Gear Loading on Pavement - MTOW 374 000 kg	N	Jan 01/11
FIGURE Wing Gear and Center Landing Gear Loading on Pavement - MTOW 372 000 kg	N	Jan 01/11
FIGURE Wing Gear and Center Landing Gear Loading on Pavement - MTOW 380 000 kg	R	Jan 01/11
Subject 7-5-0		
Flexible Pavement Requirements - U.S. Army Corps of Engineers Design Method	R	Jan 01/11
Subject 7-5-1		
Flexible Pavement Requirements - U.S. Army Corps of Engineers Design Method	R	Jan 01/11
FIGURE Flexible Pavement Requirements - MTOW 365 000 kg	R	Jan 01/11
FIGURE Flexible Pavement Requirements - MTOW 368 000 kg	R	Jan 01/11
FIGURE Flexible Pavement Requirements - MTOW 365 000 kg	N	Jan 01/11
FIGURE Flexible Pavement Requirements - MTOW 380 000 kg	R	Jan 01/11
FIGURE Flexible Pavement Requirements - MTOW 368 000 kg	R	Jan 01/11
FIGURE Flexible Pavement Requirements - MTOW 372 000 kg	R	Jan 01/11
FIGURE Flexible Pavement Requirements - MTOW 374 000 kg		Jan 01/11
FIGURE Flexible Pavement Requirements - MTOW 372 000 kg	N	Jan 01/11
FIGURE Flexible Pavement Requirements - MTOW 380 000 kg	R	Jan 01/11
Subject 7-6-0		
Flexible Pavement Requirements - LCN Conversion	R	Jan 01/11
Subject 7-6-1		
Flexible Pavement Requirements - LCN Conversion		Jan 01/11
FIGURE Flexible Pavement Requirements - MTOW 365 000 kg	R	Jan 01/11
FIGURE Flexible Pavement Requirements - MTOW 368 000 kg	R	Jan 01/11
FIGURE Flexible Pavement Requirements - MTOW 365 000 kg	N	Jan 01/11
FIGURE Flexible Pavement Requirements - MTOW 380 000 kg	R	Jan 01/11

CONTENT	CHG CODE	LAST REVISION DATE
FIGURE Flexible Pavement Requirements - MTOW 368 000 kg	R	Jan 01/11
FIGURE Flexible Pavement Requirements - MTOW 372 000 kg	R	Jan 01/11
FIGURE Flexible Pavement Requirements - MTOW 374 000 kg	N	Jan 01/11
FIGURE Flexible Pavement Requirements - MTOW 372 000 kg	N	Jan 01/11
FIGURE Flexible Pavement Requirements - MTOW 380 000 kg	R	Jan 01/11
Subject 7-7-0		
Rigid Pavement Requirements - Portland Cement Association Design Method Subject 7-7-1	R	Jan 01/11
Rigid Pavement Requirements - Portland Cement Association Design Method	R	Jan 01/11
FIGURE Rigid Pavement Requirements - MTOW 365 000 kg	R	Jan 01/11
FIGURE Rigid Pavement Requirements - MTOW 368 000 kg	R	Jan 01/11
FIGURE Rigid Pavement Requirements - MTOW 365 000 kg	N	Jan 01/11
FIGURE Rigid Pavement Requirements - MTOW 380 000 kg	R	Jan 01/11
FIGURE Rigid Pavement Requirements - MTOW 368 000 kg	R	Jan 01/11
FIGURE Rigid Pavement Requirements - MTOW 372 000 kg		Jan 01/11
FIGURE Rigid Pavement Requirements - MTOW 374 000 kg		Jan 01/11
FIGURE Rigid Pavement Requirements - MTOW 372 000 kg		Jan 01/11
FIGURE Rigid Pavement Requirements - MTOW 380 000 kg		Jan 01/11
Subject 7-8-0		
Rigid Pavement Requirements - LCN Conversion	R	Jan 01/11
Subject 7-8-1		
Radius of Relative Stiffness		May 01/07
FIGURE Radius of relative stiffness - (Reference : Portland Cement Association)		May 01/07
Subject 7-8-2		
Rigid Pavement Requirements - LCN Conversion		Jan 01/11
FIGURE Rigid Pavement Requirements LCN - MTOW 365 000 kg	R	Jan 01/11
FIGURE Rigid Pavement Requirements LCN - MTOW 368 000 kg	R	Jan 01/11

CONTENT	CHG CODE	LAST REVISION DATE
FIGURE Rigid Pavement Requirements LCN - MTOW 365 000 kg	N	Jan 01/11
FIGURE Rigid Pavement Requirements LCN - MTOW 380 000 kg	R	Jan 01/11
FIGURE Rigid Pavement Requirements LCN - MTOW 368 000 kg	R	Jan 01/11
FIGURE Rigid Pavement Requirements LCN - MTOW 372 000 kg	R	Jan 01/11
FIGURE Rigid Pavement Requirements LCN - MTOW 374 000 kg	N	Jan 01/11
FIGURE Rigid Pavement Requirements LCN - MTOW 372 000 kg	N	Jan 01/11
FIGURE Rigid Pavement Requirements LCN - MTOW 380 000 kg	R	Jan 01/11
Subject 7-8-3		
Radius of Relative Stiffness (Other values of "E" and "L")	R	Jan 01/11
Subject 7-8-4		
Radius of Relative Stiffness		May 01/07
FIGURE Radius of Relative Stiffness - (Effect of "E" and " μ " on "L" values)		May 01/07
Subject 7-9-0		
ACN/PCN Reporting System - Flexible and Rigid Pavements		Jan 01/11
Subject 7-9-1		
Aircraft Classification Number - Flexible Pavement		Jan 01/11
FIGURE Aircraft Classification Number – Flexible Pavement - MTOW 365 000 kg	R	Jan 01/11
FIGURE Aircraft Classification Number – Flexible Pavement - MTOW 368 000 kg	R	Jan 01/11
FIGURE Aircraft Classification Number – Flexible Pavement - MTOW 365 000 kg	N	Jan 01/11
FIGURE Aircraft Classification Number – Flexible Pavement - MTOW 380 000 kg	R	Jan 01/11
FIGURE Aircraft Classification Number – Flexible Pavement - MTOW 368 000 kg	R	Jan 01/11
FIGURE Aircraft Classification Number – Flexible Pavement - MTOW 372 000 kg	R	Jan 01/11
FIGURE Aircraft Classification Number – Flexible Pavement - MTOW 374 000 kg	N	Jan 01/11

CONTENT	CHG CODE	LAST REVISION DATE
FIGURE Aircraft Classification Number – Flexible Pavement - MTOW 372 000 kg	N	Jan 01/11
FIGURE Aircraft Classification Number – Flexible Pavement - MTOW 380 000 kg	R	Jan 01/11
Subject 7-9-2		
Aircraft Classification Number - Rigid Pavement	R	Jan 01/11
FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 365 000 kg	R	Jan 01/11
FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 368 000 kg	R	Jan 01/11
FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 365 000 kg	N	Jan 01/11
FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 380 000 kg	R	Jan 01/11
FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 368 000 kg	R	Jan 01/11
FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 372 000 kg	R	Jan 01/11
FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 374 000 kg	N	Jan 01/11
FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 372 000 kg	N	Jan 01/11
FIGURE Aircraft Classification Number – Rigid Pavement - MTOW 380 000 kg	R	Jan 01/11
CHAPTER 8		
Subject 8-1-0 Respired Future Derivative Airplane		May 01/07
Possible Future Derivative Airplane		May 01/07
CHAPTER 9		
Subject 9-1-0		
Scaled Drawing 1 in. = 50 ft.		May 01/07
FIGURE Scaled Drawing - 1 in. = 50 ft.		May 01/07
FIGURE Scaled Drawing - 1 in. = 50 ft.		May 01/07

CONTENT	CHG	LAST REVISION
	CODE	DATE
FIGURE Scaled Drawing - 1 in. $= 50$ ft.		May 01/07
FIGURE Scaled Drawing - 1 in. $=50$ ft.		May 01/07
Subject 9-2-0		
Scaled Drawing 1 cm. $= 500$ cm.		May 01/07
FIGURE Scaled Drawing - $1 \text{ cm.} = 500 \text{ cm.}$		May 01/07
FIGURE Scaled Drawing - 1 cm. $= 500$ cm.		May 01/07
FIGURE Scaled Drawing - 1 cm. $=$ 500 cm.		May 01/07
FIGURE Scaled Drawing - 1 cm. $=$ 500 cm.		May 01/07

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

TABLE OF CONTENTS

1	SCOPE
1-1-0	Purpose
1-2-0	Introduction
2	AIRPLANE DESCRIPTION
2-1-0	General Airplane Characteristics
2-1-1	General Airplane Characteristics Data
2-2-0	General Airplane Dimensions
2-3-0	Ground Clearances
2-4-0	Interior Arrangements
2-4-1	Typical Configuration
2-5-0	Passenger Compartment Cross Section
2-6-0	Cargo Compartments
2-6-1	Lower Deck Cargo Compartments (Loading combinations)
2-7-0	Door Clearances
2-7-1	Forward Passenger / Crew Doors
2-7-2	Mid Passenger / Crew Doors
2-7-3	Emergency Exits
2-7-4	Aft Passenger / Crew Doors
2-7-5	Forward Cargo Compartment Doors
2-7-6	Aft Cargo Compartment Doors
2-7-7	Bulk Cargo Compartment Doors
2-7-8	Main and Center Landing Gear Doors
2-7-9	Radome
2-7-10	APU and Nose Landing Gear Doors
3	AIRPLANE PERFORMANCE
3-1-0	General Information
3-2-0	Payload / Range
3-2-1	ISA Conditions
3-3-0	FAR / JAR Takeoff Weight Limitation
3-3-1	ISA Conditions
3-3-2	ISA $+15^{\circ}$ C (ISA $+27^{\circ}$ F) Conditions
3-4-0	FAR / JAR Landing Field Length
3-4-1	ISA Conditions All series engines

3-5-0	Final Approach Speed
3-5-1	Final Approach Speed
4	GROUND MANEUVERING
4-1-0	General Information
4-2-0	Turning Radii
4-3-0	Minimum Turning Radii
4-4-0	Visibility from Cockpit in Static Position
4-5-0	Runway and Taxiway Turn Paths
4-5-1	135° Turn - Runway to Taxiway
4-5-2	90° Turn - Runway to Taxiway
4-5-3	180° Turn on a Runway
4-5-4	135° Turn - Taxiway to Taxiway
4-5-5	90° Turn - Taxiway to Taxiway
4-6-0	Runway Holding Bay (Apron)
4-7-0	Airplane Parking
5	TERMINAL SERVICING
5-0-0	TERMINAL SERVICING
5-1-0	Airplane Servicing Arrangements
5-1-1	Symbols Used on Servicing Diagrams
5-1-2	Loading (Open Apron)
5-1-3	Loading (Passenger Bridge)
5-2-0	Terminal Operations - Full Servicing Turn Round Charts
5-2-1	Full Servicing Turn Round Charts
5-3-0	Terminal Operations - Transit Turn Round Charts
5-3-1	Transit Turn Round Charts
5-4-0	Ground Service Connections
5-4-1	Ground Service Connections Layout
5-4-2	Grounding Points
5-4-3	Hydraulic System
5-4-4	Electrical System
5-4-5	Oxygen System
5-4-6	Fuel System
5-4-7	Pneumatic System
5-4-8	Potable Water System
5-4-9	Oil System
5-4-10	Vacuum Toilet System

5-5-0	Engine Starting Pneumatic Requirements
5-5-1	Low Temperatures
5-5-2	Ambient Temperatures
5-5-3	High Temperatures
5-6-0	Ground Pneumatic Power Requirements
5-6-1	Heating
5-6-2	Cooling
5-7-0	Preconditioned Airflow Requirements
5-8-0	Ground Towing Requirements
6	OPERATING CONDITIONS
6-1-0	Engine Exhaust Velocities and Temperatures
6-1-1	Engine Exhaust Velocities Contours - Ground Idle Power
6-1-2	Engine Exhaust Temperatures Contours - Ground Idle Power
6-1-3	Engine Exhaust Velocities Contours - Breakaway Power
6-1-4	Engine Exhaust Temperatures Contours - Breakaway Power
6-1-5	Engine Exhaust Velocities Contours - Takeoff Power
6-1-6	Engine Exhaust Temperatures Contours - Takeoff Power
6-2-0	Airport and Community Noise
6-2-1	Noise Data
6-3-0	Danger Areas of Engines
6-3-1	Ground Idle Power
6-3-2	Breakaway Power
6-3-3	Takeoff Power
6-4-0	APU Exhaust Velocities and Temperatures
6-4-1	APU
7	PAVEMENT DATA
7-1-0	General Information
7-2-0	Landing Gear Footprint
7-3-0	Maximum Pavement Loads
7-4-0	Landing Gear Loading on Pavement
7-4-1	Landing Gear Loading on Pavement
7-4-2	Wing Gear and Center Landing Gear Loading on Pavement
7-4-3	Wing Gear and Center Landing Gear Loading on Pavement
7-5-0	Flexible Pavement Requirements - U.S. Army Corps of Engineers Design Method
7-5-1	Flexible Pavement Requirements - U.S. Army Corps of Engineers Design Method S-77-1
7-6-0	Flexible Pavement Requirements - LCN Conversion

Flexible Pavement Requirements - LCN Conversion
Rigid Pavement Requirements - Portland Cement Association Design Method
Rigid Pavement Requirements - Portland Cement Association Design Method
Rigid Pavement Requirements - LCN Conversion
Radius of Relative Stiffness
Rigid Pavement Requirements - LCN Conversion
Radius of Relative Stiffness (Other values of E and L)
Radius of Relative Stiffness
ACN/PCN Reporting System - Flexible and Rigid Pavements
Aircraft Classification Number - Flexible Pavement
Aircraft Classification Number - Rigid Pavement
DERIVATIVE AIRPLANES
Possible Future Derivative Airplane
SCALED DRAWINGS
Scaled Drawing 1 in. $= 500$ ft.
Scaled Drawing 1 cm. $= 500$ cm.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

SCOPE

1-1-0 Purpose

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

Purpose

1. General

The A340-500/-600 AIRPLANE CHARACTERISTICS (AC) manual is issued for the A340-500, A340-600 basic versions to provide the necessary data needed by airport operators and airlines for the planning of airport facilities.

This document conforms to NAS 3601.

CORRESPONDENCE

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AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

1-2-0 Introduction

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

Introduction

1. General

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

Chapter 1 : SCOPE

Chapter 2: AIRPLANE DESCRIPTION

This chapter contains general dimensional and other basic aircraft data.

It covers:

- aircraft dimensions and ground clearances,
- passenger and cargo compartments arrangement.

Chapter 3: AIRPLANE PERFORMANCE

This chapter indicates the aircraft performance.

It covers:

- payload range,
- takeoff and landing runway requirements,
- landing approach speed.

Chapter 4: GROUND MANEUVERING

This chapter provides the aircraft turning capability and maneuvering characteristics on the ground.

It includes:

- turning radii and visibility from the cockpit,
- runway and taxiway turn path.

Chapter 5: TERMINAL SERVICING

This chapter provides information for the arrangement of ground handling and servicing equipment.

It covers:

- location and connections of ground servicing equipment,

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

- engines starting pneumatic and preconditioned airflow requirements.

Chapter 6: OPERATING CONDITIONS

This chapter contains data and safety/environmental precautions related to engine and APU operation on the ground.

It covers:

- contour size and shape of the jet engine exhaust velocities and temperatures,
- noise data.

Chapter 7: PAVEMENT DATA

This chapter contains the pavement data helpful for airport planning.

It gives:

- landing gear foot print and static load,
- charts for flexible pavements with Load Classification Number (LCN),
- charts for rigid pavements with LCN,
- Aircraft Classification Number (ACN), Pavement Classification Number (PCN), reporting system for flexible and rigid pavements.

Chapter 8 : DERIVATIVE AIRPLANES

This chapter gives relevant data of possible new version with the associated size change.

Chapter 9 : SCALED DRAWINGS

This chapter contains different airplane scaled drawings.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

AIRPLANE DESCRIPTION

2-1-0 General Airplane Characteristics

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

General Airplane Characteristics

1. General Airplane Characteristics

The weight terms used throughout this manual are given below together with their respective definitions.

Maximum Taxi Weight (MTW):

Maximum weight for ground maneuver as limited by aircraft strength and airworthiness requirements. (It includes weight of run-up and taxi fuel). It is also called Maximum Ramp Weight (MRW).

Maximum Landing Weight (MLW):

Maximum weight for landing as limited by aircraft strength and airworthiness requirements.

Maximum Takeoff Weight (MTOW):

Maximum weight for takeoff as limited by aircraft strength and airworthiness requirements. (This is the maximum weight at start of the takeoff run).

Maximum Zero Fuel Weight (MZFW):

Maximum operational weight of the aircraft without usable fuel.

Operational Empty Weight (OEW):

Weight of structure, powerplant, furnishings, systems, and other items of equipment that are an integral part of a particular aircraft configuration plus the operator's items. The operator's items are the flight and cabin crew and their baggage, unusable fuel, engine oil, emergency equipment, toilet chemical and fluids, galley structure, catering equipment, passenger seats and life vests, documents, etc.

Maximum Payload:

Maximum Zero Fuel Weight (MZFW) minus Operational Empty Weight (OEW).

Maximum Seating Capacity:

Maximum number of passengers specifically certified or anticipated for certification.

Maximum Cargo Volume:

Maximum usable volume available for cargo.

Usable Fuel:

Fuel available for aircraft propulsion.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

2-1-1 General Airplane Characteristics Data

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

General Airplane Characteristics Data

**ON A/C A340-600WV0xx

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

Aircraft Characteristics						
	WV000	WV001				
Maximum Taxi Weight (MTW) Maximum Ramp Weight (MRW)	366 200 kg (807 333 lb)	369 200 kg (813 946 lb)				
Maximum Takeoff Weight (MTOW)	365 000 kg (804 687 lb)	368 000 kg (811 301 lb)				
Maximum Landing Weight (MLW)	256 000 kg (564 383 lb)	259 000 kg (570 997 lb)				
Maximum Zero Fuel Weight (MZFW)	242 000 kg (533 519 lb)	245 000 kg (540 132 lb)				
Estimated Operational Empty Weight (OEW)	With Trent 500 Engines : 176 364 kg (388 816 lb)					
Estimated Maximum Payload RR Trent 500	65 636 kg (144 703 lb)	68 636 kg (151 316 lb)				
Usable Fuel Capacity	195 010 l (51 516 US gal)					
(density = 0.785 kg/I)	153 082 kg (337 488 lb)					

**ON A/C A340-600WV1xx

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

Aircraft Characteristics						
WV101 WV102 WV103						
Maximum Taxi Weight (MTW)	381 200 kg	369 200 kg	366 200 kg			
Maximum Ramp Weight (MRW)	(840 402 lb)	(813 946 lb)	(807 333 lb)			
Maximum Takeoff Weight (MTOW)	380 000 kg	368 000 kg	365 000 kg			
	(837 756 lb)	(811 301 lb)	(804 687 lb)			
Maximum Landing Weight (MLW)	265 000 kg	259 000 kg	265 000 kg			
	(584 225 lb)	(570 997 lb)	(584 225 lb)			

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

Aircraft Characteristics						
	WV101	WV102	WV103			
Maximum Zero Fuel Weight (MZFW)	251 000 kg (553 360 lb)	S				
Estimated Operational Empty Weight (OEW)	With Trent 500 Engines :176 364 kg (388 816 lb)					
Estimated Maximum Payload RR Trent 500	74 636 kg (164 544 lb) (88 636 kg (164 544 lb) (164 544 lb)					
Usable Fuel Capacity	198 139 (1) - 208 939 (2) (52 343 US gal (1) - 55 196 US gal (2))					
(density = 0.785 kg/I)	155 539 kg (1) - 164 017 kg (2) (342 905 lb (1) - 361 595 lb (2))					

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

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

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

	Aircraft Characteristics					
Standard Seating Capacity	384					
Pressurized Fuselage Volume (A/C non equipped)	1 305 m³ (46 086 ft³)					
Passenger Compartment Volume	557 m³ (19 670 ft³)					
Cockpit Volume	12 m³ (424 ft³)					
Usable Volume, FWD CC (Based on LD3)	107.3 m³ (3 792 ft³)					
Usable Volume, AFT CC (Based on LD3)	80.5 m³ (2 844 ft³)					
Usable Volume, Bulk CC	19.7 m³ (695 ft³)					
Water Volume, FWD CC	143 m³ (5 050,6 ft³)					
Water Volume, AFT CC	102.3 m³ 3 612,ft³)					

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

Aircraft Characteristics					
Water Volume, Bulk CC	22.7 m³ (802 ft³)				

**ON A/C A340-500WV0xx

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

Aircraft Characteristics						
WV000 WV001 WV002 WV003						
Maximum Taxi Weight (MTW) Maximum Ramp Weight (MRW)	369 200 kg (813 946 lb)	373 200 kg (822 765 lb)	373 200 kg (822 765 lb)	375 200 kg (827 174 lb)	375 200 kg (827 174 lb)	
Maximum Takeoff Weight (MTOW)	368 000 kg (811 301 lb)	372 000 kg (820 119 lb)	372 000 kg (820 119 lb)	374 000 kg (824 529 lb)	374 000 kg (824 529 lb)	
Maximum Landing Weight (MLW)	240 000 kg (529 109 lb)			231 000 kg (509 268 lb)	243 000 kg (535 723 lb)	
Maximum Zero Fuel Weight (MZFW)	225 000 kg 230 000 kg 229 000 kg 218 000 kg (496 040 lb) (507 063 lb) (504 858 lb) (480 608 lb)				218 000 kg (480 608 lb)	
Estimated Operational Empty Weight (OEW)	With Trent 500 Engines :170 570 kg (376 042 lb)					
Estimated Maximum Payload RR Trent 500				7 430 kg 94 565 lb)		
Usable Fuel Capacity	214 808 215 108 * - 223 (56 746 US (56 826 US gal * gal) US gal **		ıl * - 58 931 (56 550 US gal * - 5		gal * - 58 656	
(density = 0.785 kg/l)	214 808 I (56 746 US gal)	168 859 kg * - 175 116 kg ** (372 270 lb * - 386 065 lb **)		**		

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500WV1xx

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

Aircraft Characteristics						
	WV101 WV102 WV103					
Maximum Taxi Weight (MTW) Maximum Ramp Weight (MRW)	381 200 kg	373 200 kg	373 200 kg			
	(840 402 lb)	(822 765 lb)	(822 765 lb)			
Maximum Takeoff Weight (MTOW)	380 000 kg	372 000 kg	372 000 kg			
	(837 756 lb)	(820 119 lb)	(820 119 lb)			
Maximum Landing Weight (MLW)	246 000 kg	243 000 kg	246 000 kg			
	(542 337 lb)	(535 723 lb)	(542 337 lb)			
Maximum Zero Fuel Weight (MZFW)	232 000 kg	230 000 kg	232 000 kg			
	(511 472 lb)	(507 063 lb)	(511 472 lb)			
Estimated Operational Empty Weight (OEW)	With Trent 500 Engines :170 570 kg (376 042 lb)					
Estimated Maximum Payload RR Trent 500	61 430 kg	59 430 kg	61 430 kg			
	(132 429 lb)	(131 020 lb)	(135 429 lb)			
Usable Fuel Capacity	214 066 * - 222 036 ** (56 550 US gal * - 58 656 US gal **)	216 622 * - 223 210 ** (57 225 US gal * - 58 966 US gal **)				
$(density = 0.785 \; kg/I)$	168 041 kg * - 174 298 kg ** (370 467 lb * - 384 261 lb **)	170 048 kg * - (374 892 lb * -	•			

^{* (}Production model) RCT = 5 frames

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

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

Aircraft Characteristics					
Standard Seating Capacity 313					
Pressurized Fuselage Volume	1 120 m³				
(A/C non equipped)	(39 552 ft³)				

^{** (}Optional model) RCT = 7 frames

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

	Aircraft Characteristics					
Passenger Compartment Volume	490 m³ (17 304 ft³)					
Cockpit Volume	12 m³ (424 ft³)					
Usable Volume, FWD CC (Based on LD3)	80.5 m³ (2 844 ft³)					
Usable Volume, AFT CC (Based on LD3)	53.6 m³ (1 896 ft³)					
Usable Volume, Bulk CC	19.7 m ³ (695 ft ³)					
Water Volume, FWD CC	107.1 m³ (3 782 ft³)					
Water Volume, FWD CC	73.9 m³ (2 610 ft³)					
Water Volume, FWD CC	22.7 m³ (802 ft³)					

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

2-2-0 General Airplane Dimensions

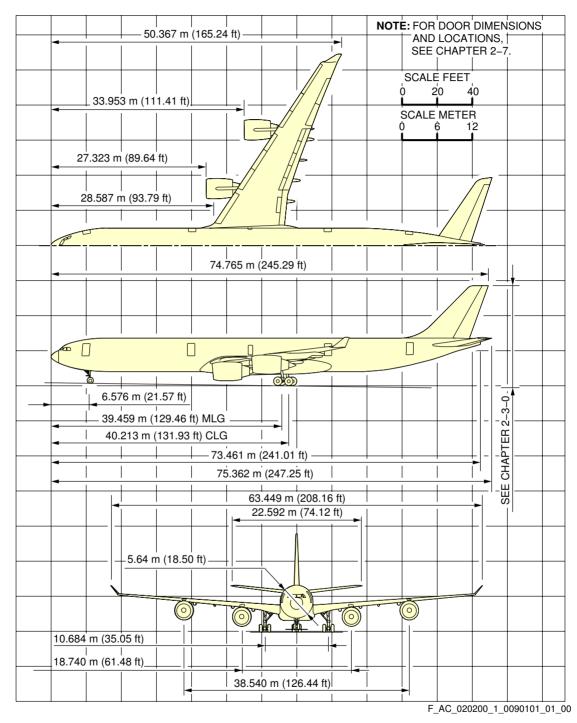
**ON A/C A340-500 A340-600

General Airplane Dimensions

1. This section provides General Airplane Dimensions.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

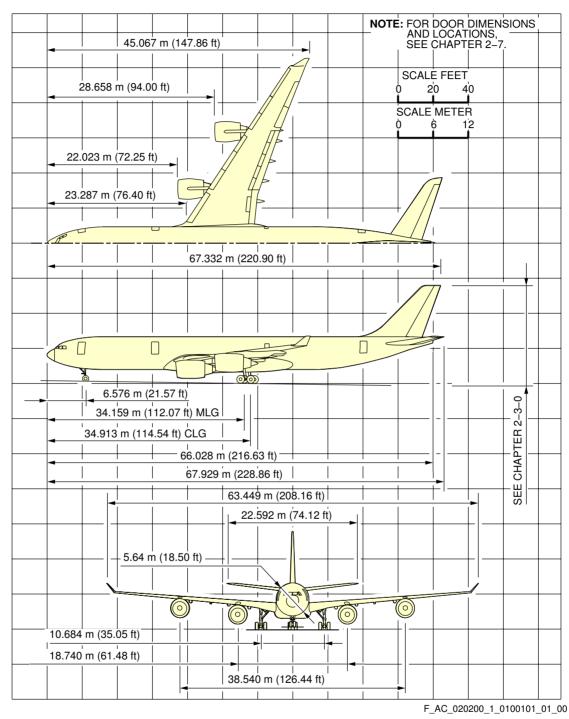
**ON A/C A340-600



General Airplane Dimensions FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500



General Airplane Dimensions FIGURE 2

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

2-3-0 Ground Clearances

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

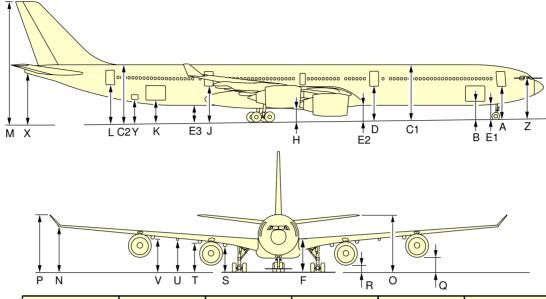
Ground Clearances

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

Dimensions in the tables are approximate and will vary with tire type and conditions.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600



A/C CONFIGURATION			VE CG	354 CG:	354.6t CG: 16%		TW D CG	350t CG: 38%		AIRCRAFT ON JACKS*	
CONTIGORA	TION	m	ft	m	ft	m	ft	m	ft	m	ft
	Α	4.78	15.67	4.53	14.88	4.60	15.08	4.73	15.53	7.03	23.07
	В	2.88	9.46	2.65	8.69	2.70	8.86	2.82	9.27	5.09	16.71
FR 37.9	C1	7.99	26.22	7.79	25.55	7.81	25.61	7.87	25.83	10.02	32.87
FR 74	C2	8.47	27.77	8.35	27.38	8.27	27.12	8.19	26.86	10.02	32.87
	D	5.00	16.41	4.80	15.75	4.82	15.81	4.88	16.03	7.03	23.07
FR 23	E1	2.17	7.12	1.94	6.36	1.99	6.53	2.11	6.93	4.38	14.37
FR 37.9	E2	2.35	7.71	2.15	7.05	2.17	7.11	2.23	7.33	4.38	14.37
FR 56.4	E3	2.66	8.72	2.51	8.24	2.47	8.09	2.44	7.99	4.38	14.37
	F	4.64	15.23	4.46	14.65	4.45	14.61	4.48	14.70	6.54	21.47
FR 40.4	Н	1.85	6.07	1.67	5.47	1.66	5.46	1.70	5.57	3.78	12.40
	J	5.31	17.42	5.16	16.94	5.12	16.79	5.09	16.69	7.03	23.07
	K	3.50	11.49	3.37	11.05	3.31	10.84	3.25	10.66	5.14	16.86
	L	5.69	18.68	5.58	18.29	5.50	18.03	5.42	17.77	7.25	23.78
	М	17.93	58.84	17.84	58.54	17.73	58.17	17.60	57.74	19.32	63.39
	Ν	6.15	20.18	6.00	19.69	5.96	19.55	5.93	19.46	7.88	25.87
	0	8.60	28.21	8.51	27.92	8.39	27.54	8.26	27.10	9.98	32.74
	Р	7.76	25.45	7.61	24.97	7.56	24.81	7.53	24.70	9.46	31.04
	Q	1.75	5.75	1.58	5.17	1.56	5.12	1.58	5.18	3.62	11.89
	R	0.71	2.32	0.52	1.70	0.52	1.71	0.56	1.85	2.66	8.73
	S	3.84	12.60	3.68	12.06	3.65	11.97	3.65	11.97	5.65	18.54
	Т	4.31	14.16	4.15	13.61	4.12	13.53	4.13	13.54	6.14	20.15
	U	4.36	14.30	4.19	13.75	4.17	13.67	4.17	13.69	6.18	20.29
	V	4.77	15.65	4.61	15.13	4.58	15.01	4.56	14.97	6.54	21.44
FR 99	Χ	7.25	23.78	7.15	23.47	7.04	23.11	6.92	22.71	8.66	28.41
	Υ	3.59	11.79	3.47	11.37	3.40	11.14	3.33	10.92	5.19	17.03
	Z	5.90	19.35	5.65	18.54	5.72	18.77	5.87	19.27	8.20	26.90

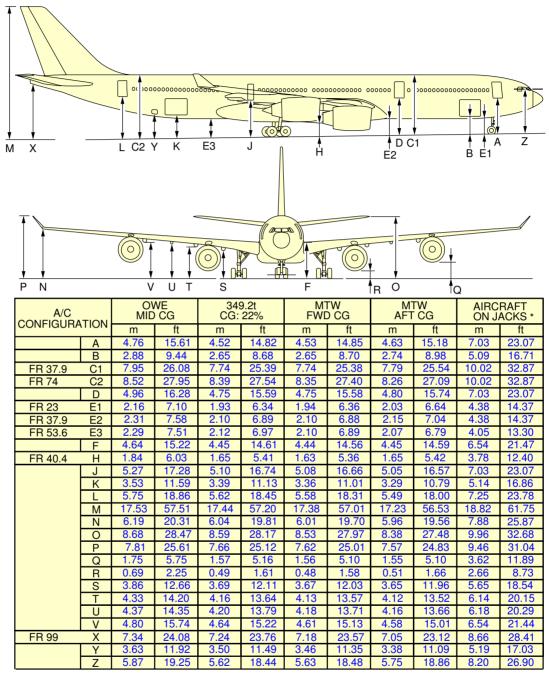
 $^{^{\}star}$ NOTE: THESE FIGURES WILL GIVE AN AIRCRAFT FUSELAGE DATUM (FD) AT 7200 MM.

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Ground Clearances FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500



^{*} NOTE: THESE FIGURES WILL GIVE AN AIRCRAFT FUSELAGE DATUM (FD) AT 7200 MM.

F_AC_020300_1_0130101_01_00

Ground Clearances FIGURE 2

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

2-4-0 Interior Arrangements

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

Interior Arrangements

1. This section gives the standard interior arrangements configuration.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

2-4-1 Typical Configuration

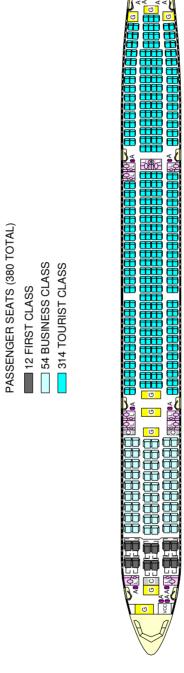
**ON A/C A340-500 A340-600

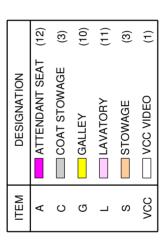
Typical Configuration

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600





Typical Configuration FIGURE 1

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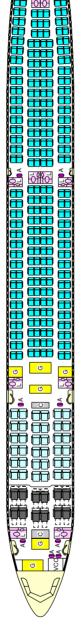
AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500

PASSENGER SEATS (313 TOTAL)

12 FIRST CLASS

36 BUSINESS CLASS 265 TOURIST CLASS



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Typical Configuration FIGURE 2

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

2-5-0 Passenger Compartment Cross Section

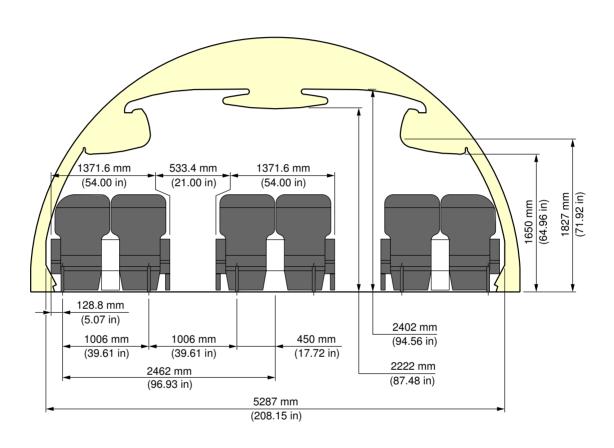
**ON A/C A340-500 A340-600

Passenger Compartment Cross-section

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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

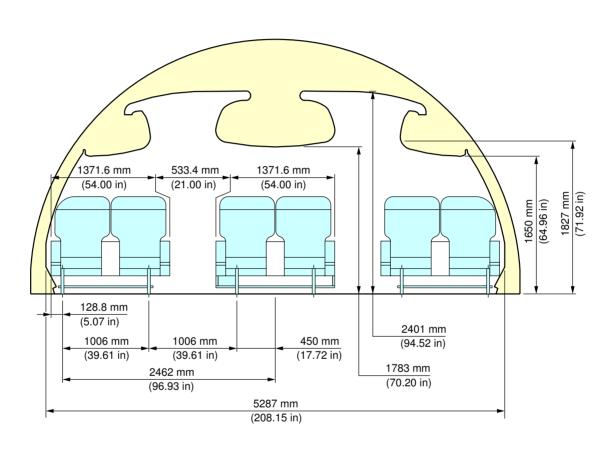


F_AC_020500_1_0030101_01_00

Passenger Compartment Cross-section FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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

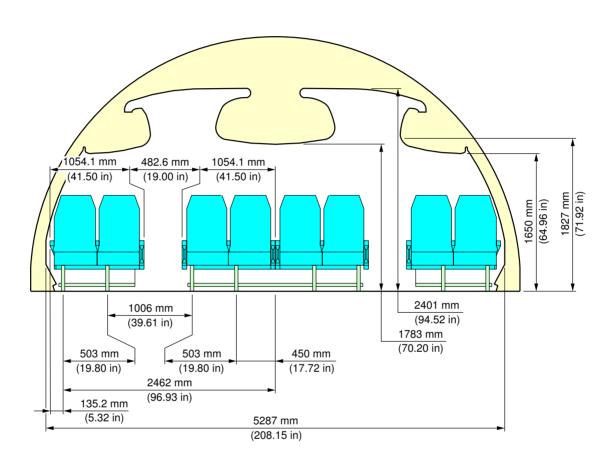


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Passenger Compartment Cross-section FIGURE 2

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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



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Passenger Compartment Cross-section FIGURE 3

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

2-6-0 Cargo Compartments

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

Cargo Compartment

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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

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

Lower Deck Cargo Compartments

**ON A/C A340-600

1. This table gives cargo compartments loading combinations.

Cargo Compartment	Palletized volume - 600	Containerized volume - 600			
Forward Door size (h $ imes$ w)	3256 ft³ (92.200 m³)	3792 ft³ (107.377 m³)			
66.89 in (1.699 m) × 106.34 in (2.701 m)	based on 96 in $ imes$ 125 in pallets loaded to height of 64 in (1.626 m)	based on LD3 (IATA E NAS 3610-2K2C) container volume			
Aft Door size $(h \times w)$	2442 ft³ (69.150 m³)	2844 ft³ (80.533 m³)			
66.3 in (1.684 m) × 107.1 in (2.720 m)	based on 96 in $ imes$ 125 in pallets loaded to height of 64 in (1.626 m)	based on LD3 (IATA E NAS 3610-2K2C) container volume			
Bulk Door size (h \times w) 37.4 in (0.950 m) \times 37.4 in (0.950 m)	695 ft ³ (19.680 m ³)				

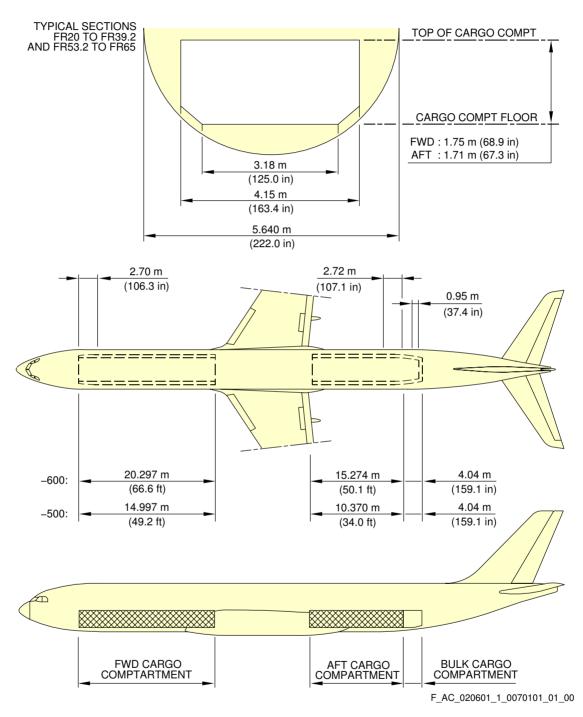
**ON A/C A340-500

2. This table gives cargo compartments loading combinations.

Cargo Compartment	Palletized volume - 500	Containerized volume - 500		
Forward Door size (h \times w)	2442 ft³ (69.150 m³)	2844 ft³ (80.533 m³)		
66.89 in (1.699 m) × 106.34 in (2.701 m)	based on 96 in $ imes$ 125 in pallets loaded to height of 64 in (1.626 m)	based on LD3 (IATA E NAS 3610-2K2C) container volume		
Aft Door size $(h \times w)$	1628 ft³ (46.100 m³)	1896 ft³ (53.689 m³)		
66.3 in (1.684 m) × 107.1 in (2.720 m)	based on 96 in \times 125 in pallets based on LD3 (IATA loaded to height of 64 in (1.626 m) based on LD3 (IATA 3610-2K2C) container			
Bulk Door size (h \times w)				
37.4 in (0.950 m) x 37.4 in (0.950 m)	0 695 ft³ (19.680 m³)			

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

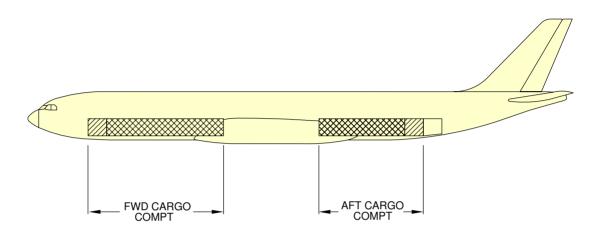
**ON A/C A340-500 A340-600



Lower Deck Cargo Compartments FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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



CARGO FLEXIBILITY-LOADING COMBINATIONS

TYPICAL LOADING COMBINATIONS-STANDARD AIRCRAFT	A340-500		A340-600	
	FWD	AFT	FWD	AFT
-HALF-SIZE CONTAINERS NAS 3610-2K2C AS PER IATA CONTOUR E OR 60.4 in X 61.5 in PALLETS NAS 3610-2K3P LIMITED TO MAX GROSS WEIGHT 3500 lb (1587kg) EACH	18	12	24	18
-HALF-SIZE CONTAINERS NAS 3610-2K2C AS PER IATA CONTOUR C LIMITED TO MAX GROSS WEIGHT 3500 lb (1587kg) EACH	9	6	12	9
-FULL-SIZE CONTAINERS NAS 3610-2L2C AS PER IATA CONTOUR F OR 60.4 in X 61.5 in PALLETS NAS 3610-2K3P,2L4P LIMITED TO MAX GROSS WIGHT 3500 lb (3174kg) EACH	9	6	12	9
-96 in X 125 in PALLETS NAS 3610-2MIP,2P,3P LIMITED TO MAX GROSS WEIGHT 10200 lb (4626kg) EACH (WITH POTENTIAL FOR EXTENSION TO 11250 lb (5103 kg)	6	4	8	6

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Loading Combinations FIGURE 2

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

2-7-0 Door Clearances

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

Doors Clearances

1. This section gives doors clearances.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

2-7-1 Forward Passenger / Crew Doors

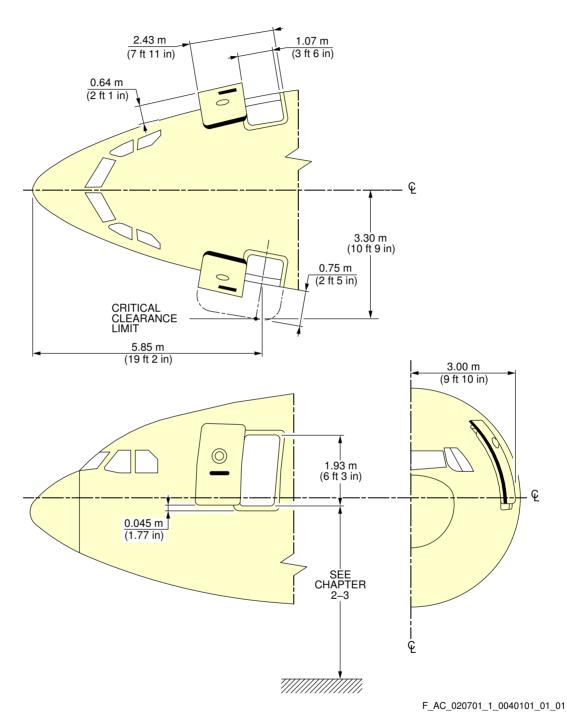
**ON A/C A340-500 A340-600

Forward Passenger / Crew Door

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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



