

# A380

# AIRCRAFT CHARACTERISTICS AIRPORT AND MAINTENANCE PLANNING

# **AC**

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# **HIGHLIGHTS**

# Revision No. 12 - Dec 01/13

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
CHAPTER 01	R	
Section 01-01	R	
Subject 01-01-00	R	
Purpose	R	
Section 01-02	R	
Subject 01-02-01	R	
Glossary	R	
CHAPTER 02	R	
Section 02-01	R	
Subject 02-01-01	R	
General Aircraft Characteristics Data	R	DESCRIPTION TITLE UPDATED
Section 02-02	R	
Subject 02-02-00	R	
General Aircraft Dimensions	R	
FIGURE General Aircraft Dimensions	R	ILLUSTRATION REVISED
Section 02-03	R	
Subject 02-03-00	R	
Ground Clearances	R	REPLACED "TWO BASIC WEIGHT VARIANTS" WITH "AIRCRAFT AT MAXIMUM RAMP WEIGHT".
FIGURE Ground Clearances	R	DELETED THE MRW (562T) VALUES FROM THE TABLE. ILLUSTRATION REVISED
FIGURE Ground Clearances - Leading Edge Slats - Extended	R	ILLUSTRATION REVISED
FIGURE Ground Clearances - Trailing Edge Flaps - Extended	R	ILLUSTRATION REVISED
FIGURE Ground Clearances - Spoilers - Extended	R	ILLUSTRATION REVISED

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE Ground Clearances - Ailerons -	R	ILLUSTRATION REVISED
Down		
FIGURE Ground Clearances - Ailerons - Up	R	ILLUSTRATION REVISED
FIGURE Ground Clearances - Flap Tracks - Extended	R	ILLUSTRATION REVISED
Section 02-04	R	
Subject 02-04-00	R	
Interior Arrangement - Plan View	R	
Subject 02-04-01	R	
Standard Configuration - Pax	R	
FIGURE Interior Arrangements - Plan View - Standard Configuration - Upper Deck	R	ILLUSTRATION REVISED
FIGURE Interior Arrangements - Plan View - Standard Configuration - Main Deck	R	ILLUSTRATION REVISED
Section 02-05	R	
Subject 02-05-00	R	
Interior Arrangements - Cross Section	R	
Subject 02-05-01	R	
Typical Configuration - Pax	R	
FIGURE Interior Arrangements - Cross- section - Typical Configuration - Upper Deck	R	ILLUSTRATION REVISED
FIGURE Interior Arrangements - Cross- section - Typical Configuration - Main Deck	R	ILLUSTRATION REVISED
Section 02-06	R	
Subject 02-06-00	R	
Cargo Compartments	R	
Subject 02-06-01	R	
Location and Dimensions - Pax	R	

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE Cargo Compartments - Location and Dimensions	R	ILLUSTRATION REVISED
Subject 02-06-02	R	
Loading Combinations - Pax	R	
FIGURE Cargo Compartments - Loading Combinations	R	ILLUSTRATION REVISED
Section 02-07	R	
Subject 02-07-00	R	
Door Clearances	R	
FIGURE Door Clearances - Door Location (Sheet 1)	R	ILLUSTRATION REVISED
FIGURE Door Clearances - Door Location (Sheet 2)	R	ILLUSTRATION REVISED
Subject 02-07-01	R	
Forward Doors	R	
FIGURE Door Clearances - Forward Doors	R	ILLUSTRATION REVISED
Subject 02-07-02	R	
Main and Upper Deck Doors - Pax	R	
FIGURE Door Clearances - Main and Upper Deck Doors - A380-800 Models	R	ILLUSTRATION REVISED
Subject 02-07-03	R	
Aft Doors - Pax	R	
FIGURE Door Clearances - Aft Doors - A380-800 Models	R	ILLUSTRATION REVISED
Subject 02-07-04	R	
Aft Cargo Compartment Doors - Pax	R	
FIGURE Door Clearances - Aft Cargo Compartment Doors - A380-800 Models	R	ILLUSTRATION REVISED
Subject 02-07-05	R	
Forward Cargo Compartment Doors - Pax	R	
FIGURE Door Clearances - Forward Cargo Compartment Doors - A380-800 Models	R	ILLUSTRATION REVISED
Subject 02-07-06	R	

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
Nose Landing Gear Doors	R	
FIGURE Door Clearances - Forward Nose Landing Gear Doors	R	ILLUSTRATION REVISED
FIGURE Door Clearances - Aft Nose Landing Gear Doors	R	ILLUSTRATION REVISED
Subject 02-07-07	R	
Wing Landing Gear Doors	R	
FIGURE Door Clearances - Wing Landing Gear - Main Doors	R	CORRECTED THE DIMENSIONS. ILLUSTRATION REVISED
Subject 02-07-08	R	
Body Landing Gear Doors	R	
FIGURE Door Clearances - Body Landing Gear - Outer Doors	R	CORRECTED THE DIMENSIONS. ILLUSTRATION REVISED
FIGURE Door Clearances - Body Landing Gear - Center Doors	R	CORRECTED THE DIMENSIONS. ILLUSTRATION REVISED
Subject 02-07-09	R	
APU Doors	R	
FIGURE Door Clearances - APU Doors	R	ILLUSTRATION REVISED
Section 02-08	R	
Subject 02-08-00	R	
Escape Slides	R	
FIGURE Escape Slides - Location	R	ILLUSTRATION REVISED
FIGURE Escape Slides - Dimensions	R	ILLUSTRATION REVISED
Section 02-09	R	
Subject 02-09-00	R	
Landing Gear	R	CROSS REFERENCED DOCUMENTARY UNIT ADDED/REVISED/DELETED
FIGURE Wing Landing Gear - General	R	ILLUSTRATION REVISED
FIGURE Body Landing Gear - General	R	ILLUSTRATION REVISED
FIGURE Nose Landing Gear - General	R	ILLUSTRATION REVISED
Landing Gear Maintenance Pits	R	
FIGURE Landing Gear Maintenance Pits - Maintenance Pit Envelopes	R	ILLUSTRATION REVISED

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE Landing Gear Maintenance Pits - Necessary Depths	R	ILLUSTRATION REVISED
FIGURE Landing Gear Maintenance Pits - Maintenance Pit Envelopes - WLG Pit Dimensions	R	ILLUSTRATION REVISED
FIGURE Landing Gear Maintenance Pits - Maintenance Pit Envelopes - BLG Pit Dimensions	R	ILLUSTRATION REVISED
Section 02-10	R	
Subject 02-10-00	R	
Exterior Lighting	R	
FIGURE Exterior Lighting	R	ILLUSTRATION REVISED
FIGURE Exterior Lighting	R	ILLUSTRATION REVISED
FIGURE Exterior Lighting	R	ILLUSTRATION REVISED
FIGURE Exterior Lighting	R	ILLUSTRATION REVISED
FIGURE Exterior Lighting	R	ILLUSTRATION REVISED
Section 02-11	R	
Subject 02-11-00	R	
Antennas and Probes Location	R	
FIGURE Antennas and Probes - Location	R	ILLUSTRATION REVISED
Section 02-12	R	
Subject 02-12-00	R	
Auxiliary Power Unit	R	
FIGURE Auxiliary Power Unit - Access Doors	R	ILLUSTRATION REVISED
FIGURE Auxiliary Power Unit - General Layout	R	ILLUSTRATION REVISED
Engine and Nacelle	R	
FIGURE Power Plant Handling - Engine Dimensions - GP 7200 Engine	R	ILLUSTRATION REVISED
FIGURE Power Plant Handling - Nacelle Dimensions - GP 7200 Engine	R	ILLUSTRATION REVISED
FIGURE Power Plant Handling - Fan Cowls - GP 7200 Engine	R	ILLUSTRATION REVISED

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE Power Plant Handling - Thrust Reverser Cowls - GP 7200 Engine	R	ILLUSTRATION REVISED
FIGURE Power Plant Handling - Fan Exhaust Cowls - GP 7200 Engine	R	ILLUSTRATION REVISED
FIGURE Power Plant Handling - Engine Dimensions - TRENT 900 Engine	R	ILLUSTRATION REVISED
FIGURE Power Plant Handling - Nacelle Dimensions - TRENT 900 Engine	R	ILLUSTRATION REVISED
FIGURE Power Plant Handling - Fan Cowls - TRENT 900 Engine	R	ILLUSTRATION REVISED
FIGURE Power Plant Handling - Thrust Reverser Cowls - TRENT 900 Engine	R	ILLUSTRATION REVISED
FIGURE Power Plant Handling - Fan Exhaust Cowls - TRENT 900 Engine	R	ILLUSTRATION REVISED
Section 02-13	R	
Subject 02-13-00	R	
Leveling, Symmetry and Alignment	R	
FIGURE Location of Leveling Points	R	ILLUSTRATION REVISED
Section 02-14	R	
Subject 02-14-00	R	
Jacking for Maintenance	R	IMPROVED LAYOUT.
FIGURE Jacking for Maintenance - Jacking Points Location	R	ILLUSTRATION REVISED
FIGURE Jacking for Maintenance - Jacking Dimensions	R	ILLUSTRATION REVISED
FIGURE Jacking for Maintenance - Forward Jacking Point	R	ILLUSTRATION REVISED
FIGURE Jacking for Maintenance - Wing Jacking Point	R	ILLUSTRATION REVISED
FIGURE Jacking for Maintenance - Auxiliary Jacking Point - Safety Stay	R	ILLUSTRATION REVISED
Jacking for Wheel Change	R	
FIGURE Nose Landing Gear Jacking Point Heights	R	ILLUSTRATION REVISED

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE Wing Landing Gear Jacking Point Heights	R	ILLUSTRATION REVISED
FIGURE Body Landing Gear Jacking Point Heights	R	ILLUSTRATION REVISED
FIGURE Nose Landing Gear Jacking Point Loads	R	ILLUSTRATION REVISED
FIGURE Wing Landing Gear Jacking Point Loads	R	ILLUSTRATION REVISED
FIGURE Body Landing Gear Jacking Point Loads	R	ILLUSTRATION REVISED
CHAPTER 03	R	
Section 03-01	R	
Subject 03-01-00	R	
General Information	R	
Section 03-02	R	
Subject 03-02-00	R	
Payload /Range	R	
Subject 03-02-01	R	
Payload/Range - Pax	R	
FIGURE Payload/Range - ISA Conditions - TRENT 900 Engines	R	ILLUSTRATION REVISED
FIGURE Payload/Range - ISA Conditions - GP 7200 Engines	R	ILLUSTRATION REVISED
Section 03-03	R	
Subject 03-03-00	D	
Subject 03-03-01	R	
FAA/EASA Take Off Weight Limitation - Pax	R	UPDATED TITLE DESCRIPTION TITLE UPDATED
FIGURE FAA/EASA Take-Off Weight Limitation - ISA Conditions - TRENT 900 Engines	R	ILLUSTRATION REVISED

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE FAA/EASA Take-Off Weight Limitation - ISA Conditions - GP 7200 Engines	R	ILLUSTRATION REVISED
Subject 03-03-02	R	
FAA/EASA Take Off Weight Limitation - ISA $+$ 15 $^{\circ}$ C (59 $^{\circ}$ F)	R	UPDATED TITLE DESCRIPTION TITLE UPDATED
FIGURE FAA/EASA Take-Off Weight Limitation - ISA $+$ 15 $^{\circ}$ C (59 $^{\circ}$ F) - TRENT 900 Engines	R	ILLUSTRATION REVISED
FIGURE FAA/EASA Take-Off Weight Limitation - ISA + 15 °C (59 °F) - GP 7200 Engines	R	ILLUSTRATION REVISED
Section 03-04	R	
Subject 03-04-00	D	
Subject 03-04-01	R	
FAA/EASA Landing Field Length	R	UPDATED TITLE DESCRIPTION TITLE UPDATED
FIGURE FAA/EASA Landing Field Length - Dry Runway	R	ILLUSTRATION REVISED
Section 03-05	R	
Subject 03-05-00	R	
Final Approach Speed	R	
CHAPTER 04	R	
Section 04-01	R	
Subject 04-01-00	R	
General	R	
Section 04-02	R	
Subject 04-02-00	R	
Turning Radii	R	
FIGURE Turning Radii - Turning Radii (Sheet 1)	R	ILLUSTRATION REVISED
FIGURE Turning Radii - Turning Radii (Sheet 2)	R	ILLUSTRATION REVISED

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
Section 04-03	R	
Subject 04-03-00	R	
Minimum Turning Radii	R	
FIGURE Minimum Turning Radii	R	ILLUSTRATION REVISED
Section 04-04	R	
Subject 04-04-00	R	
Visibility from Cockpit in Static Position	R	
FIGURE Visibility from Cockpit in Static Position	R	ILLUSTRATION REVISED
FIGURE Binocular Visibility Through Windows from Captain Eye Position	R	ILLUSTRATION REVISED
Section 04-05	R	
Subject 04-05-00	R	
Runway and Taxiway Turn Paths	R	
Subject 04-05-01	R	
135° Turn - Runway to Taxiway	R	
FIGURE 135° Turn – Runway to Taxiway - Judgemental Oversteer Method	R	ILLUSTRATION REVISED
FIGURE 135° Turn – Runway to Taxiway - Cockpit Tracks Centreline Method	R	ILLUSTRATION REVISED
Subject 04-05-02	R	
90° Turn - Runway to Taxiway	R	
FIGURE 90° Turn – Runway to Taxiway - Judgemental Oversteer Method	R	ILLUSTRATION REVISED
FIGURE 90° Turn – Runway to Taxiway - Cockpit Tracks Centreline Method	R	ILLUSTRATION REVISED
Subject 04-05-03	R	
180° Turn on a Runway	R	
FIGURE 180° Turn on a Runway	R	ILLUSTRATION REVISED
Subject 04-05-04	R	
90° Turn - Taxiway to Taxiway	R	

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE 90° Turn – Taxiway to Taxiway - Judgemental Oversteer Method	R	ILLUSTRATION REVISED
FIGURE 90° Turn – Taxiway to Taxiway - Cockpit Tracks Centreline Method	R	ILLUSTRATION REVISED
Subject 04-05-05	R	
135° Turn - Taxiway to Taxiway	R	
FIGURE 135° Turn – Taxiway to Taxiway - Judgemental Oversteer Method	R	ILLUSTRATION REVISED
FIGURE 135° Turn – Taxiway to Taxiway - Cockpit Tracks Centerline Method	R	ILLUSTRATION REVISED
Section 04-06	R	
Subject 04-06-00	R	
Runway Holding Bay (Apron)	R	
FIGURE Runway Holding Bay (Apron)	R	ILLUSTRATION REVISED
Section 04-07	R	
Subject 04-07-00	R	
Minimum Line-Up Distance Corrections	R	UPDATED THE TITLE AND ADDED MINIMUM LINE-UP DISTANCE CORRECTIONS FOR DIFFERENT CASES. DESCRIPTION TITLE UPDATED
FIGURE Minimum Line-Up Distance Corrections - 90° Turn on Runway Entry	N	ILLUSTRATION ADDED
FIGURE Minimum Line-Up Distance Corrections - 180° Turn on Runway Turn Pad	N	ILLUSTRATION ADDED
FIGURE Minimum Line-Up Distance Corrections - 180° Turn on Runway Width	N	ILLUSTRATION ADDED
Section 04-08	R	
Subject 04-08-00	R	
Aircraft Mooring	R	DESCRIPTION TITLE UPDATED
FIGURE Aircraft Mooring	R	ILLUSTRATION REVISED
CHAPTER 05	R	

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
Section 05-00	R	
Subject 05-00-00	R	
Introduction	R	
Section 05-01	R	
Subject 05-01-00	R	
Airplane Servicing Arrangements	R	
Subject 05-01-01	R	
Typical Ramp Layout (Open Apron)	R	
FIGURE Typical Ramp Layout - Open Apron	R	ILLUSTRATION REVISED
Subject 05-01-02	R	
Typical Ramp Layout (Gate)	R	
FIGURE Typical Ramp Layout - Gate	R	ILLUSTRATION REVISED
Section 05-02	R	
Subject 05-02-01	R	
Typical Turn-Round Time - Standard Servicing Via Main Deck and Upper Deck	R	DESCRIPTION TITLE UPDATED
FIGURE Typical Turn-Round Time - Servicing Via Main and Upper Deck	R	ILLUSTRATION REVISED
Subject 05-02-02	R	
Typical Turn-Round Time - Servicing Via Main Deck	R	DESCRIPTION TITLE UPDATED
FIGURE Typical Turn-Round Time - Servicing Via Main Deck	R	ILLUSTRATION REVISED
Section 05-04	R	
Subject 05-04-01	R	
Ground Service Connections Layout	R	
FIGURE Ground Service Connections Layout	R	ADDED THE LOCATIONS OF NACA FLAME ARRESTOR (15) AND OVERPRESSURE PROTECTOR (16). REVISED ILLUSTRATION TITLE AND IMPROVED LAYOUT. ILLUSTRATION REVISED