Forward Passenger / Crew Doors FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

2-7-2 Mid Passenger / Crew Doors

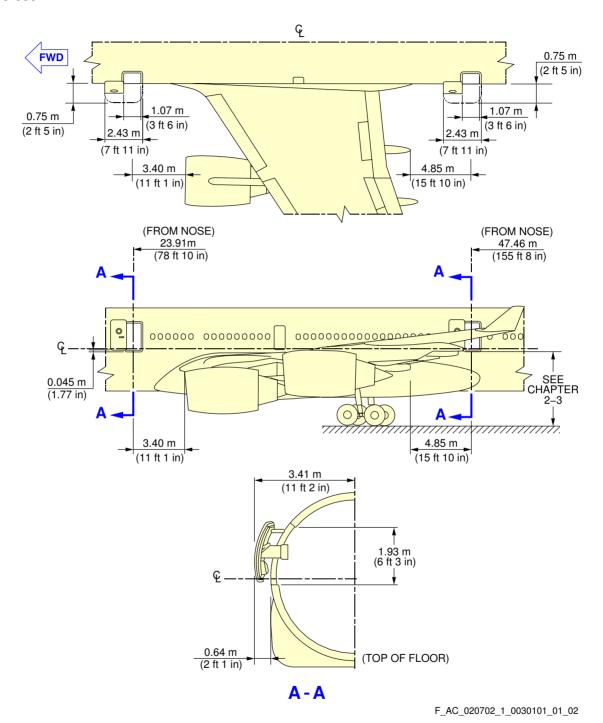
**ON A/C A340-500 A340-600

Mid Passenger / Crew Door

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

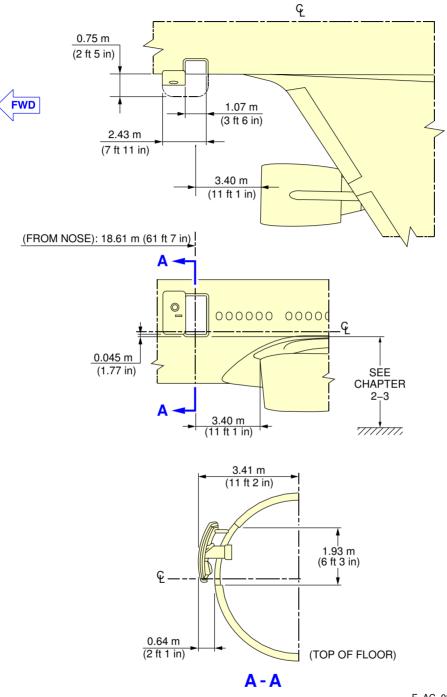
**ON A/C A340-600



Mid Passenger / Crew Door FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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



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Mid Passenger / Crew Door FIGURE 2

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

2-7-3 Emergency Exits

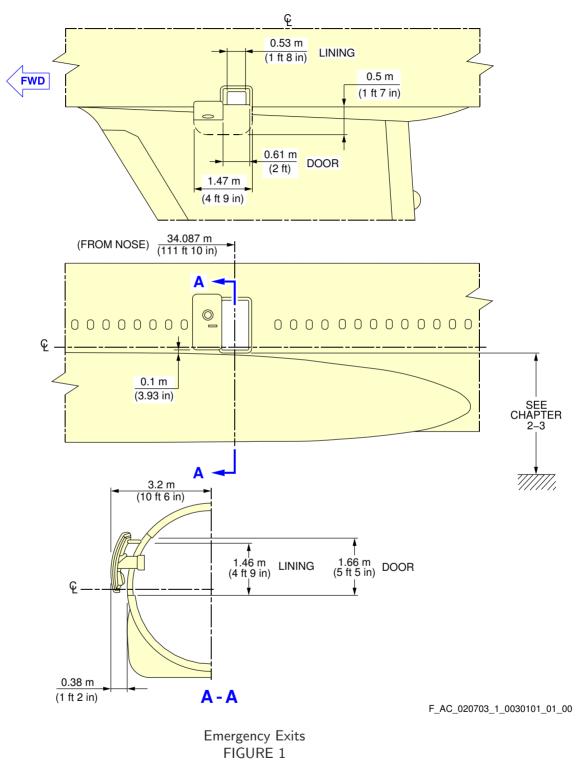
**ON A/C A340-500 A340-600

Emergency Exits

1. This section gives emergency exits doors clearances.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

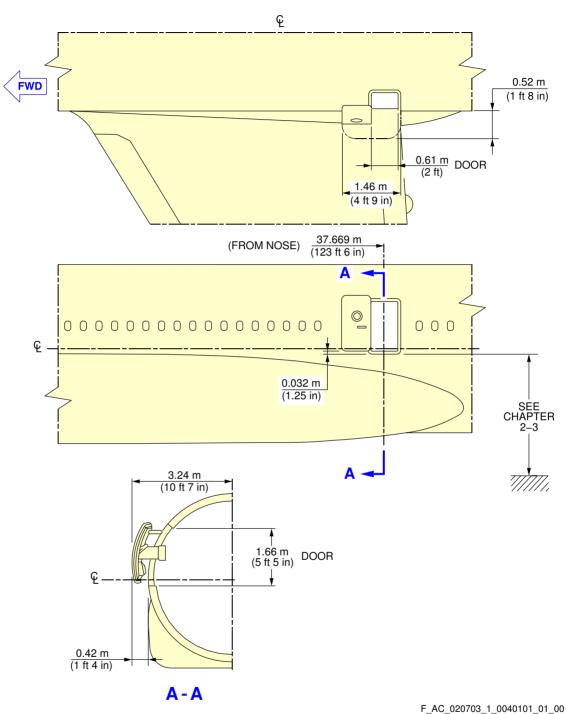
**ON A/C A340-600



Page 2 Jan 01/11

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500



Emergency Exits FIGURE 2

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

2-7-4 Aft Passenger / Crew Doors

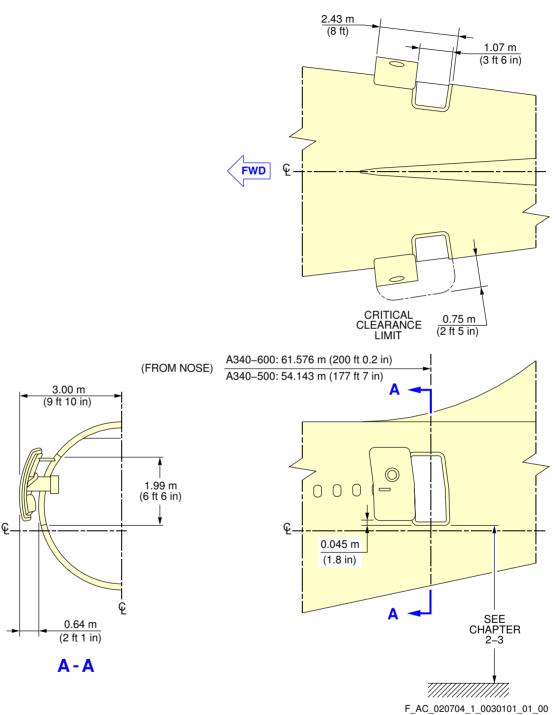
**ON A/C A340-500 A340-600

Aft Passenger / Crew Doors

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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



 $\begin{array}{c} \text{Aft Passenger} \ / \ \text{Crew Doors} \\ \text{FIGURE 1} \end{array}$

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

2-7-5 Forward Cargo Compartment Doors

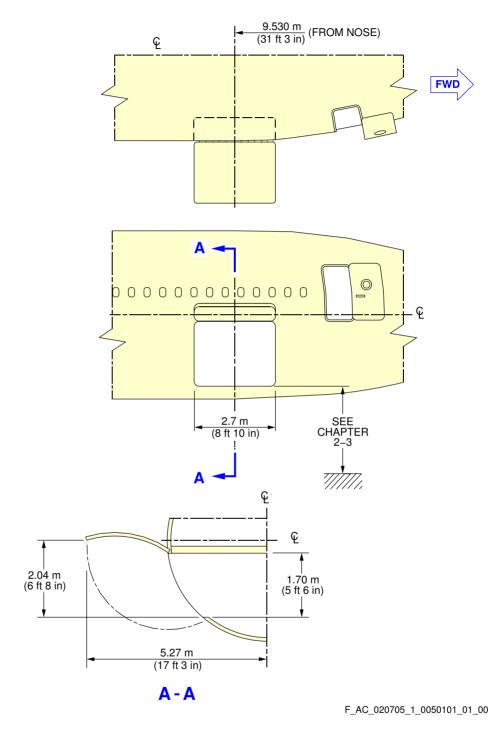
**ON A/C A340-500 A340-600

Forward Cargo Compartment Doors

1. This section gives forward cargo compartment doors clearances.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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



Forward Cargo Compartment Doors FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

2-7-6 Aft Cargo Compartment Doors

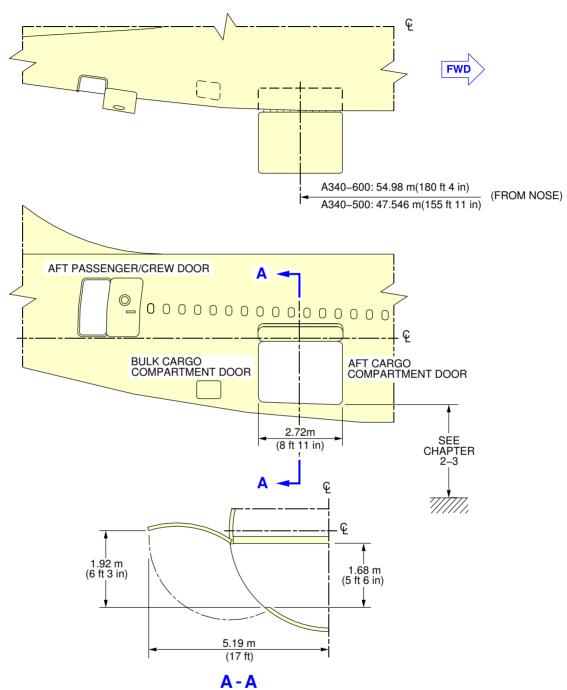
**ON A/C A340-500 A340-600

Aft Cargo Compartment Doors

1. This section gives Aft cargo compartment doors clearances.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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



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Aft Cargo Compartment Doors FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

2-7-7 Bulk Cargo Compartment Doors

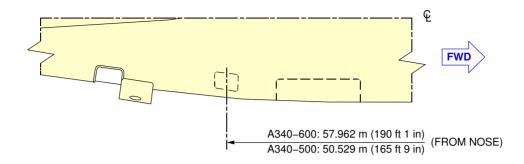
**ON A/C A340-500 A340-600

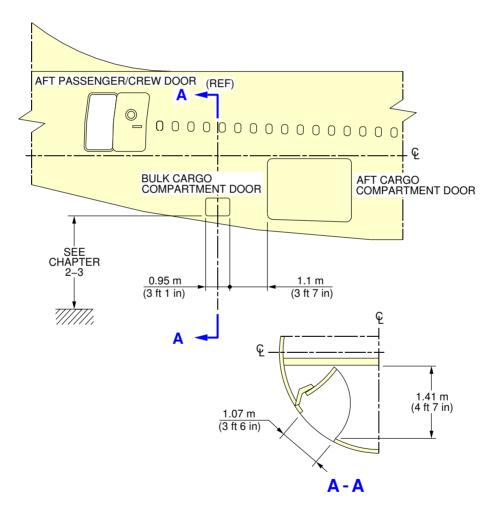
Bulk Cargo Compartment Doors

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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





F_AC_020707_1_0040101_01_00

Bulk Cargo Compartment Doors FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

2-7-8 Main and Center Landing Gear Doors

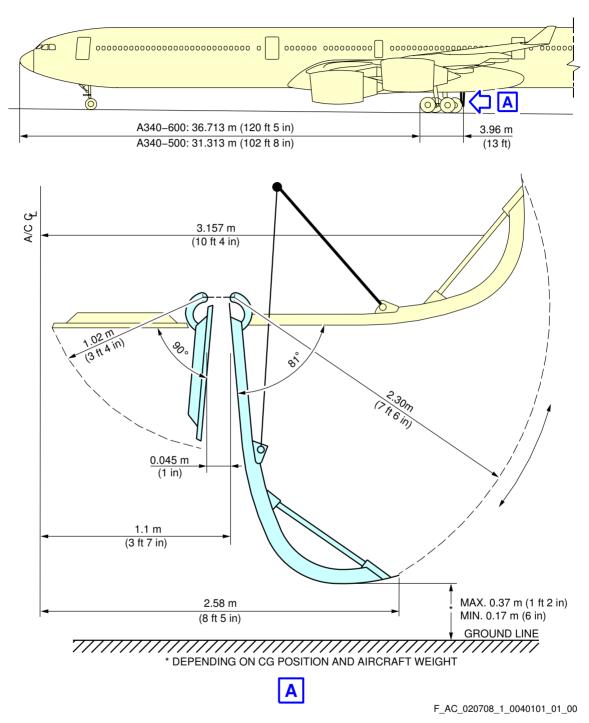
**ON A/C A340-500 A340-600

Main Landing Gear Doors

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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



Main and Center Landing Gear Doors FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

2-7-9 Radome

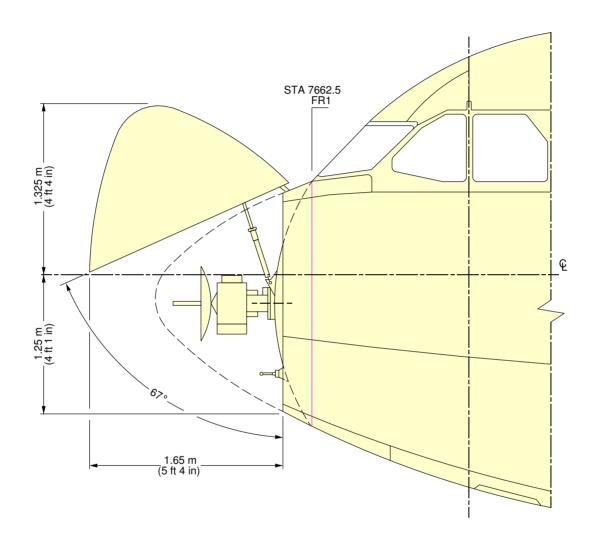
**ON A/C A340-500 A340-600

<u>Radome</u>

1. This section gives the radome clearances.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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



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Radome FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

2-7-10 APU and Nose Landing Gear Doors

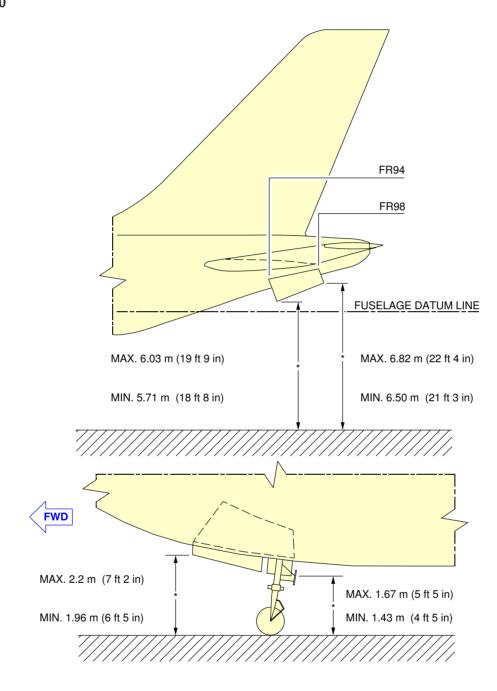
**ON A/C A340-500 A340-600

APU and Nose Landing Gear Doors

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600



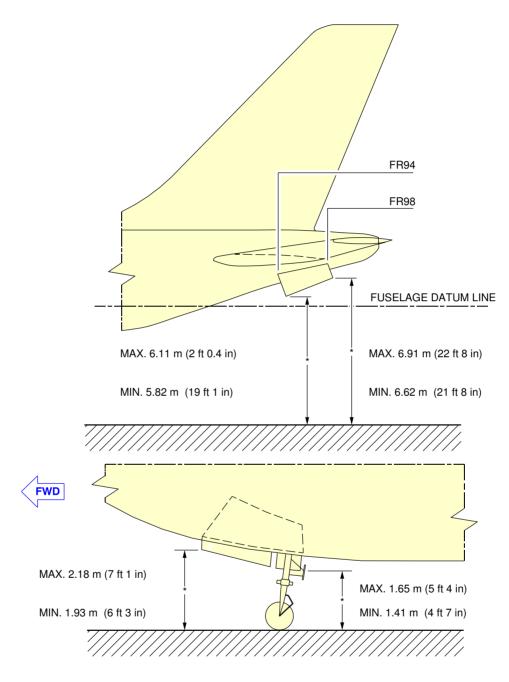
* DEPENDING ON CG POSITION AND AIRCRAFT WEIGHT

F_AC_020710_1_0050101_01_00

APU and Nose Landing Gear Doors FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500



* DEPENDING ON CG POSITION AND AIRCRAFT WEIGHT

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APU and Nose Landing Gear Doors FIGURE 2

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

AIRPLANE PERFORMANCE

3-1-0 General Information

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

General Information

1. This section gives standard day temperatures.

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

Section 3-3 represents FAR takeoff runway length requirements at ISA and ISA $+15\,^{\circ}$ C ($+27\,^{\circ}$ F) for RB 211 TRENT 500 series engine conditions for FAA certification.

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

Section 3-5 indicates final approach speeds.

Standard day temperatures for the altitude shown are tabulated below:

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

3-2-0 Payload / Range

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

Payload / Range

1. Payload / Range

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

3-2-1 ISA Conditions

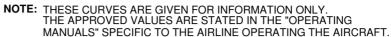
**ON A/C A340-500 A340-600

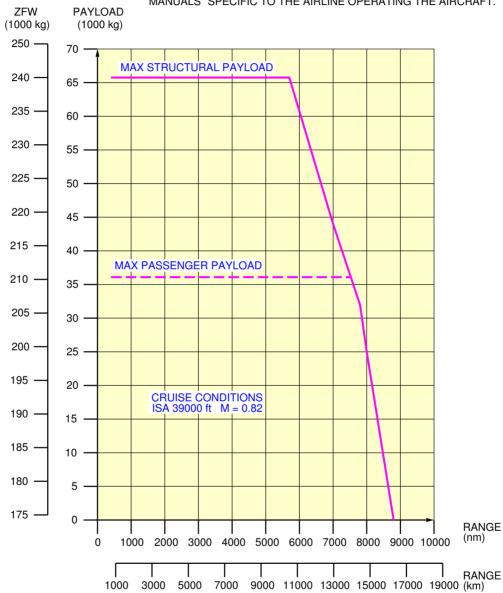
ISA Conditions

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600





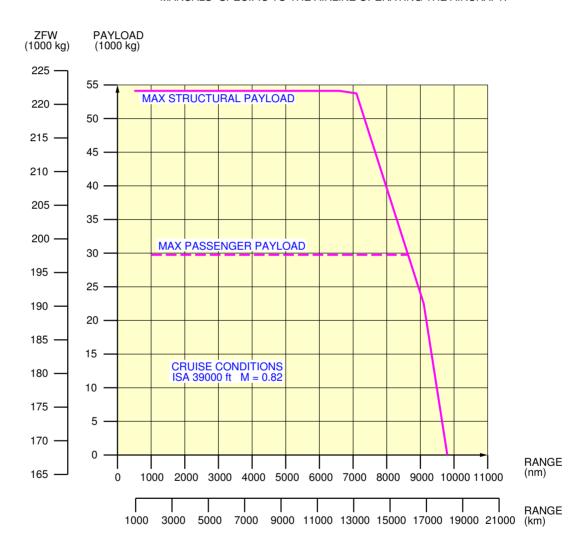
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PAYLOAD / RANGE RB 211 TRENT 556 engine FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500

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



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PAYLOAD / RANGE RB 211 TRENT 553 engine FIGURE 2

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

3-3-0 FAR / JAR Takeoff Weight Limitation

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

FAR / JAR Takeoff Weight Limitation

1. FAR / JAR Takeoff Weight Limitation

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

3-3-1 ISA Conditions

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

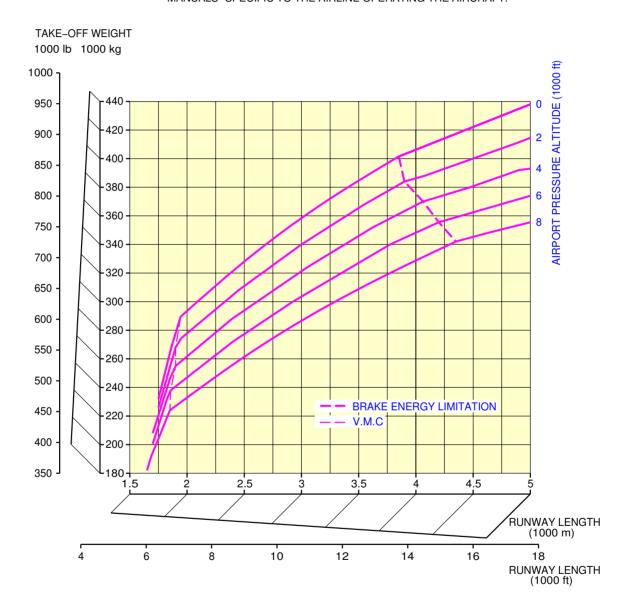
FAR / JAR Takeoff Weight Limitation

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600

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



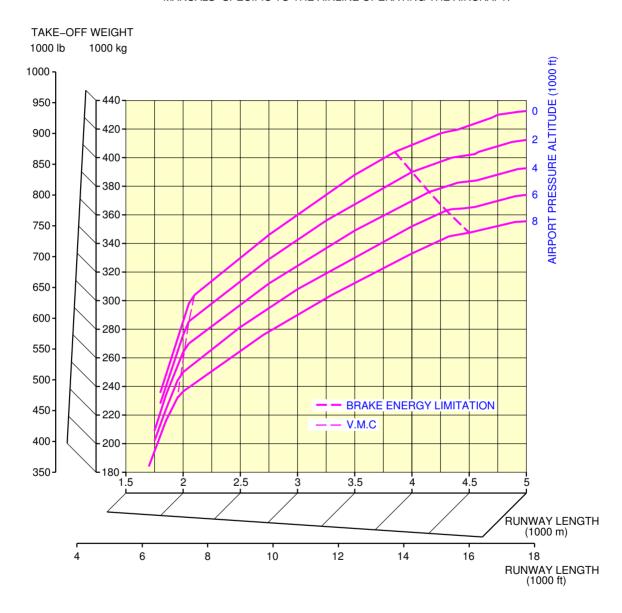
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FAR / JAR Takeoff Weight Limitation ISA Conditions – RB 211 TRENT 556 engine FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500

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



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FAR / JAR Takeoff Weight Limitation ISA Conditions – RB 211 TRENT 553 engine FIGURE 2

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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

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

ISA +15°C (ISA +27°F) Conditions

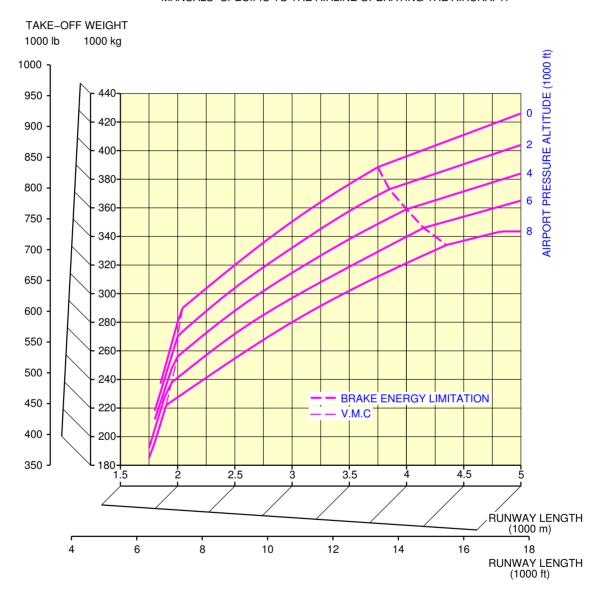
1. This section gives the takeoff weight limitation at ISA $+15\,^{\circ}$ C (ISA $+27\,^{\circ}$ F) conditions.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600

NOTE: THESE CURVES ARE GIVEN FOR INFORMATION ONLY.

THE APPROVED VALUES ARE STATED IN THE "OPERATING MANUALS" SPECIFIC TO THE AIRLINE OPERATING THE AIRCRAFT.



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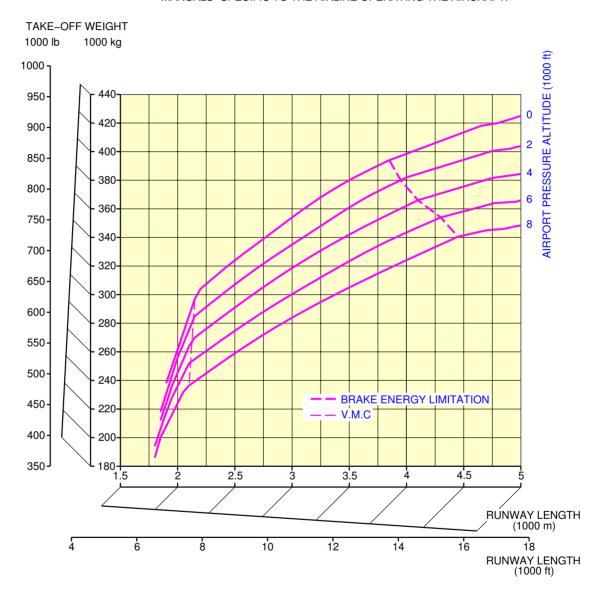
FAR / JAR Takeoff Weight Limitation ISA +15 $^{\circ}$ C (ISA +27 $^{\circ}$ F) Conditions – RB 211 TRENT 556 engine FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500

NOTE: THESE CURVES ARE GIVEN FOR INFORMATION ONLY.

THE APPROVED VALUES ARE STATED IN THE "OPERATING MANUALS" SPECIFIC TO THE AIRLINE OPERATING THE AIRCRAFT.



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FAR / JAR Takeoff Weight Limitation ISA +15 $^{\circ}$ C (ISA +27 $^{\circ}$ F) Conditions – RB 211 TRENT 553 engine FIGURE 2

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

3-4-0 FAR / JAR Landing Field Length

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

Landing Field Length

1. Landing Field Length

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

3-4-1 ISA Conditions All series engines

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

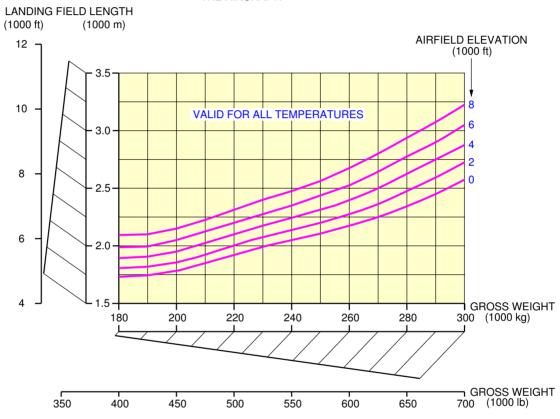
ISA Conditions All series engine

1. This section gives the landing field length.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600

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



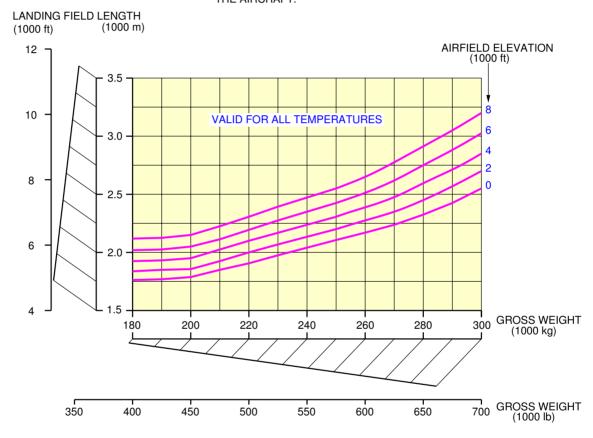
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FAR / JAR Landing Field Length ISA Conditions – RB 211 TRENT 556 engine FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500

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



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FAR / JAR Landing Field Length ISA Conditions – RB 211 TRENT 553 engine FIGURE 2

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

3-5-0 Final Approach Speed

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

Final Approach Speed

1. Final Approach Speed

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

3-5-1 Final Approach Speed

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

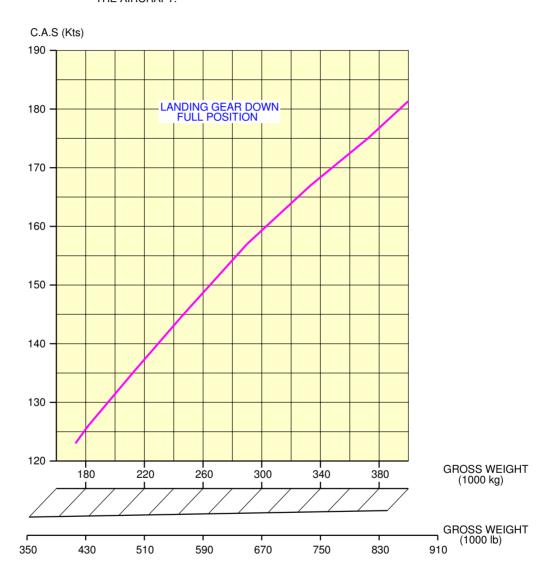
Final Approach Speed

1. This section gives the final approach speed.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600

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



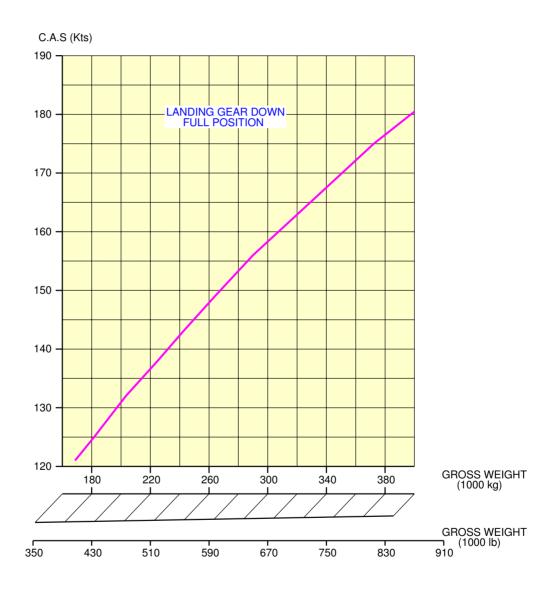
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Final Approach Speed RB 211 TRENT 556 engine FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500

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



F_AC_030501_1_0050101_01_00

Final Approach Speed RB 211 TRENT 553 engine FIGURE 2

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

GROUND MANEUVERING

4-1-0 General Information

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

General Information

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

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

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

4-2-0 Turning Radii

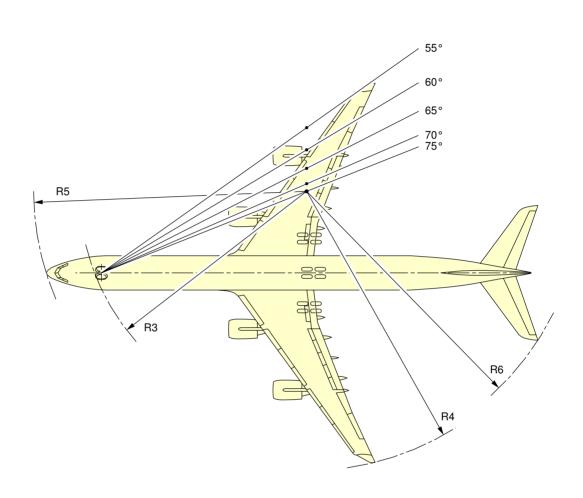
**ON A/C A340-500 A340-600

Turning Radii

1. This section gives the turning radii.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600

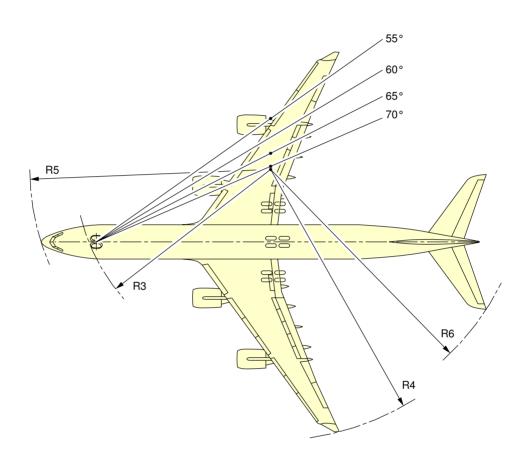


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Turning Radii FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500



F_AC_040200_1_0090101_01_01

Turning Radii FIGURE 2

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600

A340-600 TURNING RADII								
STEERING ANGLE	EFFECTIVE STEERING ANGLE		R3 NLG	R4 WING	R5 NOSE	R6 TAIL		
20.0	10.79	m	98.9	124.8	98.2	109.9		
20°	19.7°	ft	325	409	322	361		
OE °	24.6°	m	80.2	104.7	82.8	91.1		
25°	24.0	ft	263	344	272	299		
30°	29.5°	m	67.9	91	70.9	78.6		
30	29.5	ft	223	299	233	258		
35°	34.4°	m	59.3	80.9	62.8	69.7		
35	34.4	ft	195	265	206	229		
40°	20.00	m	53	73.2	56.9	63.1		
	39.2°	ft	174	240	187	207		
45°	44°	m	48.3	66.9	52.6	58		
	44 -	ft	159	220	173	190		
F00	48.8°	m	44.7	61.7	49.3	53.9		
50°	40.0	ft	147	202	162	177		
55°	53.4°	ш	41.9	57.4	46.8	50.7		
5	55.4	ft	138	188	154	166		
000	57.9°	В	39.8	53.6	44.9	48		
60°	57.9	ft	131	176	147	158		
65°	62°	m	38.2	50.5	43.5	45.9		
00	02	ft	125	166	143	151		
70°	65.6°	m	37.1	48	42.5	44.4		
70 -	00.0	ft	122	158	139	146		
75°	67.4°	m	36.6	46.8	42.1	43.6		
75°	07.4	ft	120	153	138	143		

TURNING RADII TABLE

NOTE: SYMMETRIC THRUST- NO BRAKING

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Turning Radii Steady State Turning Radii FIGURE 3

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500

A340-500 TURNING RADII									
STEERING ANGLE	EFFECTIVE STEERING ANGLE		R3 NLG	R4 WING	R5 NOSE	R6 TAIL			
20°	10.70		83.4	110.3	85.7	95.3			
20	19.7°	ft	274	362	281	313			
25°	24.6°	m	67.6	93.3	70.3	79.6			
25	24.0	ft	222	306	231	261			
30°	29.5°	m	57.3	81.8	60.4	69.2			
30	29.5	ft	188	268	198	227			
35°	34.3°	m	50.1	73.4	53.6	61.9			
	04.0	ft	164	241	176	203			
40°	39.1°	m	44.8	66.9	48.7	56.4			
	59.1	ft	147	220	160	185			
45°	43.9°	m	40.8	61.6	45.1	52.2			
7	5.5	ft	134	202	148	171			
50°	48.6°	m	37.8	57.3	42.4	48.9			
5	40.0	ft	124	188	139	160			
55°	53.2°	m	35.4	53.7	40.3	46.3			
	33.2	ft	116	176	132	152			
60°	57.6°	m	33.6	50.5	38.7	44.1			
00	37.0	ft	110	166	127	145			
65°	61.7°	m	32.3	47.9	37.6	42.4			
00	01.7	ft	106	157	123	139			
70°	65.2°	m	31.4	45.9	36.8	41.1			
70	00.2	ft	103	151	121	135			

TURNING RADII TABLE

NOTE: SYMMETRIC THRUST- NO BRAKING

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Turning Radii Steady State Turning Radii FIGURE 4

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

4-3-0 Minimum Turning Radii

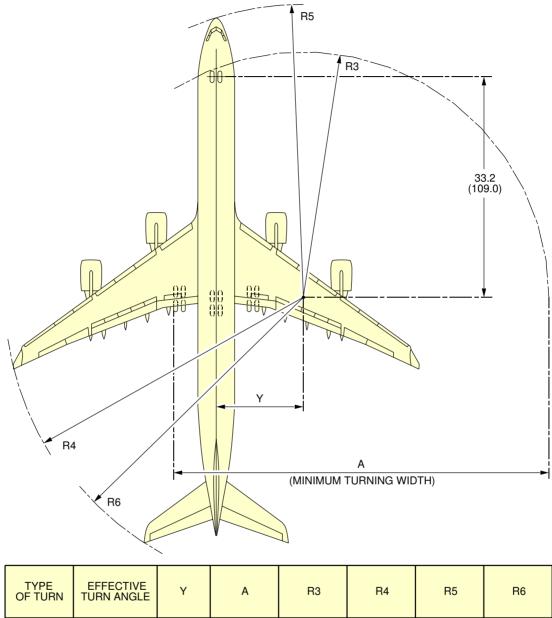
**ON A/C A340-500 A340-600

Minimum Turning Radii

1. This section gives the minimum turning radii.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600



TYPE OF TURN	EFFECTIVE TURN ANGLE		Υ	А	R3	R4	R5	R6
5	67.4°	m	13.7	56.7	36.6	46.8	42.1	43.6
2		ft	45.1	185.9	120.0	153.4	138.2	143.1

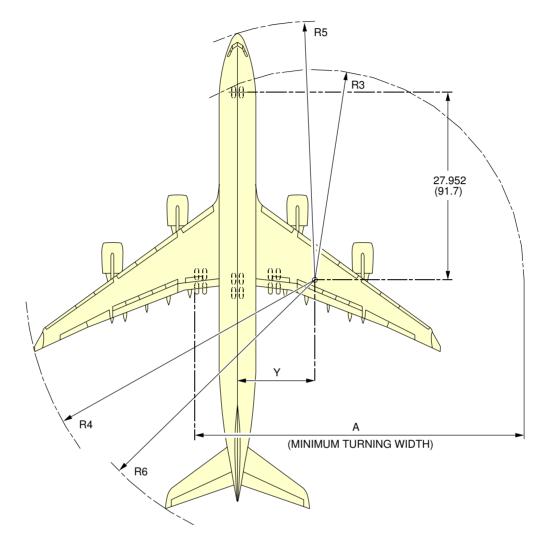
NOTE: TYPE OF TURN: 2-SYMMETRIC THRUST - NO BRAKING

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Minimum Turning Radii FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500



	TYPE OF TURN	EFFECTIVE TURN ANGLE		Υ	А	R3	R4	R5	R6
	2	65.2° m	m	12.8	50.5	31.4	45.9	36.8	41.4
			ft	42.1	165.8	102.9	150.4	120.8	134.9

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

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Minimum Turning Radii FIGURE 2

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

4-4-0 Visibility from Cockpit in Static Position

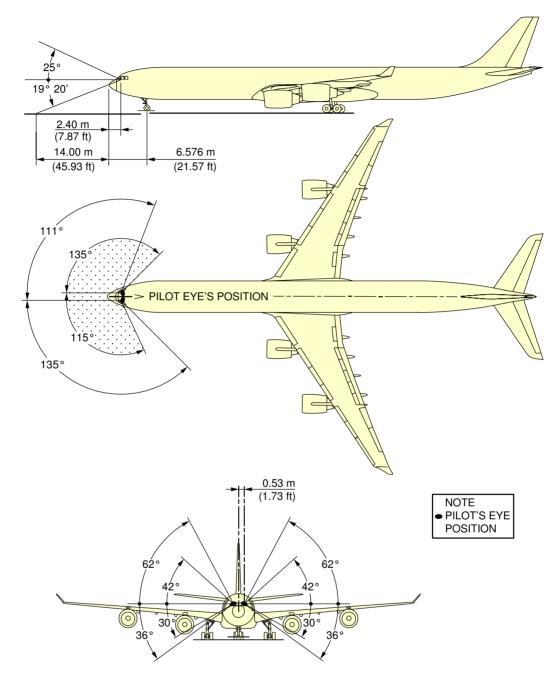
**ON A/C A340-500 A340-600

Visibility from Cockpit in Static Position

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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



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Visibility from Cockpit in Static Position FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

4-5-0 Runway and Taxiway Turn Paths

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

Runway and Taxiway Turn Paths

1. Runway and Taxiway Turn Paths.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

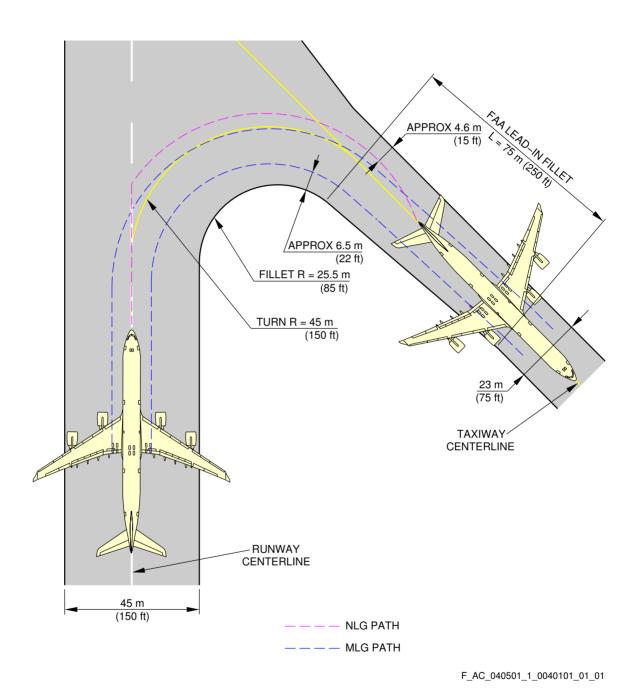
4-5-1 135° Turn - Runway to Taxiway

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

135° Turn - Runway to Taxiway

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

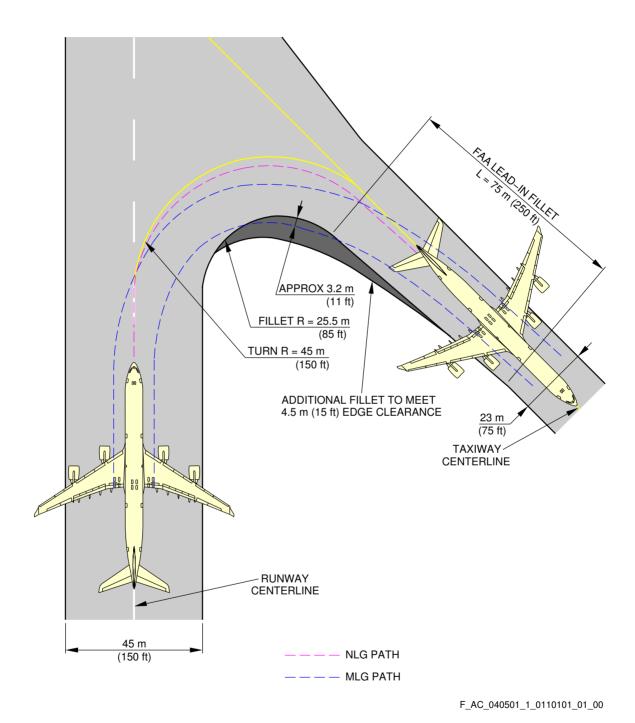
AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING



 $135\,^{\circ}$ Turn - Runway to Taxiway Judgemental Oversteering Method FIGURE 1

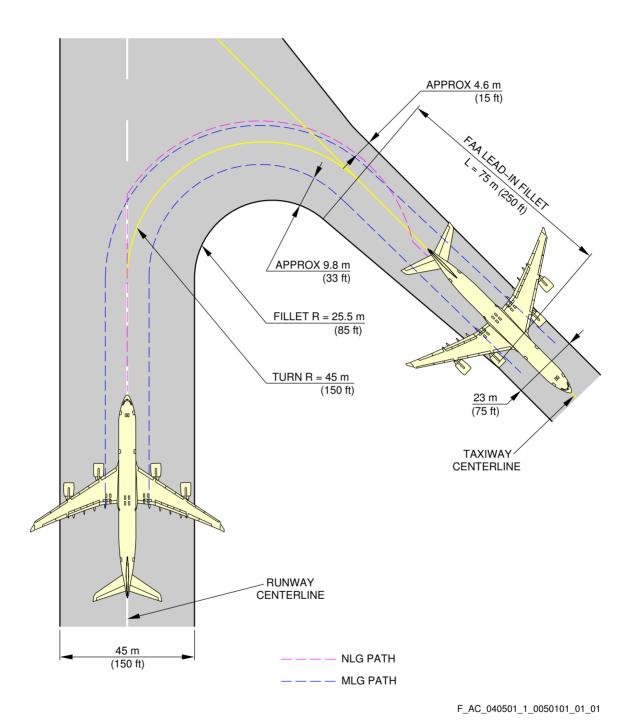
AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING



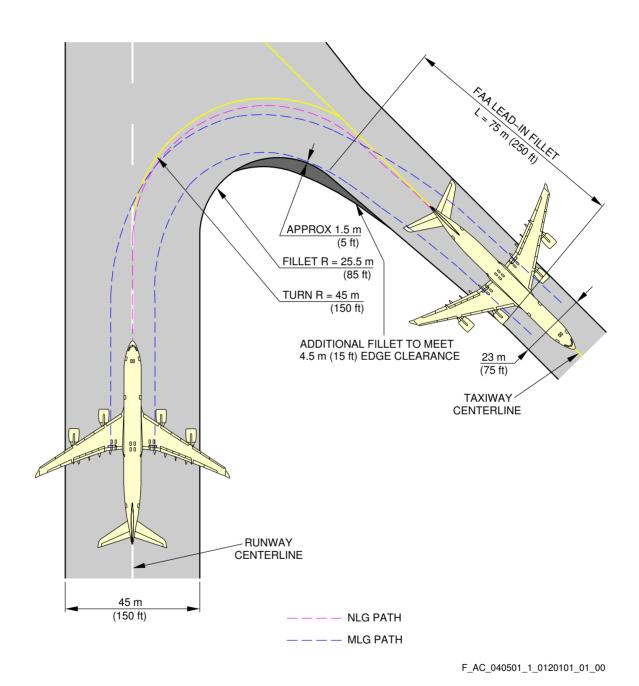


135° Turn - Runway to Taxiway Cockpit Over Centerline Method FIGURE 2

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING



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



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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

4-5-2 90° Turn - Runway to Taxiway

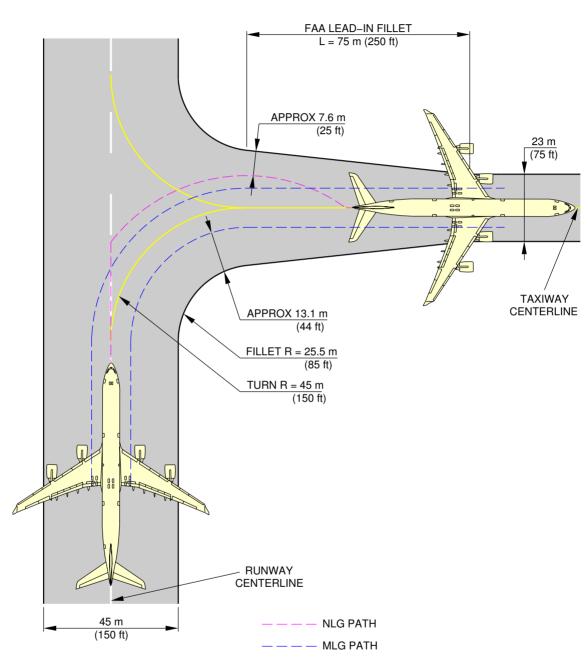
**ON A/C A340-500 A340-600

90° Turn - Runway to Taxiway

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

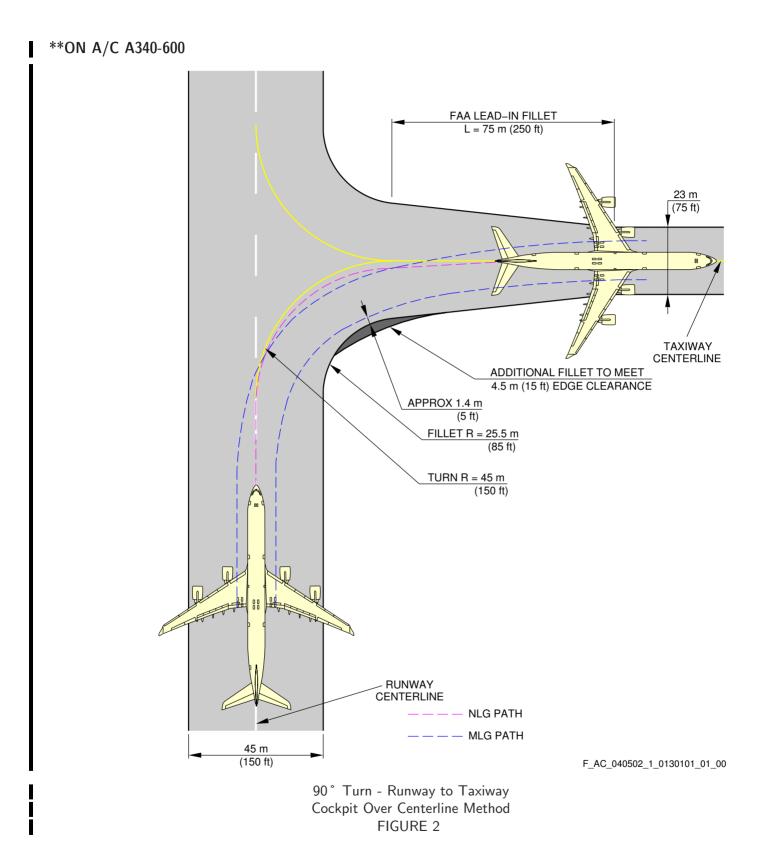
**ON A/C A340-600



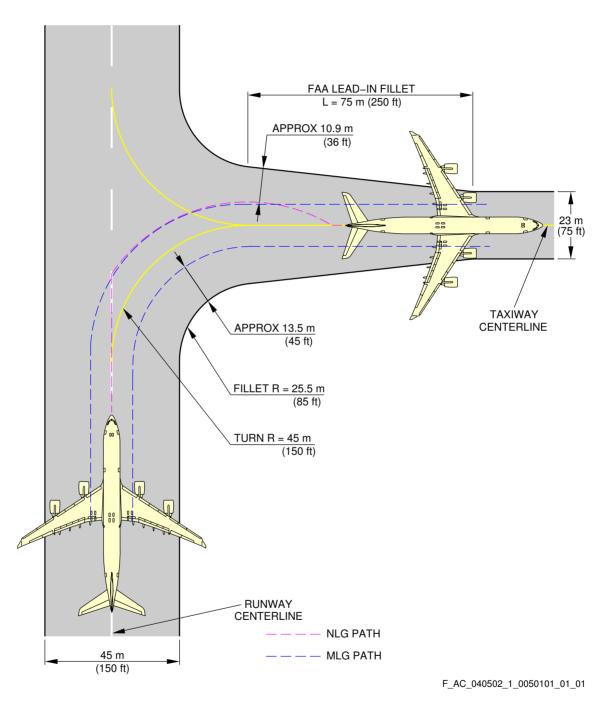
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90° Turn - Runway to Taxiway Judgement Oversteering Method FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

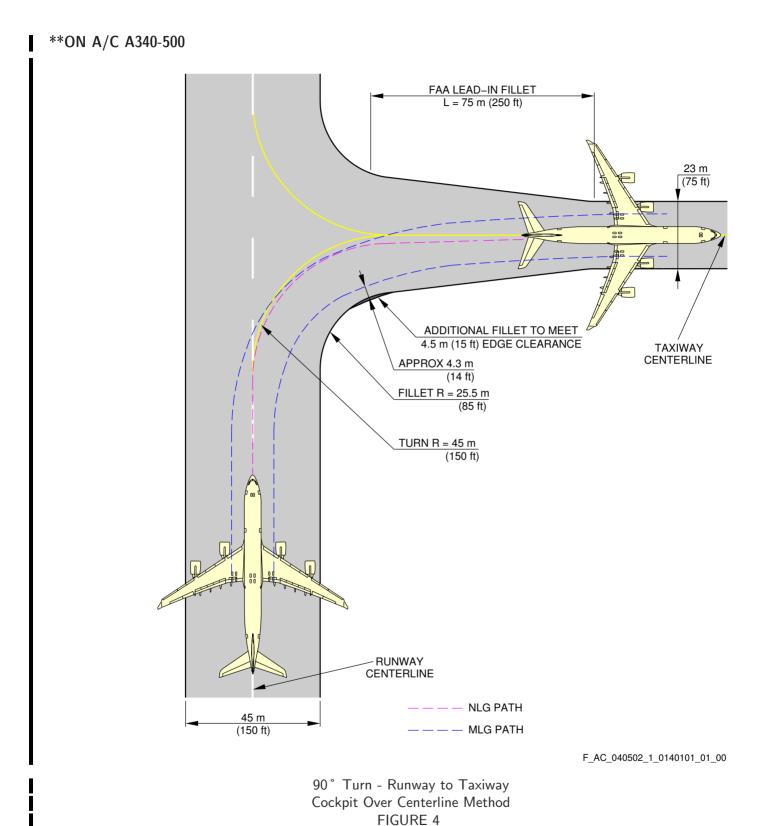


AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING



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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING



AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

4-5-3 180° Turn on a Runway

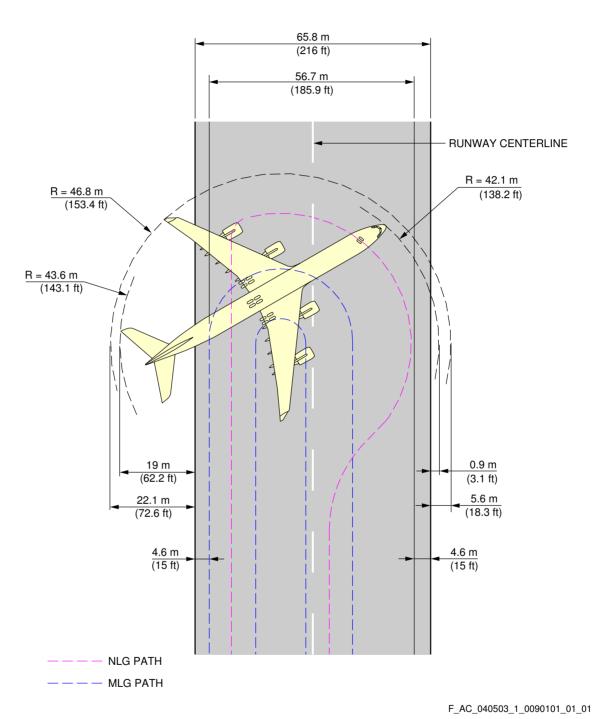
**ON A/C A340-500 A340-600

180° Turn on a Runway

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

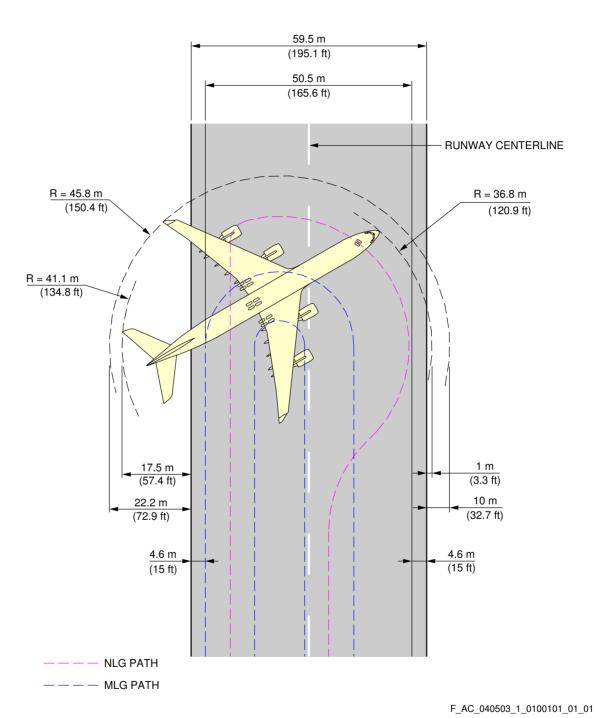
AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600



180° Turn on a Runway 75° Nose Wheel Steering FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING



180° Turn on a Runway 70° Nose Wheel Steering FIGURE 2

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

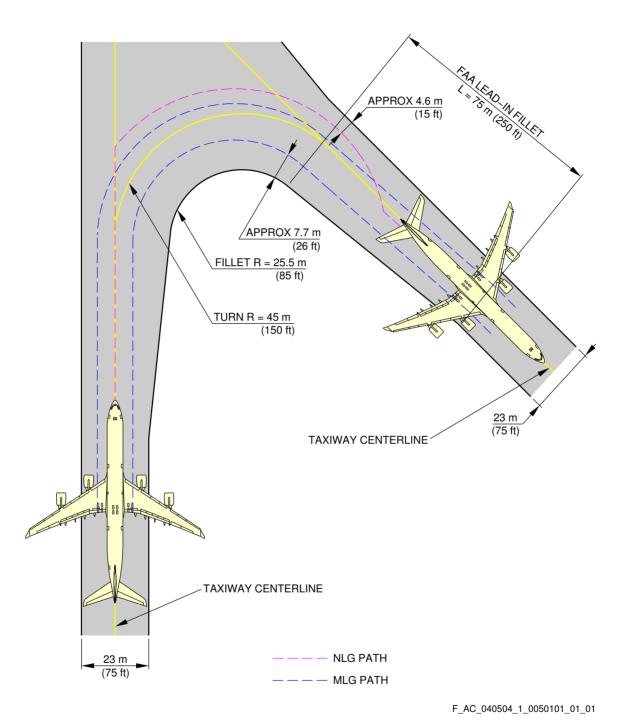
4-5-4 135° Turn - Taxiway to Taxiway

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

135° Turn - Taxiway to Taxiway

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

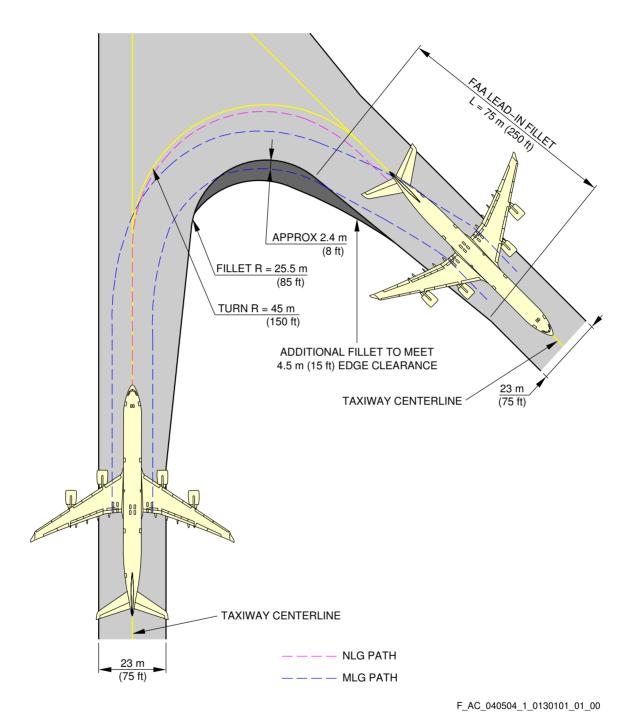
AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING



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

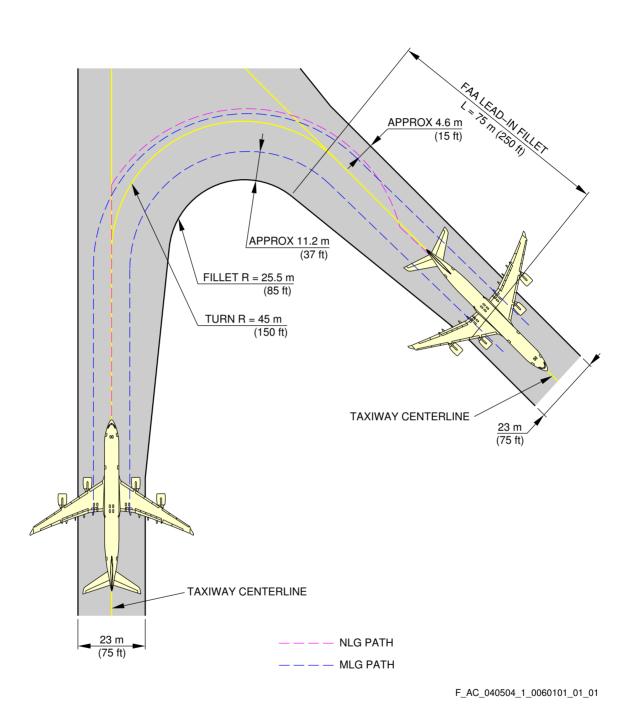
AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING





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

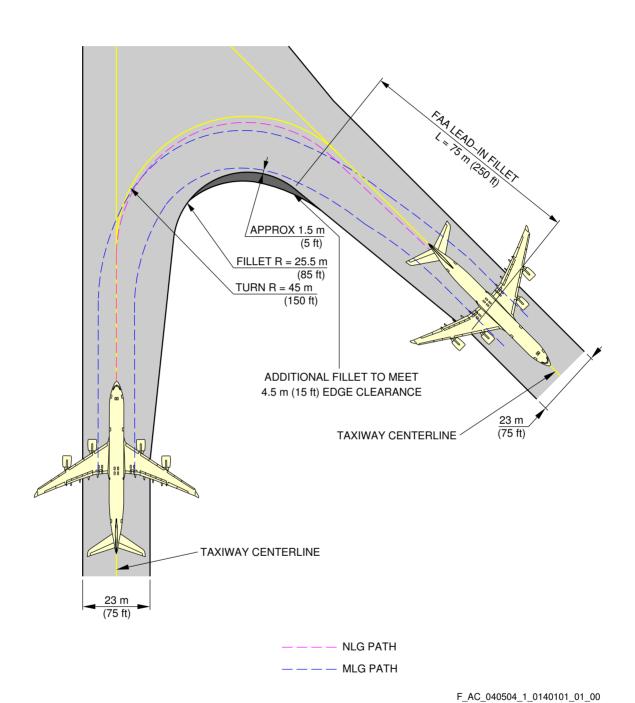
AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING



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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING





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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

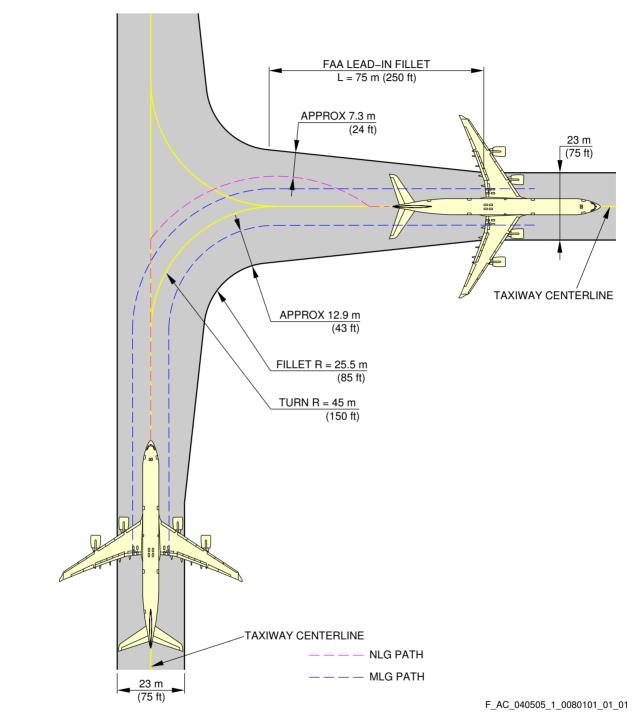
4-5-5 90° Turn - Taxiway to Taxiway

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

90° Turn - Taxiway to Taxiway

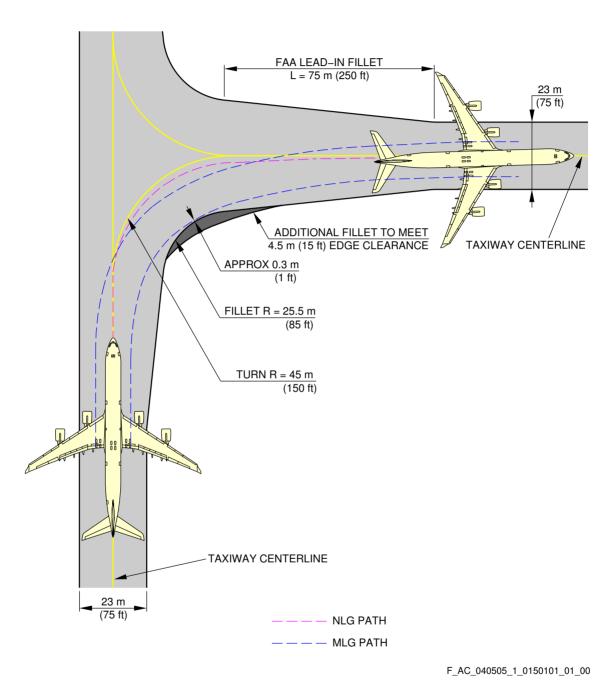
1. This section gives the 90 $^{\circ}$ turn - taxiway to taxiway.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING



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

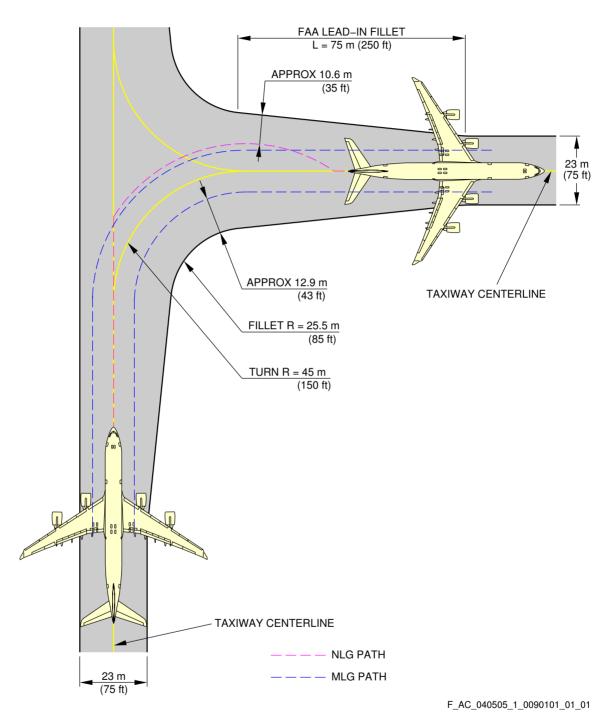
**ON A/C A340-600



90° Turn - Taxiway to Taxiway

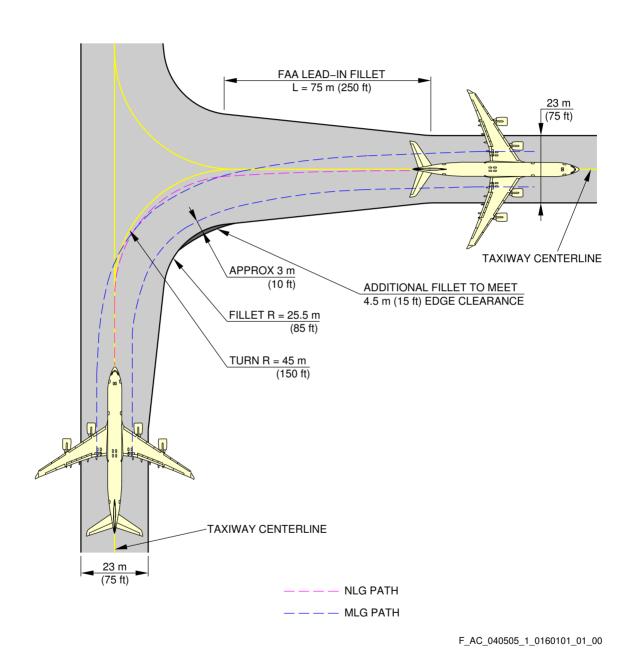
Cockpit Over Centerline Method FIGURE 2

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING



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

**ON A/C A340-500



90° Turn - Taxiway to Taxiway Cockpit Over Centerline Method

FIGURE 4

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

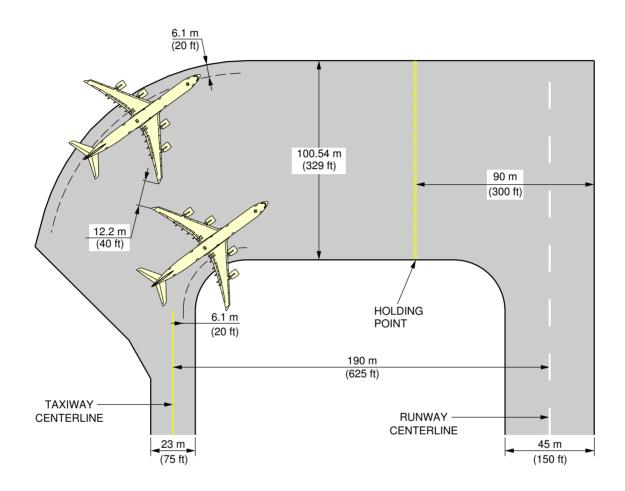
4-6-0 Runway Holding Bay (Apron)

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

Runway Holding Bay (Apron)

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

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



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

F_AC_040600_1_0040101_01_01

Runway Holding Bay (Apron) FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

4-7-0 Airplane Parking

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

Airplane Parking

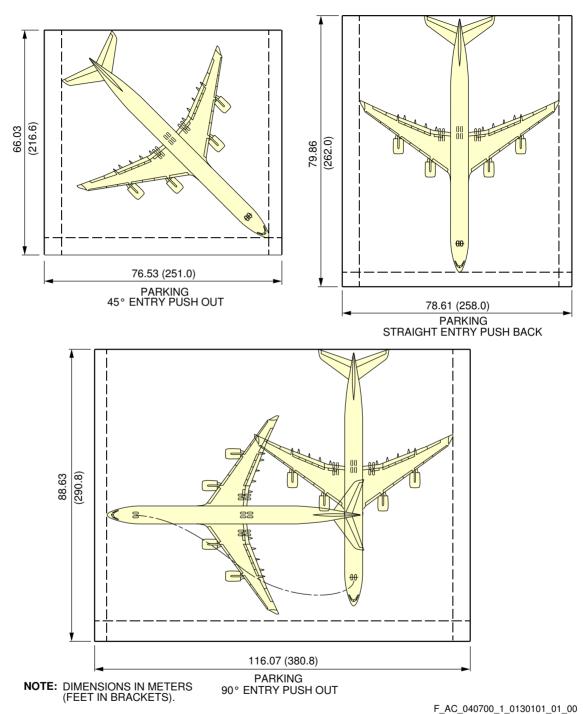
1. The following figures and charts show the rectangular space required for parking against the terminal building.

The rectangle includes allowance for swinging the airplane on arrival and departure.

- Steering Geometry
- Minimum Parking Space Requirements

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

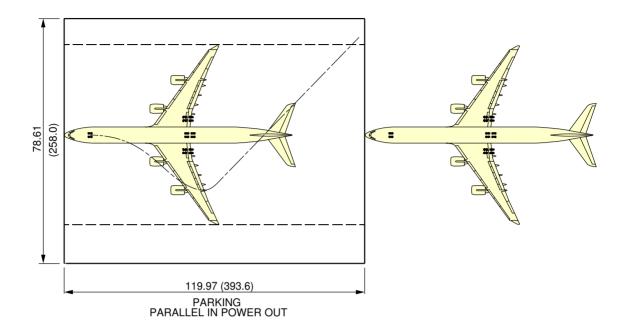
**ON A/C A340-600

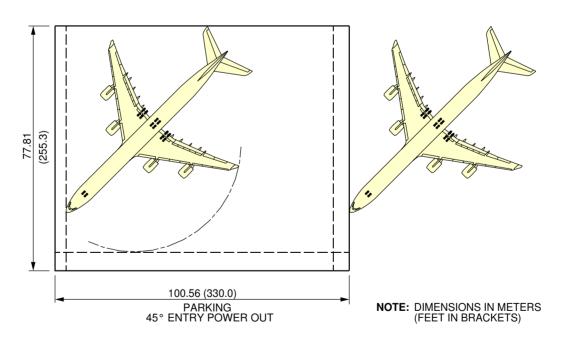


Airplane Parking Steering Geometry FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600



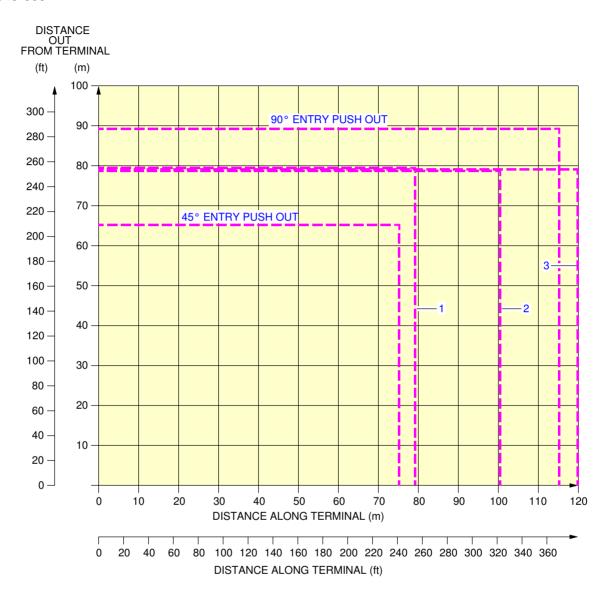


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Airplane Parking Steering Geometry FIGURE 2

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600



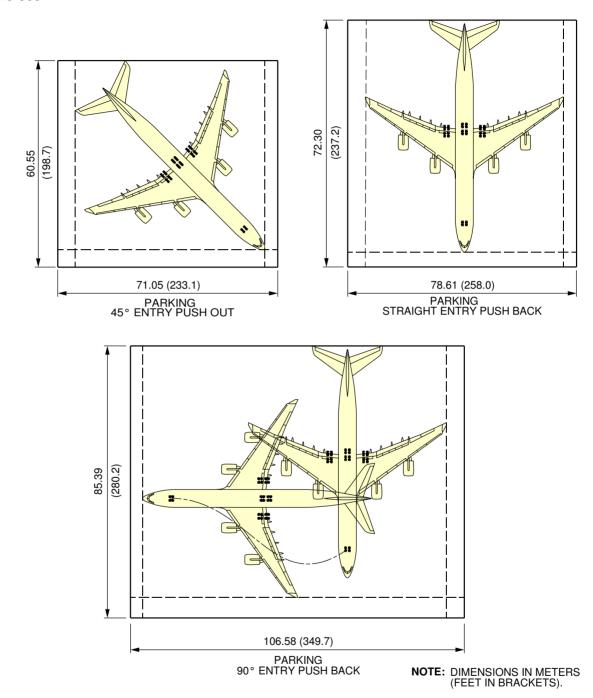
- 1. STRAIGHT ENTRY PUSH BACK
- 2. 45° ENTRY POWER OUT
- 3. PARALLEL IN POWER OUT

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Airplane Parking Minimum Parking Space Requirements FIGURE 3

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500

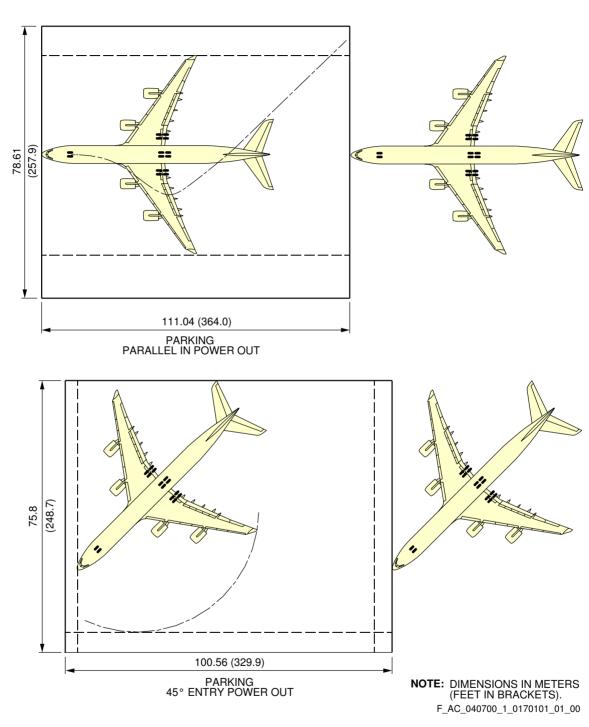


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Airplane Parking Steering Geometry FIGURE 4

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

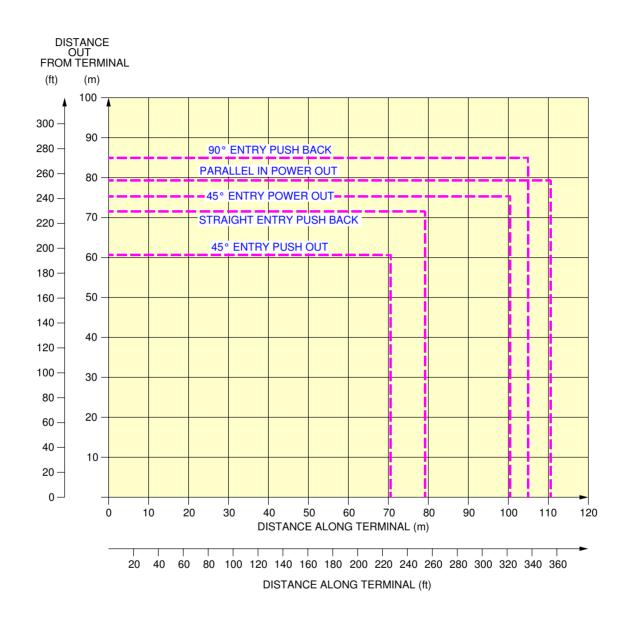
**ON A/C A340-500



Airplane Parking Steering Geometry FIGURE 5

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500



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Airplane Parking Minimum Parking Space Requirements FIGURE 6

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

TERMINAL SERVICING

5-0-0 TERMINAL SERVICING

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

TERMINAL SERVICING

1. Terminal servicing

This chapter provides typical ramp layouts, corresponding minimum turnaround time estimations, locations of ground service points and service requirements.

The information given in this chapter reflects ideal conditions. Actual ramp layouts and service requirements may vary according to local regulations, airline procedures and the airplane condition.

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

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

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

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

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

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

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

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

5-1-0 Airplane Servicing Arrangements

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

Airplane Servicing Arrangements

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

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

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

5-1-1 Symbols Used on Servicing Diagrams

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

Symbols Used on Servicing Diagrams

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

Ground Support Equipment			
AC	AIR CONDITIONING UNIT		
AS	AIR START UNIT		
CAT	CATERING TRUCK		
СВ	CONVEYOR BELT		
CLEAN	CLEANING TRUCK		
FUEL	FUEL HYDRANT DISPENSER or TANKER		
GPU	GROUND POWER UNIT		
LD CL	LOWER DECK CARGO LOADER		
LV	LAVATORY VEHICLE		
MD CL	MAIN DECK CARGO LOADER		
PBB	PASSENGER BOARDING BRIDGE		
PS	PASSENGER STAIRS		
TOW	TOW TRACTOR		
ULD	ULD TRAIN		
WV	POTABLE WATER VEHICLE		

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

5-1-2 Loading (Open Apron)

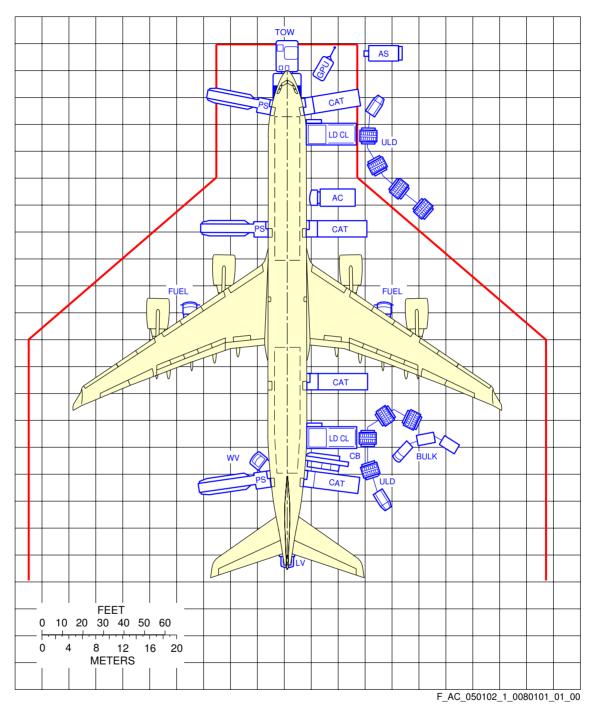
**ON A/C A340-500 A340-600

Loading (Open Apron)

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

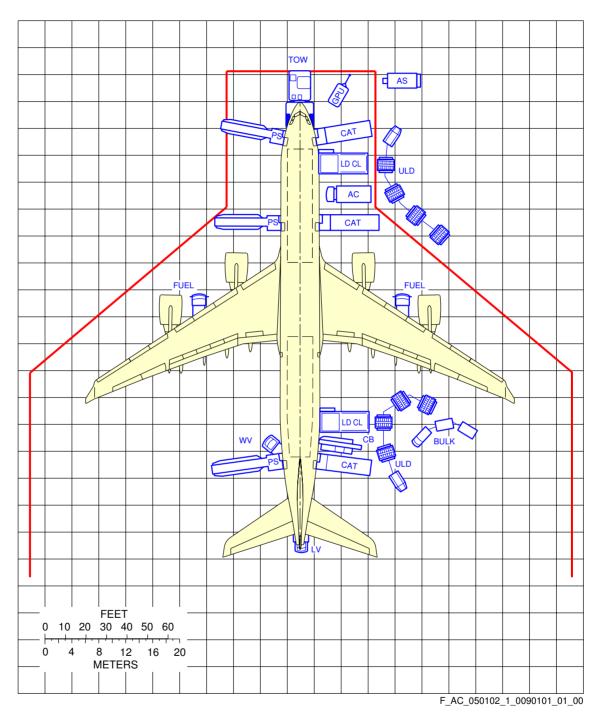
**ON A/C A340-600



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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500



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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

5-1-3 Loading (Passenger Bridge)

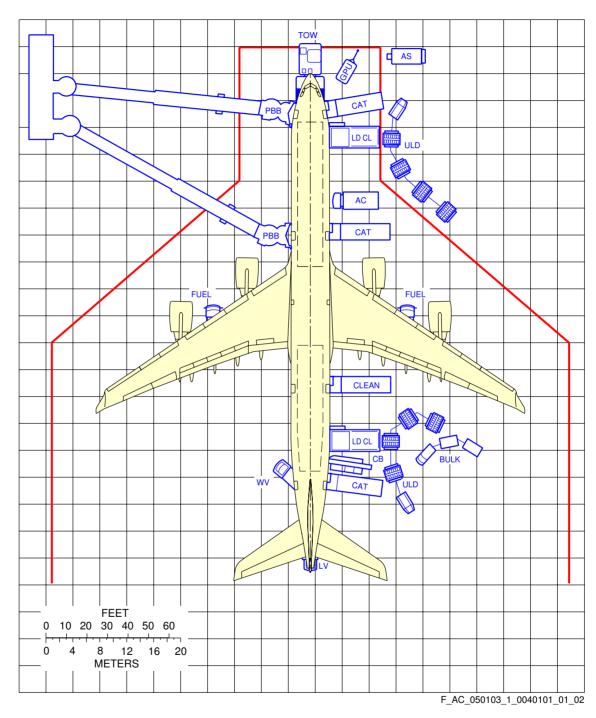
**ON A/C A340-500 A340-600

Loading (Passenger Bridge)

1. This section gives the typical ramp layout for the passenger aircraft at a gate with 2 passenger boarding bridges.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

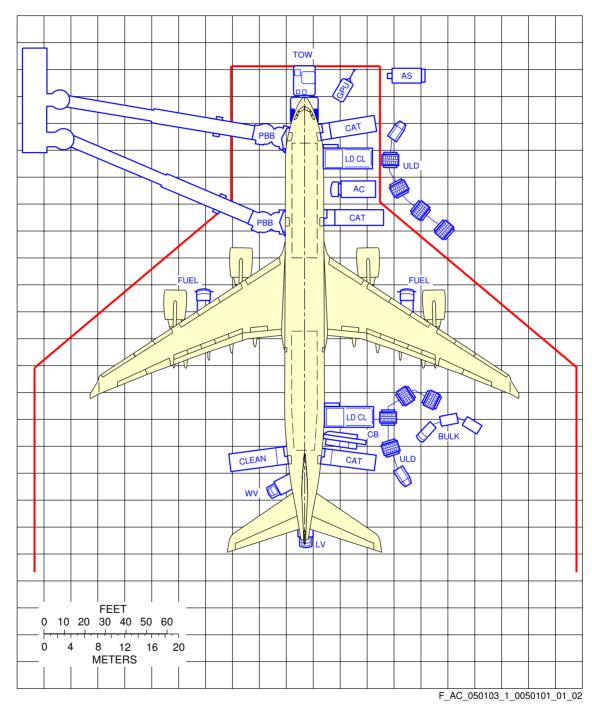
**ON A/C A340-600



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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500



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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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

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

Terminal Operations - Full Servicing Turn Round Charts

1. This section provides a series of charts showing typical activities during turnaround at destination airports.

This data is provided to show the general scope and type of activities involved in ramp operations during the turnaround of an aircraft.