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
Subject 05-04-02	R	
Grounding Points	R	
FIGURE Ground Points NLG	R	ILLUSTRATION REVISED
FIGURE Ground Point WLG	R	ILLUSTRATION REVISED
FIGURE Ground Points BLG	R	ILLUSTRATION REVISED
Subject 05-04-03	R	
Hydraulic System	R	
FIGURE Ground Service Connections - Hydraulic Reservoir Servicing Panel	R	ILLUSTRATION REVISED
FIGURE Ground Service Connections - Hydraulic Ground Connections	R	ILLUSTRATION REVISED
Subject 05-04-04	R	
Electrical System	R	NOTE AMENDED
FIGURE Ground Service Connections - Electrical Service Panel	R	ILLUSTRATION REVISED
FIGURE Ground Service Connections - Ram Air Turbine retracted	N	ADDED ILLUSTRATION OF RAM AIR TURBINE. ILLUSTRATION ADDED
FIGURE Ground Service Connections - Ram Air Turbine extended	N	ADDED ILLUSTRATION OF RAM AIR TURBINE. ILLUSTRATION ADDED
Subject 05-04-05	R	
Oxygen System	R	ADDED ACCESS PANEL 132AJW AND CORRECTED THE LOCATION OF SERVICE CONNECTIONS. PART EFFECTIVITY ADDED/REVISED/DELETED
FIGURE Ground Service Connections - Oxygen System	R	ILLUSTRATION REVISED
Subject 05-04-06	R	
Fuel System	R	
FIGURE Ground Service Connections - Refuel/Defuel Control Panel	R	ILLUSTRATION REVISED

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE Ground Service Connections - Pressure Refuel Connections	R	ILLUSTRATION REVISED
FIGURE Ground Service Connections - Overpressure Protector and NACA Flame Arrestor	R	ILLUSTRATION REVISED
Subject 05-04-07	R	
Pneumatic System	R	
FIGURE Ground Service Connections - Low Pressure Preconditioned Air	R	ILLUSTRATION REVISED
FIGURE Ground Service Connections - High Pressure Preconditioned Air	R	ILLUSTRATION REVISED
Subject 05-04-08	R	
Potable Water System	R	
FIGURE Ground Service Connections - Potable Water Ground Service Panel	R	ILLUSTRATION REVISED
FIGURE Ground Service Connections - Potable Water Drain Panel	R	ILLUSTRATION REVISED
FIGURE Ground Service Connections - Potable Water Tanks Location	R	ILLUSTRATION REVISED
Subject 05-04-09	R	
Engine Oil Servicing	R	
FIGURE Ground Service Connections - Engine Oil Servicing - TRENT 900 Engines	R	ILLUSTRATION REVISED
FIGURE Ground Service Connections - Engine Oil Servicing - GP 7200 Engines	R	ILLUSTRATION REVISED
VFG Oil Servicing	R	
FIGURE Ground Service Connections - VFG Oil Servicing - TRENT 900 Engines	R	ILLUSTRATION REVISED
FIGURE Ground Service Connections - VFG Oil Servicing - GP 7200 Engines	R	ILLUSTRATION REVISED
Starter Oil Servicing	R	

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE Ground Service Connections - Starter Oil Servicing - TRENT 900 Engines	R	ILLUSTRATION REVISED
FIGURE Ground Service Connections - Starter Oil Servicing - GP 7200 Engines	R	ILLUSTRATION REVISED
APU Oil Servicing	R	
FIGURE Ground Service Connections - APU Oil Servicing	R	ILLUSTRATION REVISED
Subject 05-04-10	R	
Vacuum Toilet System	R	
FIGURE Ground Service Connections - Vacuum Toilet System	R	ILLUSTRATION REVISED
FIGURE Ground Service Connections - Waste Tanks Location	R	ILLUSTRATION REVISED
Section 05-05	R	
Subject 05-05-00	R	
Engine Starting Pneumatic Requirements	R	DELETED "AIA/NAS 3601 STANDARD" FROM THE TEXT.
FIGURE Example for Use of the Charts	R	CORRECTED THE ASU DISCHARGE TEMPERATURE 240°C (464°F) TO 265°C (509°F), FOR INTERPOLATION. REPLACED THE TERM "OAT" WITH "ASU DISCHARGE TEMPERATURE". ADDED LEGEND FOR ASU DISCHARGE TEMPERATURE CURVES. REPLACED THE TERM "HPGC" WITH "A/C CONNECTION", IN THE EXAMPLE FOR REQUIRED AIRFLOW. ILLUSTRATION REVISED
FIGURE Engine Starting Pneumatic Requirements - Engine Alliance - GP 7200	R	REPLACED THE TERM "OAT" WITH "ASU DISCHARGE TEMPERATURE". ADDED LEGEND FOR ASU DISCHARGE TEMPERATURE CURVES. ILLUSTRATION REVISED

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE Engine Starting Pneumatic Requirements - Rolls Royce - Trent 900 Engine	R	REPLACED THE TERM "OAT" WITH "ASU DISCHARGE TEMPERATURE". ADDED LEGEND FOR ASU DISCHARGE TEMPERATURE CURVES. ILLUSTRATION REVISED
Section 05-06	R	
Subject 05-06-00	R	
Ground Pneumatic Power Requirements	R	ADDED GROUND PNEUMATIC POWER REQUIREMENTS FOR HEATING OR COOLING THE CABIN. ADDED NOTES ABOUT COOLING CAPACITY AND MAX AIRFLOW.  NOTE AMENDED
FIGURE Ground Pneumatic Power Requirements - Heating	N	ILLUSTRATION ADDED
FIGURE Ground Pneumatic Power Requirements - Cooling	N	ILLUSTRATION ADDED
Subject 05-06-01	D	
Subject 05-06-02	D	
Section 05-07	R	
Subject 05-07-00	R	
Preconditioned Airflow Requirements	R	
FIGURE Preconditioned Airflow Requirements	R	ILLUSTRATION REVISED
Section 05-08	R	
Subject 05-08-00	R	
Ground Towing Requirements	R	
FIGURE Ground Towing Requirements	R	ILLUSTRATION REVISED
FIGURE Ground Towing Requirements - Nose Gear Towing Fittings	R	ILLUSTRATION REVISED
Section 05-09	R	
Subject 05-09-00	R	
De-Icing and External Cleaning	R	
CHAPTER 06	R	

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
Section 06-01	R	
Subject 06-01-00	R	
Engine Exhaust Velocities and Temperatures	R	
Subject 06-01-01	R	
Engine Exhaust Velocities - Ground Idle Power	R	
FIGURE Engine Exhaust Velocities - Ground Idle Power - TRENT 900 Engines	R	ILLUSTRATION REVISED
FIGURE Engine Exhaust Velocities - Ground Idle Power - GP 7200 Engines	R	ILLUSTRATION REVISED
Subject 06-01-02	R	
Engine Exhaust Temperatures - Ground Idle Power	R	
FIGURE Engine Exhaust Temperatures - Ground Idle Power - TRENT 900 Engines	R	ILLUSTRATION REVISED
FIGURE Engine Exhaust Temperatures - Ground Idle Power - GP 7200 Engines	R	ILLUSTRATION REVISED
Subject 06-01-03	R	
Engine Exhaust Velocities - Breakaway Power	R	
FIGURE Engine Exhaust Velocities - Breakaway Power - TRENT 900 Engines	R	ILLUSTRATION REVISED
FIGURE Engine Exhaust Velocities - Breakaway Power - GP 7200 Engines	R	ILLUSTRATION REVISED
Subject 06-01-04	R	
Engine Exhaust Temperatures - Breakaway Power	R	
FIGURE Engine Exhaust Temperatures - Breakaway Power - TRENT 900 Engines	R	ILLUSTRATION REVISED
FIGURE Engine Exhaust Temperatures - Breakaway Power - GP 7200 Engines	R	ILLUSTRATION REVISED
Subject 06-01-05	R	

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
Engine Exhaust Velocities - Max Take-off Power	R	
FIGURE Engine Exhaust Velocities - Max. Take-Off Power - TRENT 900 Engines	R	ILLUSTRATION REVISED
FIGURE Engine Exhaust Velocities - Max. Take-Off Power - GP 7200 Engines	R	ILLUSTRATION REVISED
Subject 06-01-06	R	
Engine Exhaust Temperatures - Max Take-off Power	R	
FIGURE Engine Exhaust Temperatures - Max Take-Off Power - TRENT 900 Engines	R	ILLUSTRATION REVISED
FIGURE Engine Exhaust Temperatures - Max Take-Off Power - GP 7200 Engines	R	ILLUSTRATION REVISED
Section 06-02	R	
Subject 06-02-00	R	
Airport and Community Noise Data	R	
Subject 06-02-01	R	
Airport and Community Noise Data	R	
FIGURE Airport and Community Noise Data - TRENT 900 Engines	R	ILLUSTRATION REVISED
FIGURE Airport and Community Noise Data - GP 7200 Engines	R	ILLUSTRATION REVISED
Section 06-03	R	
Subject 06-03-00	R	
Danger Areas of the Engines	R	
Subject 06-03-01	R	
Danger Areas of the Engines - Ground Idle Power	R	
FIGURE Danger Areas of the Engines - Ground Idle Power - TRENT 900 Engines	R	ILLUSTRATION REVISED
FIGURE Danger Areas of the Engines - Ground Idle Power - GP 7200 Engines	R	ILLUSTRATION REVISED
Subject 06-03-02	R	

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
Danger Areas of the Engines - Max. Take- Off Power	R	
FIGURE Danger Areas of the Engines - Max Take-Off Power - TRENT 900 Engines	R	ILLUSTRATION REVISED
FIGURE Danger Areas of the Engines - Max Take-Off Power - GP 7200 Engines	R	ILLUSTRATION REVISED
Subject 06-03-03	R	
Danger Areas of the Engines - Breakaway Power	R	
FIGURE Danger Areas of the Engines - Breakaway Power - TRENT 900 Engines	R	ILLUSTRATION REVISED
FIGURE Danger Areas of the Engines - Breakaway Power - GP 7200 Engines	R	ILLUSTRATION REVISED
Section 06-04	R	
Subject 06-04-00	R	
APU Exhaust Velocities and Temperatures	R	
Subject 06-04-01	R	
APU Exhaust Velocities and Temperatures	R	
FIGURE APU Exhaust Velocities and Temperatures - Max. ECS Conditions	R	ILLUSTRATION REVISED
Subject 06-04-02	R	
APU Exhaust Velocities and Temperatures - MES Conditions	R	
FIGURE APU Exhaust Velocities and Temperatures - MES Conditions	R	ILLUSTRATION REVISED
CHAPTER 07	R	
Section 07-01	R	
Subject 07-01-00	R	
General Information	R	CROSS REFERENCED DOCUMENTARY UNIT ADDED/REVISED/DELETED
Section 07-02	R	
Subject 07-02-00	R	

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
Landing Gear Footprint	R	UPDATED THE TITLE AND THE DESCRIPTION TEXT. DESCRIPTION TITLE UPDATED
FIGURE Landing Gear Footprint - (Sheet 1 of 2)	R	ILLUSTRATION REVISED
Section 07-03	R	
Subject 07-03-00	R	
Maximum Pavement Loads	R	DESCRIPTION TITLE UPDATED
FIGURE Maximum Pavement Loads - (Sheet 1 of 2)	N	ADDED ILLUSTRATION TO SHOW THE MAXIMUM PAVEMENT LOADS FOR ALL THE WEIGHT VARIANTS. ILLUSTRATION ADDED
Section 07-04	R	
Subject 07-04-00	R	
Landing Gear Loading on Pavement	R	UPDATED TEXT ABOUT MLG LOADING ON PAVEMENT. ADDED EXAMPLE FOR WING GEAR AND BODY GEAR LOADING ON PAVEMENT.
FIGURE Landing Gear Loading on Pavement - WV007, MRW 492 000 kg, CG 43% (Sheet 1 of 2)	N	ILLUSTRATION ADDED
FIGURE Landing Gear Loading on Pavement - WV008, MRW 577 000 kg CG 41% (Sheet 1 of 2)	N	ILLUSTRATION ADDED
Subject 07-04-01	D	
Subject 07-04-02	D	
Subject 07-04-03	D	
Section 07-05	R	
Subject 07-05-00	R	
Flexible Pavement Requirements - US Army Corps of Engineers Design Method	R	UPDATED THE TITLE AND THE DESCRIPTION TEXT. ADDED EXAMPLES FOR WLG AND BLG FLEXIBLE PAVEMENT REQUIREMENTS. NOTE AMENDED

LOCATIONS	CHG CODE	DESCRIPTIONS OF CHANGE
FIGURE Flexible Pavement Requirements - WV007, MRW 492 000 kg, CG 43 % - Wing Landing Gear (Sheet 1 of 2)	N	ILLUSTRATION ADDED
FIGURE Flexible Pavement Requirements - WV008, MRW 577 000 kg, CG 41 % - Wing Landing Gear (Sheet 1 of 2)	N	ILLUSTRATION ADDED
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Flexible Pavement Requirements - LCN Conversion	R	DESCRIPTION TITLE UPDATED
FIGURE Flexible Pavement Requirements - LCN Table	N	ADDED ILLUSTRATION FOR FLEXIBLE PAVEMENT REQUIREMENTS - LCN DATA. ILLUSTRATION ADDED
FIGURE Flexible Pavement Requirements - LCN - WV007, MRW 492 000 kg, CG 43 % - WLG (Sheet 1 of 2)	N	ADDED ILLUSTRATION FOR FLEXIBLE PAVEMENT REQUIREMENTS FOR WV007. ILLUSTRATION ADDED
FIGURE Flexible Pavement Requirements - LCN - WV008, MRW 577 000 kg, CG 41 % - WLG (Sheet 1 of 2)	N	ADDED ILLUSTRATION FOR FLEXIBLE PAVEMENT REQUIREMENTS FOR WV008. ILLUSTRATION ADDED
Subject 07-06-01	D	
Section 07-07	R	
Subject 07-07-00	R	
Rigid Pavement Requirements - Portland Cement Association Design Method	R	ADDED INFORMATION ON DEVELOPING RIGID PAVEMENT DESIGN CURVES. ADDED EXAMPLE TO CALCULATE THE RIGID PAVEMENT THICKNESS FOR BLG. NOTE AMENDED
FIGURE Rigid Pavement Requirements - WV007, MRW 492 000 kg, CG 43 % - WLG	N	ADDED ILLUSTRATIONS OF RIGID PAVEMENT REQUIREMENTS FOR WV007. ILLUSTRATION ADDED
FIGURE Rigid Pavement Requirements - WV008, MRW 577 000 kg, CG 41 % - WLG	N	ADDED ILLUSTRATIONS OF RIGID PAVEMENT REQUIREMENTS FOR WV008. ILLUSTRATION ADDED
Subject 07-07-01	D	

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FIGURE Rigid Pavement Requirements - LCN Table	N	ILLUSTRATION ADDED
FIGURE Radius of Relative Stiffness (L)	N	ILLUSTRATION ADDED
FIGURE Rigid Pavement Requirements - LCN - WV007, MRW 492 000 kg, CG 43% - WLG	N	ILLUSTRATION ADDED
FIGURE Rigid Pavement Requirements - LCN - WV008, MRW 577 000 kg, CG 41% - WLG	N	ILLUSTRATION ADDED
FIGURE Radius of Relative Stiffness (Effect E and $\mu$ on "L" values)	N	ILLUSTRATION ADDED
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Section 07-09	R	
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ACN/PCN Reporting System - Flexible and Rigid Pavements	R	UPDATED THE TITLE AND THE DESCRIPTION TEXT. ADDED EXAMPLE TO CALCULATE THE ACN FOR RIGID PAVEMENT DESCRIPTION TITLE UPDATED NOTE AMENDED
FIGURE Aircraft Classification Number - ACN Table	N	ILLUSTRATION ADDED
FIGURE Aircraft Classification Number - Flexible Pavement - WV007, MRW 492 000 kg, CG 43% (Sheet 1 of 2)	N	ILLUSTRATION ADDED

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FIGURE Batteries Location and Access	N	ADDED ILLUSTRATION TO SHOW THE LOCATION OF BATTERIES AND ITS ACCESS. ILLUSTRATION ADDED
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## **SCOPE**

01-01-00 Purpose

\*\*ON A/C A380-800

#### **Purpose**

#### 1. General

The A380 AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING (AC) manual is issued for the A380 series aircraft to provide necessary data to airport operators, airlines and Maintenance/Repair Organizations (MRO) for airport and maintenance facilities planning.

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

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

The A380-800 is a subsonic, very long range and very high capacity civil transport aircraft. The A380-800 offers several payload capabilities ranging from 400 passengers in a very comfortable multiclass configuration, up to 853 passengers in an all economy class configuration.

Designed in close collaboration with major airlines, airports and airworthiness authorities, the A380 is the most advanced, spacious and productive aircraft in service setting a new standard in air travel and environmental efficiency.