Varying Airline practices and operating circumstances may result in different sequences and different time intervals to do the activities shown.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

5-2-1 Full Servicing Turn Round Charts

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

Full Servicing Turn Round Charts

**ON A/C A340-500

1. Assumptions for full servicing turn round chart.

A. PASSENGER BOARDING/DEBOARDING (PB/D)

Deboarding: 246 passengers (8 first + 42 business + 196 tourists)

- For full servicing, all passengers deboard and board
- Doors used: L1 + L2
- Deboarding:
 - 120 pax at L1 (8 first + 42 business + 70 tourists) and 126 pax at L2
 - Deboarding rate = 25 pax/min
 - Priority deboarding for premium passengers
- Boarding:
 - 52 pax at L1 and 196 pax at L2
 - Boarding rate = 15 pax/min
- Last Pax Seating Allowance (LPS) + headcounting = + 4 min

B. CARGO

- 6 LD3 + 2 pallets for AFT CC
- 12 LD3 + 2 pallets for FWD CC
- 1 000 kg (2 205 lb) in Bulk CC
- LD-3 off-loading/loading times:
 - off-loading = $1.2 \min/LD-3$
 - loading = $1.4 \min/LD-3$
- Pallet loading times:
 - off-loading = 2.4 min/pallet
 - loading = 2.8 min/pallet
- Bulk off-loading/loading times:
 - off-loading = 9.2 min/t
 - loading = 10.5 min/t

C. REFUELLING

- Block fuel for Nominal Range through 4 nozzles
- 191 000 I (50 457 US gal) at 50 psi
- Dispenser positioning or removal = 3 min (fuel truck change) / if any = 5 min

D. CLEANING

- Cleaning is performed in available time

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

E. CATERING

- 3 catering vehicles
- 39 Full size trolley: 8 FSTE at R1, 9 FSTE at R2 and 22 FST at R4
- FST exchange time = 1.5 min/FST

F. GROUND HANDLING/SERVICING

- Start of operations :
 - (1) Bridges = t0 = 0
 - (2) Others = $t0 + 1 \min$
- Vehicle positioning/removal = 2 min (fuel truck excluded)
- Ground Power Unit (GPU) = up to 2×90 kVA
- Air conditioning = two carts
- Potable water servicing: replenish 700 l (185 US gal); flow rate: 60 l/min (15.85 US gal/min)
- Waste water servicing (draining + rinsing): discharge 1 140 I (301 US gal)
- Dollies per tractor = 4

**ON A/C A340-600

2. Assumptions for full servicing turn round chart.

A. PASSENGER BOARDING/DEBOARDING (PB/D)

Deboarding: 319 passengers (12 first + 42 business + 265 tourists)

- For full servicing, all passengers deboard and board
- Doors used: L1 + L2
- Deboarding:
 - 154 pax at L1 (12 first + 42 business + 100 tourists) and 165 pax at L2
 - Deboarding rate = 25 pax/min
 - Priority deboarding for premium passengers
- Boarding:
 - 54 pax at L1 and 268 pax at L2
 - Boarding rate = 15 pax/min
- Last Pax Seating Allowance (LPS) + headcounting = + 4 min

B. CARGO

- 12 LD3 + 2 pallets for AFT CC
- 12 LD3 + 2 pallets for FWD CC
- 1 000 kg (2 205 lb) in Bulk CC
- LD-3 off-loading/loading times:
 - off-loading = $1.2 \min/LD-3$
 - loading = $1.4 \min/LD-3$
- Pallet loading times:
 - off-loading = 2.4 min/pallet
 - loading = 2.8 min/pallet

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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

C. REFUELLING

- Block fuel for Nominal Range through 4 nozzles
- 178 000 I (47 023 US gal) at 50 psi
- Dispenser positioning or removal = 3 min (fuel truck change) / if any = 5 min

D. CLEANING

Cleaning is performed in available time

E. CATERING

- 3 catering vehicles
- 45 Full size trolley: 9 FSTE at R1, 9 FSTE at R2 and 27 FST at R4
- FST exchange time = 1.5 min/FST

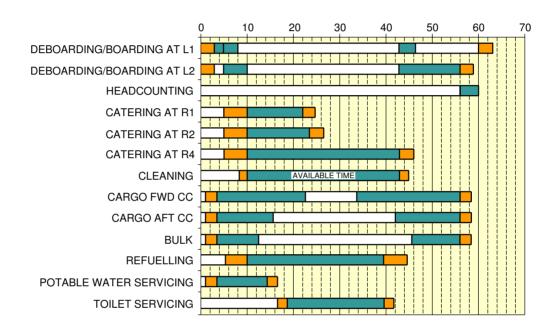
F. GROUND HANDLING/SERVICING

- Start of operations :
 - (1) Bridges = t0 = 0
 - (2) Others = $t0 + 1 \min$
- Vehicle positioning/removal = 2 min (fuel truck excluded)
- Ground Power Unit (GPU) = up to $2 \times 90 \text{ kVA}$
- Air conditioning = two carts
- Potable water servicing: replenish 1 070 l (283 US gal); flow rate: 60 l/min (15.85 US gal/min)
- Waste water servicing (draining + rinsing): discharge 1 140 I (301 US gal)
- Dollies per tractor = 4

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500

TRT: 63 min



POSITIONING/REMOVAL
ACTIVITY

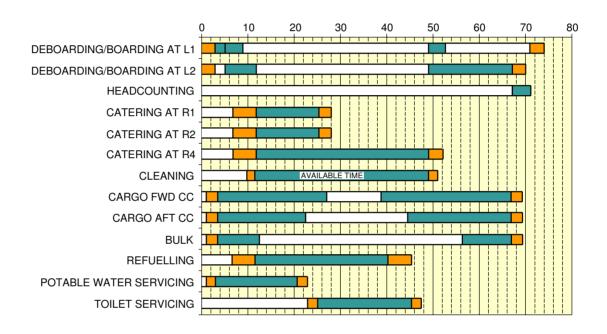
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Turn around charts Turn Round Time 63 min. FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600

TRT: 74 min



POSITIONING/REMOVAL
ACTIVITY

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Turn around charts Turn Round Time 74 min. FIGURE 2

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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

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

Terminal Operations - Transit Turn Round Charts

1. This section provides a series of charts showing typical activities during turnaround at transit airports.

This data is provided to show the general scope and type of activities involved in ramp operations during the turnaround of an aircraft.

Varying Airline practices and operating circumstances may result in different sequences and different time intervals to do the activities shown.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

5-3-1 Transit Turn Round Charts

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

Transit Turn Round Charts

**ON A/C A340-500

1. Assumptions for transit turn round chart.

A. PASSENGER BOARDING/DEBOARDING (PB/D)

Deboarding: 246 passengers (8 first + 42 business + 196 tourists)

- 50% pax in transit, all passengers deboard and board
- Doors used: L1 + L2
- Deboarding:
 - 120 pax at L1 (8 first + 42 business and 70 tourists) and 126 pax at L2
 - Deboarding rate = 25 pax/min
 - Priority deboarding for premium passengers
- Boarding:
 - 52 pax at L1 and 179 pax at L2
 - Boarding rate = 15 pax/min
- Last Pax Seating Allowance (LPS) + headcounting = + 4 min

B. CARGO

For transit, 50% of luggages are exchanged in one cargo compartment only

- 1 container loader for AFT CC
- 4 LD3 for AFT CC
- LD-3 off-loading/loading times:
 - off-loading = $1.2 \min/LD-3$
 - loading = $1.4 \min/LD-3$

C. REFUELLING

- Refueling through 2 nozzles
- For transit, fuel uplift is 30% of maximum fuel uplift. (Max = 214 808 I (56 746 US gal)) Note: local rules and regulations to be respected.
- Passengers boarding can start before refuel is finished
- Dispenser positioning or removal = 3 min (fuel truck change) / if any = 5 min

D. CLEANING

- Cleaning is performed in available time

E. CATERING

- Time needed just for additional meals
- Assumptions: 10 min

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

F. GROUND HANDLING/SERVICING

- Start of operations :
 - (1) Bridges = t0 = 0
 - (2) Others = $t0 + 1 \min$
- Vehicle positioning/removal = 2 min (fuel truck excluded)
- Ground Power Unit (GPU) = up to $2 \times 90 \text{ kVA}$
- Air conditioning = two carts
- No potable water servicing
- No waste water servicing
- Dollies per tractor = 4

**ON A/C A340-600

2. Assumptions for transit turn round chart.

A. PASSENGER BOARDING/DEBOARDING (PB/D)

Deboarding : 319 passengers (12 first + 42 business + 265 tourists)

- 50% pax in transit, all passengers deboard and board
- Doors used: L1 + L2
- Deboarding:
 - 154 pax at L1 (12 first + 42 business + 100 tourists) and 165 pax at L2
 - Deboarding rate = 25 pax/min
 - Priority deboarding for premium passengers
- Boarding:
 - 54 pax at L1 and 268 pax at L2
 - Boarding rate = 15 pax/min
- Last Pax Seating Allowance (LPS) + headcounting = + 4 min

B. CARGO

For transit, 50% of luggages are exchanged in one cargo compartment only

- 1 container loader for AFT CC
- 6 LD3 for AFT CC
- LD-3 off-loading/loading times:
 - off-loading = $1.2 \min/LD-3$
 - loading = $1.4 \min/LD-3$

C. REFUELLING

- Refueling through 2 nozzles
- For transit, fuel uplift is 30% of maximum fuel uplift. (Max = 195 521 I (51 651 US gal)) Note: local rules and regulations to be respected.
- Passengers boarding can start before refuel is finished
- Dispenser positioning or removal = 3 min (fuel truck change) / if any = 5 min

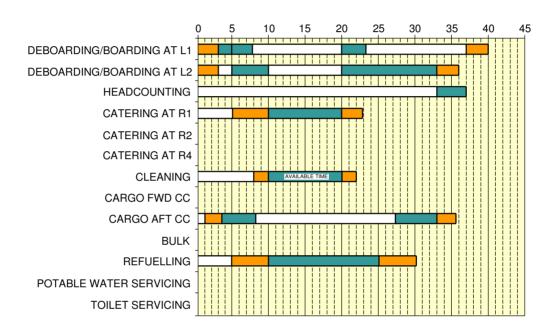
AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

- D. CLEANING
 - Cleaning is performed in available time
- E. CATERING
 - Time needed just for additional meals
 - Assumptions: 10 min
- F. GROUND HANDLING/SERVICING
 - Start of operations :
 - (1) Bridges = t0 = 0
 - (2) Others = $t0 + 1 \min$
 - Vehicle positioning/removal = 2 min (fuel truck excluded)
 - Ground Power Unit (GPU) = up to $2 \times 90 \text{ kVA}$
 - Air conditioning = two carts
 - No potable water servicing
 - No waste water servicing
 - Dollies per tractor = 4

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500

TRT: 40 min



POSITIONING/REMOVAL
ACTIVITY

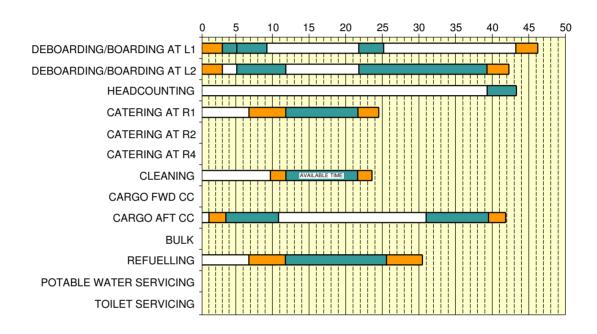
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Transit Turn Round Charts Turn Round Time 40 min. FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600

TRT: 46 min



POSITIONING/REMOVAL
ACTIVITY

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Transit Turn Round Charts Turn Round Time 46 min. FIGURE 2

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

5-4-0 Ground Service Connections

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

Ground Service Connections

1. Ground Service Connections.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

5-4-1 Ground Service Connections Layout

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

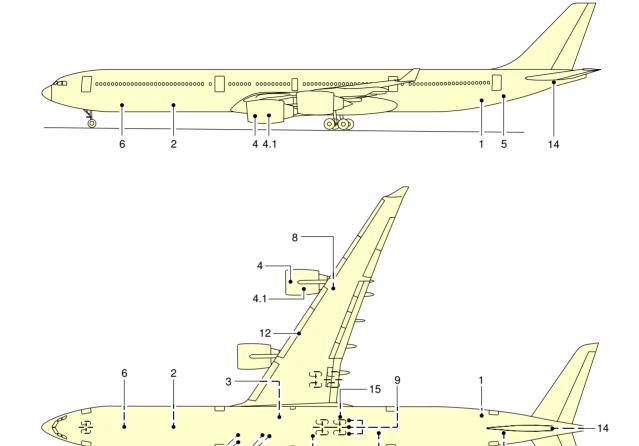
Ground Service Connections Layout

1. This section gives the ground service connections layout.

	Ground Service Connections Layout
1	– POTABLE WATER SERVICE PANEL
2	– REMOTE WATER DRAIN
3	– HYDRAULIC GROUND POWER (YELLOW)
4	– IDG OIL FILLING
4.1	– ENGINE OIL FILLING
5	– WASTE SERVICE PANEL
6	– ELECTRICAL GROUND POWER RECEPTABLES
7	– LOW PRESSURE AIR
8	- FUEL GRAVITY FILLING
9	– AIR CHARCHING FOR HYDRAULIC ACCUMULATORS
10	 HYDRAULIC RESERVOIR FILLING AND GROUND POWER (GREEN)
11	– HYDRAULIC RESERVOIR AIR CHARGING AND GROUND POWER (BLUE)
12	- REFUEL/DEFUEL COUPLINGS
13	– HIGH PRESSURE AIR
14	– APU OIL FILLING
15	- REFUEL/DEFUEL PANEL

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600



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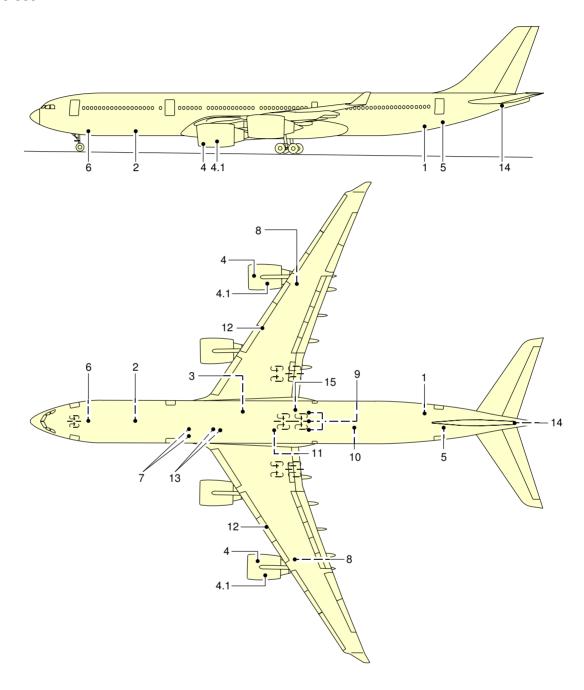
Ground Service Connections Ground Service Connections Layout FIGURE 1

13

10

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500



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 $\begin{array}{c} \hbox{Ground Service Connections} \\ \hbox{Ground Service Connections Layout} \\ \hbox{FIGURE 2} \end{array}$

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

5-4-2 Grounding Points

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

Grounding Points

**ON A/C A340-600

1. Grounding Points.

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

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

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

**ON A/C A340-500

2. Grounding Points.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

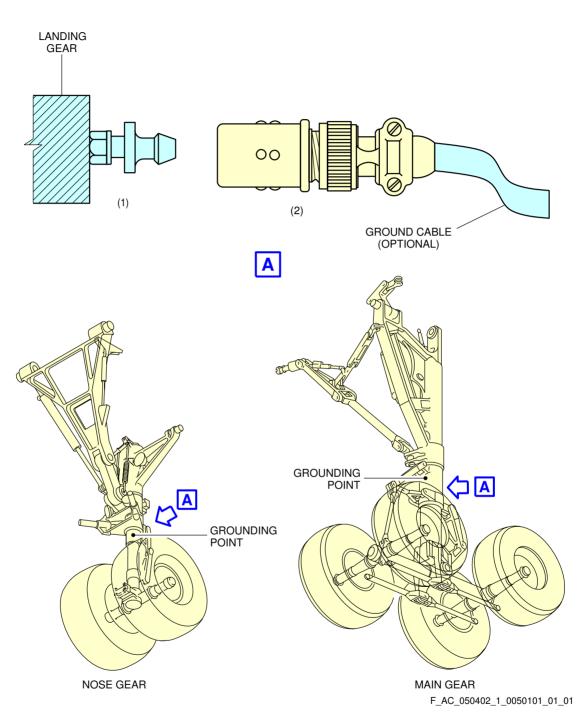
	DISTANCE: Meters (ft)			
		FROM AIRPLANE CENTERLINE		MEAN
	AFT OF NOSE	R SIDE	L SIDE	HEIGHT FROM GROUND
On Nose Landing Gear leg:	6.57 m (21.56 ft)	on centerline		1.40 m (4.59 ft)
On left Main Landing Gear leg:	34.15 m (112.04 ft)		5.34 m (17.52 ft)	1.50 m (4.92 ft)
On right Main Landing Gear leg:	34.15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

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

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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



Ground Service Connections
Grounding Points
FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

5-4-3 Hydraulic System

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

Hydraulic System

**ON A/C A340-600

1. Ground service panels.

	DISTANCE: Meters (ft)			
		FROM AIRPLANE CENTERLINE		MEAN
	AFT OF NOSE	R SIDE	L SIDE	HEIGHT FROM GROUND
Green System:	42.00 m		1.50 m	2.10 m
(Access door 197 FB)	(137.80 ft)		(4.92 ft)	(6.89 ft)
Yellow System:	36.70 m	1.70 m		1.80 m
(Access door 196 PB)	(120.41 ft)	(5.58 ft)		(5.91 ft)
Blue System:	34.20 m		1.50 m	1.75 m
(Access door 195 MB)	(112.20 ft)		(4.92 ft)	(5.74 ft)

A. Reservoir pressurization.

On Blue ground service panel:

- one self-sealing connector Green reservoir pressurization.
- one self-sealing connector Blue and Yellow reservoir pressurization.

B. Reservoir filling.

On Green ground service panel:

- one self-sealing connector reservoir filling.
- one self-sealing connector reservoir filling (hand pump).

C. Ground test.

On each ground service panel:

- one self-sealing connector suction.
- one self-sealing connector delivery.

D. Accumulator charging.

On each ground service panel:

- one nitrogen charging connector - Power accumulator.

On Blue ground service panel:

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

- two nitrogen charging connectors - Parking/ultimate emergency brake accumulators.

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

**ON A/C A340-500

2. Ground service panels.

	DISTANCE: Meters (ft)			
		FROM AIRPLAN	IE CENTERLINE	MEAN
	AFT OF NOSE	R SIDE	L SIDE	HEIGHT FROM GROUND
Green System:	36.70 m		1.50 m	2.10 m
(Access door 197 FB)	(120.41 ft)		(4.92 ft)	(6.89 ft)
Yellow System:	31.40 m	1.70 m		1.80 m
(Access door 196 PB)	(103.02 ft)	(5.58 ft)		(5.91 ft)
Blue System:	28.85 m		1.50 m	1.75 m
(Access door 195 MB)	(94.65 ft)		(4.92 ft)	(5.74 ft)

A. Reservoir pressurization.

On Blue ground service panel:

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

On Green ground service panel:

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

On each ground service panel:

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

On each ground service panel:

- one nitrogen charging connector - Power accumulator.

On Blue ground service panel:

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

- two nitrogen charging connectors - Parking/ultimate emergency brake accumulators.

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

5-4-4 Electrical System

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

Electrical System

1. Electrical System.

	DISTANCE: Meters (ft)			
	FROM AIRPLANE CENTERLINE			MEAN HEIGHT
AFT OF NOSE	R SIDE	L SIDE	FROM GROUND	
A/C External Power: (Access door 121 EL)	7.00 m (22.97 ft)	on centerline		2.00 m (6.56 ft)

- A. External Power Receptacles:
 - two standard ISO R461 receptacles 90 KVA each.
- B. Power supply:
 - three phase, 400 Hz, 115/200V.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

5-4-5 Oxygen System

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

Oxygen System

- 1. Replenishment of high pressure oxygen source.
 - A. For the A340-500/600 aircraft (basic version), the oxygen source is replenished by replacing the oxygen cylinder installed in the avionics compartment.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

5-4-6 Fuel System

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

Fuel System

**ON A/C A340-600

1. Refuel/defuel couplings

	DISTANCE: Meters (ft)			
	AFT OF NOSE	FROM AIRPLAN R SIDE	IE CENTERLINE L SIDE	MEAN HEIGHT FROM GROUND
Refuel/defuel coupling, left: (Access door 522 HB)	37.10 m (121.71 ft)		12.60 m (41.33 ft)	5.00 m (16.40 ft)
Refuel/defuel coupling, right: (Access door 622 HB)	37.10 m (121.72 ft)	12.60 m (41.34 ft)		5.00 m (16.40 ft)

- A. Refuel/Defuel couplings:
 - standard ISO R45, 2.5 in., two per wing.
- B. Refuel/Defuel pressure/suction:
 - max. pressure: 3.45 bar (50.00 psi).
 - max. suction: 0.75 bar (11.00 psi).
- C. Flow rate:
 - 2 couplings (total/minute): 1576 I (416.34 US gal).
 - 4 couplings (total/minute): 1438 I (379.88 US gal).
- 2. Refuel/defuel control panel.

	DISTANCE: Meters (ft)			
		MEAN HEIGHT		
AFT OF NOSE	R SIDE	L SIDE	FROM GROUND	
Refuel/defuel control panel: (Access door 198 FB)	42.50 m (139.44 ft)	1.40 m (4.59 ft)		2.00 m (6.56 ft)

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500

3. Refuel/defuel couplings

	DISTANCE: Meters (ft)			
	AFT OF NOSE	FROM AIRPLAN	L SIDE	MEAN HEIGHT FROM GROUND
Refuel/defuel coupling, left: (Access door 522 HB)	31.40 m (103.02 ft)		12.60 m (41.33 ft)	5.00 m (16.40 ft)
Refuel/defuel coupling, right: (Access door 622 HB)	31.40 m (103.02 ft)	12.60 m (41.33 ft)		5.00 m (16.40 ft)

- A. Refuel/Defuel couplings:
 - standard ISO R45, 2.5 in., two per wing.
- B. Refuel/Defuel pressure/suction:
 - max. pressure: 3.45 bar (50.00 psi).
 - max. suction: 0.75 bar (11.00 psi).
- C. Flow rate:
 - 2 couplings (total/minute): 1576 I (416.34 US gal).
 - 4 couplings (total/minute): 1438 I (379.88 US gal).
- 4. Refuel/defuel control panel.

	DISTANCE: Meters (ft)			
		FROM AIRPLAN	IE CENTERLINE	MEAN HEIGHT
AFT OF NOSE	R SIDE	L SIDE	FROM GROUND	
Refuel/defuel control panel: (Access door 198 FB)	37.20 m (122.05 ft)	1.40 m (4.59 ft)		2.00 m (6.56 ft)

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

5-4-7 Pneumatic System

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

Pneumatic System

**ON A/C A340-600

1. High Pressure Connectors.

	DISTANCE: Meters (ft)			
		FROM AIRPLAN	FROM AIRPLANE CENTERLINE	
	AFT OF NOSE	R SIDE	L SIDE	HEIGHT FROM GROUND
Access door 193 DB:	29.71 m (97.47 ft)		0.35 m (1.15 ft)	1.75 m (5.74 ft)

- A. Connectors:
 - two standard MS33740, 3 in.
- 2. Low Pressure Connectors.

	DISTANCE: Meters (ft)			
		FROM AIRPLAN	IE CENTERLINE	MEAN
	AFT OF NOSE			HEIGHT
		R SIDE	L SIDE	FROM
				GROUND
Access door 193 BB:	28.75 m	on centerline		1.80 m
Access door 193 bb:	(94.32 ft)	on centerline		(5.91 ft)
Access door 193 GB:	28.75 m		0.63 m	1.80 m
7100000 4001 130 621	(94.32 ft)		(2.07 ft)	(5.91 ft)

- A. Connectors:
 - two standard SAE AS4262 type "B", 8 in.
- **ON A/C A340-500
- 3. High Pressure Connectors.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

	DISTANCE: Meters (ft)			
		FROM AIRPLAN	IE CENTERLINE	MEAN
	AFT OF NOSE	R SIDE	L SIDE	HEIGHT FROM GROUND
Access door 193 DB:	23.41 m (76.80 ft)		0.35 m (1.15 ft)	1.75 m (5.74 ft)

A. Connectors:

- two standard MS33740, 3 in.

4. Low Pressure Connectors.

	DISTANCE: Meters (ft)			
		FROM AIRPLAN	IE CENTERLINE	MEAN
	AFT OF NOSE			HEIGHT
		R SIDE	L SIDE	FROM
				GROUND
Access door 102 DD.	23.45 m	an antaulina		1.80 m
Access door 193 BB:	(76.94 ft)	on centerline		(5.91 ft)
Access door 193 GB:	23.45 m (76.94 ft)		0.63 m (2.07 ft)	1.80 m (5.91 ft)

A. Connectors:

- two standard SAE AS4262 type "B", 8 in.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

5-4-8 Potable Water System

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

Potable Water System

**ON A/C A340-600

1. Potable Water Ground Service Panel.

	DISTANCE: Meters (ft)			
		FROM AIRPLAN	IE CENTERLINE	MEAN
	AFT OF NOSE	R SIDE	L SIDE	HEIGHT FROM GROUND
Access door 164 AR:	58.75 m (192.75 ft)	0.50 m (1.64 ft)		3.50 m (11.48 ft)

- A. Connectors:
 - Roylin, 3/4 in.
- B. Capacity (three tanks standard configuration):
 - 1070 I (283 US gal).
- C. Filling pressure:
 - 1.72 bar (24.95 psi)/2.07 bar (30.02 psi).
- D. Flow rate:
 - 87.5 I/min (23.1 US gal/min).

**ON A/C A340-500

2. Potable Water Ground Service Panel.

	DISTANCE: Meters (ft)			
		FROM AIRPLAN	IE CENTERLINE	MEAN
	AFT OF NOSE			HEIGHT
		R SIDE	L SIDE	FROM
				GROUND
Access door 164 AR:	51.32 m	0.50 m		3.50 m
Access door 104 AR:	(168.37 ft)	(1.64 ft)		(11.48 ft)

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

- A. Connectors:
 - Roylin, 3/4 in.
- B. Capacity (two tanks standard configuration):
 - 700 l (185 US gal).
- C. Filling pressure:
 - 1.72 bar (24.95 psi)/2.07 bar (30.02 psi).
- D. Flow rate:
 - 87.5 l/min (23.1 US gal/min).

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

5-4-9 Oil System

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

Oil System

**ON A/C A340-600

1. Engine Oil Replenishment:

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

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

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

**ON A/C A340-500

2. Engine Oil Replenishment:

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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

A. Engine oil replenishment:

- one gravity filling cap.

B. Approximate tank capacity:

full level: 23.20 I (6.13 US gal). usable: 15.90 I (4.20 US gal).

**ON A/C A340-600

3. IDG Oil Replenishment:

One pressure filling connection per engine.

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

- A. IDG oil replenishment:
 - one ozone self-sealing pressure fill and overfill connector.
- B. Max. delivery pressure:
 - 2.41 bar (34.95 psi).
- C. Approximate max. oil capacity of the IDG:
 - 7.00 I (1.85 US gal).

**ON A/C A340-500

4. IDG Oil Replenishment:

One pressure filling connection per engine.

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

- A. IDG oil replenishment:
 - one ozone self-sealing pressure fill and overfill connector.
- B. Max. delivery pressure:
 - 2.41 bar (34.95 psi).
- C. Approximate max. oil capacity of the IDG:
 - 7.00 l (1.85 US gal).

**ON A/C A340-600

5. Starter Oil Replenishment:

One filling connection per engine.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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

- A. Pneumatic starter, oil replenishment:
 - one gravity filling plug.
- B. Approximate max. oil capacity of the starter:
 - 355 cc (12 fl.oz).

**ON A/C A340-500

6. Starter Oil Replenishment:

One filling connection per engine.

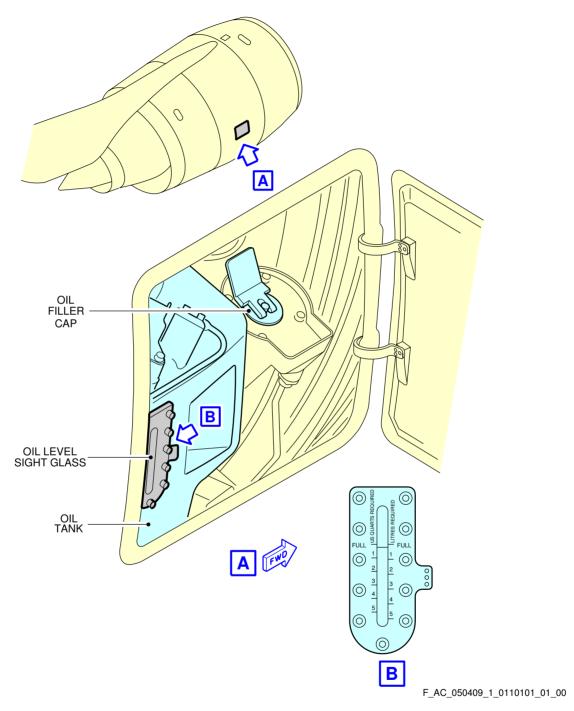
	DISTANCE: Meters (ft)			
		FROM AIRPLANE CENTERLINE		MEAN
	AFT OF NOSE	R SIDE	L SIDE	HEIGHT FROM GROUND
Engine 1:	31.00 m (101.71 ft)		19.72 m (64.70 ft)	1.80 m (5.91 ft)
Engine 2:	24.42 m (80.12 ft)		9.82 m (32.22 ft)	0.77 m (2.53 ft)
Engine 3:	24.42 m (80.12 ft)	8.92 m (29.27 ft)		0.77 m (2.53 ft)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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

- A. Pneumatic starter, oil replenishment:
 - one gravity filling plug.
- B. Approximate max. oil capacity of the starter:
 - 355 cc (12 fl.oz).

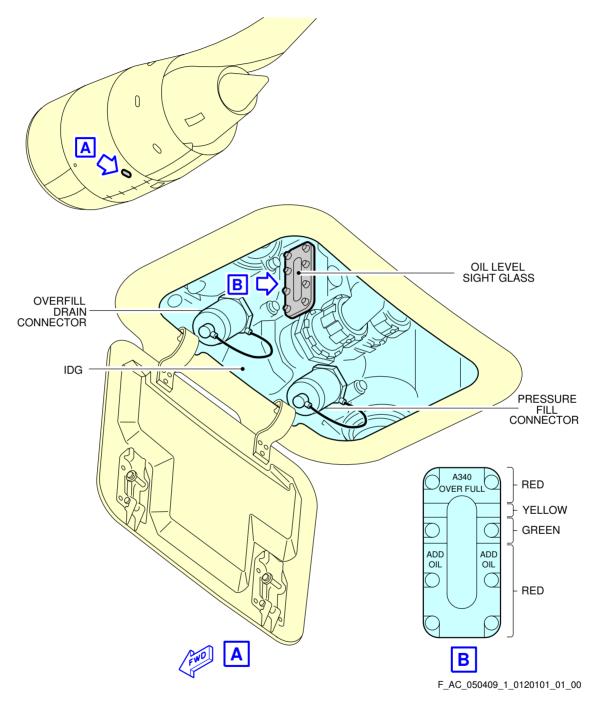
AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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



AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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

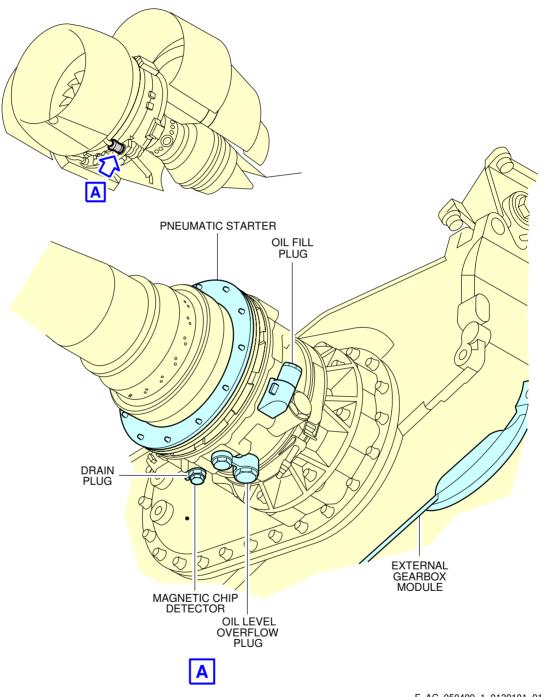


Ground Service Connections

IDG Oil Tank - RR TRENT 500 series engine
FIGURE 2

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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



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Ground Service Connections
Starter Oil Tank - RR TRENT 500 series engine
FIGURE 3

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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

APU Oil System

**ON A/C A340-600

1. APU Oil System.

APU oil gravity filling cap.

	DISTANCE: Meters (ft)		
	AFT OF NOSE	FROM AIRPLANE CENTERLINE (LEFT HAND)	MEAN HEIGHT FROM GROUND
APU Oil Replenishment:	71.00 m (232.94 ft)	0.40 m (1.31 ft)	8.00 m (26.25 ft)

A. Tank capacity (usable):

- APU Type: 331-350: 7.30 I (1.93 US gal).

- APU Type: 331-600: 11.00 l (2.91 US gal).

**ON A/C A340-500

2. APU Oil System.

APU oil gravity filling cap.

	DISTANCE: Meters (ft)			
	AFT OF NOSE	FROM AIRPLANE CENTERLINE (LEFT HAND)	MEAN HEIGHT FROM GROUND	
APU Oil Replenishment:	63.50 m (208.33 ft)	0.40 m (1.31 ft)	8.00 m (26.25 ft)	

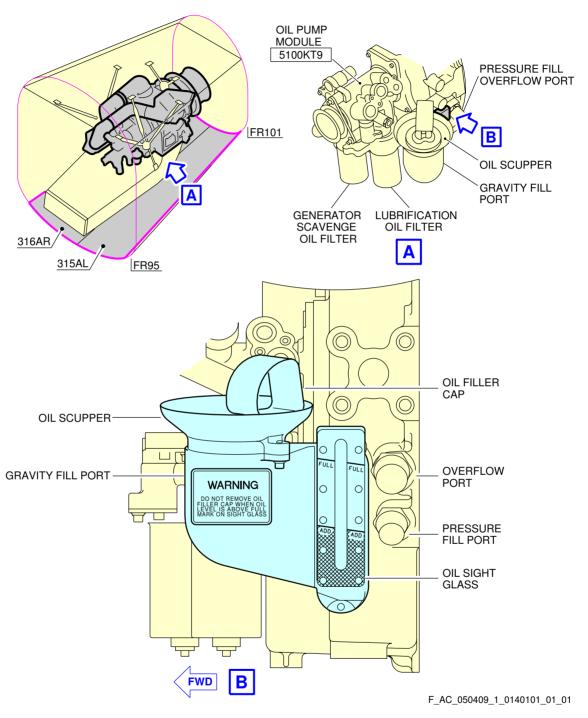
A. Tank capacity (usable):

- APU Type: 331-350: 7.30 I (1.93 US gal).

- APU Type: 331-600: 11.00 I (2.91 US gal).

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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



Ground Service Connections APU Oil Tank FIGURE 4

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

5-4-10 Vacuum Toilet System

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

Vacuum Toilet System

**ON A/C A340-600

1. Vacuum Toilet System.

	DISTANCE: Meters (ft)			
	FROM AIRPLANE CENTERLINE			MEAN HEIGHT
	AFT OF NOSE	R SIDE	L SIDE	FROM GROUND
Waste Service panel: (Access door 171 AL)	67.30 m (220.80 ft)		0.10 m (0.33 ft)	4.00 m (13.12 ft)

- A. Connectors:
 - flushing and filling: Roylin, 1 in.
 - draining: Roylin, 4 in.
- B. Capacity (three tanks standard configuration):
 - 1050 I (277.38 US gal).
- C. Operating pressure:
 - 0.07 bar (1.02 psi)/0.70 bar (10.15 psi).
- D. Flow rate:
 - 87.5 l/min (23.1 US gal/min).

**ON A/C A340-500

2. Vacuum Toilet System.

	DISTANCE: Meters (ft)			
		FROM AIRPLAN	MEAN HEIGHT	
	AFT OF NOSE	R SIDE	L SIDE	FROM GROUND
Waste Service panel: (Access door 171 AL)	59.86 m (196.39 ft)		0.10 m (0.33 ft)	4.00 m (13.12 ft)

A. Connectors:

- flushing and filling: Roylin, 1 in.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

- draining: Roylin, 4 in.
- B. Capacity (three tanks standard configuration):
 - 1050 l (277.38 US gal).
- C. Operating pressure:
 - 0.07 bar (1.02 psi)/0.70 bar (10.15 psi).
- D. Flow rate:
 - 87.5 l/min (23.1 US gal/min).

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

5-5-0 Engine Starting Pneumatic Requirements

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

Engine Starting Pneumatic Requirements

1. Engine Starting Pneumatic Requirements.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

5-5-1 Low Temperatures

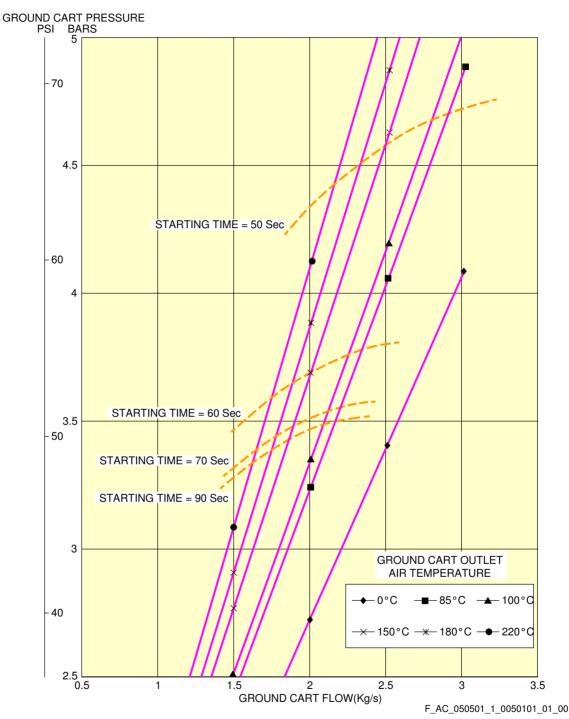
**ON A/C A340-500 A340-600

Low Temperature -40 °C (-40 °F)

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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



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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

5-5-2 Ambient Temperatures

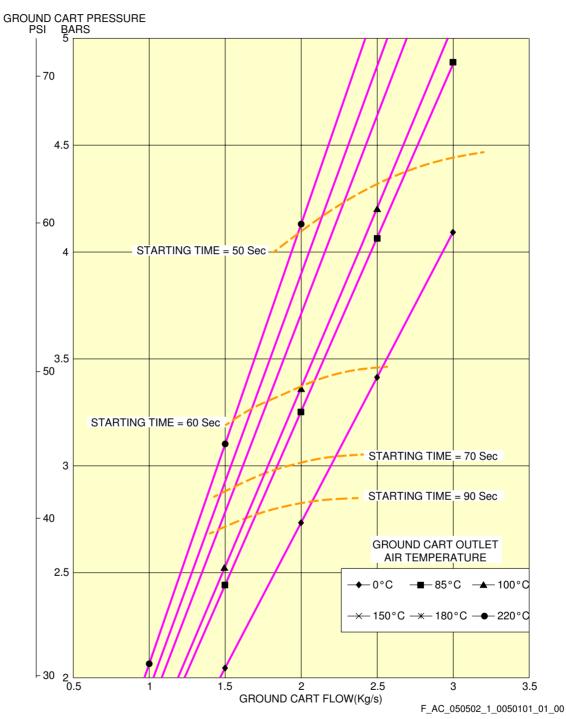
**ON A/C A340-500 A340-600

Ambient Temperature +15°C (+59°F)

1. This section provides the engine starting pneumatic requirements for a temperature of $+15\,^{\circ}$ C $(+59\,^{\circ}$ F).

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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



Engine Starting Pneumatic Requirements Temperature $+15\,^{\circ}$ C $(+59\,^{\circ}$ F) – RB 211 TRENT 500 series engine FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

5-5-3 High Temperatures

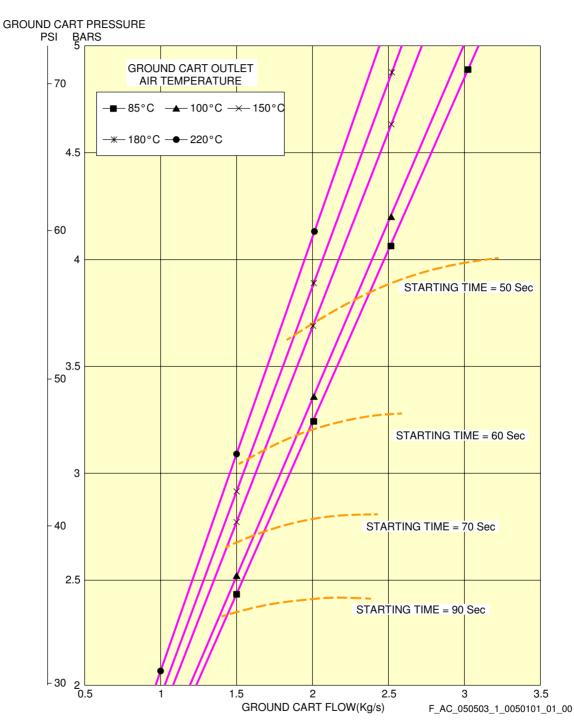
**ON A/C A340-500 A340-600

High Temperature +50 °C (122 °F)

1. This section provides the engine starting pneumatic requirements for a temperature upper $+50\,^{\circ}$ C $(+122\,^{\circ}$ F).

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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



Engine Starting Pneumatic Requirements Temperature $+50\,^{\circ}$ C ($+122\,^{\circ}$ F) - RB 211 TRENT 500 series engine FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

5-6-0 Ground Pneumatic Power Requirements

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

Ground Pneumatic Power Requirements

1. Ground Pneumatic Power Requirements.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

5-6-1 Heating

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

Heating

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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

THIS CHART ASSUMES:

- INITIAL CABIN TEMPERATURE: -23°C (-9.4°F)

- TEMPERATURE AT GROUND CONNECTION: 70°C (158°F)

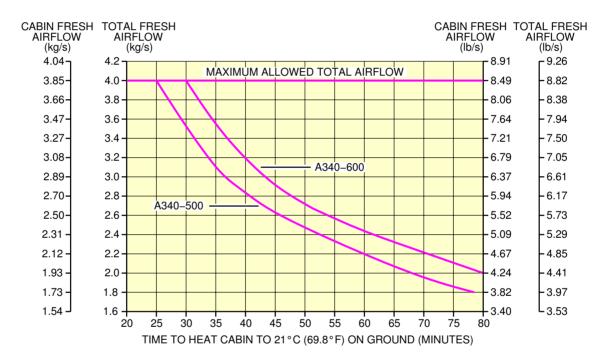
- EMPTY CABIN

- ELECTRICAL LOAD:

. A340-500: 4600 W

. A340-600: 5200 W

. A340–600: 5200 W – RECIRCULATION: ON



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

F_AC_050601_1_0030101_01_00

Ground Pneumatic Power Requirements
Heating
FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

5-6-2 Cooling

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

Cooling

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

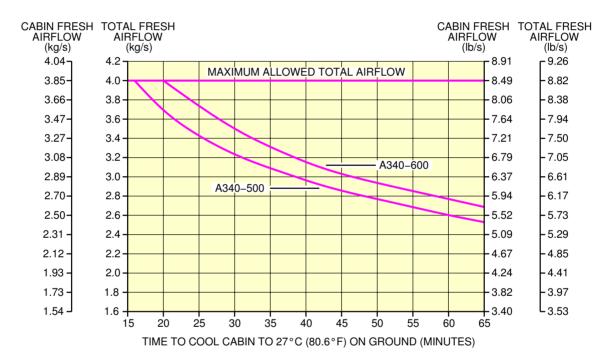
**ON A/C A340-500 A340-600

- THIS CHART ASSUMES:

 INITIAL CABIN TEMPERATURE: 38°C (100.4°F)

 TEMPERATURE AT GROUND CONNECTION: 1.5°C (34.7°F)

 EMPTY CABIN
- ELECTRICAL LOAD:
 - . A340–500: 4600 W . A340–600: 5200 W
- RECIRCULATION: ON



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

F_AC_050602_1_0030101_01_00

Ground Pneumatic Power Requirements Cooling FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

5-7-0 Preconditioned Airflow Requirements

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

Preconditioned Airflow Requirements

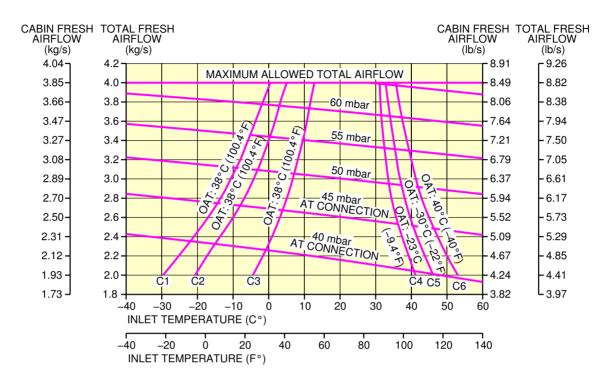
1. This section gives the preconditioned airflow requirements for cabin air conditioning.

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

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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



- C1 CURVE ASSUMES:
 CABIN TEMPERATURE: 27°C (80.6°F)
 MAX. PASSENGER LOAD, 10 ATTENDANTS, 3 CREW MEMBERS

 - RECIRCULATION: ON ELECTRICAL LOAD: 6200 W
 - SOLAR RADIATION: 7990 W
 - IFE: ON

C2 CURVE ASSOMES:

- SAME CONDITIONS AS C1 BUT WITH IFE OFF C3 CURVE ASSUMES:
- SAME CONDITIONS AS C1 BUT WITHOUT PASSENGERS
 C4, C5 AND C6 CURVES ASSUME:
 CABIN TEMPERATURE: 21°C (69.8°F)
- - NO PASSENGERS OR ATTENDANTS RECIRCULATION: ON

 - ELECTRICAL LOAD: 5200 W

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

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

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Preconditioned Airflow Requirements FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

5-8-0 Ground Towing Requirements

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

Ground Towing Requirements

1. This section provides information on aircraft towing.

The A340 is designed with means for conventional or towbarless towing.

Information/procedures can be found for both in chapter 9 of the Aircraft Maintenance Manual. Status on towbarless towing equipment qualification can be found in SIL 09-002.

It is possible to tow or push the aircraft, at maximum ramp weight with engines at zero or up to idle thrust, using a tow bar attached to the nose gear leg (refer to AMM chapter 9 for conditions and limitations). One tow bar fitting is installed at the front of the leg (optional towing fitting for towing from the rear of the NLG available).

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

- The first part of this section shows the chart to determine the draw bar pull and tow tractor mass requirements as function of the following physical characteristics:
 - aircraft weight
 - slope
 - number of engines at idle

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

- The second part of this section supplies guidelines for the tow bar.

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

2. Towbar design guidelines

The aircraft towbar shall respect the following norms:

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

A conventional type tow bar is required which should be equipped with a damping system to protect the nose gear against jerks and with towing shear pins :

- A traction shear pin calibrated at 40 400 daN (90 822 lbf)
- A torsion pin calibrated at 4 800 m.daN (424 836 lbf.in)

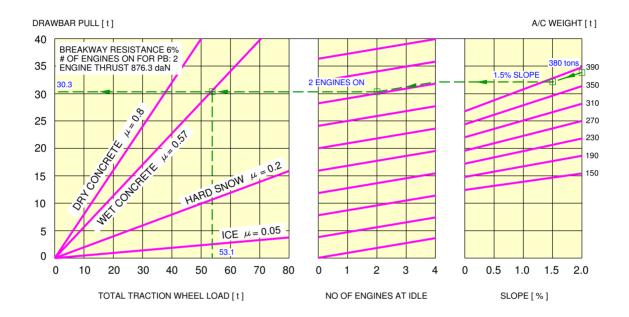
AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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

There is a variety of shear pin arrangements and the values of the shear pins depend on them. We hereafter show two arrangements classically used on towbars.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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



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

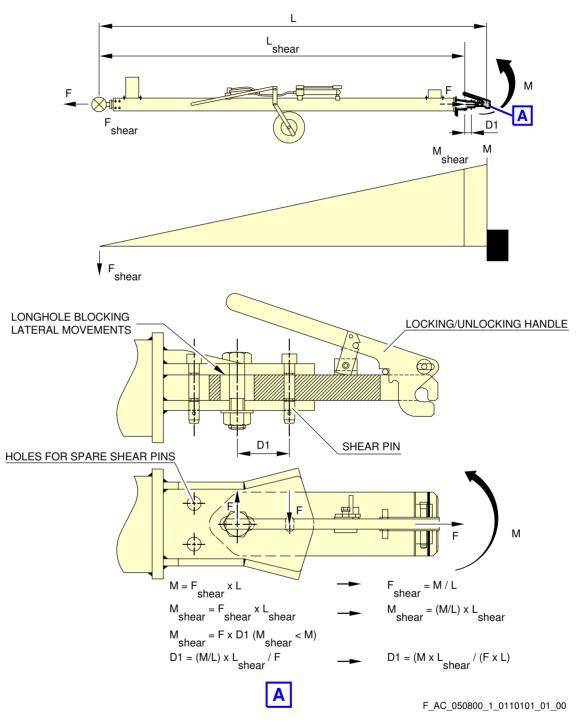
- ON THE RIGHT HAND SIDE OF THE GRAPH, CHOOSE THE RELEVANT AIRCRAFT WEIGHT (380 t),
- FROM THIS POINT DRAW A PARALLEL LINE TO THE REQUIRED SLOPE PERCENTAGE (1.5%),
- FROM THIS POINT OBTAINED DRAW A STRAIGHT HORIZONTAL LINE UNTIL NO OF ENGINES AT IDLE = 4,
- FROM THIS POINT DRAW A PARALLEL LINE TO THE REQUESTED NUMBER OF ENGINES (1),
- FROM THIS POINT DRAW A STRAIGHT HORIZONTAL LINE TO THE DRAWBAR PULL AXIS,
- THE Y-COORDINATE OBTAINED IS THE NECESSARY DRAWBAR PULL FOR THE TRACTÓR (30.3 t),
- SEARCH THE INTERSECTION WITH THE "WET CONCRETE" LINE.
- THE OBTAINED X-COORDINATE IS THE RECOMMENDED MINIMUM TRACTOR WEIGHT (53.1 t).

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Ground Towing Requirements FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

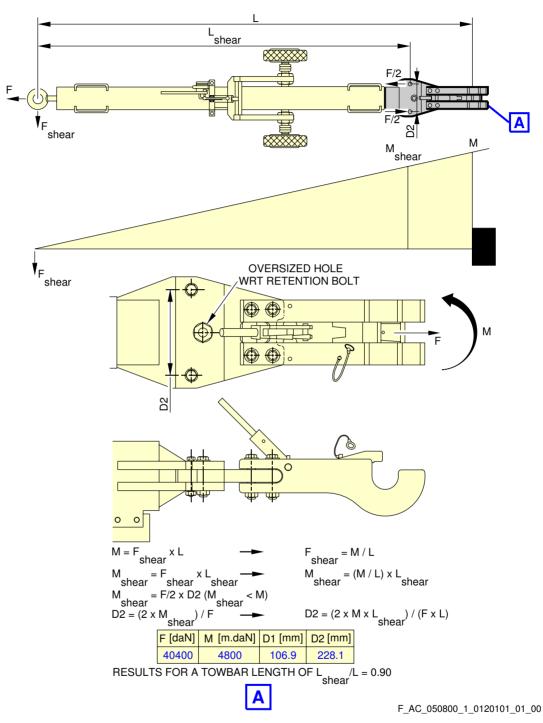
**ON A/C A340-500 A340-600



Ground Towing Requirements Typical tow bar configuration 1 FIGURE 2

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

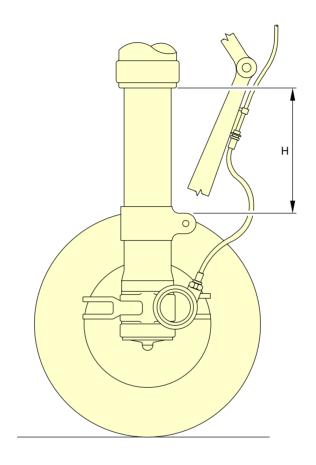
**ON A/C A340-500 A340-600



Ground Towing Requirements Typical tow bar configuration 2 FIGURE 3

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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



MAKE SURE THAT THE DIMENSION "H" OF THE NLG IS NEVER GREATER THAN 310 mm (12.2047 in.) WHEN YOU TOW THE AIRCRAFT.

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Ground Towing Requirements Maximum Extension of the NLG Shock Absorber FIGURE 4

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

OPERATING CONDITIONS

6-1-0 Engine Exhaust Velocities and Temperatures

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

Engine Exhaust Velocities and Temperatures

1. General

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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

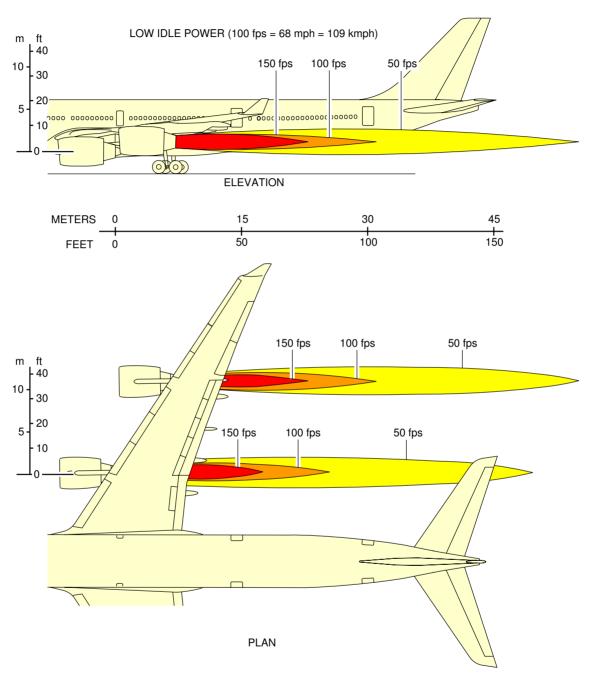
**ON A/C A340-500 A340-600

Engine Exhaust Velocities Contours - Ground Idle Power

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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



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Engine Exhaust Velocities Ground Idle Power - RR TRENT 500 series engine FIGURE $\bf 1$

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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

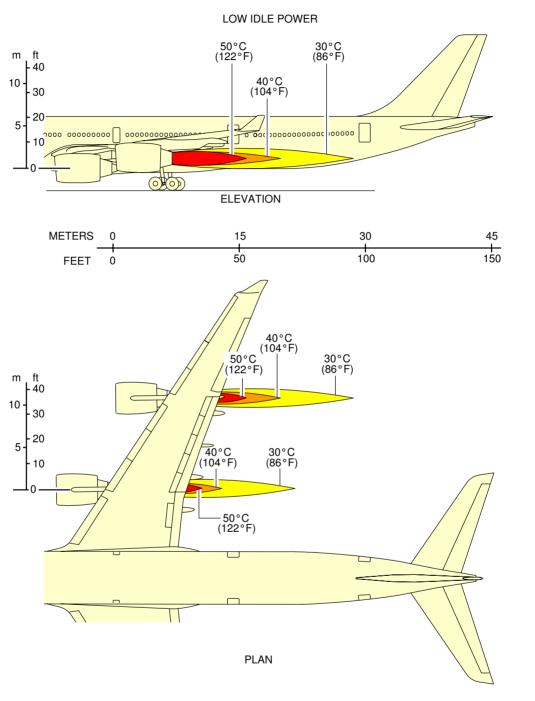
**ON A/C A340-500 A340-600

Engine Exhaust Temperatures Contours - Ground Idle Power

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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



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 $\begin{array}{c} {\sf Engine} \ {\sf Exhaust} \ {\sf Temperatures} \\ {\sf Ground} \ {\sf Idle} \ {\sf Power} \ - \ {\sf RR} \ {\sf TRENT} \ 500 \ {\sf series} \ {\sf engine} \\ {\sf FIGURE} \ 1 \end{array}$

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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

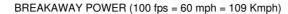
**ON A/C A340-500 A340-600

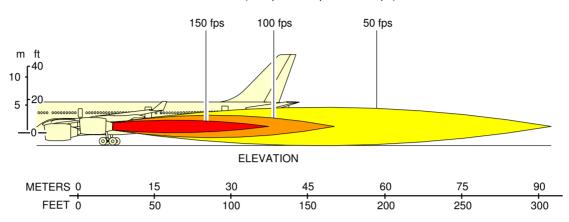
Engine Exhaust Velocities Contours - Breakaway Power

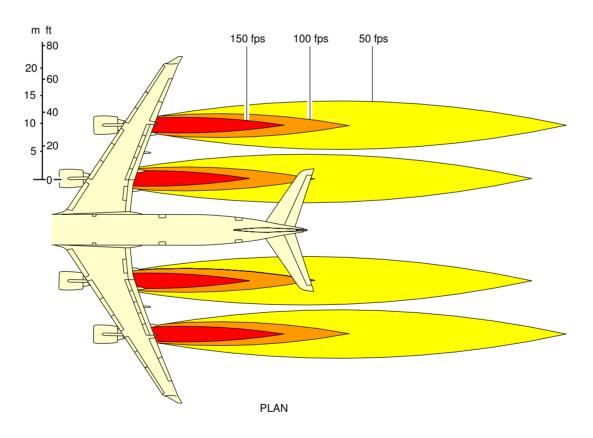
1. This section gives engine exhaust velocities contours at breakaway power.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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







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Engine Exhaust Velocities
Breakaway Power - RR TRENT 500 series engine
FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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

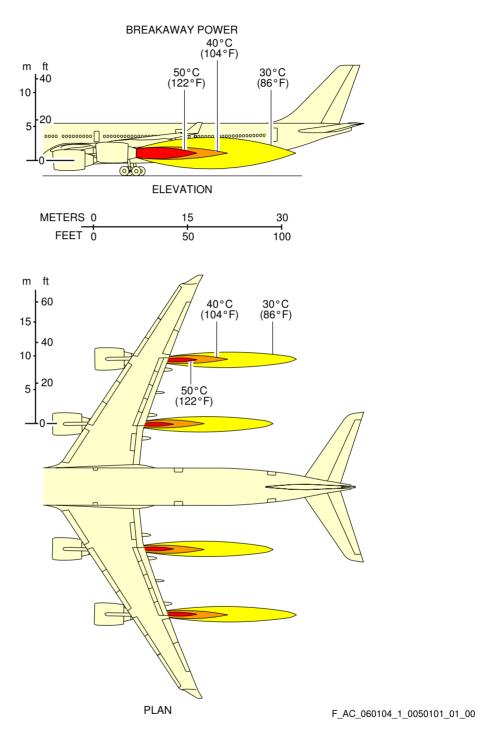
**ON A/C A340-500 A340-600

Engine Exhaust Temperatures Contours - Breakaway Power

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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



AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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

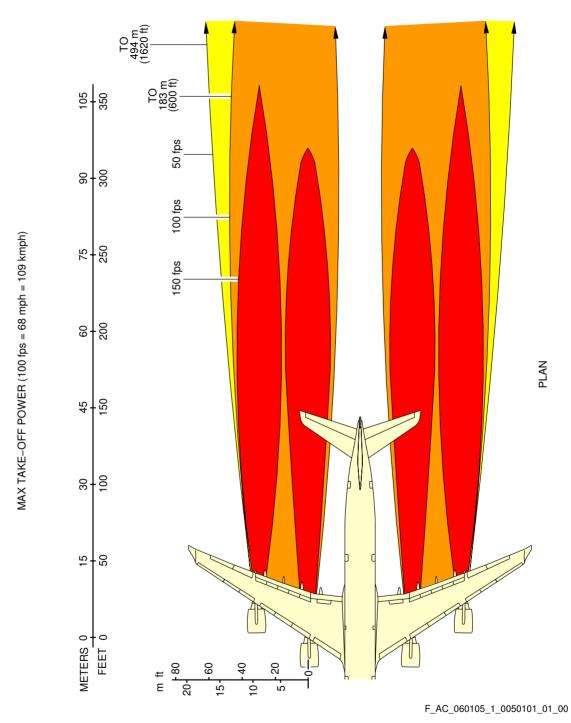
**ON A/C A340-500 A340-600

Engine Exhaust Velocities Contours - Takeoff Power

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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



AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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

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

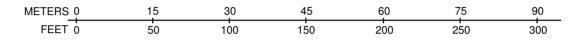
Engine Exhaust Temperatures Contours - Takeoff Power

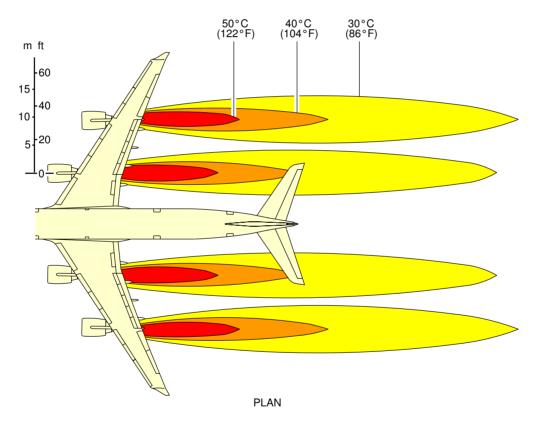
1. This section gives engine exhaust temperatures contours at takeoff power.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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

MAX TAKE-OFF POWER





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 $\begin{array}{c} \hbox{Engine Exhaust Temperatures} \\ \hbox{Takeoff Power - RR TRENT 500 series engine} \\ \hbox{FIGURE 1} \end{array}$

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

6-2-0 Airport and Community Noise

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

Airport and Community Noise Data

1. Airport and Community Noise Data

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

6-2-1 Noise Data

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

Noise Data

- 1. Noise Data for RR TRENT 500 series engine
 - A. Description of test conditions:

The arc of circle (radius = 60 m (196.85 ft)), with microphones 1.2 m (3.94 ft) high, is centered on the position of the noise reference point.

A.P.U.: off; E.C.S.: Packs off.

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

The meteorological parameters measured $1.6\ m\ (5.25\ ft)$ from the ground on the day of test were as follows:

- Temperature: 20 °C (68 °F)

- Relative humidity: 78%

- Atmospheric pressure: 1013 hPa

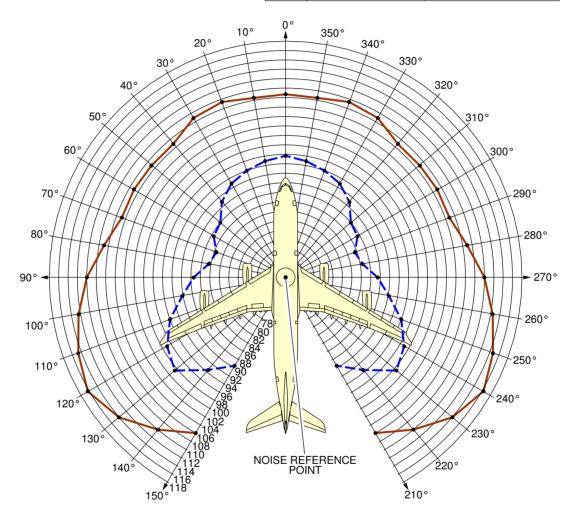
Wind speed: Negligible

- No rain

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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

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



F_AC_060201_1_0050101_01_00

Airport and Community Noise RR TRENT 500 series engine FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

6-3-0 Danger Areas of Engines

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

Danger Areas of Engines

1. Danger Areas of the Engines.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

6-3-1 Ground Idle Power

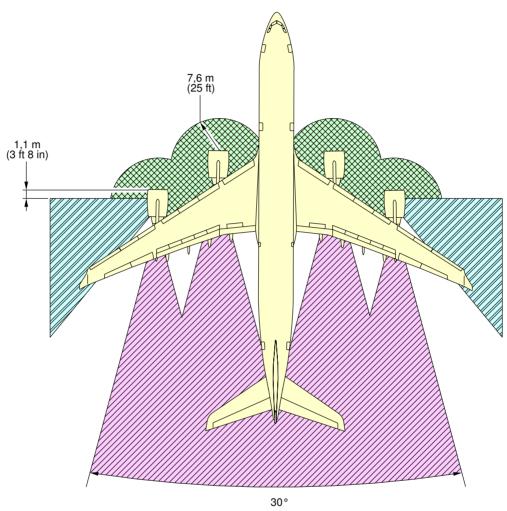
**ON A/C A340-500 A340-600

Ground Idle Power

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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



TO 48,8 m (160 ft) AFT OF EXHAUST NOZZLES

INTAKE SUCTION DANGER AREA MINIMUM IDLE POWER

EXHAUST DANGER AREA

ENTRY CORRIDOR

DEF0004201A

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Danger Areas of Engines RR TRENT 500 series engine FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

6-3-2 Breakaway Power

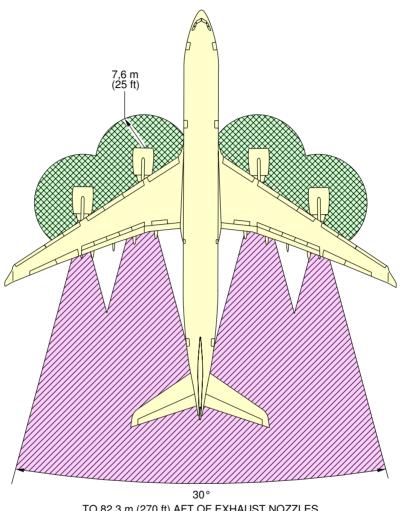
**ON A/C A340-500 A340-600

Breakaway Power

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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



TO 82.3 m (270 ft) AFT OF EXHAUST NOZZLES

INTAKE SUCTION DANGER AREA BREAKWAY POWER

EXHAUST DANGER AREA

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Danger Areas of Engines RR TRENT 500 series engine FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

6-3-3 Takeoff Power

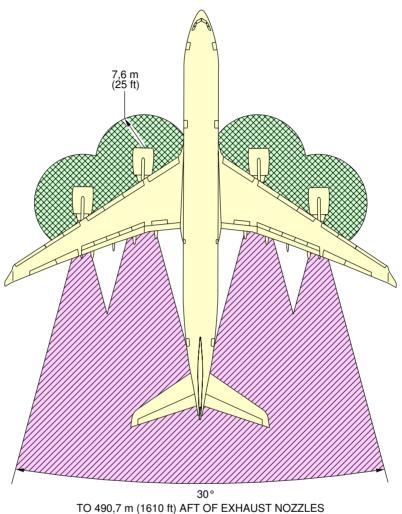
**ON A/C A340-500 A340-600

Takeoff Power

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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



INTAKE SUCTION DANGER AREA MAX TAKE-OFF

EXHAUST DANGER AREA

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Danger Areas of Engines RR TRENT 500 series engine FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

6-4-0 APU Exhaust Velocities and Temperatures

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

APU Exhaust Velocities and Temperatures

1. APU Exhaust Velocities and Temperatures.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

6-4-1 APU

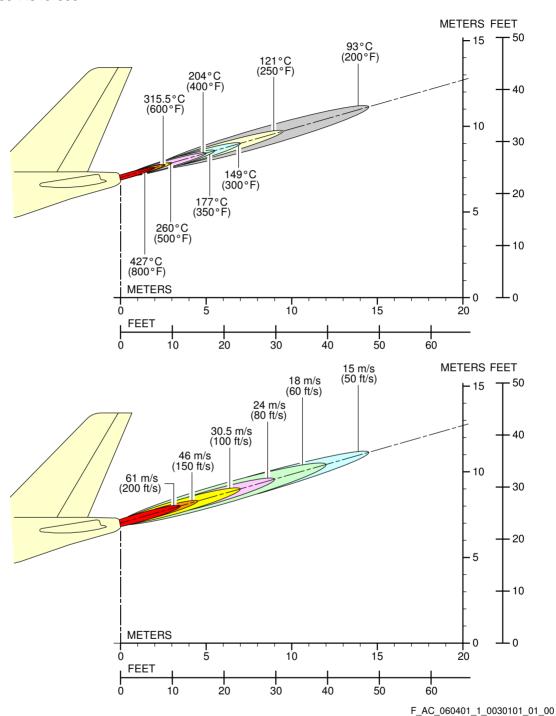
**ON A/C A340-500 A340-600

<u>APU - GARRETT</u>

1. This section gives APU exhaust velocities and temperatures.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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



Exhaust Velocities and Temperatures GARRETT GTCP 331-600 (A) FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

PAVEMENT DATA

7-1-0 General Information

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

General Information

1. General Information

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

To help in the interpolation between the discrete values shown, each airplane configuration is shown with a minimum range of five loads on the main landing gear.

All curves on the charts represent data at a constant specified tire pressure with:

- the airplane loaded to the maximum ramp weight
- the CG at its maximum permissible aft position.

Pavement requirements for commercial airplanes are derived from the static analysis of loads imposed on the main landing gear struts.

Section 7-2-0, presents basic data on the landing gear footprint configuration, maximum ramp weights and tire sizes and pressures.

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

Section 7-4, contains charts to find these loads throughout the stability limits of the airplane at rest on the pavement.

These main landing gear loads are used as the point of entry to the pavement design charts which follow, interpolating load values where necessary.

Section 7-5-1 uses procedures in Instruction Report No S-77-1 "Procedures for Development of CBR Design Curves", dated June 1977 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, Mississipi.

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

The flexible pavement charts in Section 7-6-1 show LCN against equivalent single wheel load, and equivalent single wheel load against pavement thickness.

The rigid pavement charts in Section 7-8-2 shown LCN against equivalent single wheel load, and equivalent single wheel load against radius of relative stiffness.

Section 7-9-0 provides ACN data prepared according to the ACN/PCN system as referenced in ICAO Annex 14, "Aerodromes", Volume 1 "Aerodrome Design and Operations" Fourth Edition July 2004, incorporating Amendments 1 to 6.

The ACN/PCN system provides a standardized international airplane/pavement rating system replacing the various S, T, TT, LCN, AUW, ISWL, etc... rating systems used throughout the world.

ACN is the Aircraft Classification Number and PCN is the corresponding Pavement Classification Number.

An aircraft having an ACN equal to or less than the PCN can operate without restriction on the pavement.

Numerically the ACN is two times the derived single wheel load expressed in thousands of kilograms.

The derived single wheel load is defined as the load on a single tire inflated to 1.25 Mpa (181 psi) that would have the same pavement requirements as the aircraft.

Computationally the ACN/PCN system uses PCA program PDILB for rigid pavements and S-77-1 for flexible pavements to calculate ACN values. The Airport Authority must decide on the method of pavement analysis and the results of their evaluation shown as follows:

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

Section 7-9-1 shows the aircraft ACN values for flexible pavements.

The four subgrade categories are:

- A. High Strength CBR 15
- B. Medium Strength CBR 10

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

- C. Low Strength CBR 6
- D. Ultra Low Strength CBR 3

Section 7-9-2 shows the aircraft ACN for rigid pavements.

The four subgrade categories are:

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

A. Flexible Pavement

The procedure that follows is used to develop flexible pavement design curves such as those shown in Section 7-5-1.

- With the scale for pavement thickness at the bottom and the scale for CBR at the top, an arbitrary line is drawn representing 10 000 coverages.
- Incremental values of the weight on the main landing gear are then plotted.
- Annual departure lines are drawn based on the load lines of the weight on the main landing gear that is shown on the graph.

Sextion 7-7-1 gives the rigid pavement design curves that have been prepared with the use of the Westergaard Equation. This is in general accordance with the procedures outlined in the Portland Cement Association Publications, "Design of Concrete Airport Pavement", 1973 and "Computer Program for Airport Pavement Design", (Program PDILB), 1967 both by Robert G. Packard.

B. Rigid pavement

The procedure that follows is used to develop rigid pavement design curves such as those shown in Section 7-7-1.

- With the scale for pavement thickness on the left and the scale for allowable working stress on the right, an arbitrary line load line is drawn. This represents the main landing gear maximum weight to be shown.
- All values of the subgrade modulus (k values) are then plotted.
- Additional load lines for the incremental values of weight on the main landing gear are drawn on the basis of the curve for $k = 80 \text{ MN/m}^3$ already established.

All Load Classification Number (LCN) curves shown in Section 7-6-1 and Section 7-8-2 have been developed from a computer program based on data provided in International Civil Aviation Organisation (ICAO) document 7920-AN/865/2, Aerodrome Manual, Part 2, "Aerodrome Physical Characteristics", Second Edition, 1965.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

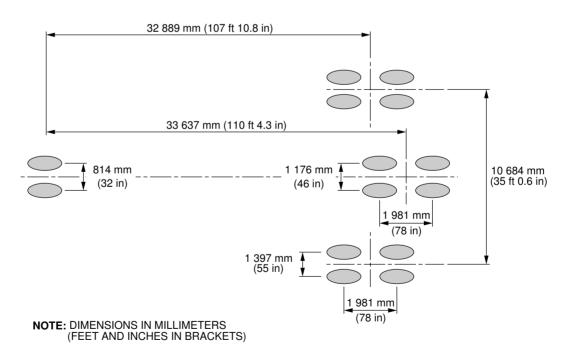
- 7-2-0 Landing Gear Footprint
- **ON A/C A340-500WV0xx A340-500WV1xx A340-600WV0xx A340-600WV1xx

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600WV0xx

MAXIMUM RAMP WEIGHT	366 200 kg (807 330 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 365 000 kg – A340–600 WV0xx
NOSE TIRE SIZE	45x18R17 36PR
NOSE TIRE PRESSURE	13.7 bar (199 psi)
WING GEAR TIRE SIZE	1 400x530R23 40PR
WING GEAR TIRE PRESSURE	16.1 bar (234 psi)
CENTER GEAR TIRE SIZE	1 400x530R23 40PR
CENTER GEAR TIRE PRESSURE	15 bar (218 psi)



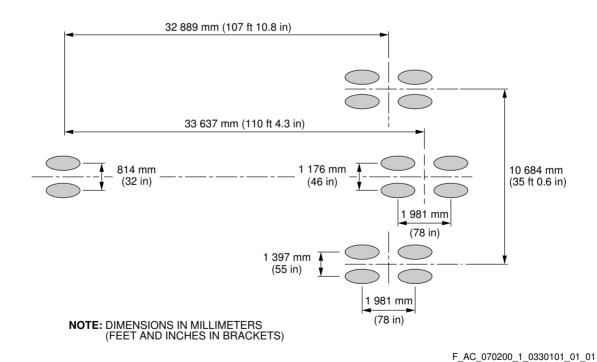
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Landing Gear Footprint MTOW 365 000 kg FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

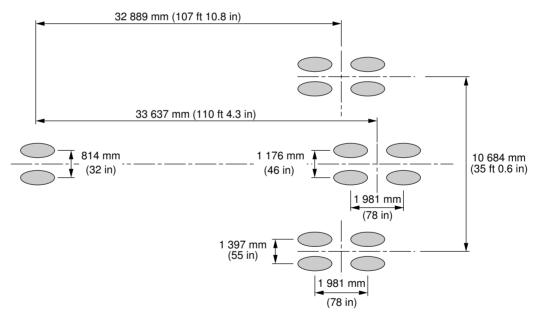
**ON A/C A340-600WV0xx

MAXIMUM RAMP WEIGHT	369 200 kg (813 950 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 368 000 kg – A340–600 WV0xx
NOSE TIRE SIZE	45x18R17 36PR
NOSE TIRE PRESSURE	13.7 bar (199 psi)
WING GEAR TIRE SIZE	1 400x530R23 40PR
WING GEAR TIRE PRESSURE	16.1 bar (234 psi)
CENTER GEAR TIRE SIZE	1 400x530R23 40PR
CENTER GEAR TIRE PRESSURE	15 bar (218 psi)



Landing Gear Footprint MTOW 368 000 kg FIGURE 2

MAXIMUM RAMP WEIGHT	366 200 kg (807 330 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 365 000 kg – A340–600 WV1xx
NOSE TIRE SIZE	45x18R17 36PR
NOSE TIRE PRESSURE	13.9 bar (201 psi)
WING GEAR TIRE SIZE	1 400x530R23 40PR
WING GEAR TIRE PRESSURE	16.1 bar (234 psi)
CENTER GEAR TIRE SIZE	1 400x530R23 40PR
CENTER GEAR TIRE PRESSURE	16.1 bar (234 psi)



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

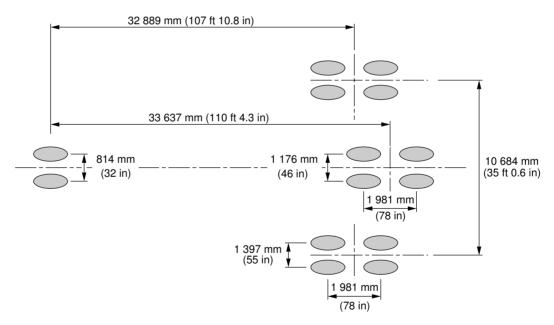
F_AC_070200_1_0420101_01_00

Landing Gear Footprint MTOW 365 000 kg FIGURE 3

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600WV1xx

MAXIMUM RAMP WEIGHT	381 200 kg (840 400 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 365 000 kg – A340–500 WV0xx
NOSE TIRE SIZE	45x18R17 36PR
NOSE TIRE PRESSURE	13.9 bar (201 psi)
WING GEAR TIRE SIZE	1 400x530R23 40PR
WING GEAR TIRE PRESSURE	16.1 bar (234 psi)
CENTER GEAR TIRE SIZE	1 400x530R23 40PR
CENTER GEAR TIRE PRESSURE	16.1 bar (234 psi)

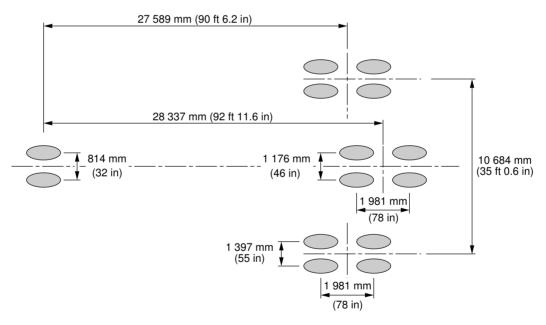


NOTE: DIMENSIONS IN MILLIMETERS (FEET AND INCHES IN BRACKETS)

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Landing Gear Footprint MTOW 380 000 kg FIGURE 4

MAXIMUM RAMP WEIGHT	369 200 kg (813 950 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 368 000 kg – A340–500 WV0xx
NOSE GEAR TIRE SIZE	45x18R17 36PR
NOSE GEAR TIRE PRESSURE	14.1 bar (205 psi)
WING GEAR TIRE SIZE	1 400x530R23 40PR
WING GEAR TIRE PRESSURE	16.1 bar (234 psi)
CENTER GEAR TIRE SIZE	1 400x530R23 40PR
CENTER GEAR TIRE PRESSURE	15 bar (218 psi)

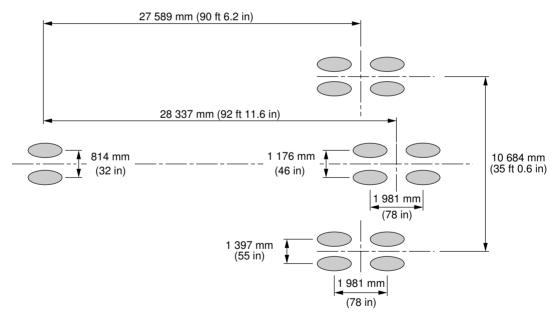


NOTE: DIMENSIONS IN MILLIMETERS (FEET AND INCHES IN BRACKETS)

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Landing Gear Footprint MTOW 368 000 kg FIGURE 5

MAXIMUM RAMP WEIGHT	373 200 kg (822 775 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 372 000 kg – A340–500 WV0xx
NOSE GEAR TIRE SIZE	45x18R17 36PR
NOSE GEAR TIRE PRESSURE	14.1 bar (205 psi)
WING GEAR TIRE SIZE	1 400x530R23 40PR
WING GEAR TIRE PRESSURE	16.1 bar (234 psi)
CENTER GEAR TIRE SIZE	1 400x530R23 40PR
CENTER GEAR TIRE PRESSURE	15 bar (218 psi)

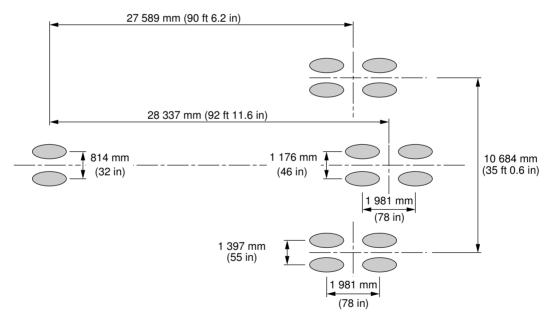


NOTE: DIMENSIONS IN MILLIMETERS (FEET AND INCHES IN BRACKETS)

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Landing Gear Footprint MTOW 372 000 kg FIGURE 6

MAXIMUM RAMP WEIGHT	375 200 kg (827 175 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 374 000 kg – A340–500 WV0xx
NOSE GEAR TIRE SIZE	45x18R17 36PR
NOSE GEAR TIRE PRESSURE	14.1 bar (205 psi)
WING GEAR TIRE SIZE	1 400x530R23 40PR
WING GEAR TIRE PRESSURE	16.1 bar (234 psi)
CENTER GEAR TIRE SIZE	1 400x530R23 40PR
CENTER GEAR TIRE PRESSURE	15 bar (218 psi)

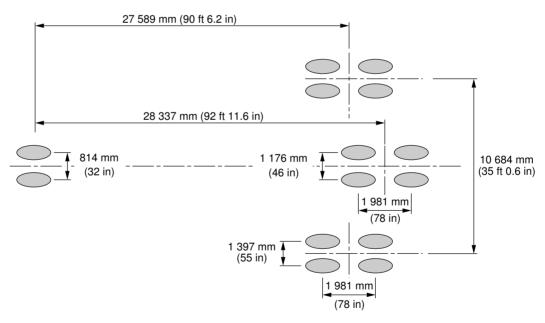


NOTE: DIMENSIONS IN MILLIMETERS (FEET AND INCHES IN BRACKETS)

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Landing Gear Footprint MTOW 374 000 kg FIGURE 7

MAXIMUM RAMP WEIGHT	373 200 kg (822 775 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 372 000 kg – A340–500 WV1xx
NOSE GEAR TIRE SIZE	45x18R17 36PR
NOSE GEAR TIRE PRESSURE	14.1 bar (205 psi)
WING GEAR TIRE SIZE	1 400x530R23 40PR
WING GEAR TIRE PRESSURE	16.1 bar (234 psi)
CENTER GEAR TIRE SIZE	1 400x530R23 40PR
CENTER GEAR TIRE PRESSURE	16.1 bar (234 psi)



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

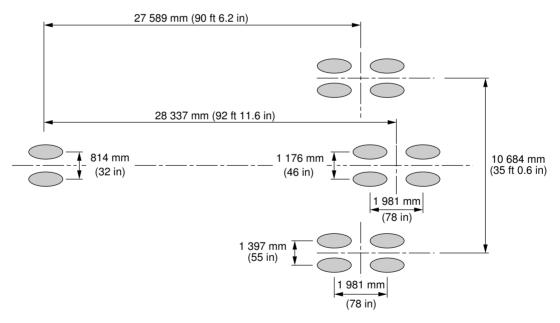
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Landing Gear Footprint MTOW 372 000 kg FIGURE 8

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500WV1xx

MAXIMUM RAMP WEIGHT	381 200 kg (840 400 lb)
PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	See Section 7–4–1 Figure: Landing Gear Loading on Pavement – MTOW 380 000 kg – A340–500 WV1xx
NOSE GEAR TIRE SIZE	45x18R17 36PR
NOSE GEAR TIRE PRESSURE	14.1 bar (205 psi)
WING GEAR TIRE SIZE	1 400x530R23 40PR
WING GEAR TIRE PRESSURE	16.1 bar (234 psi)
CENTER GEAR TIRE SIZE	1 400x530R23 40PR
CENTER GEAR TIRE PRESSURE	16.1 bar (234 psi)



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

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Landing Gear Footprint MTOW 380 000 kg FIGURE 9

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

7-3-0 Maximum Pavement Loads

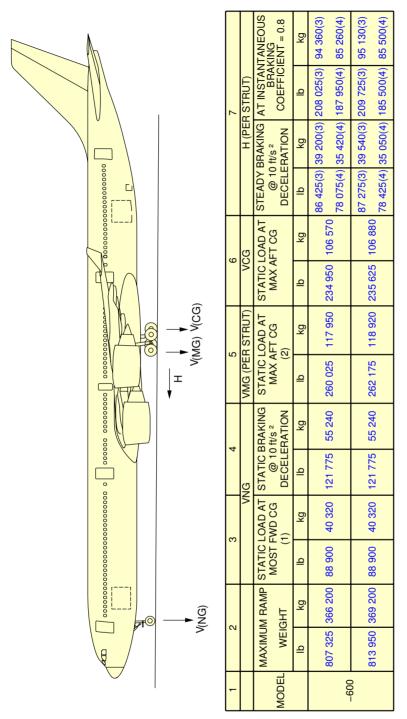
**ON A/C A340-500WV0xx A340-500WV1xx A340-600WV0xx A340-600WV1xx

Maximum Pavement Loads

1. This section gives Maximum Pavement Loads.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600WV0xx



MAXIMUM VERTICAL NOSE GEAR GROUND LOAD AT MOST FORWARD CG MAXIMUM VERTICAL MAIN GEAR GROUND LOAD AT MOST AFT CG MAXIMUM VERTICAL CENTER GEAR GROUND LOAD AT MOST AFT CG

MAXIMUM HORIZONTAL GROUND LOAD FROM BRAKING

FWD CG = 16 % MAC AT 354 600 kg

AFT CG =35 % MAC AT 366 200 kg AND 34.4 % MAC AT 369 200 kg BRAKED MAIN GEAR E 0 0 4

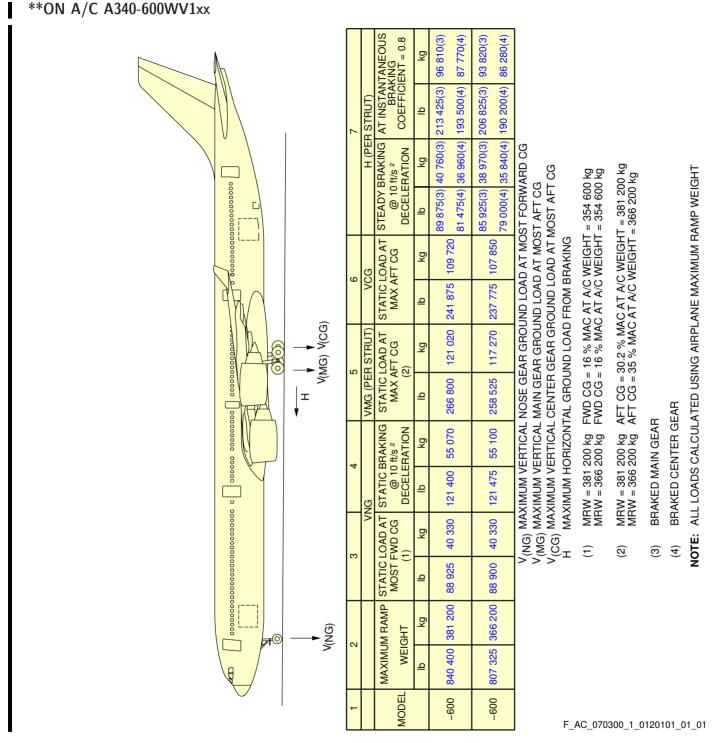
BRAKED CENTER GEAR

NOTE: ALL LOADS CALCULATED USING AIRPLANE MAXIMUM RAMP WEIGHT.