The A380 Family starts from a baseline passenger aircraft - the A380-800. A higher capacity version, the A380-900 could be developed when required by the market.

Two engine types are currently offered, the Engine Alliance GP7200 series and the Rolls-Royce Trent 900 series. Both engines use state of the art technology for better performance, maintainability, lower fuel consumption and environmental impact.

The A380-800 was designed to be compatible with current airport infrastructure and equipment, as proven in service. Bigger, quieter and capable of achieving quick turn around times, the A380-800 provides an efficient solution for airports and airlines to grow in a sustainable manner.

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## 01-02-01 Glossary

## \*\*ON A/C A380-800

#### Glossary

1. List of Abbreviations

A/C Aircraft

ACN Aircraft Classification Number

APU Auxiliary Power Unit

B/C Business Class

BLG
CAS
Calibrated Air Speed
CBR
California Bearing Ratio
CC
Cargo Compartment
CG
Center of Gravity

C/L Center Line

E Young's Modulus

ECS Environmental Control System
FAA Federal Aviation Administration

F/C First Class

FDL Fuselage Datum Line

FR Frame

FSTE Full Size Trolley Equivalent

FWD Forward

GPU Ground Power Unit

GSE Ground Support Equipment

ICAO International Civil Aviation Organisation
ISA International Standard Atmosphere

L Left

L Radius of relative stiffness
LCN Load Classification Number

LD Load Device
LD Lower Deck
LH Left Hand

LPS Last Pax Seating

MAC Mean Aerodynamic Chord

MAX Maximum
MD Main Deck
MIN Minimum

MLW Maximum Design Landing Weight
MRW Maximum Design Ramp Weight
MTOW Maximum Design Take-Off Weight
MTW Maximum Design Taxi Weight
MZFW Maximum Design Zero Fuel Weight

NLG Nose Landing Gear

OAT Outside Air Temperature
OEW Operational Empty Weight

PAX Passenger

PB/D Passenger Boarding/Deboarding
PCA Portland Cement Association
PCN Pavement Classification Number
PRM Passenger with Reduced Mobility

R Right

RH Right Hand

TBD To Be Determined

UD Upper Deck

ULD Unit Load Device
US United States
VF Variable Frequency

VFG Variable Frequency Generator
Vref Landing reference speed
WLG Wing Landing Gear

WV Weight Variant

#### 2. Units of Measurement

degree (angle)

% percent

°C degree Celsius °F degree Fahrenheit

bar bar

cm centimeter deg degree (angle)

ft foot

ft/s foot per second

ft/s<sup>2</sup> foot per square second

ft<sup>2</sup> square foot

 $\begin{array}{ccc} \text{ft}^3 & & \text{cubic foot} \\ \text{in} & & \text{inch} \\ \text{kg} & & \text{kilogram} \end{array}$ 

kg/l kilogram per liter km/h kilometer per hour

kt knot

kVA kilovolt ampere

I liter
Ib pound
m meter

 $\begin{array}{ccc} m/s & meter per second \\ m^2 & square meter \\ m^3 & cubic meter \\ min & minute \\ mm & millimeter \end{array}$ 

MN/m³ meganewton per cubic meter

MPa megapascal nm nautical mile

pci pound-force per cubic inch psi pound-force per square inch

t tonne

US gal United States gallon

## 3. Design Weight Terminology

Maximum Design Ramp Weight (MRW):

Maximum weight for ground maneuver (including weight of taxi and run-up fuel) as limited by aircraft strength and airworthiness requirements. It is also called Maximum Design Taxi Weight (MTW).

- Maximum Design Landing Weight (MLW):
  - Maximum weight for landing as limited by aircraft strength and airworthiness requirements.
- Maximum Design Takeoff Weight (MTOW):
  - Maximum weight for takeoff as limited by aircraft strength and airworthiness requirements. (This is the maximum weight at start of the take-off run).
- Maximum Design Zero Fuel Weight (MZFW):
  - Maximum permissible weight of the aircraft without usable fuel.
- Maximum Seating Capacity:
  - Maximum number of passengers specifically certified or anticipated for certification.
- Usable Volume:
  - Usable volume available for cargo, pressurized fuselage, passenger compartment and cockpit.
- Water Volume:



Maximum volume of cargo compartment.

- Usable Fuel:

Fuel available for aircraft propulsion.

## **AIRCRAFT DESCRIPTION**

## 02-01-01 General Aircraft Characteristics Data

\*\*ON A/C A380-800

# General Aircraft Characteristics Data

1. The following table provides characteristics of A380-800 Models, these data are specific to each Weight Variant:

	,	Aircraft Characte	eristics		
	WV000	WV001	WV002	WV003	WV004
Maximum Ramp Weight (MRW) Maximum Taxi Weight (MTW)	562 000 kg (1 238 998 lb)	_	571 000 kg (1 258 839 lb)	512 000 kg (1 128 766 lb)	562 000 kg (1 238 998 lb)
Maximum Take-Off Weight (MTOW)	560 000 kg (1 234 588 lb)	510 000 kg (1 124 357 lb)	569 000 kg (1 254 430 lb)	510 000 kg (1 124 357 lb)	560 000 kg (1 234 588 lb)
Maximum Landing Weight (MLW)	386 000 kg (850 984 lb)	394 000 kg (868 621 lb)	391 000 kg (862 007 lb)	395 000 kg (870 826 lb)	391 000 kg (862 007 lb)
Maximum Zero Fuel Weight (MZFW)	361 000 kg (795 869 lb)	372 000 kg (820 119 lb)	366 000 kg (806 892 lb)	373 000 kg (822 324 lb)	366 000 kg (806 892 lb)

Aircraft Characteristics											
	WV005	WV006	WV007	WV008							
Maximum Ramp Weight (MRW) Maximum Taxi Weight (MTW)	562 000 kg (1 238 998 lb)	575 000 kg (1 267 658 lb)	492 000 kg (1 084 674 lb)	577 000 kg (1 272 067 lb)							
Maximum Take-Off	560 000 kg	573 000 kg	490 000 kg	575 000 kg							
Weight (MTOW)	(1 234 588 lb)	(1 263 248 lb)	(1 080 265 lb)	(1 267 658 lb)							
Maximum Landing	386 000 kg	393 000 kg	395 000 kg	394 000 kg							
Weight (MLW)	(850 984 lb)	(866 416 lb)	(870 826 lb)	(868 621 lb)							
Maximum Zero Fuel	366 000 kg	368 000 kg	373 000 kg	369 000 kg							
Weight (MZFW)	(806 892 lb)	(811 301 lb)	(822 324 lb)	(813 506 lb)							

2. The following table provides characteristics of A380-800 Models, these data are common to each Weight Variant:

Aircraft Characteristics													
	WV000	WV001	WV002	WV003	WV004	WV005	WV006	WV007	WV008				
Standard Seating Capacity					555								
Usable Fuel Capacity (density					323 546 ا 472 US و	gal)							
= 0.785  kg/l	253 983 kg (559 937 lb)												
Pressurized Fuselage Volume (A/C non equipped, main and upper deck)				(	2100 m³ 74 161 ft³	)							
Passenger Compartment Volume (main deck)				(	775 m³ 27 369 ft³	)							
Passenger Compartment Volume (upper deck)				(	530 m³ 18 717 ft³	)							
Cockpit Volume					12 m <sup>3</sup> (424 ft <sup>3</sup> )								
Usable Volume, FWD CC (Based on LD3)					89.4 m³ (3 157 ft³)								
Usable Volume, AFT CC (Based on LD3)					71.5 m³ (2 525 ft³)								
Usable Volume, Bulk CC					14.3 m <sup>3</sup> (505 ft <sup>3</sup> )								
Water Volume, FWD CC					131 m³ (4 626 ft³)	)							
Water Volume, AFT CC					107.8 m³ (3 807 ft³)								
Water Volume, Bulk CC					17.3 m <sup>3</sup> (611 ft <sup>3</sup> )								



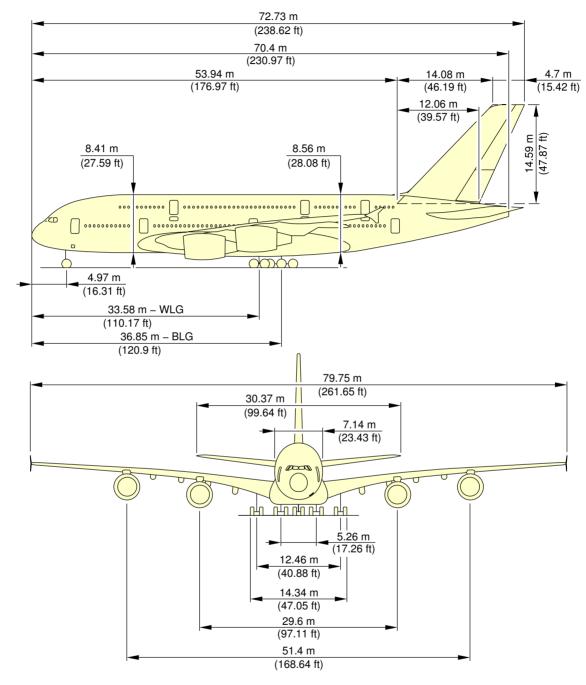
02-02-00 General Aircraft Dimensions

\*\*ON A/C A380-800

# **General Aircraft Dimensions**

1. This section provides General Aircraft Dimensions.

## \*\*ON A/C A380-800

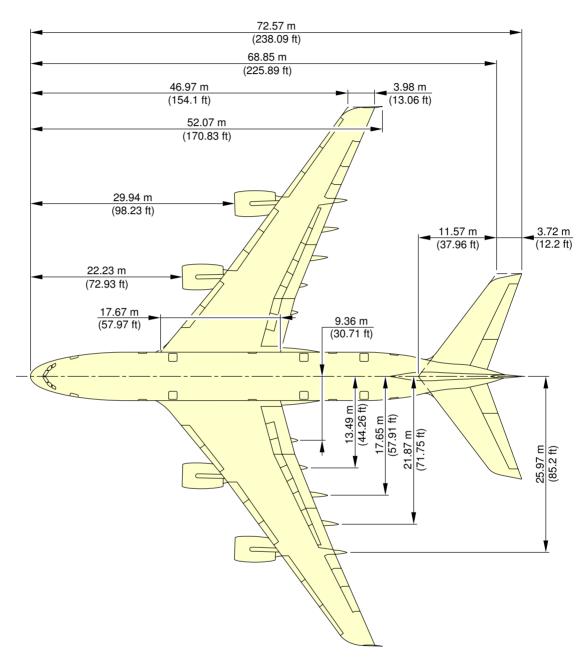


NOTE: RELATED TO AIRCRAFT ATTITUDE AND WEIGHT.

L\_AC\_020200\_1\_0010101\_01\_02

General Aircraft Dimensions (Sheet 1 of 2) FIGURE-02-02-00-991-001-A01

## \*\*ON A/C A380-800



NOTE: RELATED TO AIRCRAFT ATTITUDE AND WEIGHT.

L\_AC\_020200\_1\_0010103\_01\_00

General Aircraft Dimensions (Sheet 2 of 2) FIGURE-02-02-00-991-001-A01

#### 02-03-00 Ground Clearances

## \*\*ON A/C A380-800

## **Ground Clearances**

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

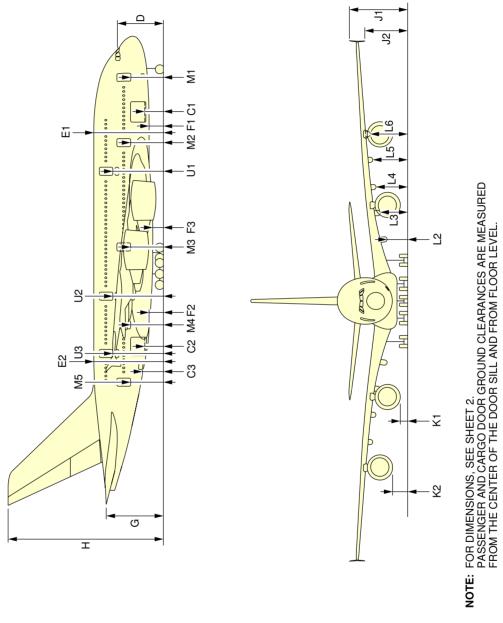
Dimensions in the tables are approximate and will vary with tire type, weight and balance and other special conditions.

The dimensions are given for:

- A light weight, for an aircraft in maintenance configuration with a FWD CG and an AFT CG,
- An aircraft at Maximum Ramp Weight with a FWD CG and an AFT CG,
- Aircraft on jacks, FDL at 7.2 (23.62 ft).

<u>NOTE</u>: Passenger and cargo door ground clearances are measured from the center of the door sill and from floor level.

# \*\*ON A/C A380-800



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Ground Clearances (Sheet 1 of 2) FIGURE-02-03-00-991-001-A01

# \*\*ON A/C A380-800

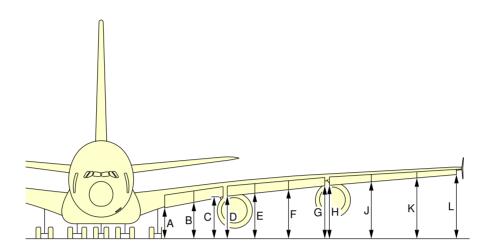
	.6 ft)		ω	ω	2	7	-	-	2	0	-	Ω.	7	7	7	က	2	œ	က	က	7	9	2	2	2	5	2	2	2	2
į į	CKEU m (23	#	16.8	16.8	17.2	30.2	42.1	42.1	14.5	14.0	12.1	36.5	85.7	33.2	25.7	10.3	13.5	16.8	20.3	22.3	23.7	24.6	23.5	23.5	23.5	23.5	23.5	32.5	32.5	32.5
(	A/C JACKED FDL = 7.20 m (23.6 ft)	٤	5.12	5.12	5.24	9.22	12.82	12.82	4.41	4.27	3.68	11.14	26.11	10.12	7.84	3.14	4.13	5.12	6.18	6.81	7.22	7.50	7.15	7.15	7.15	7.15	7.15	9.90	9.90	9:90
	CG %	¥	10.8	10.6	11.0	24.3	36.1	35.9	8.5	7.8	0.9	30.2	79.3	27.0	19.5	4.3	7.4	10.7	14.1	16.2	17.5	18.4	17.6	17.5	17.4	17.3	17.3	26.5	26.4	26.3
o t	AFT CG (44%)	٤	3.30	3.23	3.36	7.42	11	10.93	2.59	2.38	1.82	9.20	24.17	8.22	5.94	1.30	2.27	3.26	4.31	4.93	5.34	5.61	5.36	5.34	5.31	5.28	5.27	8.08	8.04	8.02
300 t	50° (%	¥	10.6	10.7	11.2	23.5	35.6	36.0	8.0	6.7	0.9	30.5	9.6/	27.1	19.6	4.3	7.4	10.7	14.2	16.2	17.6	18.5	16.9	17.1	17.4	17.6	17.8	26.2	26.6	26.7
	FWD CG (29%)	٤	3.24	3.27	3.41	7.16	10.84	10.97	2.45	2.41	1.82	9.30	24.27	8.27	2.97	1.30	2.27	3.27	4.33	4.95	5.36	5.63	5.14	5.20	5.30	5.37	5.45	7.98	8.10	8.15
	AFT CG (41%)	Ħ	10.1	10.2	10.6	23.5	35.4	35.4	7.8	7.3	5.4	30.0	79.1	24.6	17.1	3.5	6.2	10.1	13.4	15.3	16.3	17.0	16.8	16.9	16.9	16.9	16.9	25.9	25.9	26.0
MRW	AFT CG (41%)	٤	3.08	3.10	3.23	7.17	10.79	10.78	2.38	2.22	1.66	9.15	24.12	7.49	5.21	1.08	1.90	3.07	4.08	4.65	4.98	5.17	5.13	5.14	5.15	5.15	5.16	7.89	7.90	7.91
M	FWD CG (37.8%)	¥	10.0	10.2	10.6	23.4	35.3	35.5	7.7	7.4	5.4	30.2	79.3	24.8	17.3	3.4	6.2	10.1	13.4	15.3	16.4	17.1	16.7	16.8	16.9	17.0	17.1	25.8	26.0	26.0
	FWD CG (37.8%)	٤	3.05	3.11	3.24	7.13	10.75	10.83	2.34	2.27	1.66	9.20	24.17	7.55	5.27	1.05	1.90	3.08	4.09	4.67	5.01	5.20	5.10	5.12	5.15	5.18	5.20	78.7	7.91	7.94
Ç	CONFIGURATION		C1	C2	င္ပ	Ω	П	E2	F1	F2	F3	σ	I	J1	J2	7	K2	77	F3	L4	57	97	IM1	M2	M3	M4	M5	U1	U2	N3