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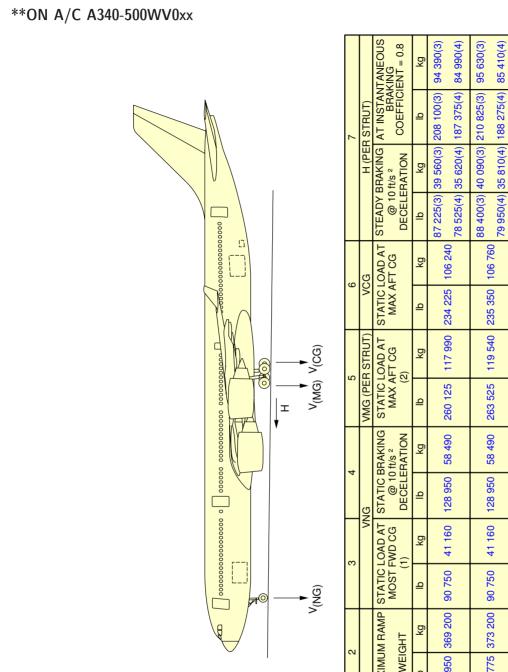
Maximum Pavement Loads FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING



Maximum Pavement Loads FIGURE 2

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING



79 950(4) 35 810(4) 188 275(4) MAXIMUM RAMP WEIGHT 775 813 950 822 MODEL -500

 $V_{(NG)}$ MAXIMUM VERTICAL NOSE GEAR GROUND LOAD AT MOST FORWARD CG MAXIMUM VERTICAL MAIN GEAR GROUND LOAD AT MOST AFT CG

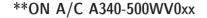
MAXIMUM VERTICAL CENTER GEAR GROUND LOAD AT MOST AFT CG FWD CG = 22 % MAC AT 349 200 kg AFT CG = 36.5 % MAC AT 369 200 kg AND 36.4 % MAC AT 373 200 kg MAXIMUM HORIZONTAL GROUND LOAD FROM BRAKING V(MG) V(CG)

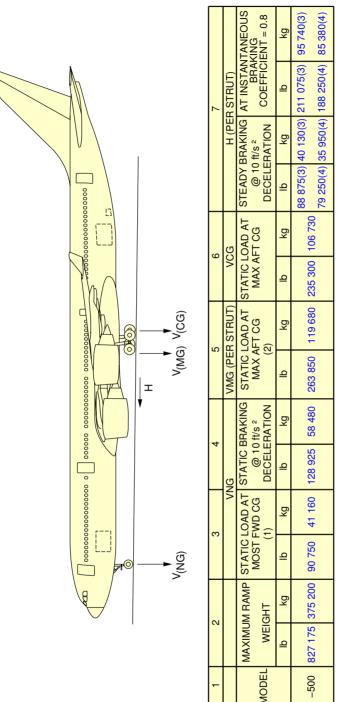
BRAKED MAIN GEAR BRAKED CENTER GEAR ± 0.04 ALL LOADS CALCULATED USING AIRPLANE MAXIMUM RAMP WEIGHT

F_AC_070300_1_0130101_01_01

Maximum Pavement Loads FIGURE 3

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING





MAXIMUM VERTICAL NOSE GEAR GROUND LOAD AT MOST FORWARD CG MAXIMUM VERTICAL MAIN GEAR GROUND LOAD AT MOST AFT CG V(MG) H

MAXIMUM VERTICAL CENTER GEAR GROUND LOAD AT MOST AFT CG MAXIMUM HORIZONTAL GROUND LOAD FROM BRAKING

MRW = 375 200 kg FWD CG = 22 % MAC AT A/C WEIGHT = 349 200 kg

MRW = 375 200 kg AFT CG = 35.01 % MAC AT A/C WEIGHT = 375 200 kg **BRAKED MAIN GEAR** (2) (3)

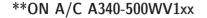
BRAKED CENTER GEAR

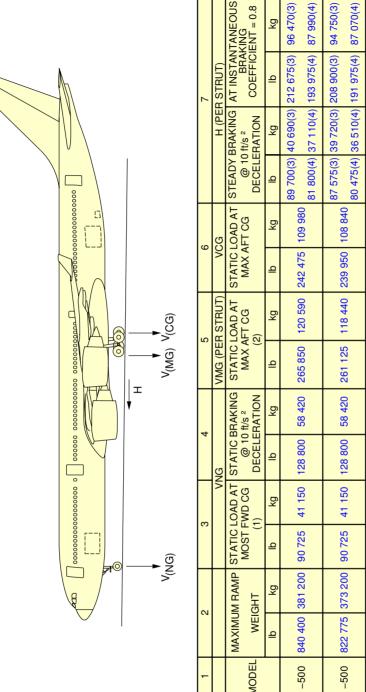
ALL LOADS CALCULATED USING AIRPLANE MAXIMUM RAMP WEIGHT

F_AC_070300_1_0140101_01_01

Maximum Pavement Loads FIGURE 4

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING





MAXIMUM VERTICAL NOSE GEAR GROUND LOAD AT MOST FORWARD CG MAXIMUM VERTICAL MAIN GEAR GROUND LOAD AT MOST AFT CG V(NG) (MG)

MAXIMUM VERTICAL CENTER GEAR GROUND LOAD AT MOST AFT CG FWD CG = 22 % MAC AT A/C WEIGHT = 349 200 kg FWD CG = 22 % MAC AT A/C WEIGHT = 349 200 kg MAXIMUM HORIZONTAL GROUND LOAD FROM BRAKING V_(CG)

MRW = 381 200 kg MRW = 373 200 kg

CG = 34.7 % MAC AT A/C WEIGHT = 381 200 kg CG = 36.4 % MAC AT A/C WEIGHT = 373 200 kg

AFT

MRW = 381 200 kg MRW = 373 200 kg

(Z

ALL LOADS CALCULATED USING AIRPLANE MAXIMUM RAMP WEIGHT

BRAKED CENTER GEAR

BRAKED MAIN GEAR

(3)

F_AC_070300_1_0150101_01_00

Maximum Pavement Loads FIGURE 5

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

7-4-0 Landing Gear Loading on Pavement

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

Landing Gear Loading on Pavement

**ON A/C A340-600WV0xx

1. General

In the example shown in Section 7-4-1, Figure: Landing Gear Loading on Pavement - MTOW 365 000 kg - A340-600WV0xx

The Gross Aircraft Weight is 285 000 kg (628 325 lb) and the percentage of weight on the Main Landing Gear is 93,5 %.

For these conditions, the total weight on the Main Landing Gear Group is 266 520 kg (587 575 lb). In the example shown in Section 7-4-1, Figure: Landing Gear Loading on Pavement - MTOW 368 000 kg - A340-600WV0xx

The Gross Aircraft Weight is 285 000 kg (628 325 lb) and the percentage of weight on the Main Landing Gear is 93,4 %.

For these conditions, the total weight on the Main Landing Gear Group is 266 111 kg (586 675 lb).

**ON A/C A340-600WV1xx

2. General

In the example shown in Section 7-4-1, Figure: Landing Gear Loading on Pavement - MTOW 365 000 kg - A340-600WV1xx

The Gross Aircraft Weight is 275 000 kg (606 275 lb) and the percentage of weight on the Main Landing Gear is 93,5 %.

For these conditions, the total weight on the Main Landing Gear Group is 257 115 kg (566 850 lb). In the example shown in Section 7-4-1, Figure: Landing Gear Loading on Pavement - MTOW 380 000 kg - A340-600WV1xx

The Gross Aircraft Weight is 285 000 kg (628 325 lb) and the percentage of weight on the Main Landing Gear is 92.3 %.

For these conditions, the total weight on the Main Landing Gear Group is 262 978 kg (579 775 lb).

**ON A/C A340-500WV0xx

General

In the example shown in Section 7-4-1, Figure: Landing Gear Loading on Pavement - MTOW 368 000 kg - A340-500WV0xx

The Gross Aircraft Weight is 285 000 kg (628 325 lb) and the percentage of weight on the Main Landing Gear is 92,7 %.

For these conditions, the total weight on the Main Landing Gear Group is 264 160 kg (582 375 lb). In the example shown in Section 7-4-1, Figure: Landing Gear Loading on Pavement - MTOW 372 000 kg - A340-500WV0xx

The Gross Aircraft Weight is 285 000 kg (628 325 lb) and the percentage of weight on the Main Landing Gear is 92.7 %.

@A340-500/-600

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

For these conditions, the total weight on the Main Landing Gear Group is 264 009 kg (582 050 lb). In the example shown in Section 7-4-1, Figure: Landing Gear Loading on Pavement - MTOW 374 000 kg - A340-500WV0xx

The Gross Aircraft Weight is 275 000 kg (606 275 lb) and the percentage of weight on the Main Landing Gear is 92.2 %.

For these conditions, the total weight on the Main Landing Gear Group is 253 650 kg (579 775 lb).

**ON A/C A340-500WV1xx

General

In the example shown in Section 7-4-1, Figure: Landing Gear Loading on Pavement - MTOW 372 000 kg - A340-500WV1xx

The Gross Aircraft Weight is 275 000 kg (606 275 lb) and the percentage of weight on the Main Landing Gear is 92.6 %.

For these conditions, the total weight on the Main Landing Gear Group is 254 750 kg (561 625 lb). In the example shown in Section 7-4-1, Figure: Landing Gear Loading on Pavement - MTOW 380 000 kg - A340-500WV1xx

The Gross Aircraft Weight is 285 000 kg (628 325 lb) and the percentage of weight on the Main Landing Gear is 92.1 %.

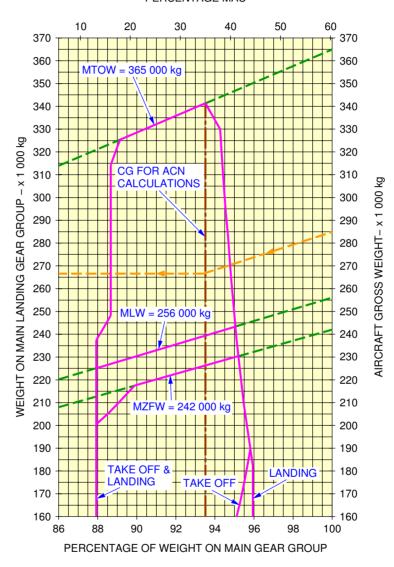
For these conditions, the total weight on the Main Landing Gear Group is 262 540 kg (578 800 lb).

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

- 7-4-1 Landing Gear Loading on Pavement
- **ON A/C A340-500WV0xx A340-500WV1xx A340-600WV0xx A340-600WV1xx

 Landing Gear Loading on Pavement
 - 1. This section gives Landing Gear Loading on Pavement.

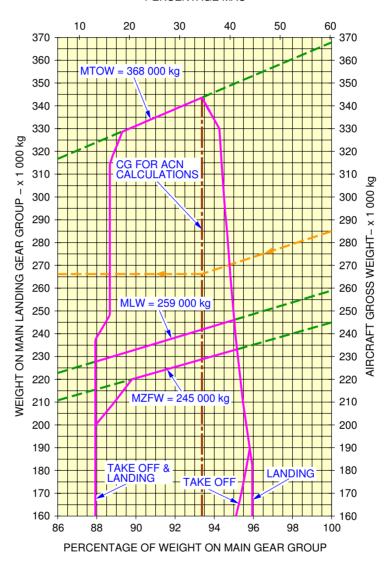
PERCENTAGE MAC



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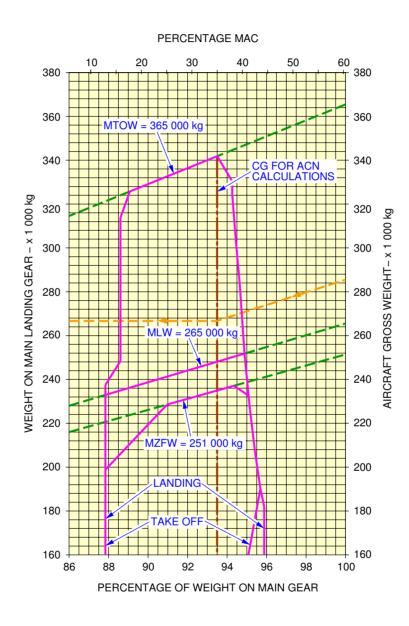
Landing Gear Loading on Pavement MTOW 365 000 kg FIGURE 1

PERCENTAGE MAC



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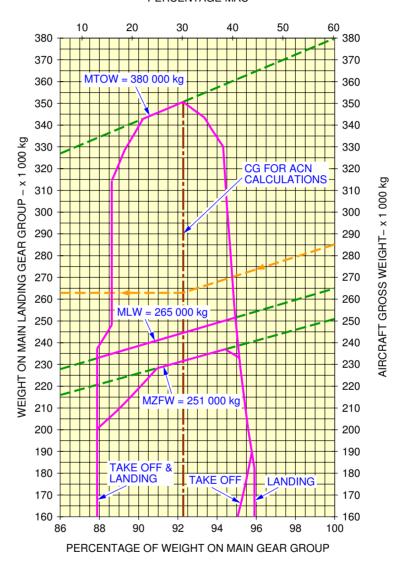
Landing Gear Loading on Pavement MTOW 368 000 kg FIGURE 2



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Landing Gear Loading on Pavement MTOW 365 000 kg FIGURE 3

PERCENTAGE MAC



F_AC_070401_1_0310101_01_01

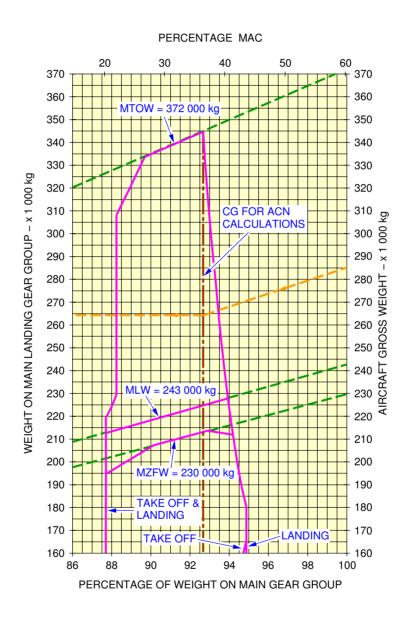
Landing Gear Loading on Pavement MTOW 380 000 kg FIGURE 4

PERCENTAGE MAC WEIGHT ON MAIN LANDING GEAR GROUP - x 1 000 kg **CALCULATIONS** AIRCRAFT GROSS WEIGHT- x 1 000 kg TAKE OFF TAKE OFF

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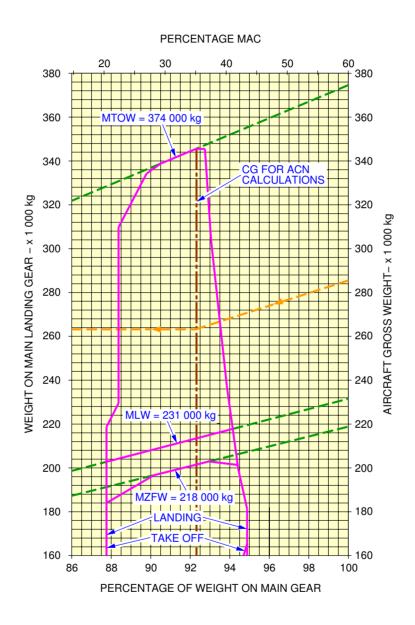
Landing Gear Loading on Pavement MTOW 368 000 kg FIGURE 5

PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP



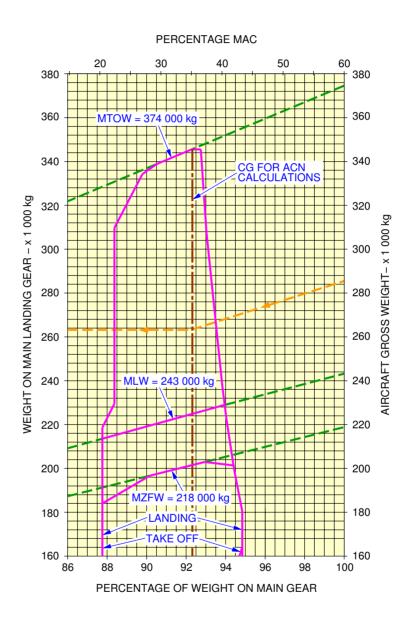
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Landing Gear Loading on Pavement MTOW 372 000 kg FIGURE 6



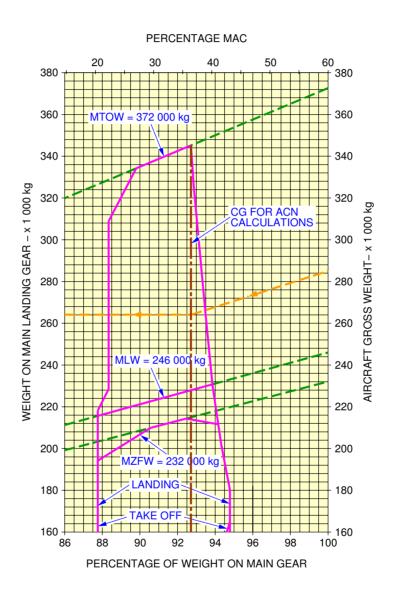
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Landing Gear Loading on Pavement MTOW 374 000 kg FIGURE 7



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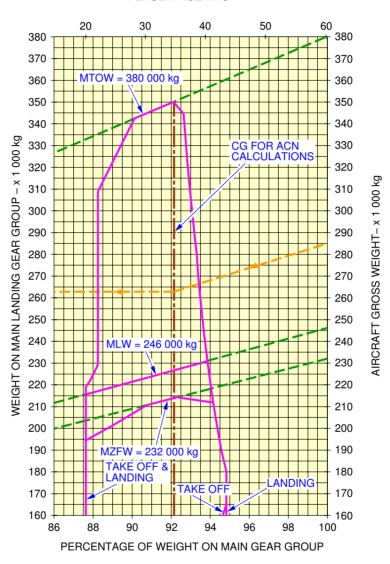
Landing Gear Loading on Pavement MTOW 374 000 kg FIGURE 8



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Landing Gear Loading on Pavement MTOW 372 000 kg FIGURE 9

PERCENTAGE MAC



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Landing Gear Loading on Pavement MTOW 380 000 kg FIGURE 10

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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

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

Wing Gear and Center Landing Gear Loading on Pavement

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

**ON A/C A340-600WV0xx

2. For an airplane with 365 000 kg (804 690 lb) MTOW.

In the example shown in Section 7-4-3, Figure: Wing Gear and Center Landing Gear Loading on Pavement - MTOW 365 000 kg - A340-600WV0xx

The Gross Aircraft Weight is 285 000 kg (628 325 lb) at AFT CG for ACN calculations.

For these conditions, the load on the two Wing Gears is 180 845 kg (398 695 lb) and the load on the Center Gear is 85 545 kg (188 595 lb).

The total weight on the Main Landing Gear Group is 266 390 kg (587 290 lb).

For an airplane with 368 000 kg (811 300 lb) MTOW.

In the example shown in Section 7-4-3, Figure: Wing Gear and Center Landing Gear Loading on Pavement - MTOW 368 000 kg - A340-600WV0xx

The Gross Aircraft Weight is 285 000 kg (628 325 lb) at AFT CG for ACN calculations.

For these conditions, the load on the two Wing Gears is 180 690 kg (398 355 lb) and the load on the Center Gear is 85 270 kg (187 985 lb).

The total weight on the Main Landing Gear Group is 265 960 kg (586 340 lb).

**ON A/C A340-600WV1xx

3. For an airplane with 365 000 kg (804 690 lb) MTOW.

In the example shown in Section 7-4-3, Figure: Wing Gear and Center Landing Gear Loading on Pavement - MTOW 365 000 kg - A340-600WV1 \times x

The Gross Aircraft Weight is 285 000 kg (628 325 lb) at AFT CG for ACN calculations.

The total weight on the Main Landing Gear Group is 266 320 kg (587 135 lb).

For an airplane with 380 000 kg (837 760 lb) MTOW.

In the example shown in Section 7-4-3, Figure: Wing Gear and Center Landing Gear Loading on Pavement - MTOW 380 000 kg - A340-600WV1xx

The Gross Aircraft Weight is 285 000 kg (628 325 lb) at AFT CG for ACN calculations.

For these conditions, the load on the two Wing Gears is 177 195 kg (390 650 lb) and the load on the Center Gear is 85 645 kg (188 815 lb).

The total weight on the Main Landing Gear Group is 262 840 kg (579 465 lb).

**ON A/C A340-500WV0xx

4. For an airplane with 368 000 kg (811 300 lb) MTOW.

In the example shown in Section 7-4-3, Figure: Wing Gear and Center Landing Gear Loading on Pavement - MTOW 368 000 kg - A340-500WV0xx

The Gross Aircraft Weight is 285 000 kg (628 325 lb) at AFT CG for ACN calculations.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

For these conditions, the load on the two Wing Gears is 180 500 kg (397 934 lb) and the load on the Center Gear is 83 560 kg (184 215 lb).

The total weight on the Main Landing Gear Group is 264 060 kg (582 150 lb).

For an airplane with 372 000 kg (820 120 lb) MTOW.

In the example shown in Section 7-4-3, Figure: Wing Gear and Center Landing Gear Loading on Pavement - MTOW 372 000 kg - A340-500WV0xx

The Gross Aircraft Weight is 285 000 kg (628 325 lb) at AFT CG for ACN calculations.

For these conditions, the load on the two Wing Gears is 180~465~kg (397~855~lb) and the load on the Center Gear is 83~505~kg (184~100~lb).

The total weight on the Main Landing Gear Group is 263 970 kg (581 955 lb).

For an airplane with 374 000 kg (824 530 lb) MTOW.

In the example shown in Section 7-4-3, Figure: Wing Gear and Center Landing Gear Loading on Pavement - MTOW 374 000 kg - A340-500WV0xx

The Gross Aircraft Weight is 285 000 kg (628 325 lb) at AFT CG for ACN calculations.

For these conditions, the load on the two Wing Gears is 180 035 kg (396 910 lb) and the load on the Center Gear is 82 745 kg (182 420 lb).

The total weight on the Main Landing Gear Group is 262 780 kg (579 330 lb).

**ON A/C A340-500WV1xx

5. For an airplane with 372 000 kg (820 120 lb) MTOW.

In the example shown in Section 7-4-3, Figure: Wing Gear and Center Landing Gear Loading on Pavement - MTOW 372 000 kg - A340-500WV1xx

The Gross Aircraft Weight is 285 000 kg (628 325 lb) at AFT CG for ACN calculations.

For these conditions, the load on the two Wing Gears is $177\ 240\ kg$ ($390\ 750\ lb$) and the load on the Center Gear is $86\ 615\ kg$ ($190\ 950\ lb$).

The total weight on the Main Landing Gear Group is 263 855 kg (581 700 lb).

For an airplane with 380 000 kg (837 760 lb) MTOW.

In the example shown in Section 7-4-3, Figure: Wing Gear and Center Landing Gear Loading on Pavement - MTOW 380 000 kg - A340-500WV1xx

The Gross Aircraft Weight is 285 000 kg (628 325 lb) at AFT CG for ACN calculations.

For these conditions, the load on the two Wing Gears is 176 690 kg (389 535 lb) and the load on the Center Gear is 85 695 kg (188 925 lb).

The total weight on the Main Landing Gear Group is 262 385 kg (578 460 lb).

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

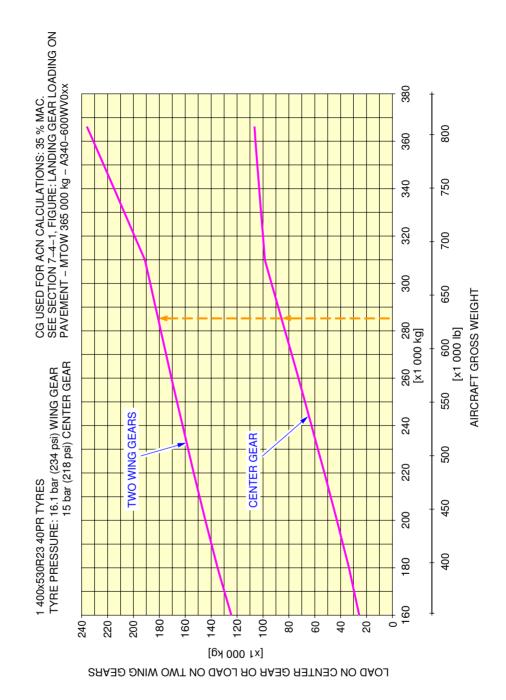
- 7-4-3 Wing Gear and Center Landing Gear Loading on Pavement
- **ON A/C A340-500WV0xx A340-500WV1xx A340-600WV0xx A340-600WV1xx

Wing Gear and Center Landing Gear Loading on Pavement

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600WV0xx

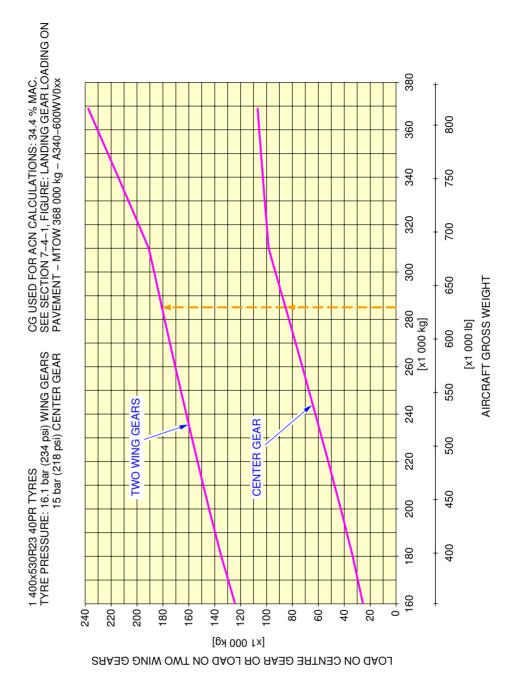


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Wing Gear and Center Landing Gear Loading on Pavement MTOW 365 000 kg
FIGURE 1

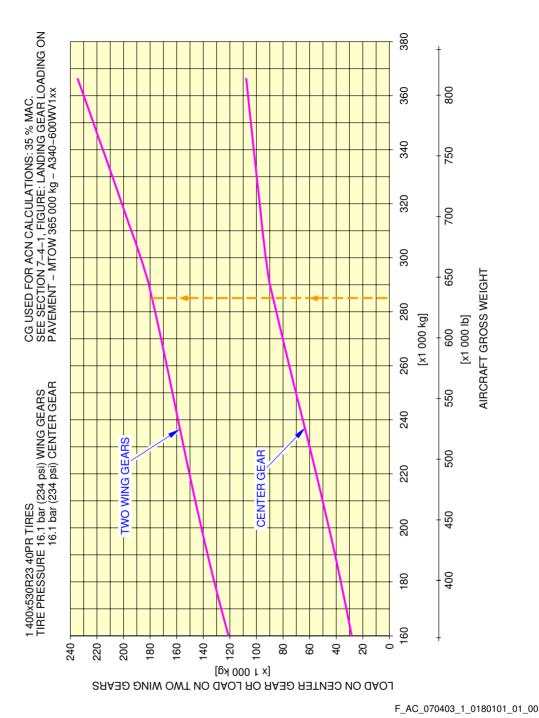
AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600WV0xx



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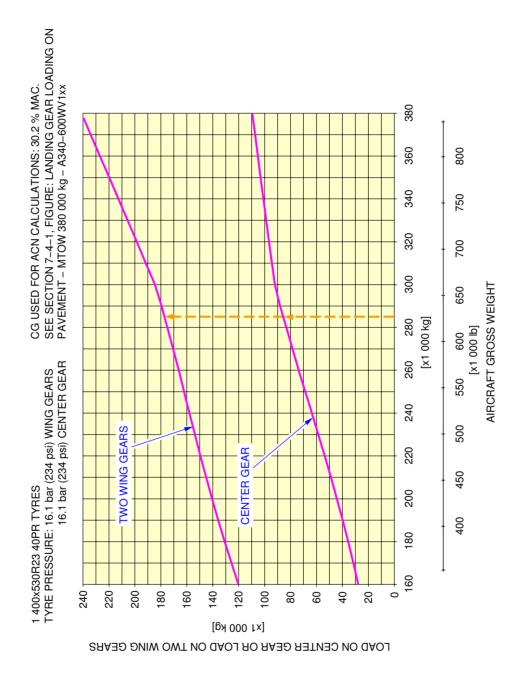
Wing Gear and Center Landing Gear Loading on Pavement MTOW 368 000 kg FIGURE 2



Wing Gear and Center Landing Gear Loading on Pavement MTOW 365 000 kg
FIGURE 3

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600WV1xx

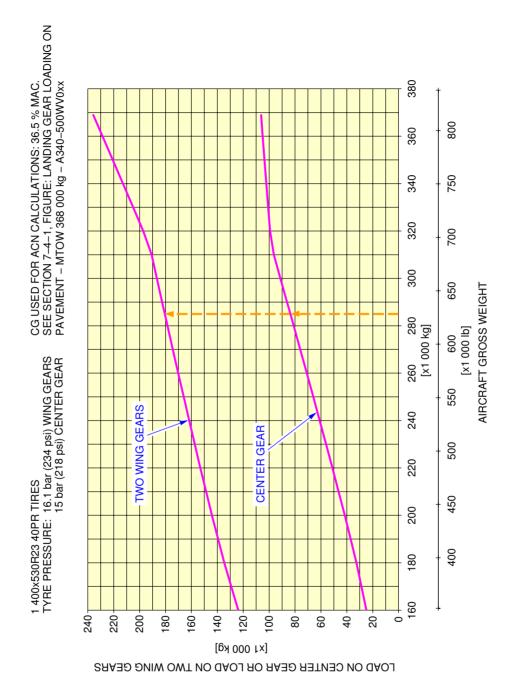


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Wing Gear and Center Landing Gear Loading on Pavement MTOW 380 000 kg FIGURE 4

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500WV0xx

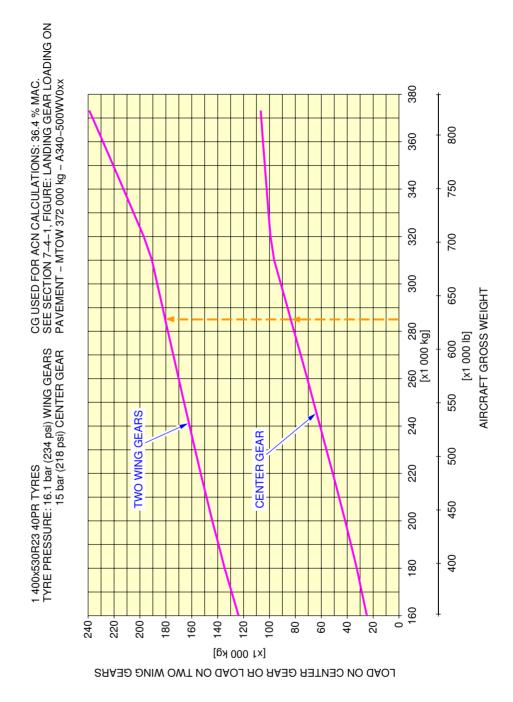


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Wing Gear and Center Landing Gear Loading on Pavement MTOW 368 0000 kg FIGURE 5

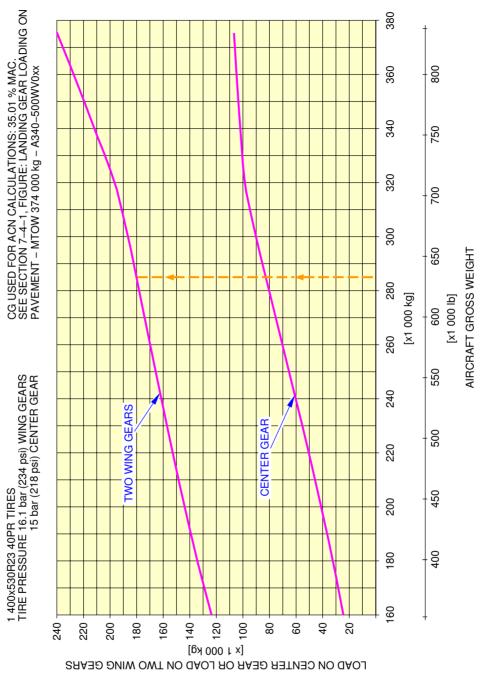
AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500WV0xx



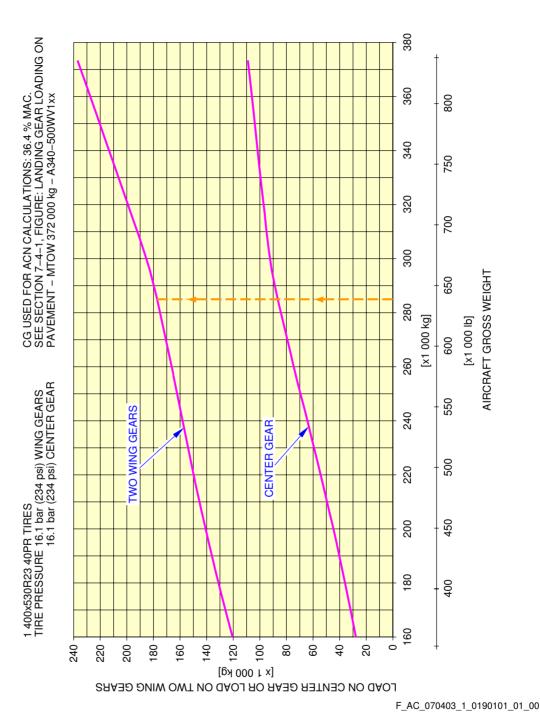
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Wing Gear and Center Landing Gear Loading on Pavement MTOW 372 000 kg FIGURE 6



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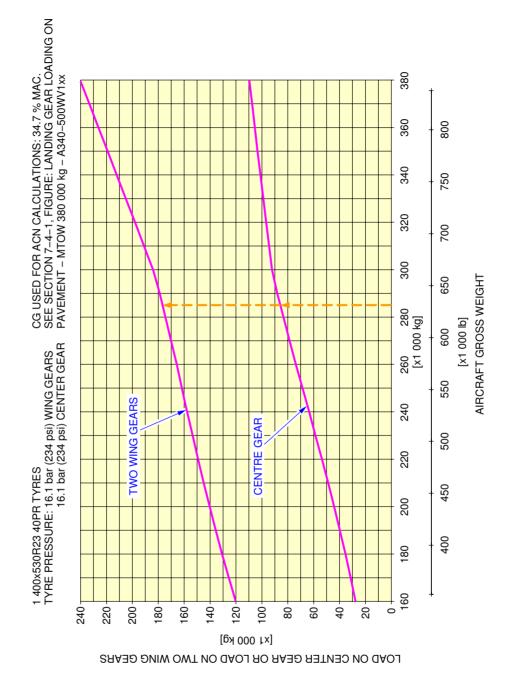
Wing Gear and Center Landing Gear Loading on Pavement MTOW 374 000 kg FIGURE 7



Wing Gear and Center Landing Gear Loading on Pavement MTOW 372 000 kg FIGURE 8

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500WV1xx



F_AC_070403_1_0170101_01_01

Wing Gear and Center Landing Gear Loading on Pavement MTOW 380 000 kg
FIGURE 9

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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

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

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

**ON A/C A340-600WV0xx

General

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

In the example shown in Section 7-5-1, Figure: Flexible Pavement Requirements - MTOW 365 000 kg - A340-600WV0xx

- A "CBR" value of 10
- An Annual Departure Level of 3 000
- And the load on one Wing Landing Gear of 90 000 kg (198 425 lb)
- The required Flexible Pavement Thickness is 53.8 cm (21.2 inches).

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

**ON A/C A340-600WV1xx

General

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

In the example shown in Section 7-5-1, Figure: Flexible Pavement Requirements - MTOW 365 000 kg - A340-600WV1xx

- A "CBR" value of 10
- An Annual Departure Level of 3 000
- And the load on one Wing Landing Gear of 90 000 kg (198 425 lb)
- The required Flexible Pavement Thickness is 53.8 cm (21.2 inches).

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

**ON A/C A340-500WV0xx

3. General

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

In the example shown in Section 7-5-1, Figure: Flexible Pavement Requirements - MTOW 368 000 kg

- A340-500WV0xx - A "CBR" value of 10
- An Annual Departure Level of 3 000
- And the load on one Wing Landing Gear of 90 000 kg (198 425 lb)
- The required Flexible Pavement Thickness is 52.7 cm (20.8 inches).

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

**ON A/C A340-500WV1xx

4. General

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

In the example shown in Section 7-5-1, Figure: Flexible Pavement Requirements - MTOW 372 000 kg - A340-500WV1xx

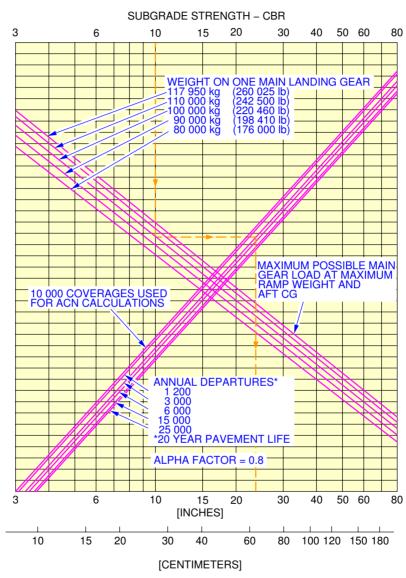
- A "CBR" value of 10
- An Annual Departure Level of 3 000
- And the load on one Wing Landing Gear of 90 000 kg (198 425 lb)
- The required Flexible Pavement Thickness is 52.7 cm (20.8 inches).

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

- 7-5-1 Flexible Pavement Requirements U.S. Army Corps of Engineers Design Method S-77-1
- **ON A/C A340-500WV0xx A340-500WV1xx A340-600WV0xx A340-600WV1xx

 Flexible Pavement Requirements U.S. Army Corps of Engineers Design Method
 - 1. This section gives Flexible Pavement Requirements.