**NOTE:** MAXIMUM JACKING WEIGHT = 333 700 kg (735 682 lb).

L\_AC\_020300\_1\_0010105\_01\_01

Ground Clearances (Sheet 2 of 2) FIGURE-02-03-00-991-001-A01

# \*\*ON A/C A380-800

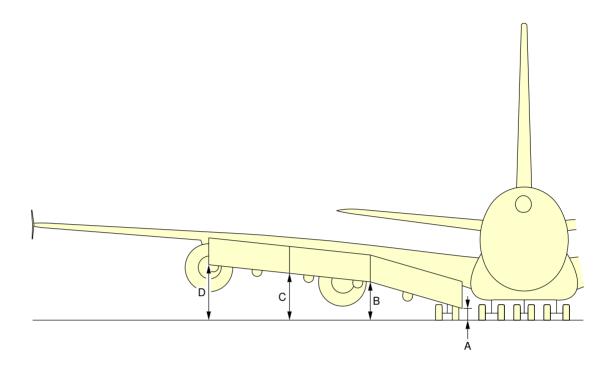


LEADING EDGE SLATS EXTENDED											
DESCRIPTION			RW D CG		RW CG	300 t MID CG					
		m	ft	m	ft	m	ft				
DN1 INBD END	Α	3.95	13.0	3.98	13.1	4.10	13.5				
DN1/DN2	В	4.60	15.1	4.62	15.2	4.78	15.7				
DN2 OUTBD END	С	5.12	16.8	5.13	16.8	5.32	17.5				
SLAT 2 INBD END	D	5.12	16.8	5.13	16.8	5.35	17.6				
SLAT 2/3	Е	5.34	17.5	5.35	17.6	5.61	18.4				
SLAT 3/4	F	5.53	18.1	5.53	18.1	5.85	19.2				
SLAT 4 OUTBD END	G	5.65	18.5	5.65	18.5	6.04	19.8				
SLAT 5 INBD END	Н	5.78	19.0	5.77	18.9	6.21	20.4				
SLAT 5/6	J	5.89	19.3	5.87	19.3	6.40	21.0				
SLAT 6/7	K	5.98	19.6	5.96	19.6	6.58	21.6				
SLAT 7 OUTBD END	L	6.05	19.8	6.02	19.8	6.75	22.1				

L\_AC\_020300\_1\_0040101\_01\_00

Ground Clearances Leading Edge Slats - Extended FIGURE-02-03-00-991-004-A01

# \*\*ON A/C A380-800

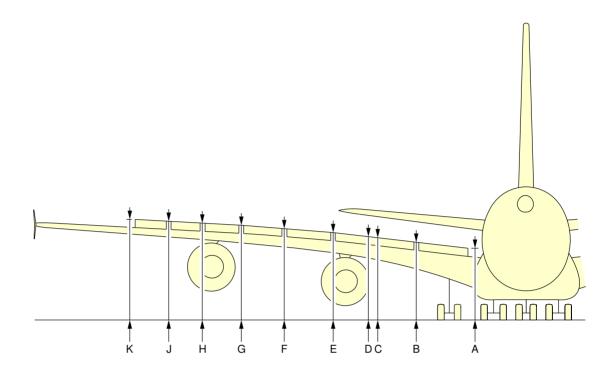


FLAPS EXTENDED									
DESCRIPTION		MRW FWD CG		MRW AFT CG		300 t MID CG			
		m	ft	m	ft	m	ft		
INNER END	Α	1.54	5.1	1.53	5.0	1.71	5.6		
INNER/MID	В	3.43	11.3	3.42	11.2	3.66	12.0		
MID OUTER	С	4.56	15.0	4.54	14.9	4.92	16.1		
OUTER END	D	5.11	16.8	5.08	16.7	5.61	18.4		

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Ground Clearances
Trailing Edge Flaps - Extended
FIGURE-02-03-00-991-005-A01

# \*\*ON A/C A380-800

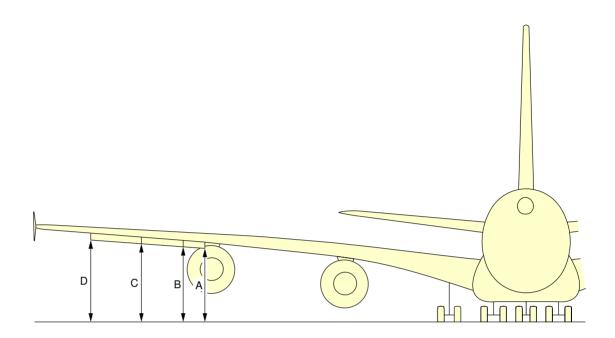


SPOILERS EXTENDED									
DESCRIPTION		MRW FWD CG		MRW AFT CG		300 t MID CG			
		m	ft	m	ft	m	ft		
SPOILER 1 INBD	Α	4.98	16.3	4.97	16.3	5.17	17.0		
SPOILER 1/2	В	5.62	18.4	5.61	18.4	5.81	19.1		
SPOILER 2 OUTBD END	С	6.09	20.0	6.08	19.9	6.31	20.7		
SPOILER 3	D	6.32	20.7	6.31	20.7	6.55	21.5		
SPOILER 3/4	Е	6.56	21.5	6.55	21.5	6.80	22.3		
SPOILER 4/5	F	6.79	22.3	6.78	22.2	7.07	23.2		
SPOILER 5/6	G	6.94	22.8	6.93	22.7	7.25	23.8		
SPOILER 6/7	Н	7.02	23.0	7.00	23.0	7.36	24.1		
SPOILER 7/8	J	7.02	23.0	7.00	23.0	7.42	24.3		
SPOILER 8 OUTBD END	K	7.00	23.0	6.98	22.9	7.45	24.4		

L\_AC\_020300\_1\_0060101\_01\_00

Ground Clearances Spoilers - Extended FIGURE-02-03-00-991-006-A01

# \*\*ON A/C A380-800

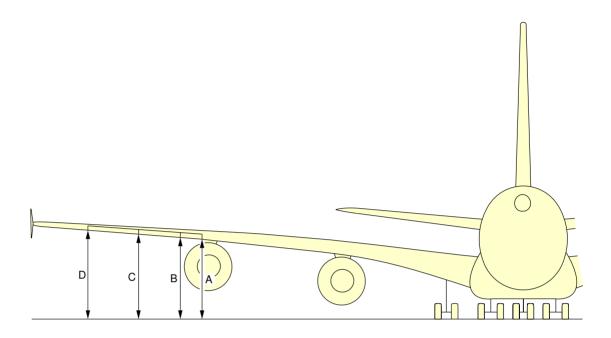


AILERONS DOWN									
DESCRIPTION		MRW FWD CG		MRW AFT CG		300 t MID CG			
		m	ft	m	ft	m	ft		
INNER END	Α	5.83	19.1	5.80	19.0	6.32	20.7		
INNER/MID	В	5.90	19.4	5.87	19.3	6.43	21.1		
MID OUTER	С	5.99	19.7	5.96	19.6	6.58	21.6		
OUTER END	D	6.12	20.1	6.08	19.9	6.78	22.2		

L\_AC\_020300\_1\_0070101\_01\_00

Ground Clearances Ailerons - Down FIGURE-02-03-00-991-007-A01

# \*\*ON A/C A380-800

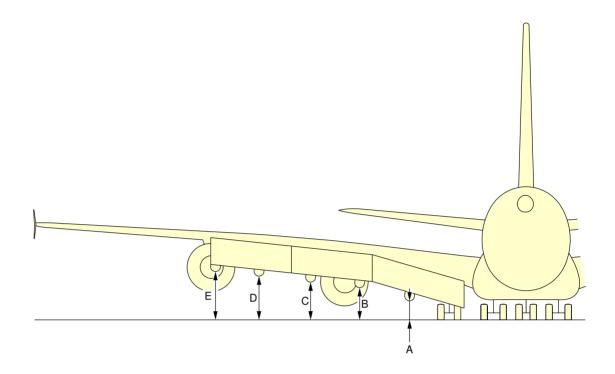


AILERONS UP									
DESCRIPTION		MRW FWD CG		MRW AFT CG		300 t MID CG			
		m	ft	m	ft	m	ft		
INNER END	Α	6.38	20.9	6.35	20.8	6.87	22.5		
INNER/MID	В	6.41	21.0	6.38	20.9	6.94	22.8		
MID OUTER	С	6.45	21.2	6.41	21.0	7.04	23.1		
OUTER END	D	6.50	21.3	6.46	21.2	7.17	23.5		

L\_AC\_020300\_1\_0080101\_01\_00

Ground Clearances
Ailerons - Up
FIGURE-02-03-00-991-008-A01

# \*\*ON A/C A380-800



FLAP TRACKS EXTENDED									
DESCRIPTION		MRW FWD CG		MRW AFT CG		300 t MID CG			
		m	ft	m	ft	m	ft		
TRACK 2	Α	2.17	7.1	2.15	7.1	2.37	7.8		
TRACK 3	В	2.87	9.4	2.85	9.4	3.12	10.2		
TRACK 4	С	3.08	10.1	3.06	10.0	3.42	11.2		
TRACK 5	D	3.48	11.4	3.45	11.3	3.89	12.8		
TRACK 6	E	3.86	12.7	3.82	12.5	4.35	14.3		

L\_AC\_020300\_1\_0090101\_01\_00

Ground Clearances Flap Tracks - Extended FIGURE-02-03-00-991-009-A01

# **GA380**

## AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

02-04-00 Interior Arrangement - Plan View

\*\*ON A/C A380-800

Interior Arrangement - Plan View

1. Interior Arrangement - Plan View



02-04-01 Standard Configuration

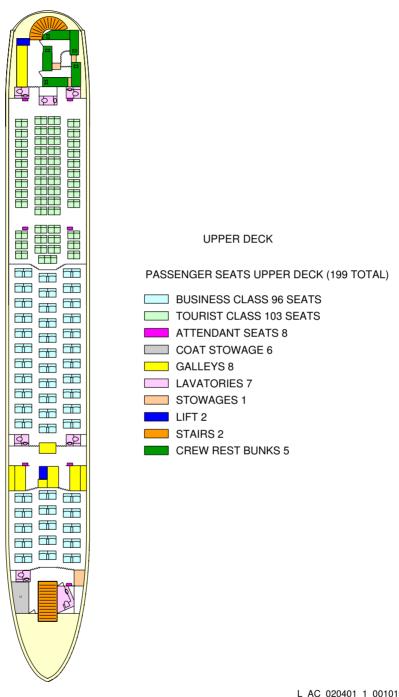
\*\*ON A/C A380-800

Standard Configuration - Pax

1. This section gives the standard configuration of A380-800 models



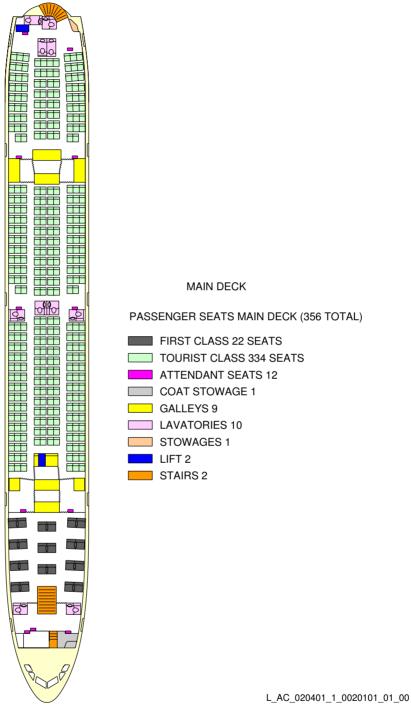
## \*\*ON A/C A380-800



L\_AC\_020401\_1\_0010101\_01\_00

Interior Arrangements - Plan View Standard Configuration - Upper Deck FIGURE-02-04-01-991-001-A01

## \*\*ON A/C A380-800



Interior Arrangements - Plan View Standard Configuration - Main Deck FIGURE-02-04-01-991-002-A01

# **GA380**

## AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

02-05-00 Interior Arrangements - Cross Section

\*\*ON A/C A380-800

Interior Arrangements - Cross Section

1. Interior Arrangements - Cross Section

# **GA380**

## AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

02-05-01 Typical Configuration

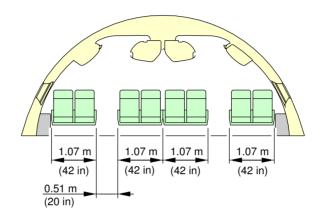
\*\*ON A/C A380-800

Typical Configuration - Pax

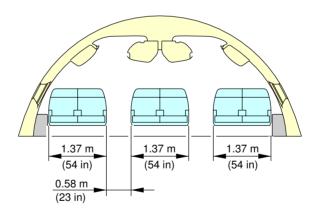
1. This section gives the typical configuration of A380-800 models.

# \*\*ON A/C A380-800

UPPER DECK TOURIST CLASS 8 ABREAST



#### UPPER DECK BUSINESS CLASS 6 ABREAST

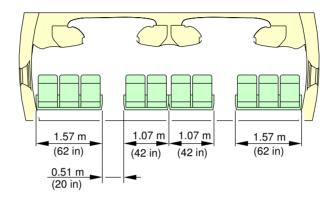


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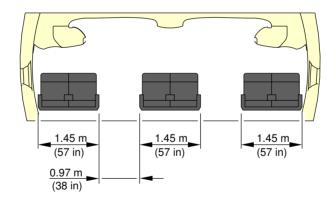
Interior Arrangements - Cross-section Typical Configuration - Upper Deck FIGURE-02-05-01-991-001-A01

\*\*ON A/C A380-800

MAIN DECK TOURIST CLASS 10 ABREAST



#### MAIN DECK FIRST CLASS 6 ABREAST



L\_AC\_020501\_1\_0020101\_01\_00

Interior Arrangements - Cross-section Typical Configuration - Main Deck FIGURE-02-05-01-991-002-A01

## **©A380**

### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

02-06-00 Cargo Compartments

\*\*ON A/C A380-800

Cargo Compartments

1. Cargo Compartments

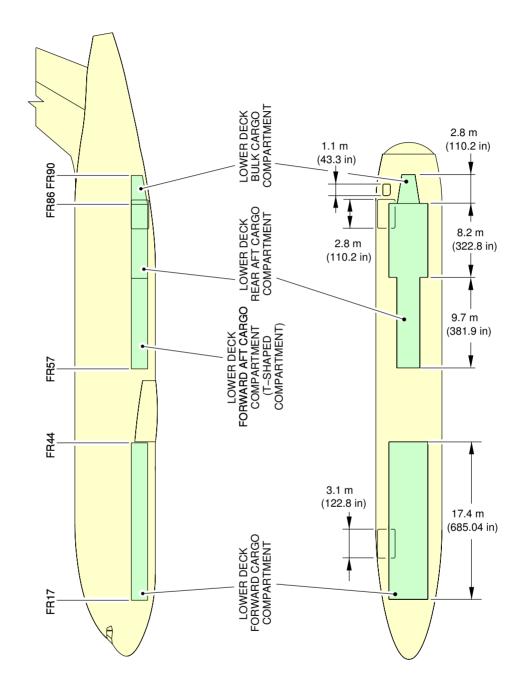


02-06-01 Location and Dimensions

\*\*ON A/C A380-800

## <u>Location and Dimensions - Pax</u>

1. This section gives the cargo compartments location and dimensions of A380-800 models.



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Cargo Compartments Location and Dimensions FIGURE-02-06-01-991-001-A01

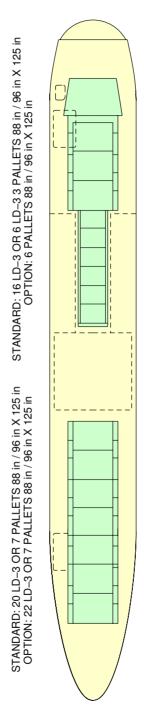


02-06-02 Loading Combinations

\*\*ON A/C A380-800

<u>Loading Combinations - Pax</u>

1. This section gives cargo compartments loading combinations.



L\_AC\_020602\_1\_0010101\_01\_00

Cargo Compartments Loading Combinations FIGURE-02-06-02-991-001-A01

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

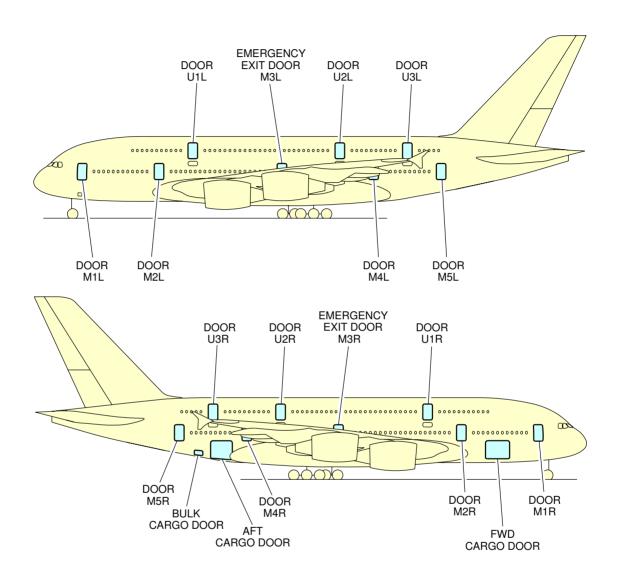
02-07-00 Door Clearances

\*\*ON A/C A380-800

## **Door Clearances**

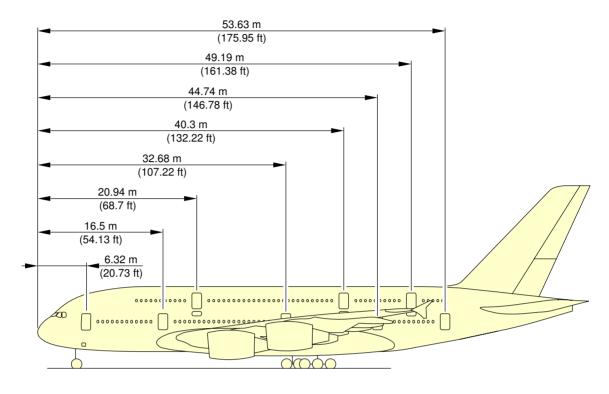
1. This section gives Door Clearances.