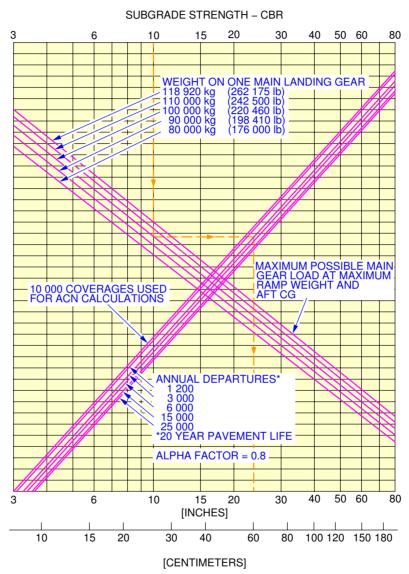


FLEXIBLE PAVEMENT THICKNESS

1 400x530R23 40PR TIRES TIRE PRESSURE CONSTANT AT 16.1 bar (234 psi)

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Flexible Pavement Requirements MTOW 365 000 kg FIGURE 1

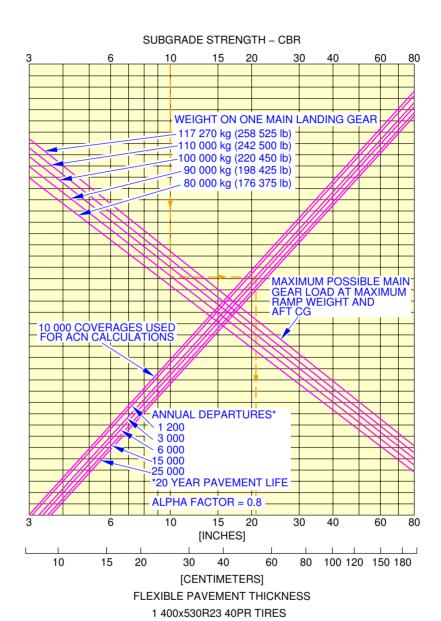


FLEXIBLE PAVEMENT THICKNESS

1 400x530R23 40PR TIRES TIRE PRESSURE CONSTANT AT 16.1 bar (234 psi)

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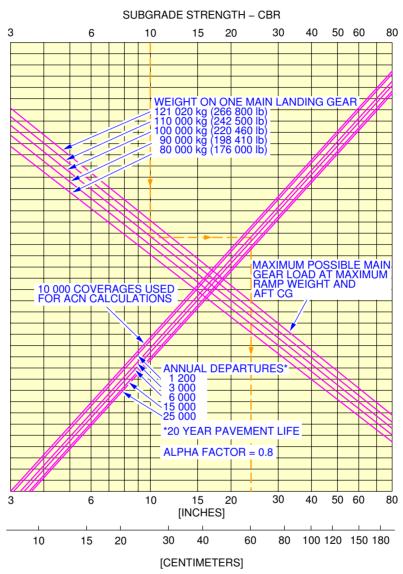
Flexible Pavement Requirements MTOW 368 000 kg FIGURE 2



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Flexible Pavement Requirements MTOW 365 000 kg FIGURE 3

TIRE PRESSURE CONSTANT AT 16.1 bar (234 psi)

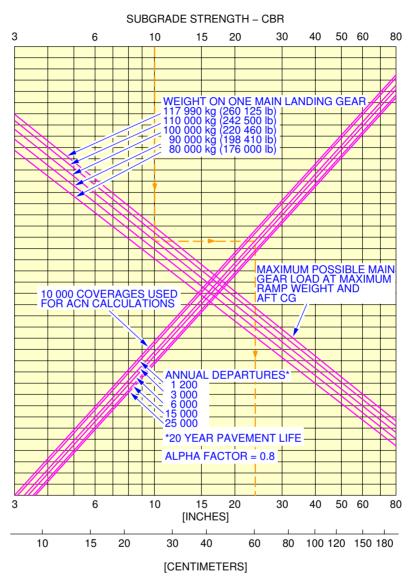


FLEXIBLE PAVEMENT THICKNESS

1 400x530R23 40PR TIRES TIRE PRESSURE CONSTANT AT 16.1 bar (234 psi)

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Flexible Pavement Requirements MTOW 380 000 kg FIGURE 4

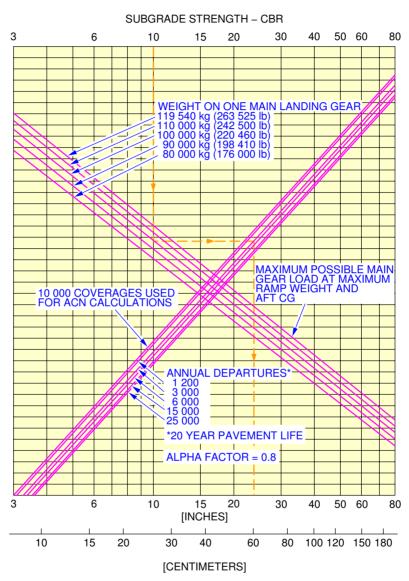


FLEXIBLE PAVEMENT THICKNESS

1 400x530R23 40PR TIRES TIRE PRESSURE CONSTANT AT 16.1 bar (234 psi)

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Flexible Pavement Requirements MTOW 368 000 kg FIGURE 5

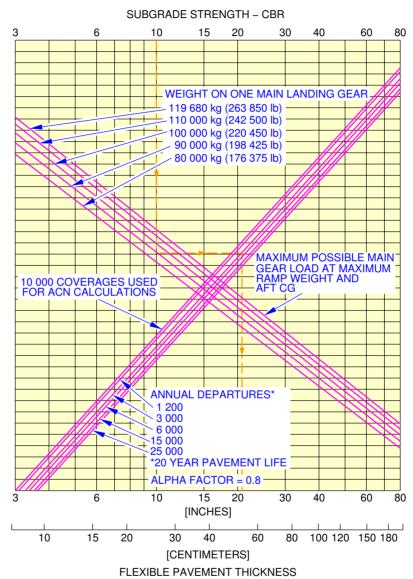


FLEXIBLE PAVEMENT THICKNESS

1 400x530R23 40PR TIRES TIRE PRESSURE CONSTANT AT 16.1 bar (234 psi)

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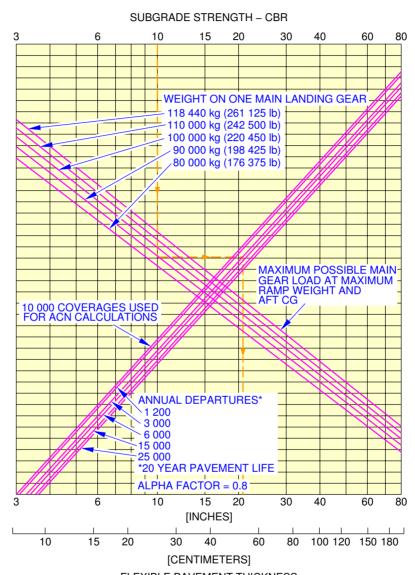
Flexible Pavement Requirements MTOW 372 000 kg FIGURE 6



1 400x530R23 40PR TIRES
TIRE PRESSURE CONSTANT AT 16.1 bar (234 psi)

F_AC_070501_1_0200101_01_00

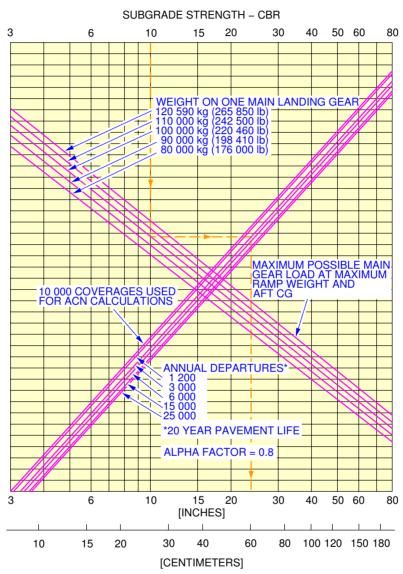
Flexible Pavement Requirements MTOW 374 000 kg FIGURE 7



FLEXIBLE PAVEMENT THICKNESS
1 400x530R23 40PR TIRES
TIRE PRESSURE CONSTANT AT 16.1 bar (234 psi)

F_AC_070501_1_0210101_01_00

Flexible Pavement Requirements MTOW 372 000 kg FIGURE 8



FLEXIBLE PAVEMENT THICKNESS

1 400x530R23 40PR TIRES TIRE PRESSURE CONSTANT AT 16.1 bar (234 psi)

F_AC_070501_1_0180101_01_01

Flexible Pavement Requirements MTOW 380 000 kg FIGURE 9

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

7-6-0 Flexible Pavement Requirements - LCN Conversion

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

Flexible Pavement Requirements - LCN Conversion

**ON A/C A340-600WV0xx

General

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

In the example shown in Section 7-6-1, Figure: Flexible Pavement Requirements - MTOW 365 000 kg - A340-600WV0xx

The thickness (h) is shown at 635 mm (25 inches) with an LCN of 115.

For these conditions, the weight on one Main Landing Gear is 110 000 kg (242 500 lb).

**ON A/C A340-600WV1xx

General

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

In the example shown in Section 7-6-1, Figure: Flexible Pavement Requirements - MTOW 365 000 kg - A340-600WV1xx

The thickness (h) is shown at 635 mm (25 inches) with an LCN of 115.

For these conditions, the weight on one Main Landing Gear is 110 000 kg (242 500 lb).

**ON A/C A340-500WV0xx

General

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

In the example shown in Section 7-6-1, Figure: Flexible Pavement Requirements - MTOW 368 000 kg - A340-500WV0xx

The thickness (h) is shown at 635 mm (25 in.) with an LCN of 115.

For these conditions the weight on one Main Landing Gear is 110 000 kg (242 500 lb).

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500WV1xx

4. General

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

In the example shown in Section 7-6-1, Figure: Flexible Pavement Requirements - MTOW 372 000 kg - A340-500WV1xx

The thickness (h) is shown at 635 mm (25 in.) with an LCN of 115.

For these conditions the weight on one Main Landing Gear is 110 000 kg (242 500 lb).

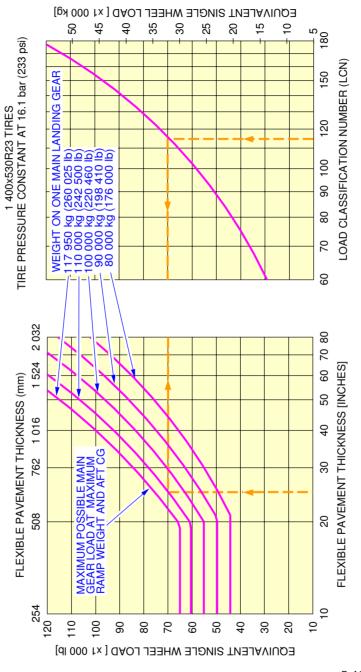
AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

- 7-6-1 Flexible Pavement Requirements LCN Conversion
- **ON A/C A340-500WV0xx A340-500WV1xx A340-600WV0xx A340-600WV1xx

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600WV0xx



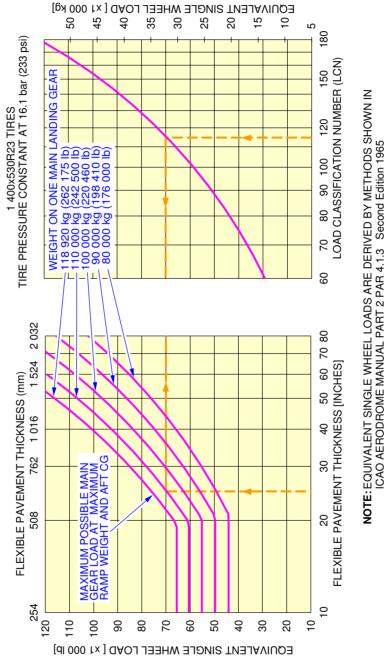
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NOTE: EQUIVALENT SINGLE WHEEL LOADS ARE DERIVED BY METHODS SHOWN IN ICAO AERODROME MANUAL PART 2 PAR 4.1.3 Second Edition 1965

Flexible Pavement Requirements MTOW 365 000 kg FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600WV0xx

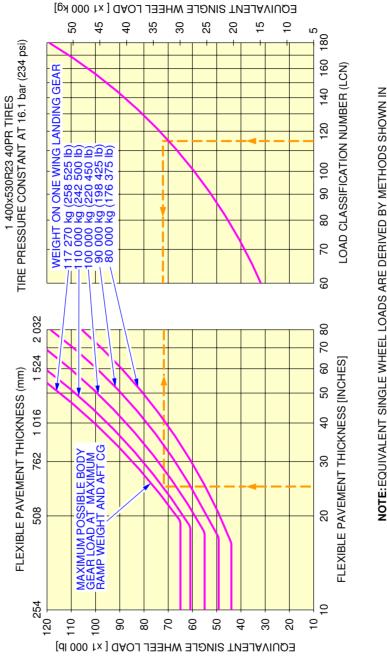


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Flexible Pavement Requirements MTOW 368 000 kg FIGURE 2

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600WV1xx



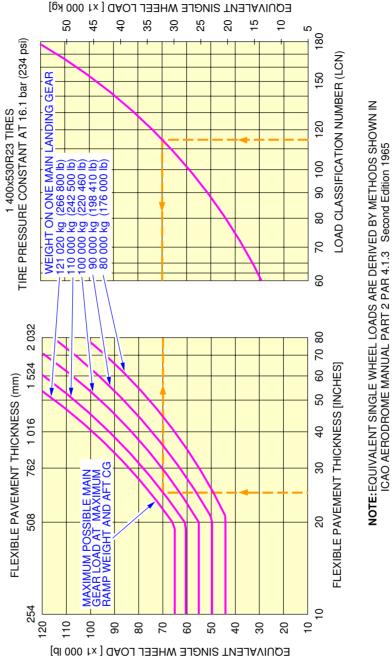
NOTE: EQUIVALENT SINGLE WHEEL LOADS ARE DERIVED BY METHODS SHOWN IN ICAO AERODROME MANUAL PART 2 PAR 4.1.3 Second Edition 1965

F_AC_070601_1_0190101_01_00

Flexible Pavement Requirements MTOW 365 000 kg FIGURE 3

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600WV1xx

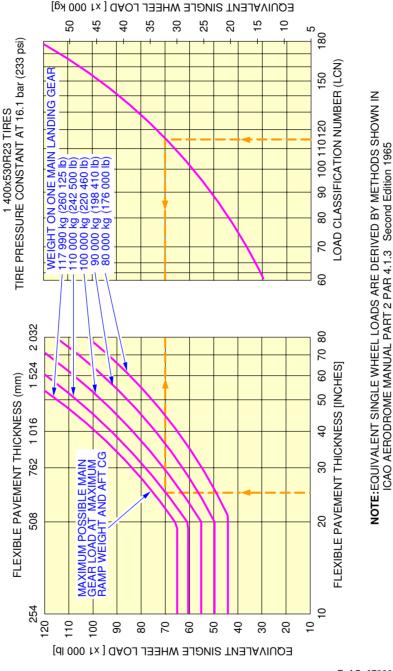


F_AC_070601_1_0150101_01_01

Flexible Pavement Requirements MTOW 380 000 kg FIGURE 4

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500WV0xx

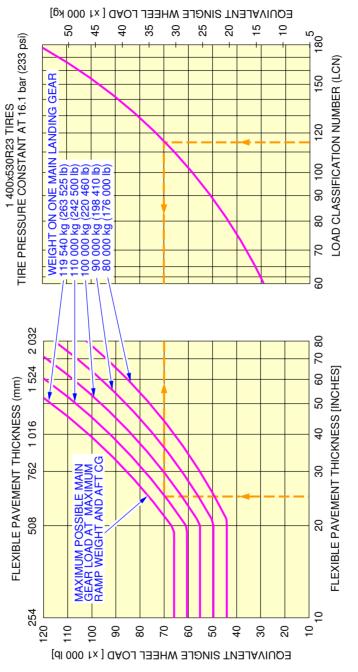


F_AC_070601_1_0160101_01_01

Flexible Pavement Requirements MTOW 368 000 kg FIGURE 5

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500WV0xx



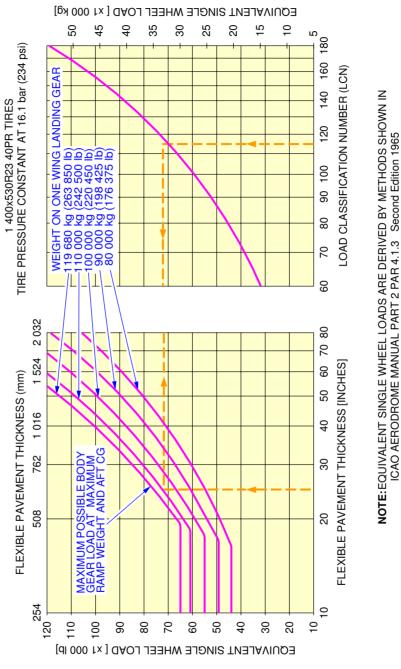
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NOTE: EQUIVALENT SINGLE WHEEL LOADS ARE DERIVED BY METHODS SHOWN IN ICAO AERODROME MANUAL PART 2 PAR 4.1.3 Second Edition 1965

Flexible Pavement Requirements MTOW 372 000 kg FIGURE 6

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500WV0xx

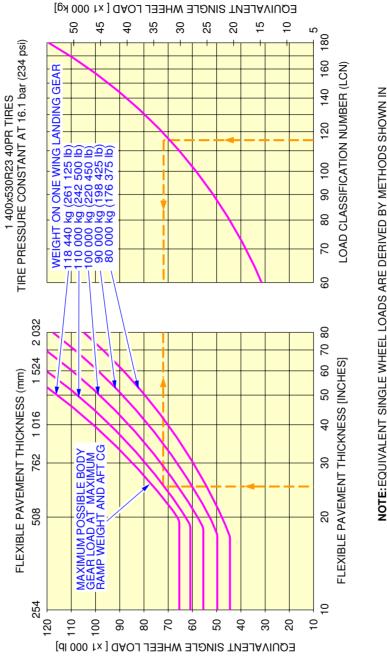


F_AC_070601_1_0200101_01_00

Flexible Pavement Requirements MTOW 374 000 kg FIGURE 7

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500WV1xx



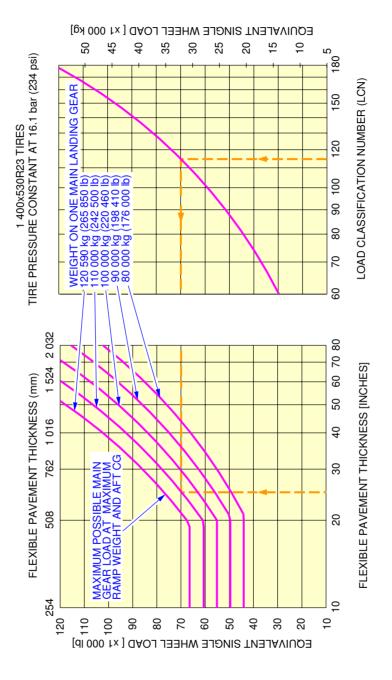
NOTE: EQUIVALENT SINGLE WHEEL LOADS ARE DERIVED BY METHODS SHOWN IN ICAO AERODROME MANUAL PART 2 PAR 4.1.3 Second Edition 1965

F_AC_070601_1_0210101_01_00

Flexible Pavement Requirements MTOW 372 000 kg FIGURE 8

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500WV1xx



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

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Flexible Pavement Requirements MTOW 380 000 kg FIGURE 9

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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

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

Rigid Pavement Requirements - Portland Cement Association Design Method

**ON A/C A340-600WV0xx

General

To determine a Rigid Pavement Thickness, the Subgrade Modulus (K), the allowable working stress and the weight on one Main Landing Gear must be known.

In the example shown in Section 7-7-1, Figure: Rigid Pavement Requirements - MTOW 365 000 kg - A340-600WV0xx

- a "k" value of 150 MN/m³ (550 lb/in³)
- an allowable working stress of 35.2 kg/cm² (500 lb/in²)
- the load on one Main Landing Gear of 100 000 kg (220 450 lb) the required Rigid Pavement Thickness is 25.7 cm (10.1 inches).

**ON A/C A340-600WV1xx

General

To determine a Rigid Pavement Thickness, the Subgrade Modulus (K), the allowable working stress and the weight on one Main Landing Gear must be known.

In the example shown in Section 7-7-1, Figure: Rigid Pavement Requirements - MTOW 365 000 kg - A340-600WV1xx

- a "k" value of 150 MN/m³ (550 lb/in³)
- an allowable working stress of 35.2 kg/cm² (500 lb/in²)
- the load on one Main Landing Gear of 100 000 kg (220 450 lb) the required Rigid Pavement Thickness is 25.7 cm (10.1 inches).

**ON A/C A340-500WV0xx

3. General

To determine a Rigid Pavement Thickness, the Subgrade Modulus (K), the allowable working stress and the weight on one Main Landing Gear must be known.

In the example shown in Section 7-7-1, Figure: Rigid Pavement Requirements - MTOW 368 000 kg - A340-500WV0xx

- a "k" value of 150 MN/m³ (550 lb/in³)
- an allowable working stress of 35.2 kg/cm² (500 lb/in²)

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

- the load on one Main Landing Gear of 100 000 kg (220 450 lb) the required Rigid Pavement Thickness is 25.7 cm (10.1 inches).

**ON A/C A340-500WV1xx

4. General

To determine a Rigid Pavement Thickness, the Subgrade Modulus (K), the allowable working stress and the weight on one Main Landing Gear must be known.

In the example shown in Section 7-7-1, Figure: Rigid Pavement Requirements - MTOW 372 000 kg - A340-500WV1xx

- a "k" value of 150 MN/m³ (550 lb/in³)
- an allowable working stress of 35.2 kg/cm² (500 lb/in²)
- the load on one Main Landing Gear of 100 000 kg (220 450 lb) the required Rigid Pavement Thickness is 25.7 cm (10.1 inches).

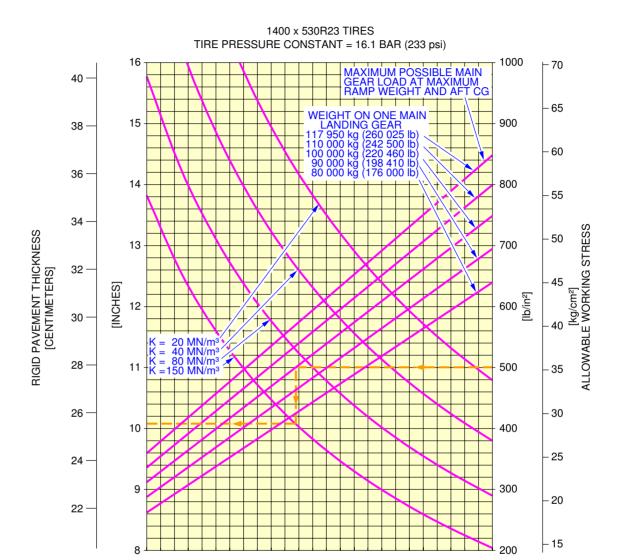
AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

- 7-7-1 Rigid Pavement Requirements Portland Cement Association Design Method
- **ON A/C A340-500WV0xx A340-500WV1xx A340-600WV0xx A340-600WV1xx

 Rigid Pavement Requirements Portland Cement Association Design Method
 - 1. This section gives Rigid Pavement Requirements.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600WV0xx



NOTES:

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

REFERENCE:

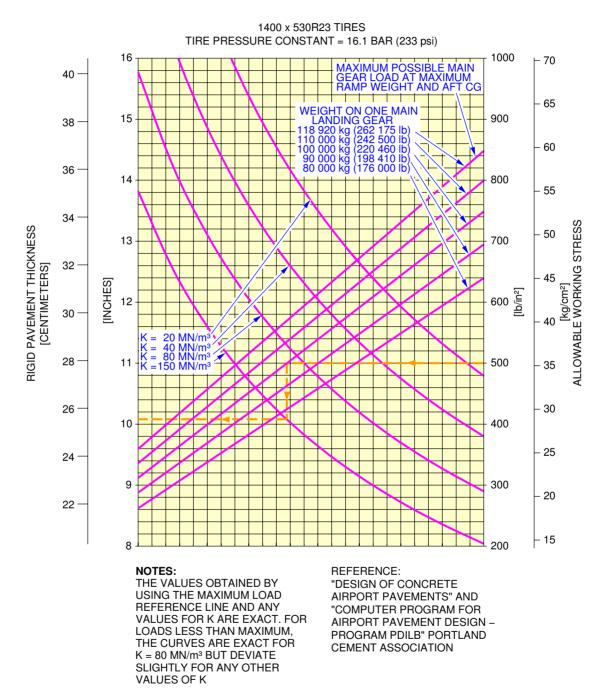
"DESIGN OF CONCRETE AIRPORT PAVEMENTS" AND "COMPUTER PROGRAM FOR AIRPORT PAVEMENT DESIGN – PROGRAM PDILB" PORTLAND CEMENT ASSOCIATION

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Rigid Pavement Requirements MTOW 365 000 kg FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600WV0xx

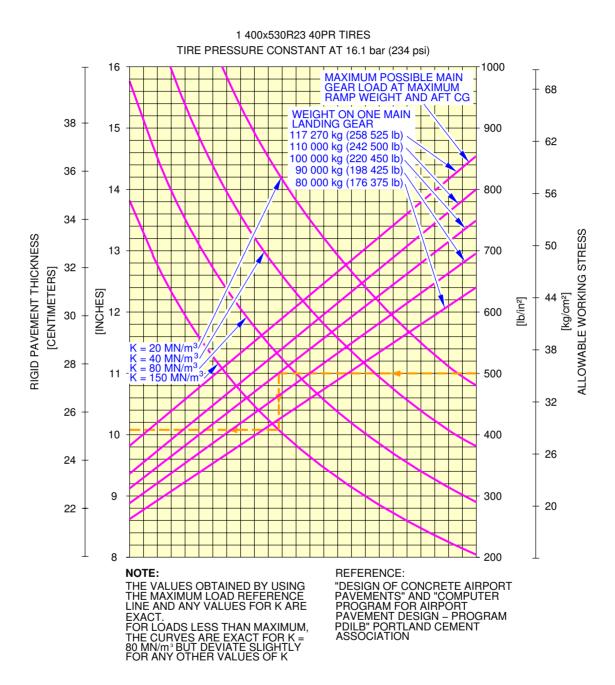


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Rigid Pavement Requirements MTOW 368 000 kg FIGURE 2

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600WV1xx



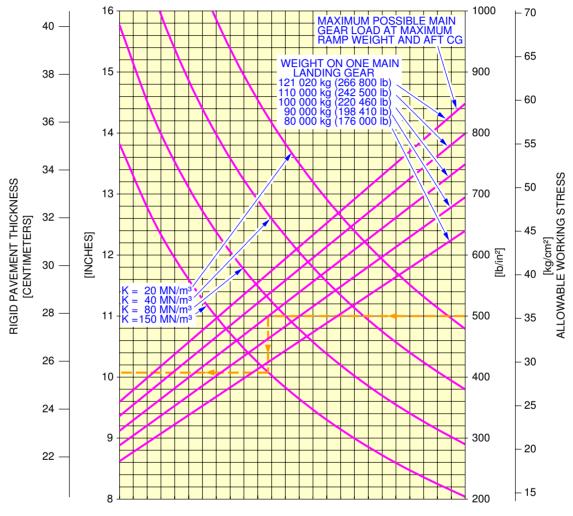
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Rigid Pavement Requirements MTOW 365 000 kg FIGURE 3

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600WV1xx





NOTES:

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

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

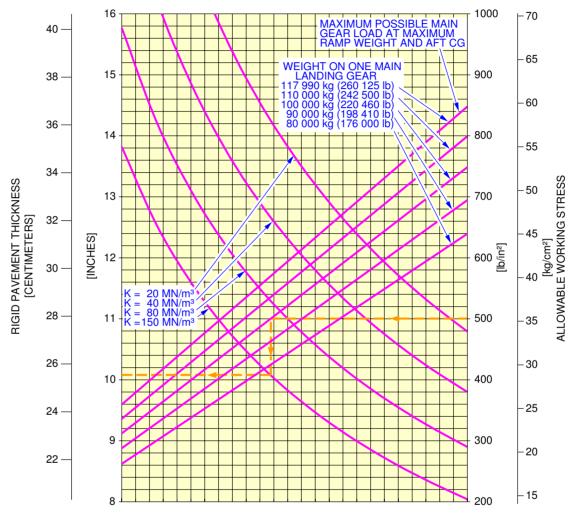
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Rigid Pavement Requirements MTOW 380 000 kg FIGURE 4

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500WV0xx

1400 x 530R23 TIRES TIRE PRESSURE CONSTANT = 16.1 BAR (233 psi)



NOTES:

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

REFERENCE:

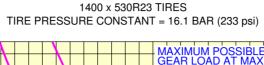
"DESIGN OF CONCRETE
AIRPORT PAVEMENTS" AND
"COMPUTER PROGRAM FOR
AIRPORT PAVEMENT DESIGN –
PROGRAM PDILB" PORTLAND
CEMENT ASSOCIATION

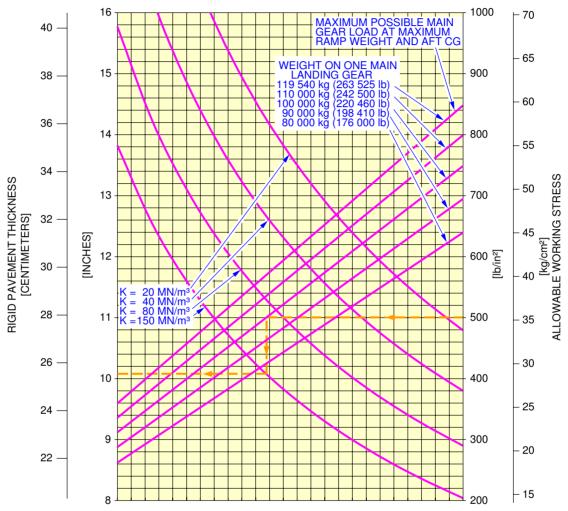
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Rigid Pavement Requirements MTOW 368 000 kg FIGURE 5

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500WV0xx





NOTES:

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

REFERENCE:

"DESIGN OF CONCRETE AIRPORT PAVEMENTS" AND "COMPUTER PROGRAM FOR AIRPORT PAVEMENT DESIGN -PROGRAM PDILB" PORTLAND **CEMENT ASSOCIATION**

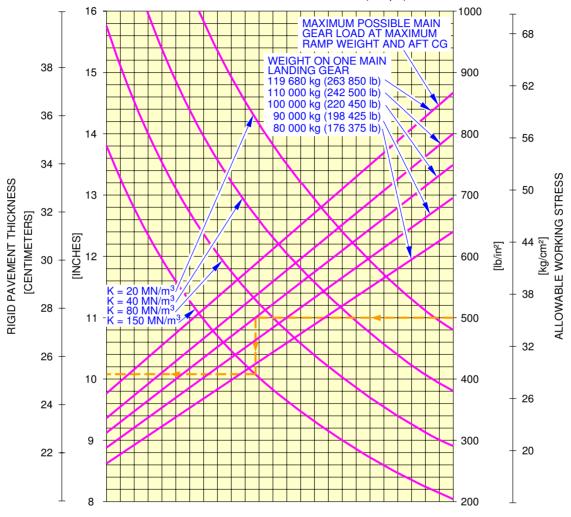
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Rigid Pavement Requirements MTOW 372 000 kg FIGURE 6

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500WV0xx





NOTE:

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

REFERENCE:

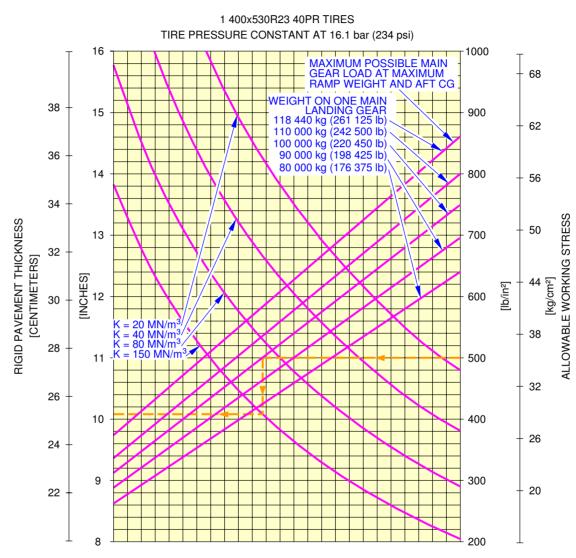
"DESIGN OF CONCRETE AIRPORT PAVEMENTS" AND "COMPUTER PROGRAM FOR AIRPORT PAVEMENT DESIGN – PROGRAM PDILB" PORTLAND CEMENT ASSOCIATION

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Rigid Pavement Requirements MTOW 374 000 kg FIGURE 7

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500WV1xx



NOTE:

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

REFERENCE:

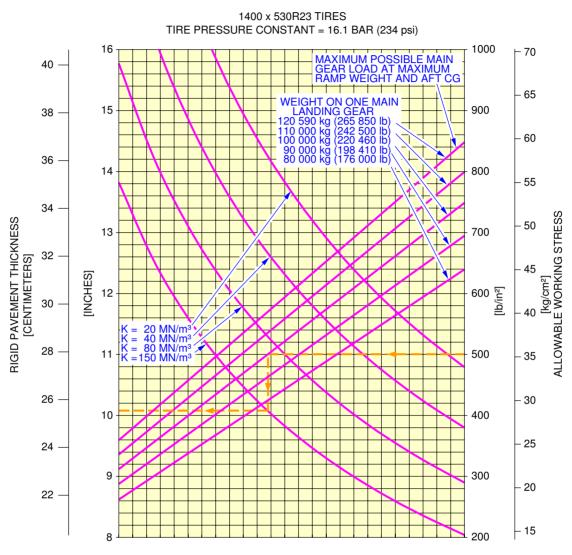
"DESIGN OF CONCRETE AIRPORT PAVEMENTS" AND "COMPUTER PROGRAM FOR AIRPORT PAVEMENT DESIGN – PROGRAM PDILB" PORTLAND CEMENT ASSOCIATION

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Rigid Pavement Requirements MTOW 372 000 kg FIGURE 8

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500WV1xx



NOTES:

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

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

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Rigid Pavement Requirements MTOW 380 000 kg FIGURE 9

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

7-8-0 Rigid Pavement Requirements - LCN Conversion

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

Rigid Pavement Requirements - LCN Conversion

**ON A/C A340-600WV0xx

1. General

To determine the airplane weight that a Rigid Pavement can support, the LCN of the pavement and the Radius of Relative Stiffness (L) must be known.

In the example shown in Section 7-8-2, Figure: Rigid Pavement Requirements - MTOW 365 000 kg - a340-600WV0xx

The Radius of Relative Stiffness is shown at 762 mm (30 inches) with an LCN of 98.7.

For these conditions, the weight on one Main Landing Gear is 110 000 kg (242 500 lb).

**ON A/C A340-600WV1xx

General

To determine the airplane weight that a Rigid Pavement can support, the LCN of the pavement and the Radius of Relative Stiffness (L) must be known.

In the example shown in Section 7-8-2, Figure: Rigid Pavement Requirements - MTOW 365 000 kg - A340-600WV1xx

The Radius of Relative Stiffness is shown at 762 mm (30 inches) with an LCN of 98.7.

For these conditions, the weight on one Main Landing Gear is 110 000 kg (242 500 lb).

**ON A/C A340-500WV0xx

3. General

To determine the airplane weight that a Rigid Pavement can support, the LCN of the pavement and the Radius of Relative Stiffness (L) must be known.

In the example shown in Section 7-8-2, Figure: Rigid Pavement Requirements - MTOW 368 000 kg - A340-500WV0xx

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

The Radius of Relative Stiffness is shown at 762 mm (30 in.) with an LCN of 98.7.

For these conditions, the weight on one Main Landing Gear is 110 000 kg (242 500 lb).

**ON A/C A340-500WV1xx

General

To determine the airplane weight that a Rigid Pavement can support, the LCN of the pavement and the Radius of Relative Stiffness (L) must be known.

In the example shown in Section 7-8-2, Figure: Rigid Pavement Requirements - MTOW 372 000 kg - A340-500WV1xx

The Radius of Relative Stiffness is shown at 762 mm (30 in.) with an LCN of 98.7.

For these conditions, the weight on one Main Landing Gear is 110 000 kg (242 500 lb).

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

7-8-1 Radius of Relative Stiffness

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

Radius of Relative Stiffness

1. This section gives Radius of Relative Stiffness.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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

RADIUS OF RELATIVE STIFFNESS (L) VALUES IN INCHES

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

WHERE E = Young's Modulus = 4 x 10⁶ psi

k = Subgrade Modulus, lb/in³

d = Rigid Pavement Thickness, inches

 μ = Poisson's Ratio = 0.15

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

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Radius of relative stiffness (Reference : Portland Cement Association) FIGURE 1

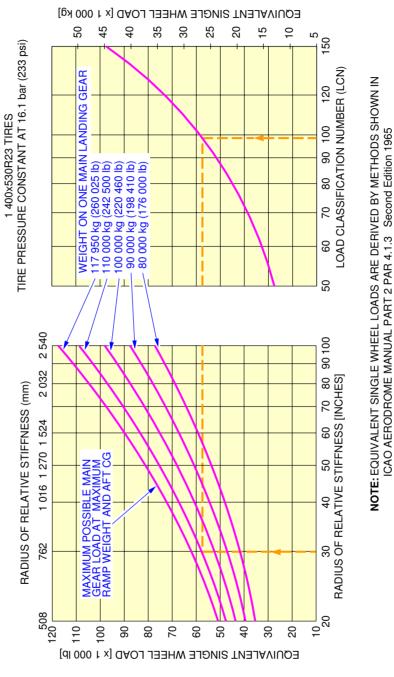
AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

- 7-8-2 Rigid Pavement Requirements LCN Conversion
- **ON A/C A340-500WV0xx A340-500WV1xx A340-600WV0xx A340-600WV1xx

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600WV0xx

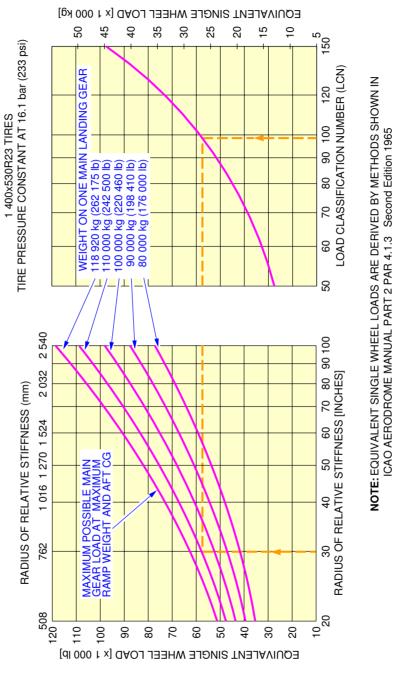


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Rigid Pavement Requirements LCN MTOW 365 000 kg FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600WV0xx

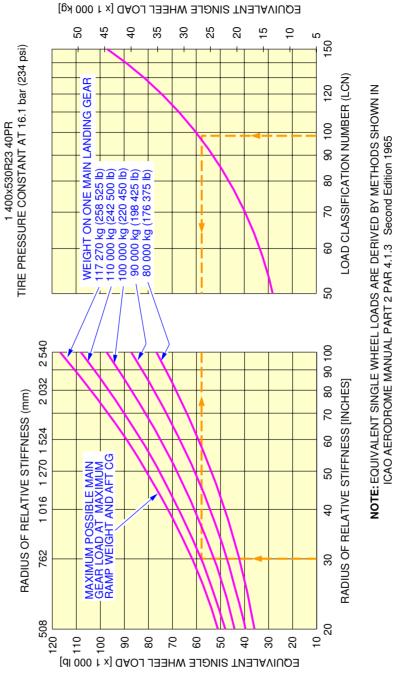


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Rigid Pavement Requirements LCN MTOW 368 000 kg FIGURE 2

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600WV1xx

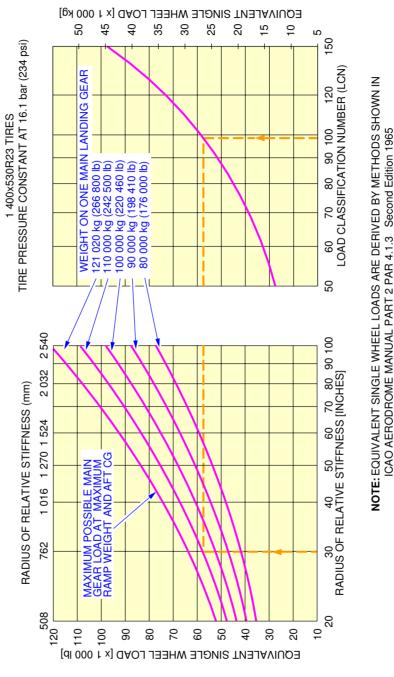


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Rigid Pavement Requirements LCN MTOW 365 000 kg FIGURE 3

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600WV1xx

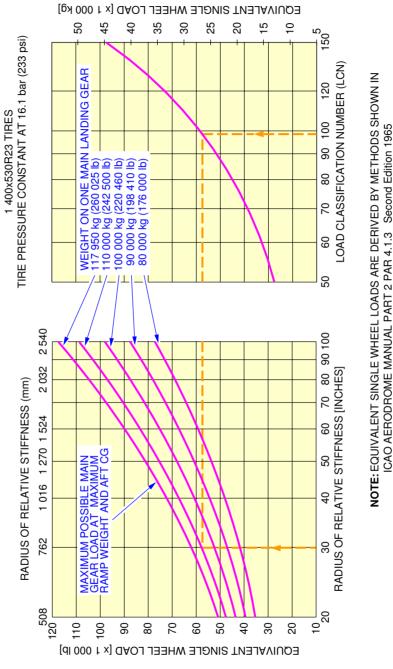


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Rigid Pavement Requirements LCN MTOW 380 000 kg FIGURE 4

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500WV0xx

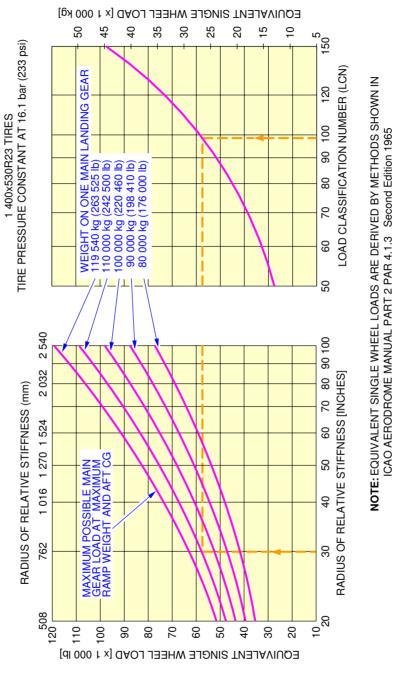


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Rigid Pavement Requirements LCN MTOW 368 000 kg FIGURE 5

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500WV0xx

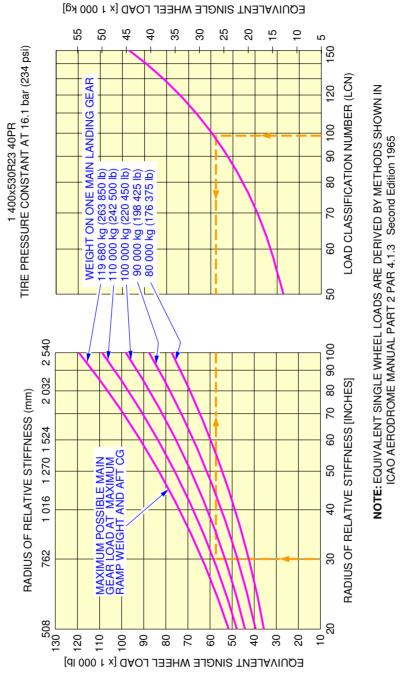


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Rigid Pavement Requirements LCN MTOW 372 000 kg FIGURE 6

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500WV0xx

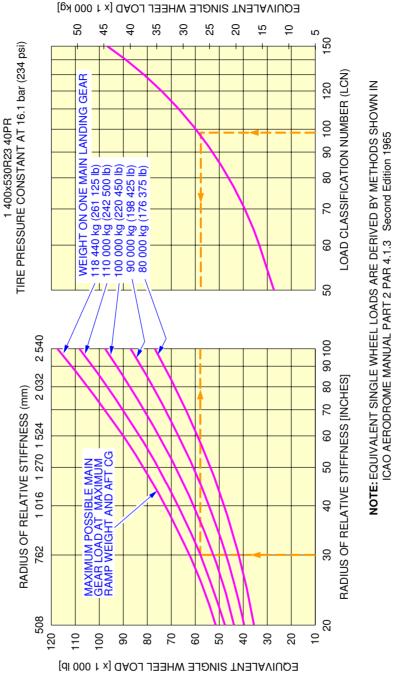


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Rigid Pavement Requirements LCN MTOW 374 000 kg FIGURE 7

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500WV1xx

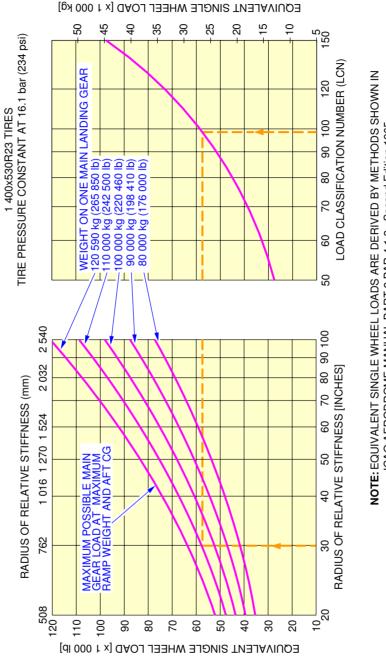


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Rigid Pavement Requirements LCN MTOW 372 000 kg FIGURE 8

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500WV1xx



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

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Rigid Pavement Requirements LCN MTOW 380 000 kg FIGURE 9

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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

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

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

1. General

The table of Chapter 7-8-1, Figure: Radius of Relative Stiffness, presents "L" values based on Young's Modulus (E) of 4 000 000 psi and Poisson's Ratio (μ) of 0.15.

To find "L" values based on other values of "E" and " μ ". See Section 7-8-4, Figure: Radius of Relative Stiffness (Other values of "E" and " μ ").

For example, to find an "L" value based on an "E" of 3 000 000 psi, the "E" factor of 0.931 is multiplied by the "L" value found in the table of Section 7-8-1, Figure: Radius of Relative Stiffness.

The effect of variations of " μ " on the "L" value is treated in a similar manner.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

7-8-4 Radius of Relative Stiffness

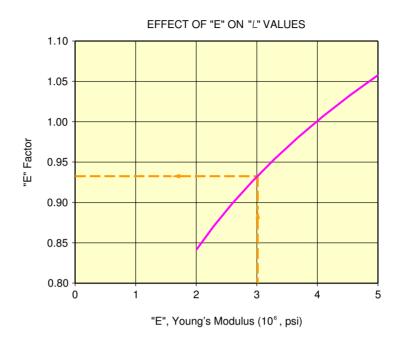
**ON A/C A340-500 A340-600

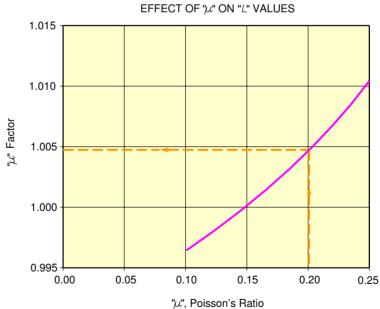
Radius of Relative Stiffness

1. This section gives Radius of Relative Stiffness.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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





NOTE: BOTH CURVES ON THIS PAGE ARE USED TO ADJUST THE "L" VALUES OF TABLE 7.8.1

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Radius of Relative Stiffness (Effect of "E" and " μ " on "L" values) FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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

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

ACN/PCN Reporting System - Flexible and Rigid Pavements

**ON A/C A340-600WV0xx

General

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

In the example shown in Section 7-9-1, Figure: Aircraft Classification Number - Flexible Pavement - MTOW 365 000 kg - A340-600WV0xx

- For an Aircraft Gross Weight of 270 000 kg (595 250 lb) and low subgrade strength (code B), the ACN for the flexible pavement is 46.6.

In the example shown in Section 7-9-2, Figure: Aircraft Classification Number - Rigid Pavement - MTOW 365 000 kg - A340-600WV0xx

- For an Aircraft Gross Weight of 350 000 kg (771 620 lb) and low subgrade strength (code B), the ACN for the rigid pavement is 65.5.

In the example shown in Section 7-9-1, Figure: Aircraft Classification Number - Flexible Pavement - MTOW 368 000 kg - A340-600WV0xx

- For an Aircraft Gross Weight of 270 000 kg (595 250 lb) and low subgrade strength (code B), the ACN for the flexible pavement is 46.5.

In the example shown in Section 7-9-2, Figure: Aircraft Classification Number - Rigid Pavement - MTOW 368 000 kg - A340-600WV0xx.

- For an Aircraft Gross Weight of 350 000 kg (771 620 lb) and low subgrade strength (code B) the ACN for the rigid pavement is 65.

 $\underline{\mathsf{NOTE}}$: An aircraft with an ACN equal to or less than the reported PCN can operate on that pavement, subject to any limitation on the tire pressure.

(Ref: ICAO Aerodrome Design Manual Part 3 Chapter 1 Second Edition 1983)

**ON A/C A340-600WV1xx

General

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

In the example shown in Section 7-9-1, Figure: Aircraft Classification Number - Flexible Pavement - MTOW $365\ 000\ kg$ - $A340\text{-}600WV1xx}$

- For an Aircraft Gross Weight of 270 000 kg (595 250 lb) and low subgrade strength (code B), the ACN for the flexible pavement is 45.7.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

In the example shown in Section 7-9-2, Figure: Aircraft Classification Number - Rigid Pavement - MTOW 365 000 kg - A340-600WV1xx

- For an Aircraft Gross Weight of 280 000 kg (617 300 lb) and low subgrade strength (code B) the ACN for the rigid pavement is 48.

In the example shown in Section 7-9-1, Figure: Aircraft Classification Number - Flexible Pavement - MTOW 380 000 kg - A340-600WV1xx

- For an Aircraft Gross Weight of 280 000 kg (617 300 lb) and low subgrade strength (code B), the ACN for the flexible pavement is 46.8.

In the example shown in Section 7-9-2, Figure: Aircraft Classification Number - Rigid Pavement - MTOW 380 000 kg - A340-600WV1xx

- For an Aircraft Gross Weight of 280 000 kg (617 300 lb) and low subgrade strength (code B) the ACN for the rigid pavement is 64.

NOTE: An aircraft with an ACN equal to or less than the reported PCN can operate on that pavement, subject to any limitation on the tire pressure.

(Ref: ICAO Aerodrome Design Manual Part 3 Chapter 1 Second Edition 1983)

**ON A/C A340-500WV0xx

General

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

In the example shown in Section 7-9-1, Figure: Aircraft Classification Number - Flexible Pavement - MTOW 368 000 kg - A340-500WV0xx

- For an Aircraft Gross Weight of 270 000 kg (595 250 lb) and low subgrade strength (code B), the ACN for the flexible pavement is 46.5.

In the example shown in Section 7-9-2, Figure: Aircraft Classification Number - Rigid Pavement - MTOW 368 000 kg - A340-500WV0xx

- For an Aircraft Gross Weight of 350 000 kg (771 620 lb) and low subgrade strength (code B), the ACN for the flexible pavement is 65.

In the example shown in Section 7-9-1, Figure: Aircraft Classification Number - Flexible Pavement - MTOW 372 000 kg - A340-500WV0xx

- For an Aircraft Gross Weight of 270 000 kg (595 250 lb) and low subgrade strength (code B), the ACN for the flexible pavement is 46.5.

In the example shown in Section 7-9-2, Figure: Aircraft Classification Number - Rigid Pavement - MTOW 372 000 kg - A340-500WV0xx

- For an Aircraft Gross Weight of 350 000 kg (771 620 lb) and low subgrade strength (code B), the ACN for the flexible pavement is 65.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

In the example shown in Section 7-9-1, Figure: Aircraft Classification Number - Flexible Pavement - MTOW 374 000 kg - A340-500WV0xx

- For an Aircraft Gross Weight of 270 000 kg (595 250 lb) and low subgrade strength (code B), the ACN for the flexible pavement is 46.3.

In the example shown in Section 7-9-2, Figure: Aircraft Classification Number - Rigid Pavement - MTOW 374 000 kg - A340-500WV0xx

- For an Aircraft Gross Weight of 280 000 kg (617 300 lb) and low subgrade strength (code B), the ACN for the flexible pavement is 49.

NOTE: An aircraft with an ACN equal to or less than the reported PCN can operate on that pavement, subject to any limitation on the tire pressure.

(Ref: ICAO Aerodrome Design Manual Part 3 Chapter 1 Second Edition 1983)

**ON A/C A340-500WV1xx

General

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

In the example shown in Section 7-9-1, Figure: Aircraft Classification Number - Flexible Pavement - MTOW 372 000 kg - A340-500WV1xx

- For an Aircraft Gross Weight of 270 000 kg (595 250 lb) and low subgrade strength (code B), the ACN for the flexible pavement is 45.3.

In the example shown in Section 7-9-2, Figure: Aircraft Classification Number - Rigid Pavement - MTOW 372 000 kg - A340-500WV1xx

- For an Aircraft Gross Weight of 280 000 kg (617 300 lb) and low subgrade strength (code B), the ACN for the flexible pavement is 48.

In the example shown in Section 7-9-1, Figure: Aircraft Classification Number - Flexible Pavement - MTOW 380 000 kg - A340-500WV1xx

- For an Aircraft Gross Weight of 280 000 kg (617 300 lb) and low subgrade strength (code B), the ACN for the flexible pavement is 46.6.

In the example shown in Section 7-9-2, Figure: Aircraft Classification Number - Rigid Pavement - MTOW 380 000 kg - A340-500WV1xx

- For an Aircraft Gross Weight of 350 000 kg (771 620 lb) and low subgrade strength (code B), the ACN for the flexible pavement is 64.

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)

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

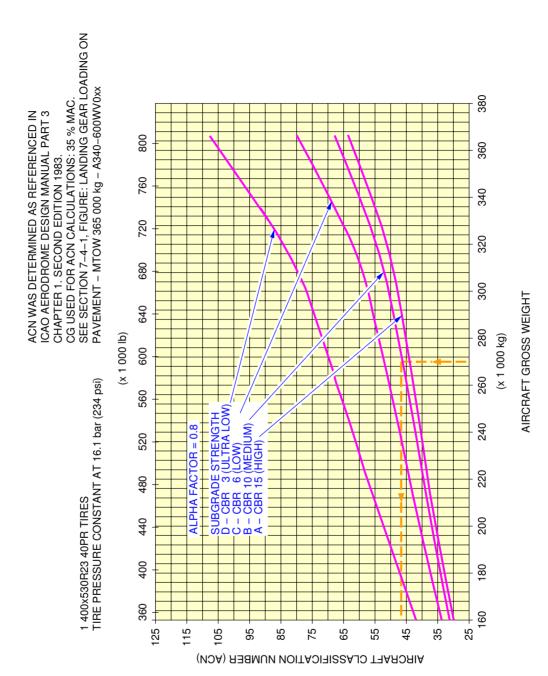
- 7-9-1 Aircraft Classification Number Flexible Pavement
- **ON A/C A340-500WV0xx A340-500WV1xx A340-600WV0xx A340-600WV1xx

Aircraft Classification Number - Flexible Pavement

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600WV0xx

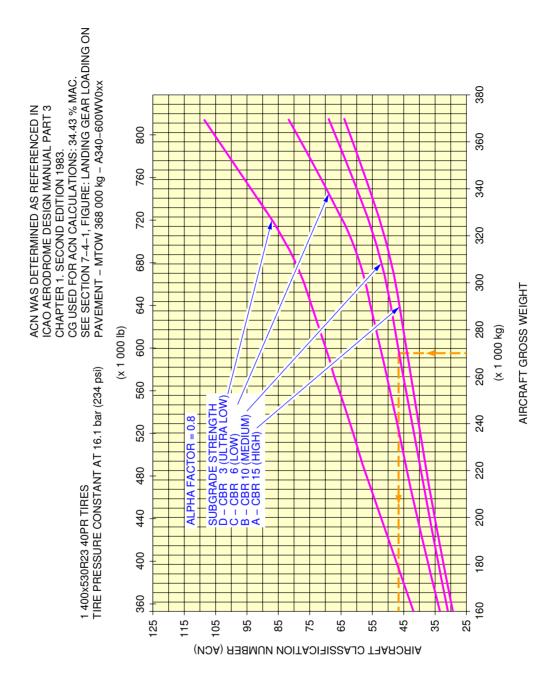


F_AC_070901_1_0280101_01_01

Aircraft Classification Number – Flexible Pavement MTOW 365 000 kg FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600WV0xx

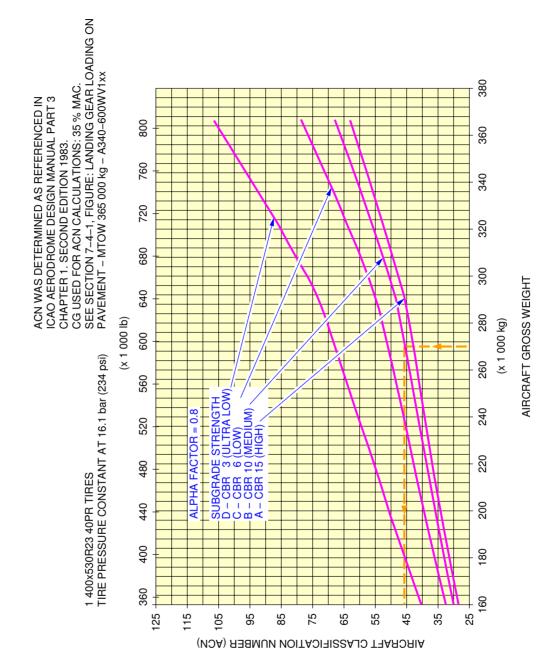


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Aircraft Classification Number – Flexible Pavement MTOW 368 000 kg FIGURE 2

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600WV1xx

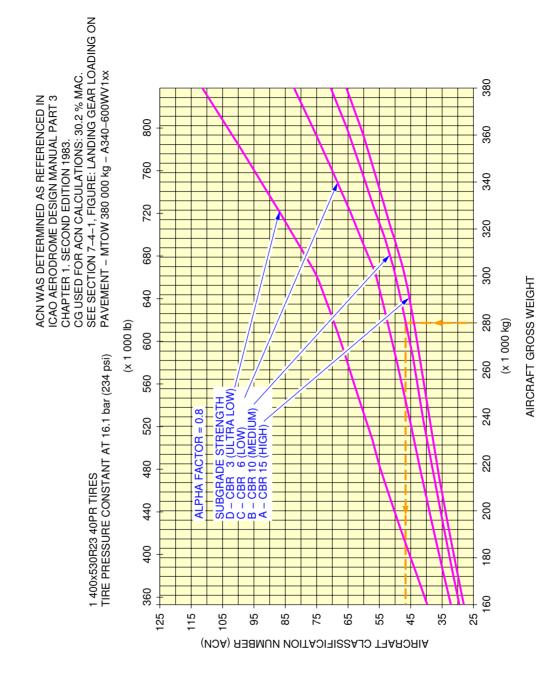


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Aircraft Classification Number – Flexible Pavement MTOW 365 000 kg FIGURE 3

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600WV1xx

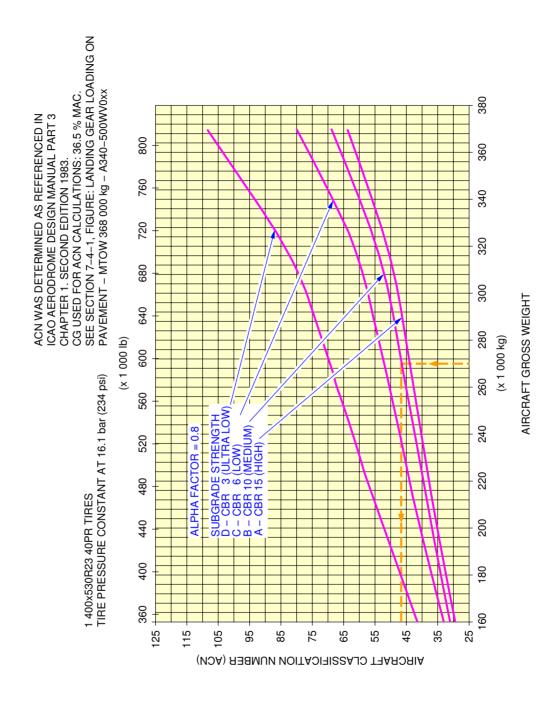


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Aircraft Classification Number – Flexible Pavement MTOW 380 000 kg FIGURE 4

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500WV0xx

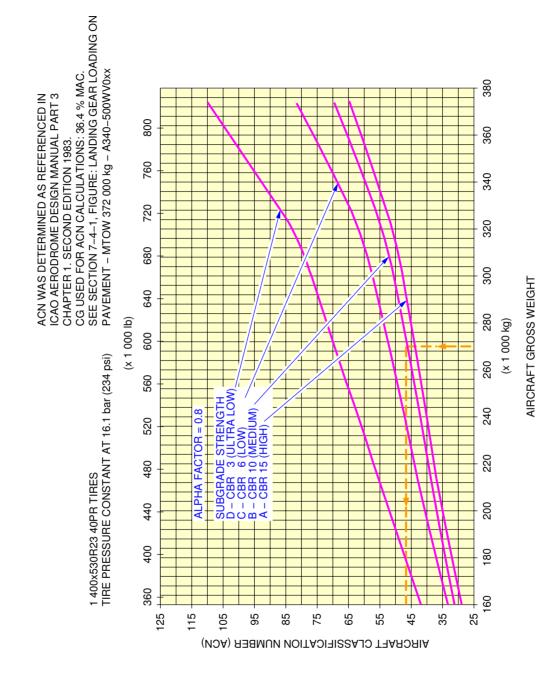


F_AC_070901_1_0310101_01_01

Aircraft Classification Number – Flexible Pavement MTOW 368 000 kg FIGURE 5

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500WV0xx

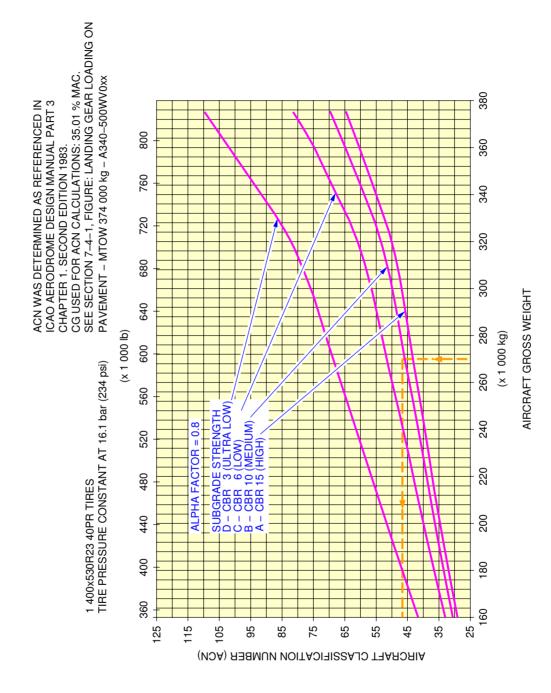


F_AC_070901_1_0320101_01_01

Aircraft Classification Number – Flexible Pavement MTOW 372 000 kg FIGURE 6

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500WV0xx

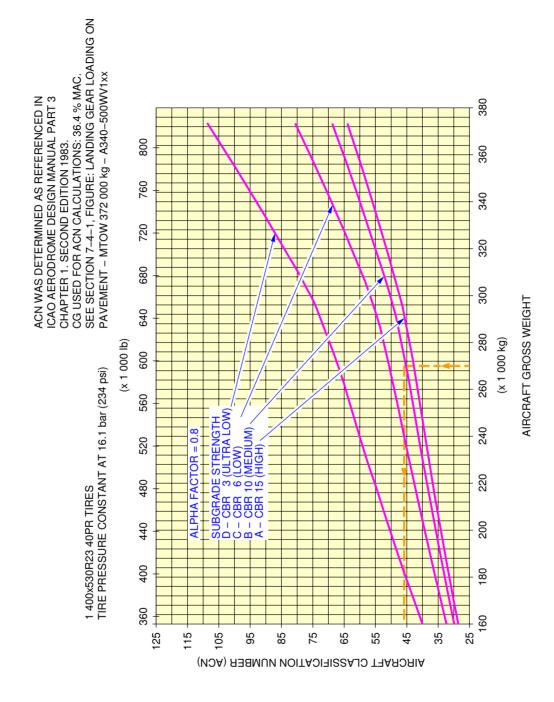


F_AC_070901_1_0350101_01_00

Aircraft Classification Number – Flexible Pavement MTOW 374 000 kg FIGURE 7

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500WV1xx

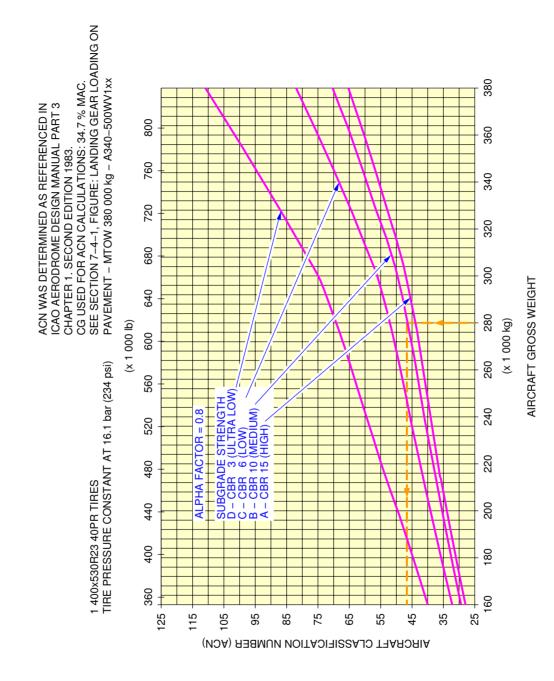


F_AC_070901_1_0360101_01_00

Aircraft Classification Number – Flexible Pavement MTOW 372 000 kg FIGURE 8

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500WV1xx



F_AC_070901_1_0330101_01_01

Aircraft Classification Number – Flexible Pavement MTOW 380 000 kg FIGURE 9

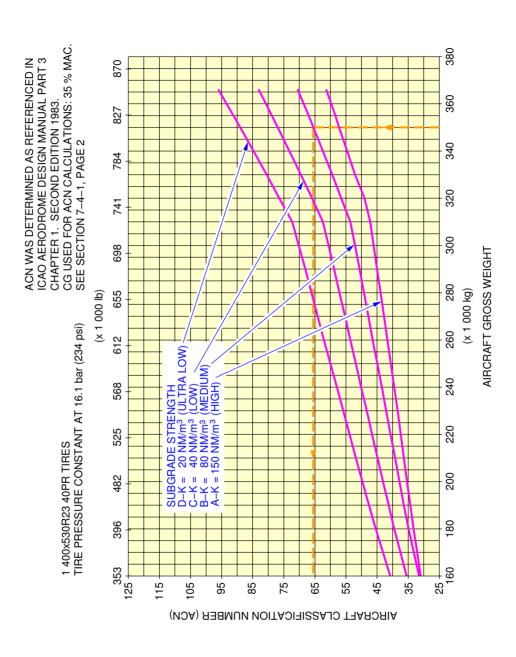
AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

- 7-9-2 Aircraft Classification Number Rigid Pavement
- **ON A/C A340-500WV0xx A340-500WV1xx A340-600WV0xx A340-600WV1xx

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600WV0xx

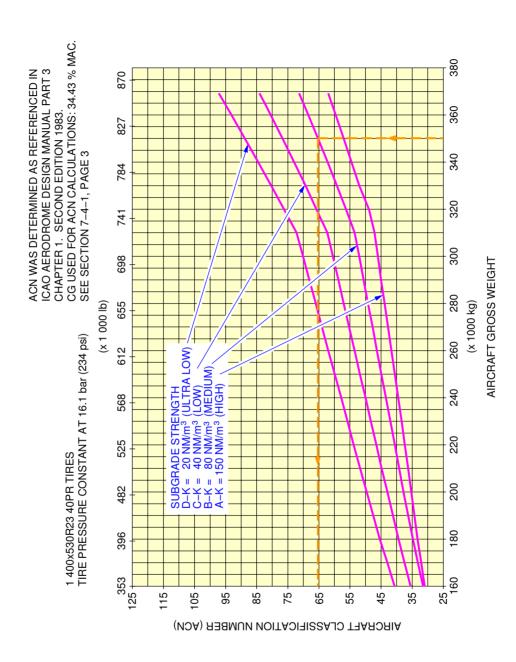


F_AC_070902_1_0280101_01_01

Aircraft Classification Number – Rigid Pavement MTOW 365 000 kg FIGURE 1

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600WV0xx

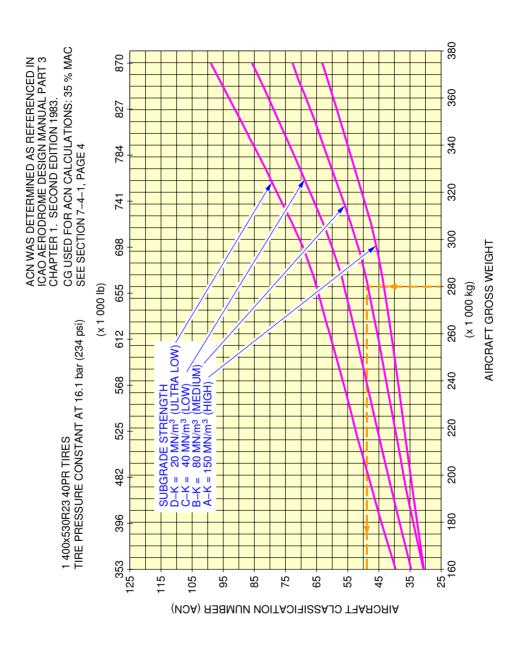


F_AC_070902_1_0290101_01_01

Aircraft Classification Number – Rigid Pavement MTOW 368 000 kg FIGURE 2

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600WV1xx

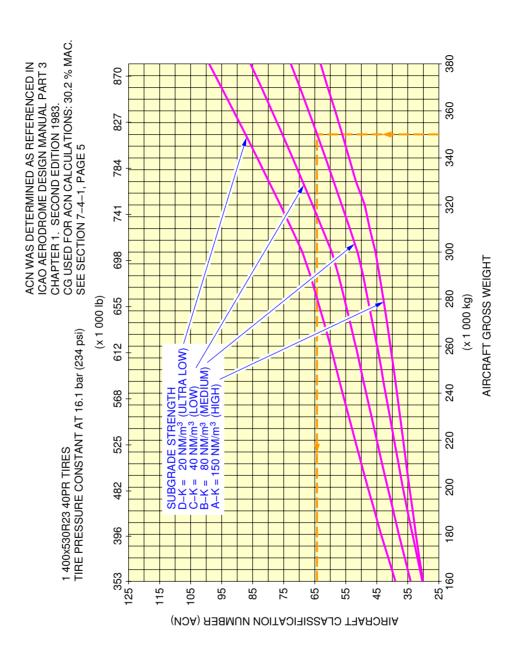


F_AC_070902_1_0340101_01_00

Aircraft Classification Number – Rigid Pavement MTOW 365 000 kg FIGURE 3

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600WV1xx

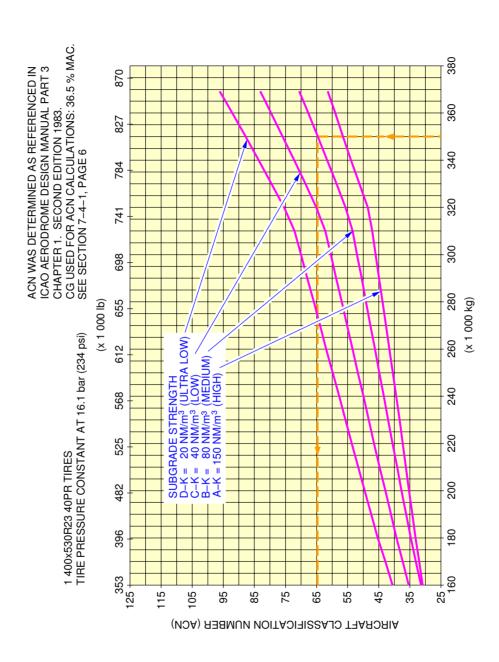


F_AC_070902_1_0300101_01_01

Aircraft Classification Number – Rigid Pavement MTOW 380 000 kg FIGURE 4

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500WV0xx

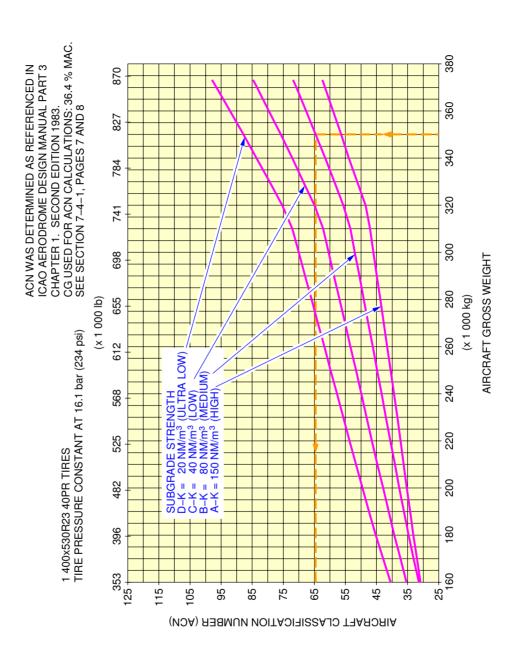


F_AC_070902_1_0310101_01_01

Aircraft Classification Number – Rigid Pavement MTOW 368 000 kg FIGURE 5

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500WV0xx

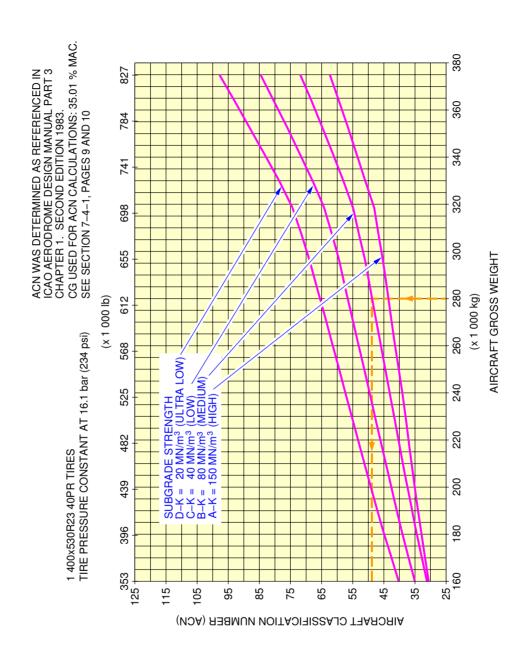


F_AC_070902_1_0320101_01_01

Aircraft Classification Number – Rigid Pavement MTOW 372 000 kg FIGURE 6

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500WV0xx

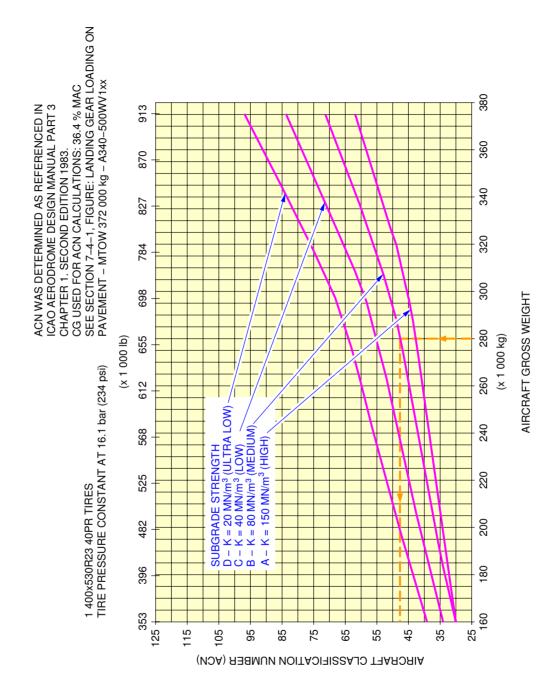


F_AC_070902_1_0350101_01_00

Aircraft Classification Number – Rigid Pavement MTOW 374 000 kg FIGURE 7

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

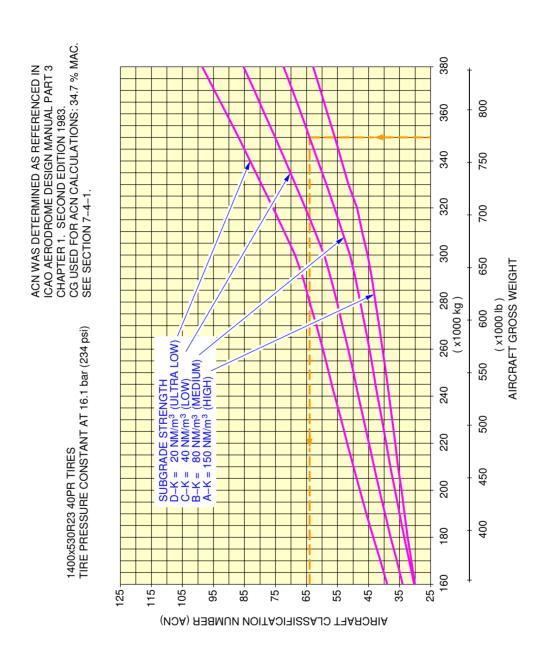
**ON A/C A340-500WV1xx



F_AC_070902_1_0360101_01_01

Aircraft Classification Number – Rigid Pavement MTOW 372 000 kg FIGURE 8

**ON A/C A340-500WV1xx



F_AC_070902_1_0330101_01_00

Aircraft Classification Number – Rigid Pavement MTOW 380 000 kg FIGURE 9

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

DERIVATIVE AIRPLANES

8-1-0 Possible Future Derivative Airplane

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

Possible Future Derivative Airplane

1. General

Other versions of the A340 airplane are being studied to satisfy customer requests.

In the future, this program could have new versions:

- Additional passenger capacity,
- Additional cargo modularity,
- New design version,
- Different range or payload.

If these new aircraft definitions are developed, the design and weight will be considered in accordance with airport facilities.

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

SCALED DRAWINGS

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

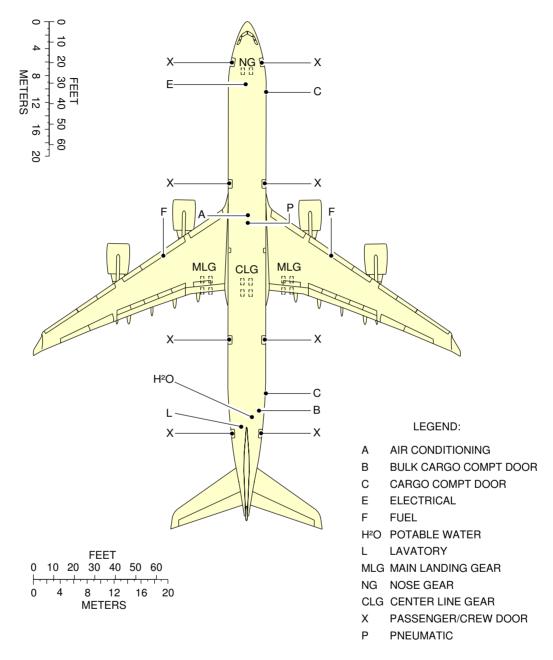
**ON A/C A340-500 A340-600

Scaled Drawing 1 in. = 50 ft.

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600

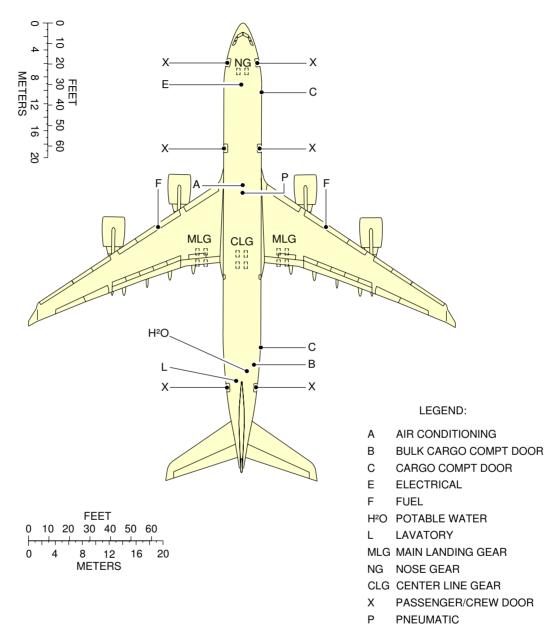


NOTE: WHEN PRINTING THIS DRAWING, MAKE SURE TO ADJUST FOR PROPER SCALING

F_AC_090100_1_0090101_01_01

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500

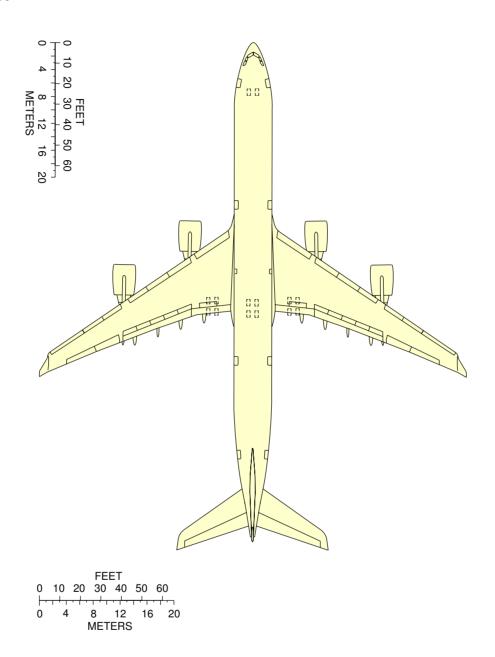


NOTE: WHEN PRINTING THIS DRAWING, MAKE SURE TO ADJUST FOR PROPER SCALING

F_AC_090100_1_0110101_01_01

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600

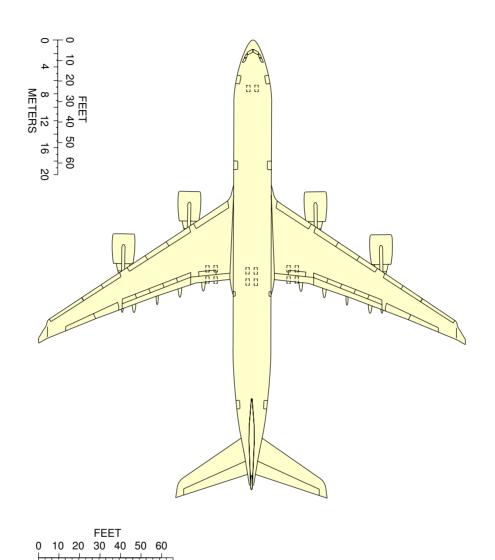


NOTE: WHEN PRINTING THIS DRAWING, MAKE SURE TO ADJUST FOR PROPER SCALING

F_AC_090100_1_0100101_01_01

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500



4 8 12 16 20 METERS

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

F_AC_090100_1_0120101_01_01

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

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

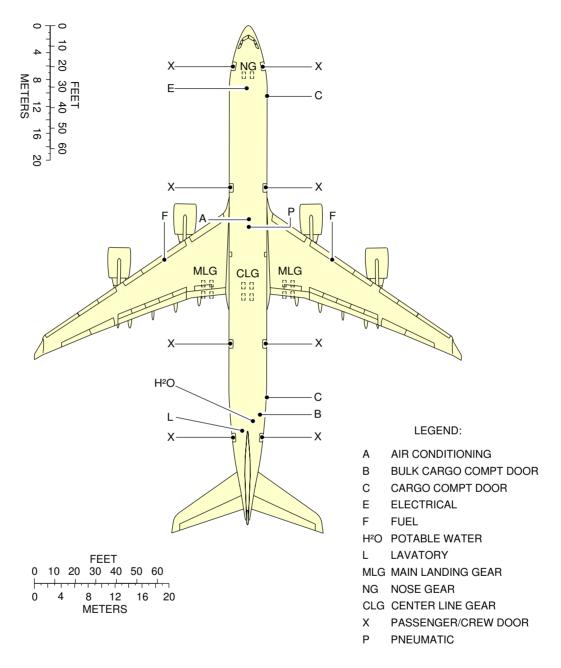
**ON A/C A340-500 A340-600

Scaled Drawing 1 cm. = 500 cm.

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

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600



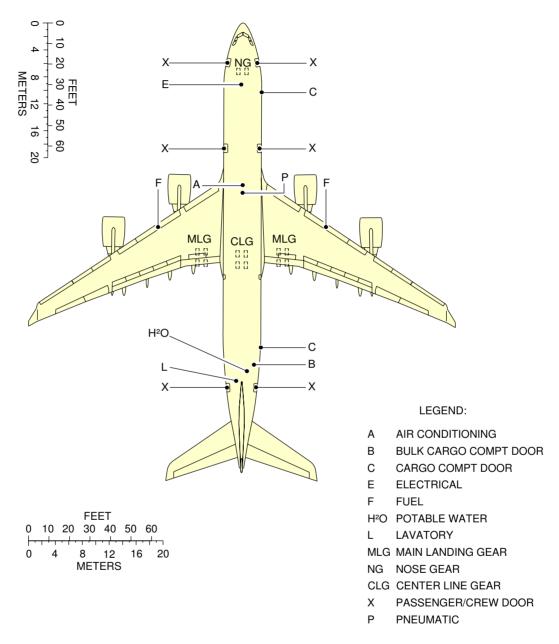
NOTE: WHEN PRINTING THIS DRAWING, MAKE SURE TO ADJUST FOR PROPER SCALING

F_AC_090200_1_0090101_01_01

 $\begin{array}{l} \text{Scaled Drawing} \\ 1 \text{ cm.} = 500 \text{ cm.} \\ \text{FIGURE 1} \end{array}$

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500



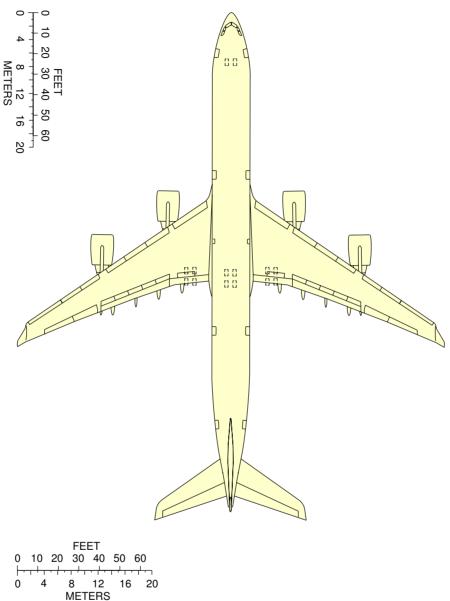
NOTE: WHEN PRINTING THIS DRAWING, MAKE SURE TO ADJUST FOR PROPER SCALING

F_AC_090200_1_0120101_01_01

Scaled Drawing 1 cm. = 500 cm. FIGURE 2

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-600



METERS

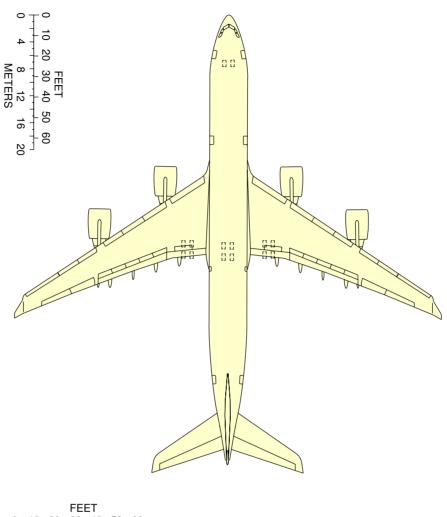
NOTE: WHEN PRINTING THIS DRAWING, MAKE SURE TO ADJUST FOR PROPER SCALING

F_AC_090200_1_0130101_01_01

Scaled Drawing 1 cm. = 500 cm.FIGURE 3

AIRPLANE CHARACTERISTICS FOR AIRPORT PLANNING

**ON A/C A340-500



FEET 0 10 20 30 40 50 60 0 4 8 12 16 20 METERS

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

F_AC_090200_1_0100101_01_01

 $\begin{array}{l} \text{Scaled Drawing} \\ 1 \text{ cm.} = 500 \text{ cm.} \\ \text{FIGURE 4} \end{array}$