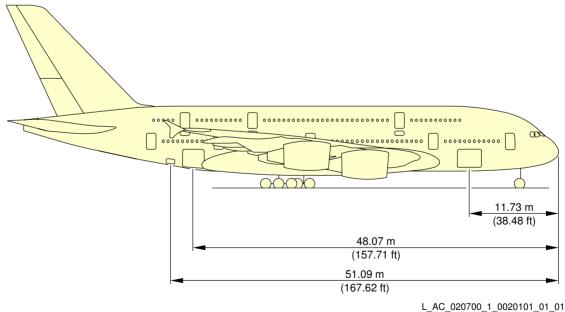
### \*\*ON A/C A380-800



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Door Clearances Door Location (Sheet 1) FIGURE-02-07-00-991-001-A01





Door Clearances Door Location (Sheet 2) FIGURE-02-07-00-991-002-A01

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

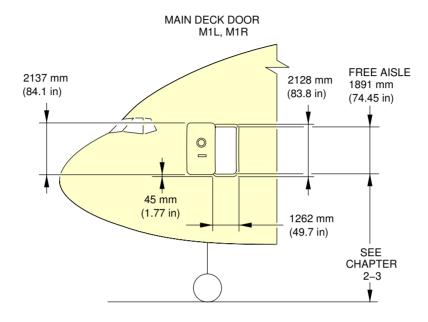
02-07-01 Forward Doors

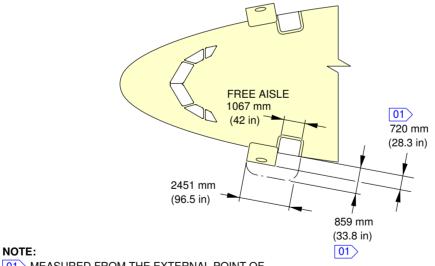
\*\*ON A/C A380-800

## Forward Doors

1. This section gives forward doors clearances.

## \*\*ON A/C A380-800





01) MEASURED FROM THE EXTERNAL POINT OF THE SCUFF PLATE AND THE MOST EXTERNAL POINT OF THE DOOR SKIN

L\_AC\_020701\_1\_0010101\_01\_00

Door Clearances Forward Doors FIGURE-02-07-01-991-001-A01

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

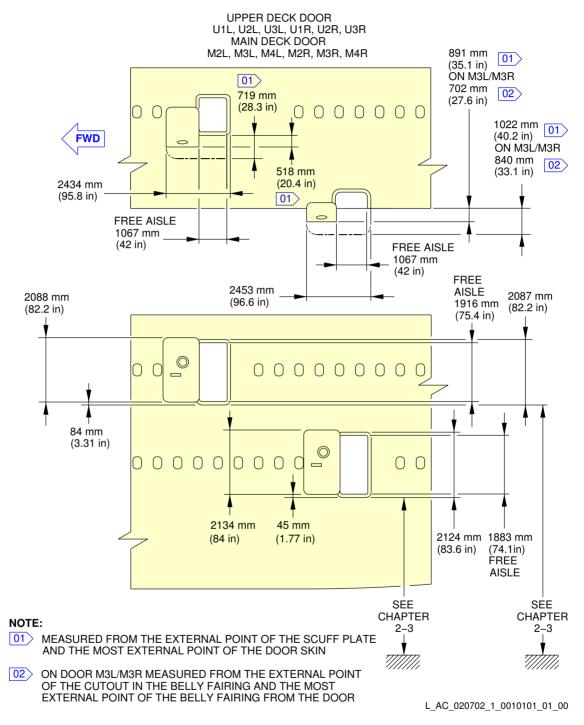
02-07-02 Main and Upper Deck Doors

\*\*ON A/C A380-800

Main and Upper Deck Doors - Pax

1. This section gives main and upper deck doors clearances.

### \*\*ON A/C A380-800



Door Clearances
Main and Upper Deck Doors - A380-800 Models
FIGURE-02-07-02-991-001-A01

# **©A380**

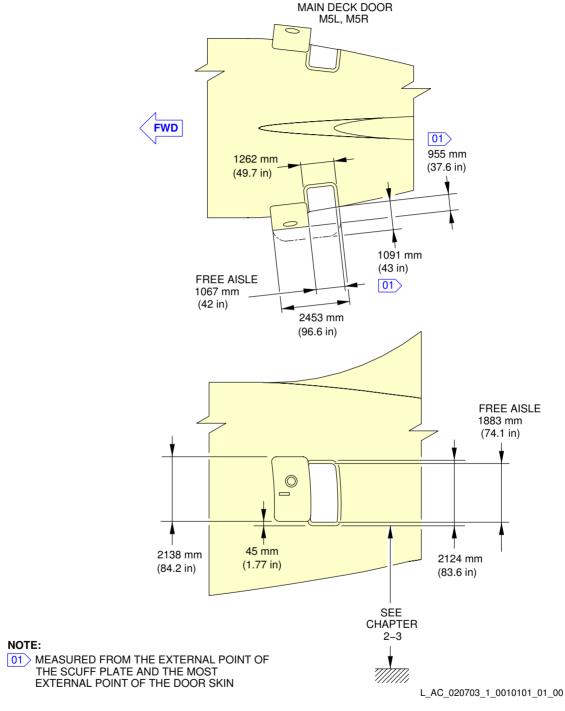
### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

02-07-03 Aft Doors

\*\*ON A/C A380-800

Aft Doors - Pax

1. This section gives aft doors clearances.



Door Clearances Aft Doors - A380-800 Models FIGURE-02-07-03-991-001-A01

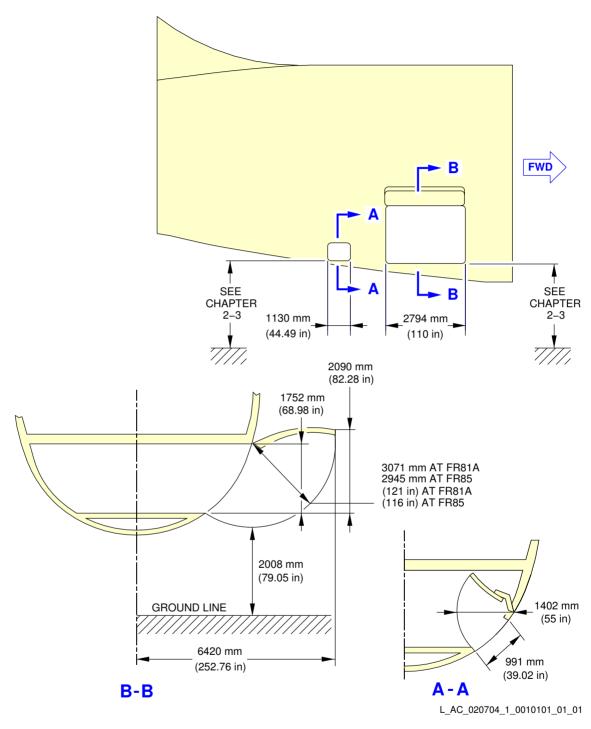
#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

02-07-04 Aft Cargo Compartment Doors

\*\*ON A/C A380-800

Aft Cargo Compartment Doors - Pax

1. This section gives aft cargo compartment doors clearances.



Door Clearances Aft Cargo Compartment Doors - A380-800 Models FIGURE-02-07-04-991-001-A01

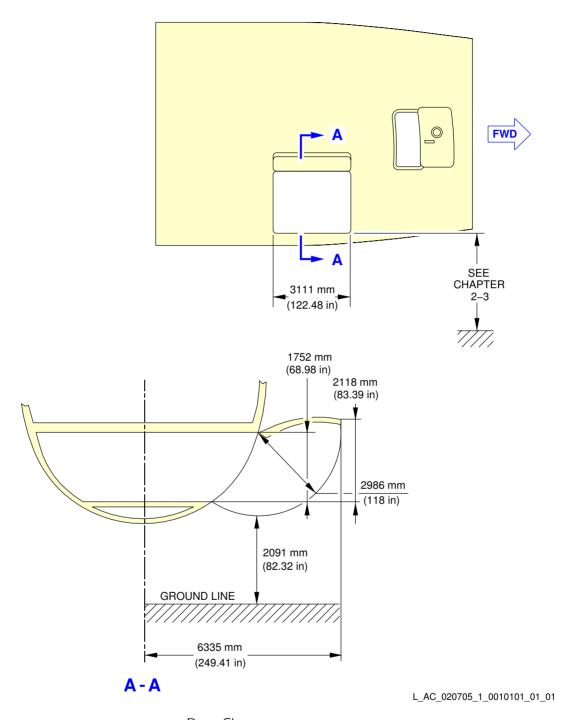


02-07-05 Forward Cargo Compartment Doors

\*\*ON A/C A380-800

Forward Cargo Compartment Doors - Pax

1. This section gives forward cargo compartment doors clearances.



Door Clearances
Forward Cargo Compartment Doors - A380-800 Models
FIGURE-02-07-05-991-001-A01

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

02-07-06 Nose Landing Gear Doors

\*\*ON A/C A380-800

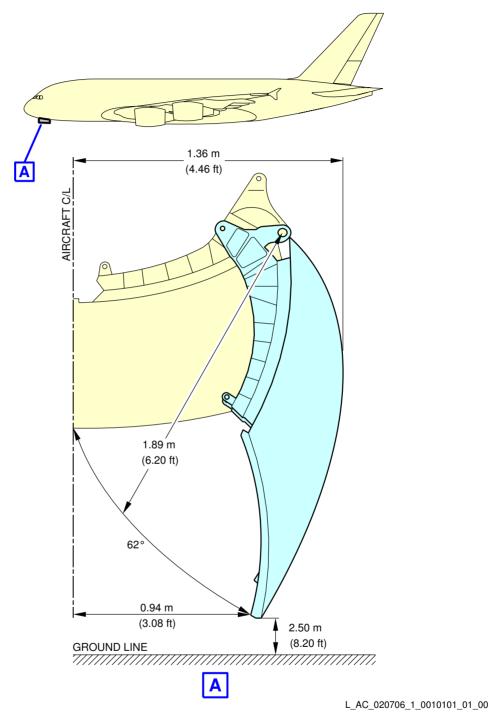
## Nose Landing Gear Doors

1. This section gives nose landing gear doors clearances.

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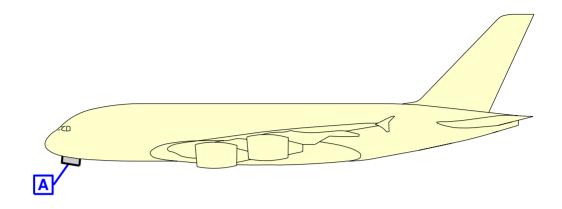
AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

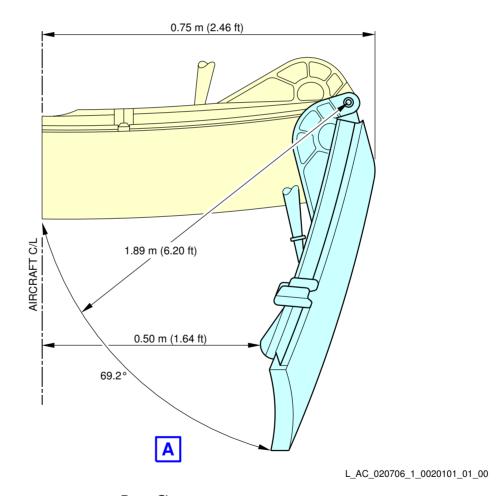
## \*\*ON A/C A380-800



Door Clearances Forward Nose Landing Gear Doors FIGURE-02-07-06-991-001-A01

## \*\*ON A/C A380-800





Door Clearances Aft Nose Landing Gear Doors FIGURE-02-07-06-991-002-A01

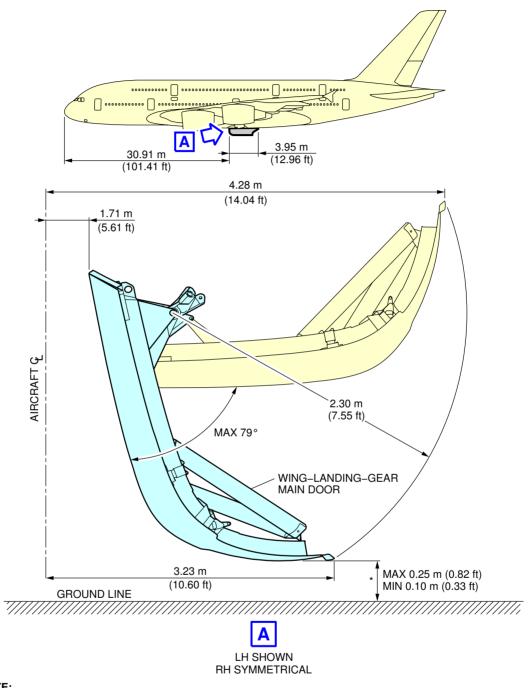
#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

02-07-07 Wing Landing Gear Doors

\*\*ON A/C A380-800

Wing Landing Gear Doors

1. This section gives the wing-landing-gear door clearances.



NOTE:

\* DEPENDING ON CG POSITION AND AIRCRAFT WEIGHT.

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Door Clearances Wing Landing Gear - Main Doors FIGURE-02-07-07-991-001-A01

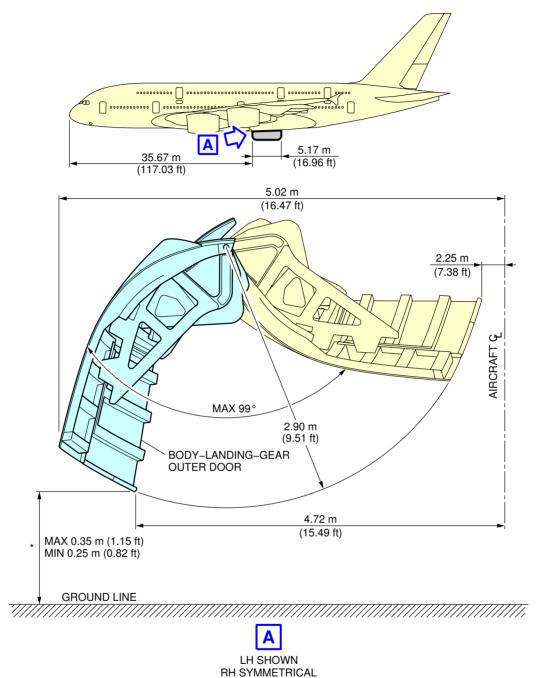
#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

02-07-08 Body Landing Gear Doors

\*\*ON A/C A380-800

**Body Landing Gear Doors** 

1. This section gives the body-landing-gear door clearances.

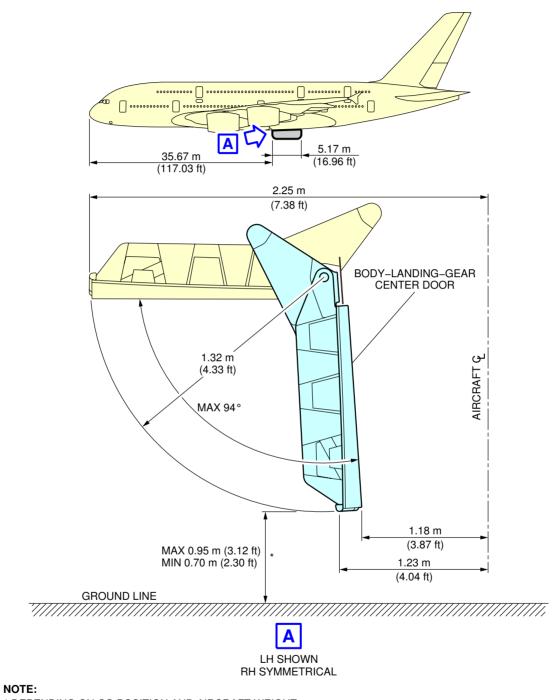


NOTE:

\* DEPENDING ON CG POSITION AND AIRCRAFT WEIGHT.

L\_AC\_020708\_1\_0010101\_01\_01

Door Clearances Body Landing Gear - Outer Doors FIGURE-02-07-08-991-001-A01



\* DEPENDING ON CG POSITION AND AIRCRAFT WEIGHT.

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Door Clearances Body Landing Gear - Center Doors FIGURE-02-07-08-991-002-A01

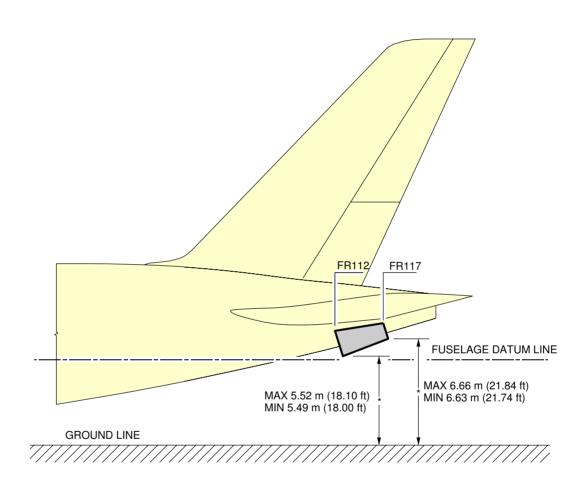
### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

02-07-09 APU Doors

\*\*ON A/C A380-800

## **APU Doors**

1. This section gives APU doors clearances.



\* DEPENDING ON CG POSITION AND AIRCRAFT WEIGHT

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Door Clearances APU Doors FIGURE-02-07-09-991-001-A01

### 02-08-00 Escape Slides

### \*\*ON A/C A380-800

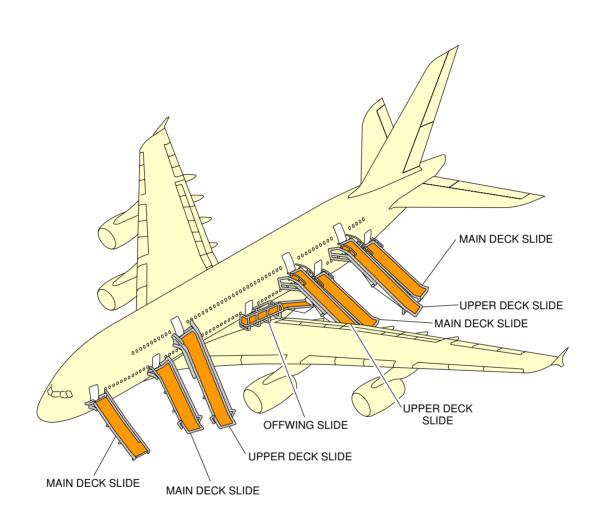
#### **Escape Slides**

1. General

This section gives location of cabin escape facilities and related clearances.

- 2. Location
  - A. Escape facilities are provided at the following locations:
    - (1) Upper deck evacuation:
      - One slide-raft at each passenger/crew door (total six).
    - (2) Main deck evacuation:
      - One slide-raft at each passenger/crew door (total eight)
      - One slide for each emergency exit door (total two). The slides are housed in the belly fairing for off-the-wing evacuation.

\*\*ON A/C A380-800

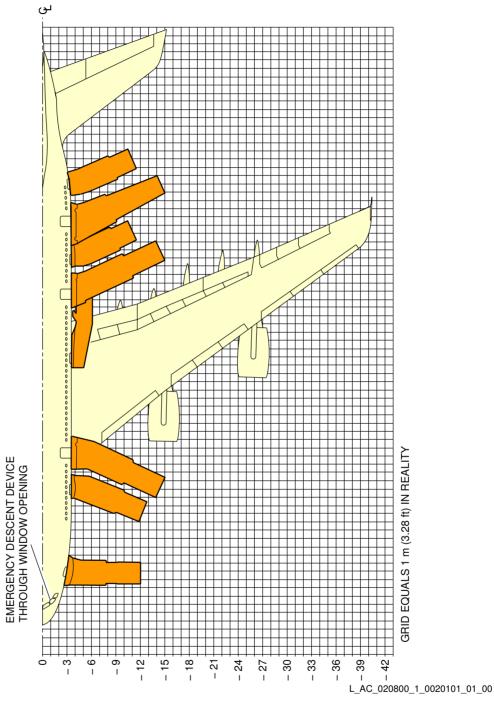


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Escape Slides Location FIGURE-02-08-00-991-001-A01

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## \*\*ON A/C A380-800



Escape Slides
Dimensions
FIGURE-02-08-00-991-002-A01

02-09-00 Landing Gear

\*\*ON A/C A380-800

#### Landing Gear

#### 1. General

The aircraft has:

- Two Wing Landing Gears (WLG) with four wheel bogie assembly and related doors
- Two Body Landing Gears (BLG) with six wheel bogie assembly and related doors
- A Nose Landing Gear (NLG) with twin wheel assembly and related doors.

The Wing Landing Gears are located under the wing and retract sideways towards the fuselage centerline.

The Body Landing Gears are located on the belly and retract rearward into a bay in the fuselage.

The Nose Landing Gear retracts forward into a fuselage compartment below the cockpit.

The landing gear and landing gear doors operation are controlled electrically and are hydraulically and mechanically operated.

In abnormal operation, the landing gear can be extended by gravity.

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

#### 2. Wing Landing Gear

Each wing landing gear has a leg assembly and a four-wheel bogie beam. The WLG leg includes a Bogie Trim Actuator (BTA) and an oleo-pneumatic shock absorber.

A two-piece side-stay assembly holds the WLG in the extended position. A lock-stay keeps the side-stay assembly stable in the locked down position.

#### 3. Body Landing Gear

The two body landing gears have a six-wheel bogie beam and a leg assembly that includes an oleo-pneumatic shock absorber. A two-piece drag-stay assembly mechanically locks the leg in the extended position.

### 4. Nose Landing Gear

The nose landing gear includes a single-stage direct acting oleo-pneumatic shock absorber. A two-piece drag-stay assembly with a lock-stay, mechanically locks the leg in the extended position.

#### 5. Steering

The wheel steering control system has two parts:

- Nose wheel Steering (NWS)
- Body Wheel Steering (BWS)

Steering is controlled by two hand wheels in the cockpit. For steering angle controlled by the hand wheels, refer to AMM 32-51-00 (NWS) and refer to AMM 32-54-00 (BWS).

For steering angle limitation, refer to AMM 09-10-00.

A steering disconnection box installed on the nose landing gear to allow steering deactivation for towing purpose.

#### 6. Landing Gear Servicing Points

#### A. General

Filling of the landing gear shock absorbers is through MS28889 standard valves. Charging of the landing gear shock absorbers is accomplished with nitrogen through MS28889 standard valves.

#### B. Charging Pressure

For charging of the landing gear shock absorbers, refer to AMM 32-00-00.

#### 7. Braking

#### A. General

Carbon brakes are installed on each wheel of the WLG and on the wheels of the front and center axles of the BLG.

The braking system is electrically controlled and hydraulically operated.

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

- Normal braking with anti-skid capability
- Alternative braking with anti-skid capability
- Emergency Braking (with Ultimate Braking)
- Emergency braking without anti-skid protection is also available as an alternative function of the alternate braking system.
- A park brake system that is manually set is available for the BLG only. This system can also be used to supply emergency braking.

#### B. In-Flight Wheel Braking

Braking occurs automatically during the retraction of the landing gear. This stops the rotation of the BLG and WLG wheels (except the wheels on the aft axle of each BLG) before the landing gears go into their related bays.

#### 8. Tire Pressure Indicating System (TPIS)

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

#### 9. Built In Test Equipment (BITE)

The BITE has these functions, it:

- Continuously monitors its systems for failures
- Sends failure data (maintenance and warnings) to other systems in the aircraft
- Keeps a record of the failures
- Automatically does specified tests of the system, or part of the system, at specified times
- Lets specified tests to be done during the maintenance procedures.

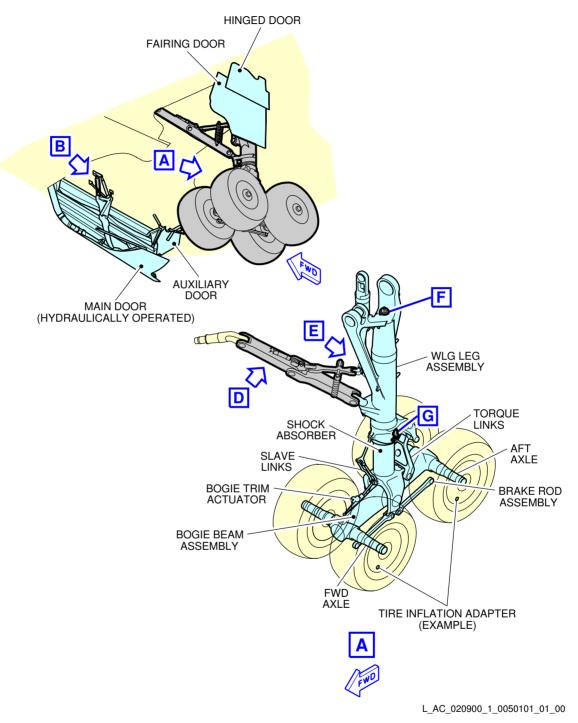
The BITE for the following systems is described in these chapters:

- The Brakes and Steering



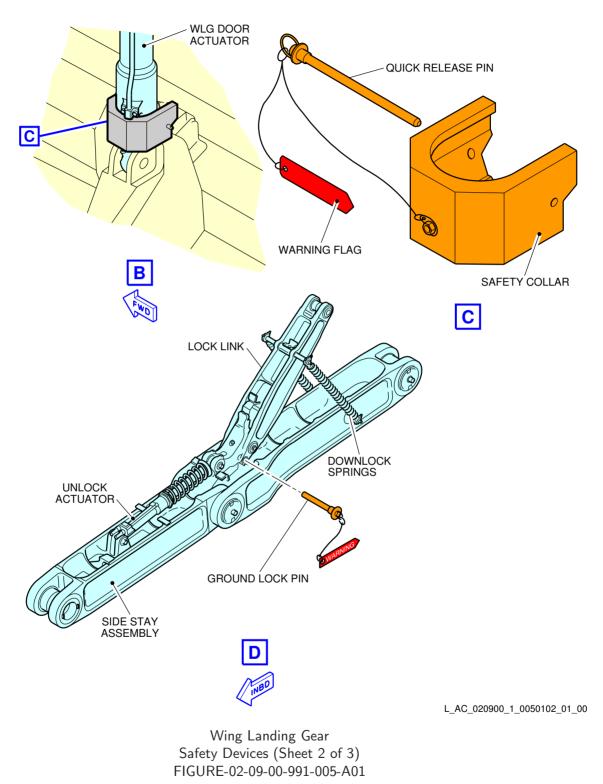
- The TPIS
- The Landing Gear.

## \*\*ON A/C A380-800



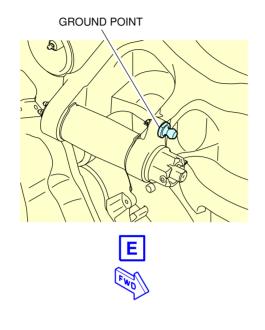
Wing Landing Gear General (Sheet 1 of 3) FIGURE-02-09-00-991-005-A01

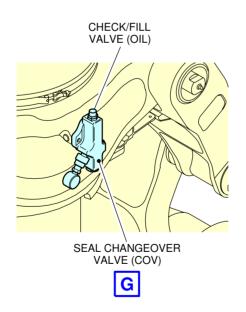
## \*\*ON A/C A380-800

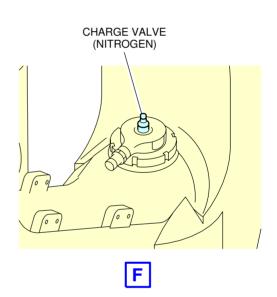




## \*\*ON A/C A380-800



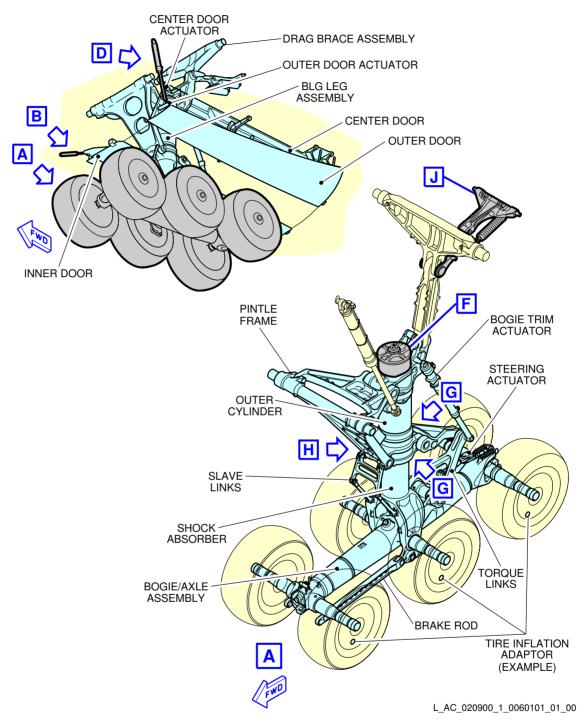




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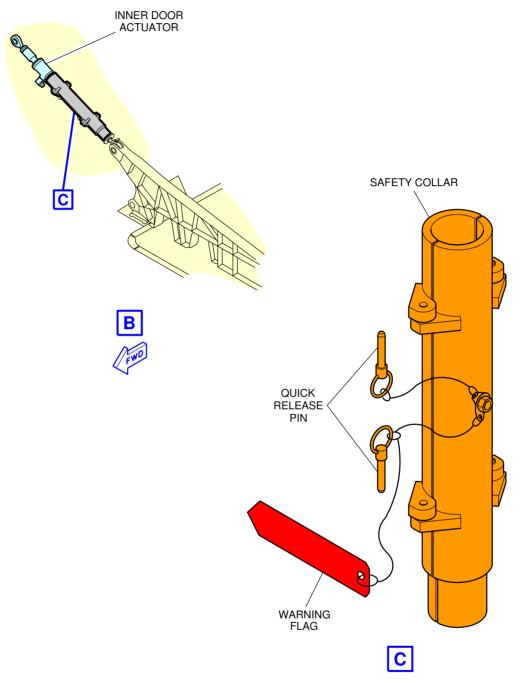
Wing Landing Gear Servicing (Sheet 3 of 3) FIGURE-02-09-00-991-005-A01

## \*\*ON A/C A380-800



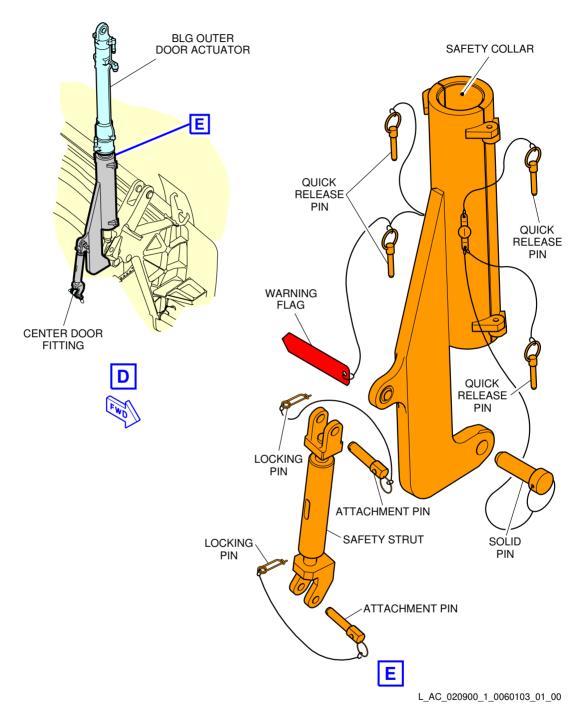
Body Landing Gear General (Sheet 1 of 4) FIGURE-02-09-00-991-006-A01

## \*\*ON A/C A380-800



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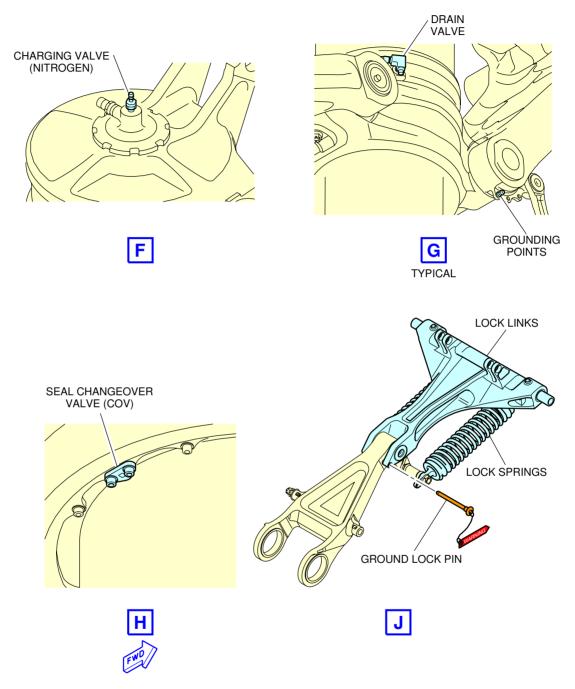
Body Landing Gear Door Safety Devices (Sheet 2 of 4) FIGURE-02-09-00-991-006-A01



Body Landing Gear Door Safety Devices (Sheet 3 of 4) FIGURE-02-09-00-991-006-A01



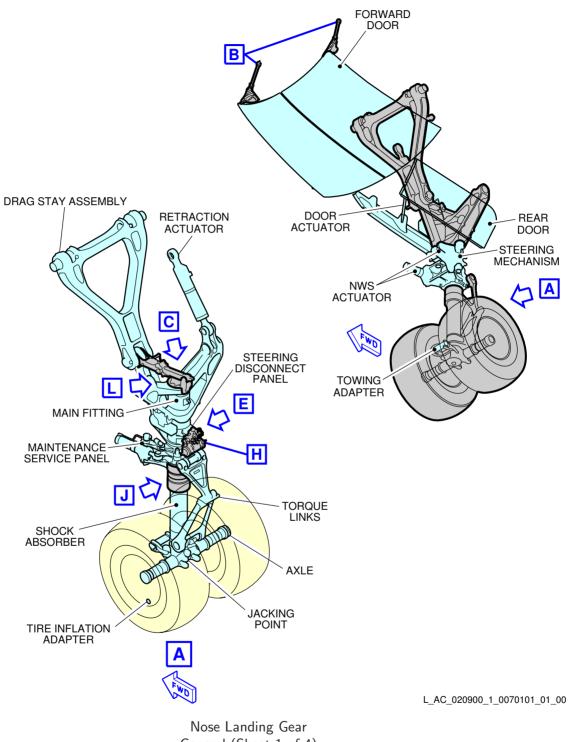
## \*\*ON A/C A380-800



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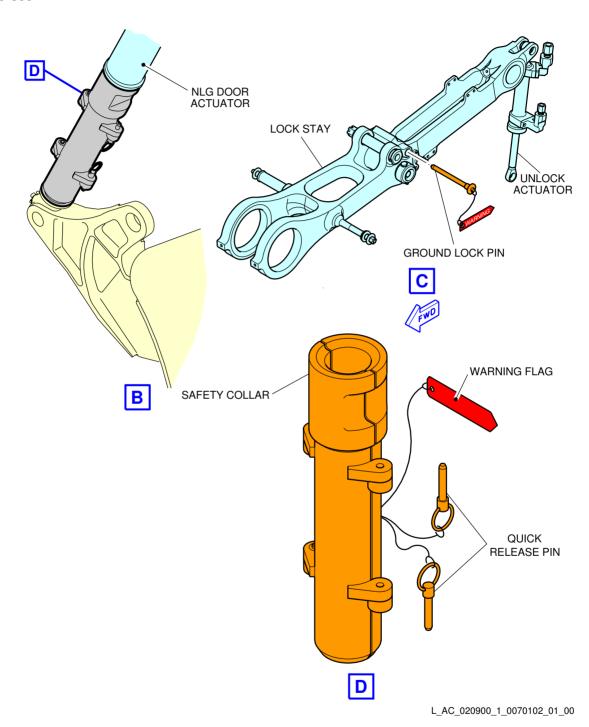
Body Landing Gear Servicing and Safety Device (Sheet 4 of 4) FIGURE-02-09-00-991-006-A01

## \*\*ON A/C A380-800



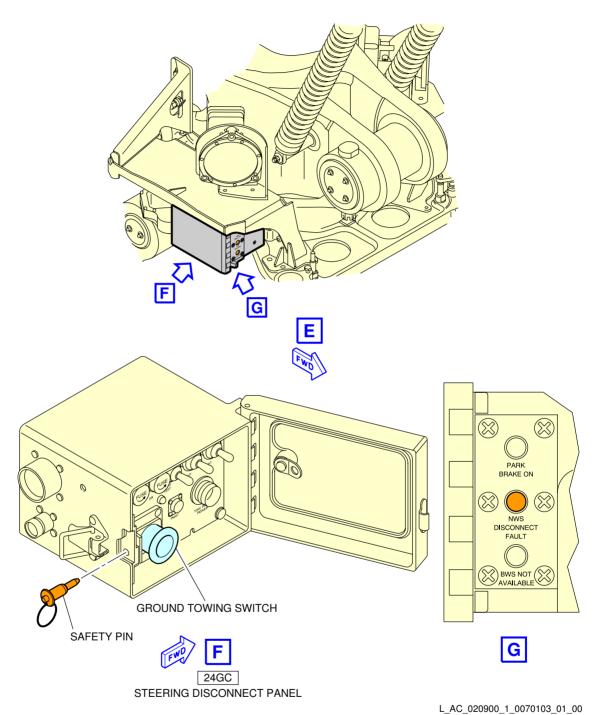
Nose Landing Gear General (Sheet 1 of 4) FIGURE-02-09-00-991-007-A01

## \*\*ON A/C A380-800



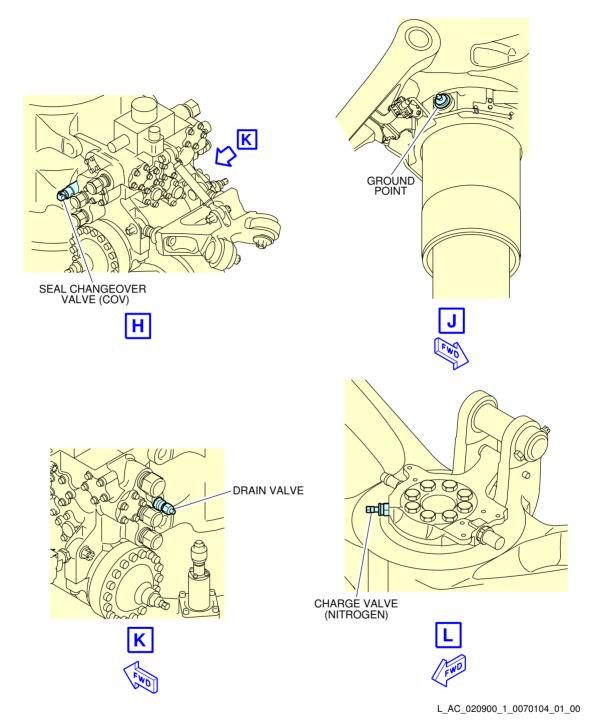
Nose Landing Gear Safety Devices (Sheet 2 of 4) FIGURE-02-09-00-991-007-A01

## \*\*ON A/C A380-800



Nose Landing Gear Steering Disconnect Panel (Sheet 3 of 4) FIGURE-02-09-00-991-007-A01

## \*\*ON A/C A380-800



Nose Landing Gear Servicing (Sheet 4 of 4) FIGURE-02-09-00-991-007-A01

## \*\*ON A/C A380-800

### Landing Gear Maintenance Pits

#### 1. General

The maintenance pit envelopes for the landing gear shock absorber maintenance are shown in Figures 1 - 4.

The three envelopes show the minimum dimensions for these maintenance operations:

- Extension and retraction
- Gear removal
- Piston removal.

All dimensions shown are minimum dimensions with zero clearances. The dimensions for the pits have been determined as follows:

- The length and width of the pits allow the gear to rotate as the weight is taken off the landing gear
- The landing gear is in the maximum grown condition
- The WLG and BLG bogie beams are removed before the piston is removed
- The NLG wheels are removed before the piston is removed
- All pistons are removed vertically.

Dimensions for elevators and associated mechanisms must be added to those in Figures 1 - 3.

#### A. Elevators

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

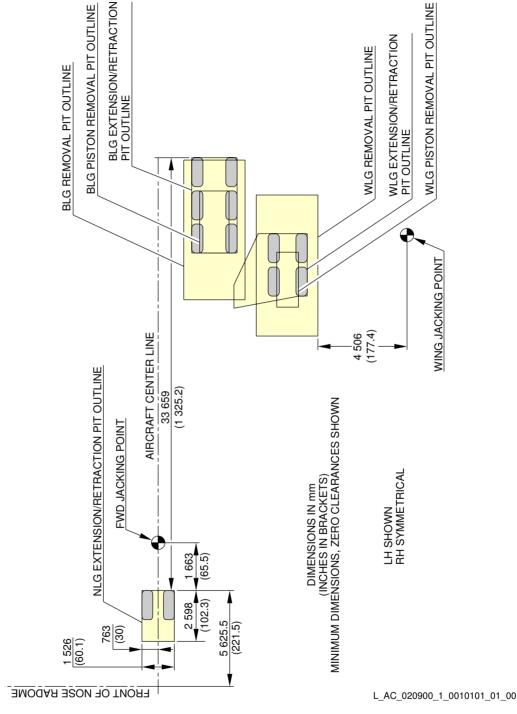
- (1) Permit easy movement of persons and equipment around the landing gears.
- (2) To lift and remove landing gear assemblies out of the pits.

#### B. Jacking

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

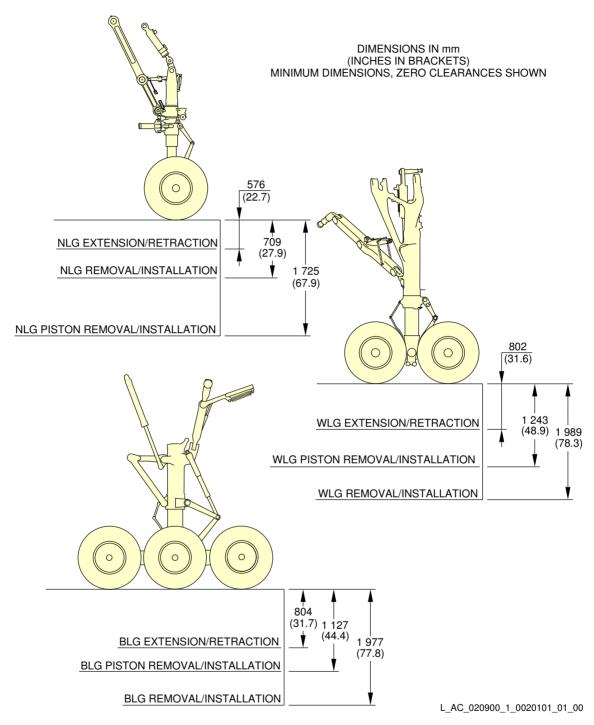
When tripod support jacks are used the tripod-base circle radius must be limited because the locations required for positioning the columns are close to the sides of the pits.

# **©A380**



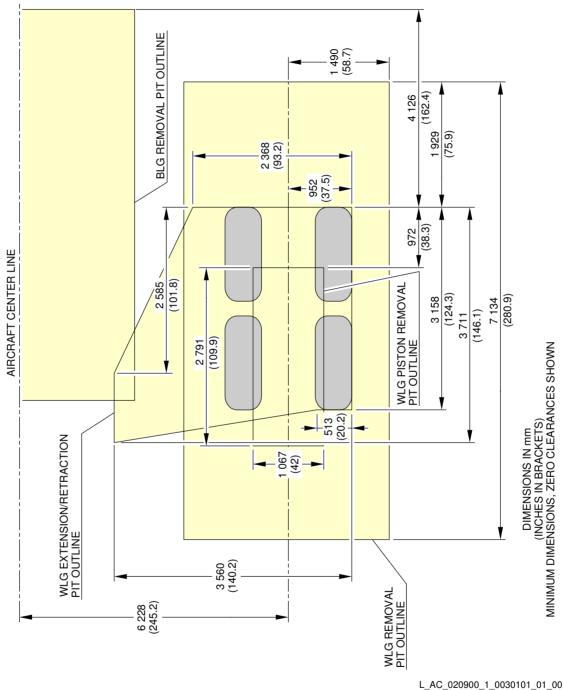
Landing Gear Maintenance Pits Maintenance Pit Envelopes FIGURE-02-09-00-991-001-A01

## \*\*ON A/C A380-800



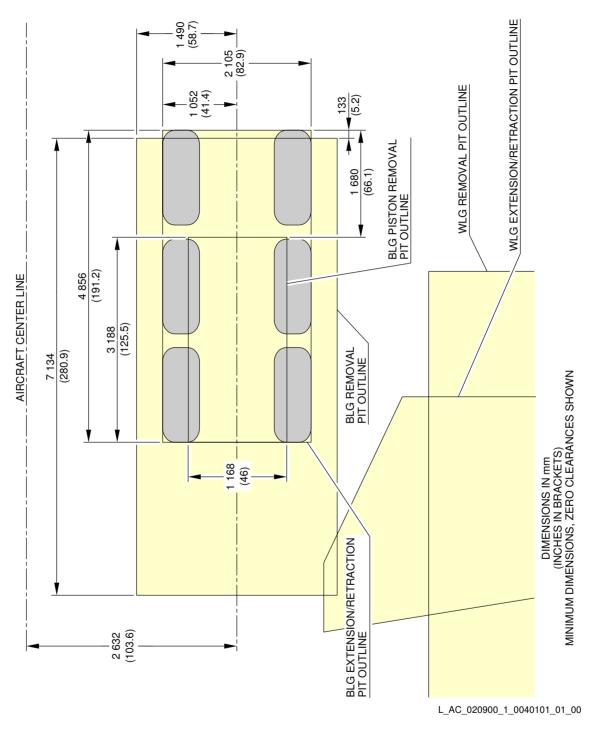
Landing Gear Maintenance Pits Necessary Depths FIGURE-02-09-00-991-002-A01

# **@A380**



Landing Gear Maintenance Pits Maintenance Pit Envelopes - WLG Pit Dimensions FIGURE-02-09-00-991-003-A01

# **@A380**



Landing Gear Maintenance Pits
Maintenance Pit Envelopes - BLG Pit Dimensions
FIGURE-02-09-00-991-004-A01

## 02-10-00 Exterior Lighting

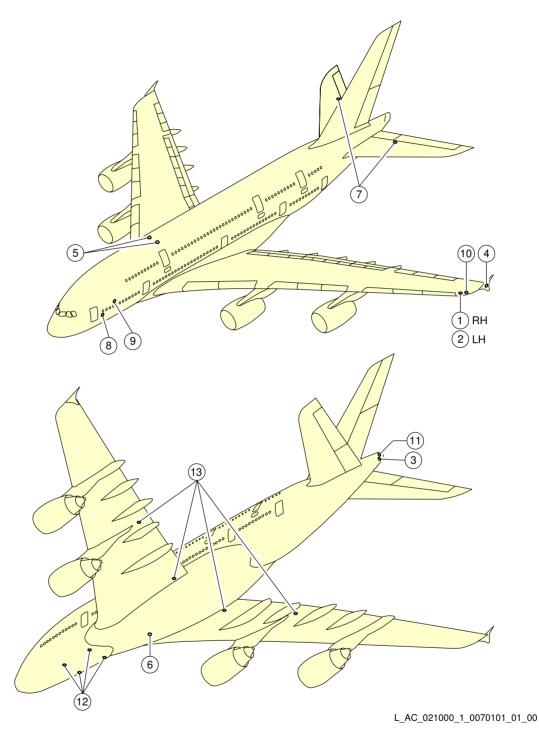
## \*\*ON A/C A380-800

## **Exterior Lighting**

## 1. General

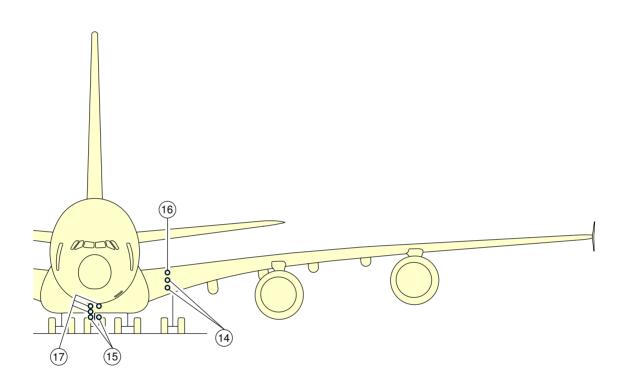
This section gives the location of the aircraft exterior lighting.

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



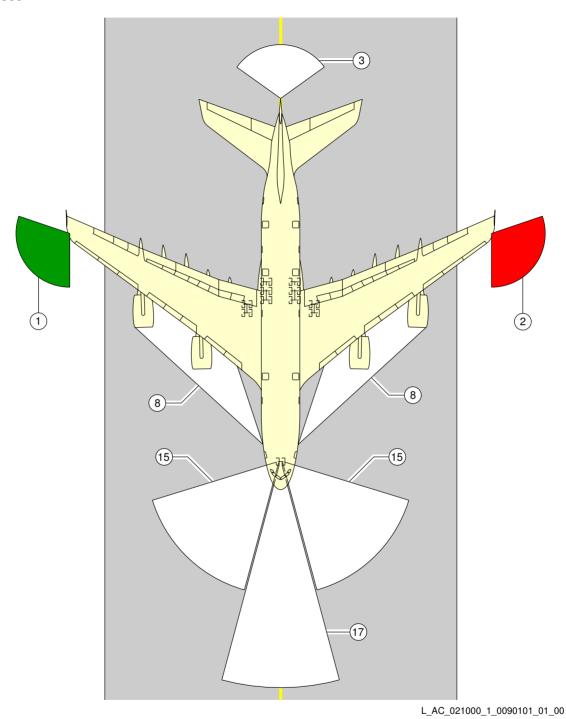
Exterior Lighting FIGURE-02-10-00-991-007-A01

\*\*ON A/C A380-800

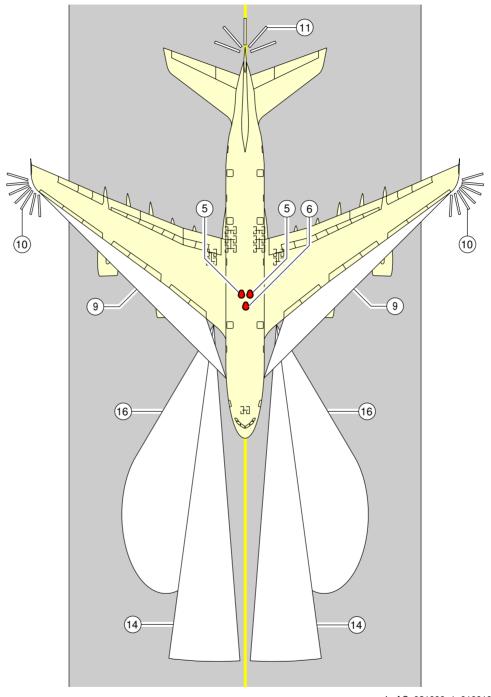


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Exterior Lighting FIGURE-02-10-00-991-008-A01



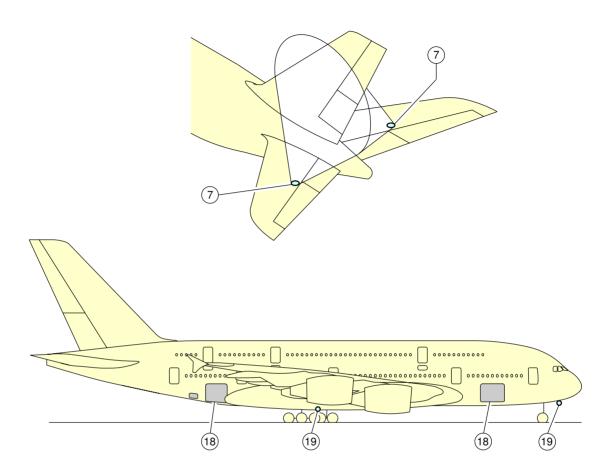
Exterior Lighting FIGURE-02-10-00-991-009-A01



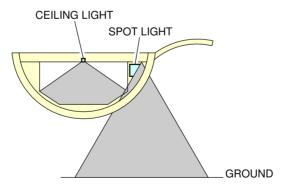
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Exterior Lighting FIGURE-02-10-00-991-010-A01

## \*\*ON A/C A380-800



#### EXAMPLE FOR LIGHT N° 18



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Exterior Lighting FIGURE-02-10-00-991-011-A01



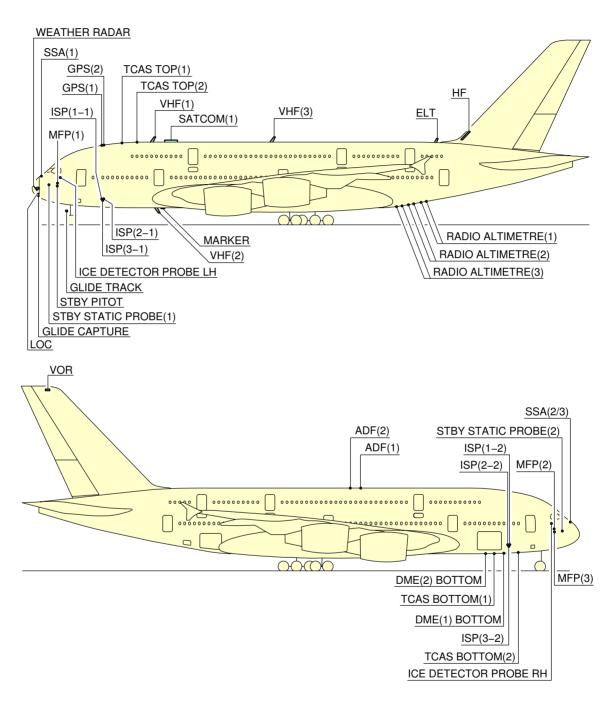
## 02-11-00 Antennas and Probes Location

\*\*ON A/C A380-800

## Antennas and Probes Location

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

## \*\*ON A/C A380-800



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Antennas and Probes Location FIGURE-02-11-00-991-001-A01

02-12-00 Power Plant

\*\*ON A/C A380-800

## **Auxiliary Power Unit**

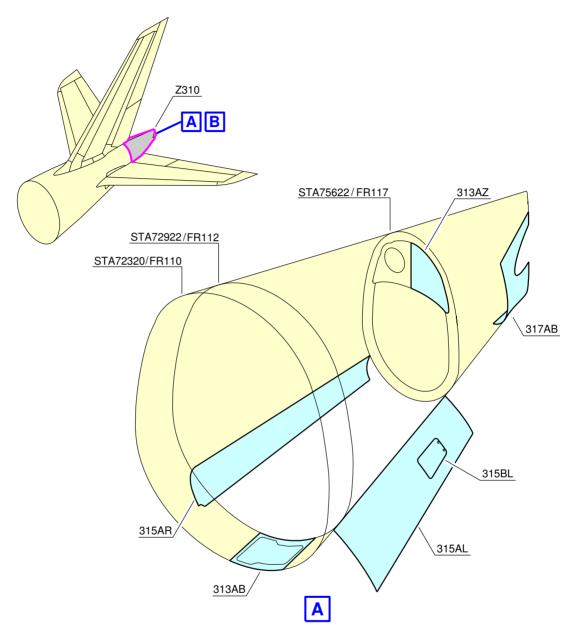
## 1. General

- The APU is installed in the tail cone, at the rear part of the fuselage (Section 19.1), inside a fireproof compartment (between frames 112 and 117).
- The Air Intake System is located on top of the APU and crosses the space between the APU plenum chamber and the aircraft outside (upper right side position). The Air Intake Housing is located between frames 111 and 113 and the Air Intake Duct is located in the space between frames 113 and 115.
- The Exhaust Muffler is located at the end of the tail cone, aligned with the APU and crosses three different zones, from frame 116 to the rear fairing.
- The Electronic Control Box (ECB) is installed in an electronic cooled rack, closed to frame 95, within the pressurized fuselage.

#### Controls and Indication

Primary APU controls and indications are installed in the cockpit, mainly in the overhead panel, center pedestal panel and forward center panel. Additionally, two external emergency shutoff controls are installed on the Nose Landing Gear panel and on the Refuel/Defuel panel.

## \*\*ON A/C A380-800

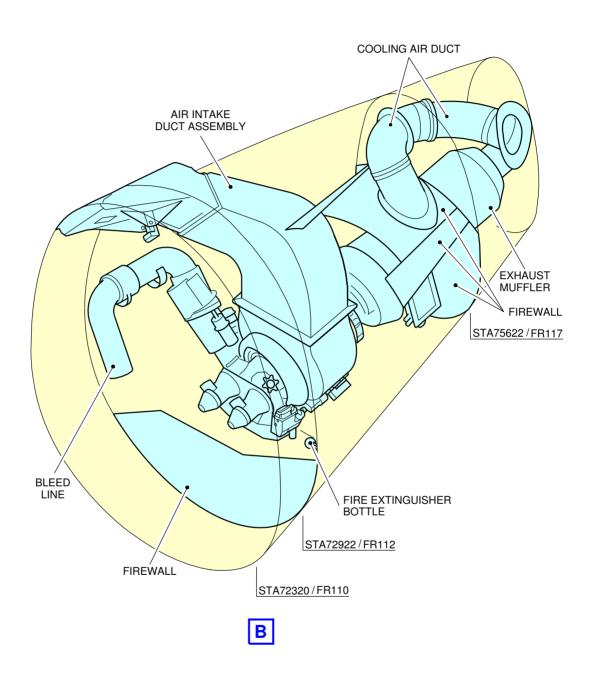


NOTE: THE DISTANCE FROM FR94, FR98, FR100 BOTTOM CENTERLINE TO FUSELAGE DATUM (FD) AS FOLLOWS: FR112 TO FD = 974.9 mm (38.38 in) FR117 TO FD = 1 772.4 mm (69.78 in) FR120 TO FD = 2 239.8 mm (88.18 in).

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Auxiliary Power Unit Access Doors FIGURE-02-12-00-991-001-A01

## \*\*ON A/C A380-800



L\_AC\_021200\_1\_0020101\_01\_00

Auxiliary Power Unit General Layout FIGURE-02-12-00-991-002-A01

### \*\*ON A/C A380-800

#### Engine and Nacelle

Engine and Nacelle - GP 7200 Engine

#### A. Engine

The engine is a high by-pass ratio, two-rotor, axial flow turbofan engine with a high compression ratio. The Engine has Four Major Sections as Follows:

- compressor section
- combustion section
- turbine section
- accessory drive section.

The compressor section supplies High Pressure (HP) compressed air to the diffuser/burner for core engine thrust, aircraft service bleed systems, and by-pass air for thrust. A five-stage Low Pressure (LP) compressor rotor assembly is located to the rear of the fan rotor. An acoustic splitter fairing directs the primary airstream into the nine-stage HP compressor rotor assembly. The HP compressor has three stages of variable Inlet Guide Vanes (IGVs) and external bleeds from stages four, seven, and nine, with an internal bleed from stage six.

The combustion section receives compressed heated air from the HP compressor and fuel from the fuel nozzles. The mixture of hot air and fuel is ignited and burned in the single-annular combustion chamber to generate a HP stream of hot gas to turn the HP turbine and LP turbine.

The turbine section consists of HP turbine and LP turbine. The two-stage HP turbine rotor assembly receives the hot gas from the diffuser/burner. The HP turbine supplies the power to turn the HP compressor. The six-stage LP turbine has an active clearance control system for more efficient engine operation. The LP turbine provides the power to turn the LP compressor and fan rotor. The Turbine Exhaust Case (TEC) assembly supplies the structural support for the rear of the engine. The TEC straightens the exhaust gas flow as it exits the engine.

The accessory drive section consists of Main Gearbox (MGB) and Angle Gearbox (AGB). The MGB supplies the power to turn the attached engine and aircraft accessories. The AGB transmits the power from the engine rotor to the MGB. During engine start, the AGB transmits the power from the MGB to turn the engine rotor.

The LP rotor system is independent of the HP rotor system. The LP rotor system consists of the LP compressor and the LP turbine. The HP rotor system consists of the HP compressor and the HP turbine.

#### B. Nacelle

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

#### (1) Air Intake Cowl Assembly

The air intake cowl is an interchangeable aerodynamic cowl installed on the forward face of the engine fan case with bolts. It is designed to provide contour for airflow entering the engine and attenuates the fan noise.

### (2) Fan Cowl Assembly

The fan-cowl doors are an assembly of aerodynamic cowls attached to the aircraft pylon structure through its hinges. It is installed between the air intake cowl and the fan exhaust cowl/thrust reverser, around the engine fan case. It is composed of two semicircular panels, the left and the right fan cowl door.

## (3) Thrust Reverser

The thrust reverser assembly is installed at the aft part of the nacelle. The thrust reverser cowls are installed on the aircraft inboard engines. It is attached to the wing pylon by hinges. The thrust reverser assembly is a standard fixed cascade, translating cowl and blocker door type thrust reverser. It is only installed on the aircraft inboard position nacelles. It is made of two halves that make a duct around the engine. Each half consists of a fixed structure, which gives support for the cascades and actuation system and a translating cowl.

The thrust reverser assembly encloses the engine core with an aerodynamic flow path and uses the outer translating cowl to give a fan exhaust duct and nozzle exit.

In stow mode, the thrust reverser is an aerodynamic structure that adds to the engine thrust generation.

In reverse mode, it is used to turn and direct the fan exhaust air in the forward direction using blocker door through the cascades. The thrust reverser increases the aircraft braking function in order to reduce the landing or aborted take-off distance, especially on a contaminated runway.

## (4) Fan Exhaust Cowl Assembly

The fan exhaust cowls is a component of the aircraft propulsion system nacelle. It is installed at the aft part of the nacelle. The fan exhaust cowls are installed on the aircraft outboard engines.

The fan exhaust cowls are attached to the wing pylon by hinges. The two halves of the fan exhaust cowl close the engine core with an aerodynamic flow path.

The fan exhaust structure has two half-cowls hinged at the top to the wing pylon and latched together at the bottom centerline. Its forward end is secured on the aft of the fan case and aft of the intermediate engine case.

## (5) Exhaust System

The primary air flow is the part of the air absorbed by the engine that enters into the engine combustor and that is exhausted to atmosphere through the turbine exhaust system.

The turbine exhaust flow path is formed by the inner wall of the exhaust nozzle and the outer wall of the exhaust plug.

The secondary air flow is the part of the air absorbed by the fan that bypasses the core engine and flows through the thrust reverser and fan exhaust cowl directly to the atmosphere.

## 2. Engine and Nacelle -TRENT 900 Engine

#### A. Engine

The RB211-TRENT 900 engine is a high by-pass ratio, triple spool turbo-fan.

The principal modules of the engine are:

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

The Intermediate Pressure (IP) and Low Pressure Compressor (LPC)/Low Pressure Turbine (LPT) assemblies turn in a counter clockwise direction and the High Pressure Compressor (HPC)/ High Pressure Turbine (HPT) assembly turns in a clockwise direction (when seen from the rear of the engine) during engine operation.

The compressors increase the pressure of the air, which flows through the engine. The necessary power to turn the compressors is supplied by turbines.

The LP system has a one-stage compressor installed at the front of the engine. A shaft connects the single-stage LPC to a five-stage axial flow turbine at the rear of the gas generator. The gas generator also includes an eight-stage IP compressor, a six-stage HPC and a combustion system. Each of the compressors in the gas generator is connected to, and turned by, a different turbine. Between the HPC and the HPT is the annular combustion system which burns a mixture of fuel and air to supply energy as heat. Behind the LPT there is a collector nozzle assembly through which the hot gas exhaust flows.

#### B. Nacelle

A nacelle gives the engine an aerodynamic shape and supports the thrust reverser system. Each engine is housed in a nacelle suspended from a pylon attached below the wing.

The nacelle consists of the following major components:

## (1) Air Intake Cowl Assembly

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

## (2) Fan Cowl Assembly

The fan cowl assembly has two semicircular panels, the left fan cowl door and the right fan cowl door. The installation of the fan cowl doors is around the engine fan case between the air intake cowl and the thrust reverser cowl.

The fan Cowl Opening System (COS) have two electrical actuators which open or close the fan cowls. Personnel operate the actuators from the ground only during engine maintenance operations. The personnel use a switch box located on the air intake cowl.

### (3) Thrust Reverser

The thrust reverser assembly is installed at the aft part of the nacelle. The thrust reversers are installed on the aircraft inboard engines. It is attached to the wing pylon by hinges. The thrust reverser assembly is a standard fixed cascade, translating cowl and blocker door type thrust-reverser. It is only installed on the aircraft inboard engine nacelles. It is made of two halves that make a duct around the engine. Each half has a fixed structure that holds the cascades, the actuation system and a translating cowl.

The thrust reverser assembly closes the engine core with an aerodynamic flow path and uses the outer translating cowl to make a fan exhaust duct and nozzle exit. In stow mode, the thrust reverser is an aerodynamic structure that makes the engine thrust.

In reverse mode, it changes the direction of the fan exhaust air in the forward direction by use of the blocker doors through the cascades. The thrust reverser increases the aircraft braking and speed braking function in order to decrease the landing or aborted take-off distance, especially on a dirty runway.

### (4) Fan Exhaust Cowl Assembly

The fan exhaust cowl is a component of the aircraft engine nacelle. It is installed at the aft part of the nacelle. The fan exhaust structures are installed on the aircraft outboard engines. They are attached to the wing pylon by hinges. The left and right fan exhaust structures closed the engine core with an aerodynamic flow path. The structure gives a fire protection and a support for the aerodynamic, inertial and engine loads.

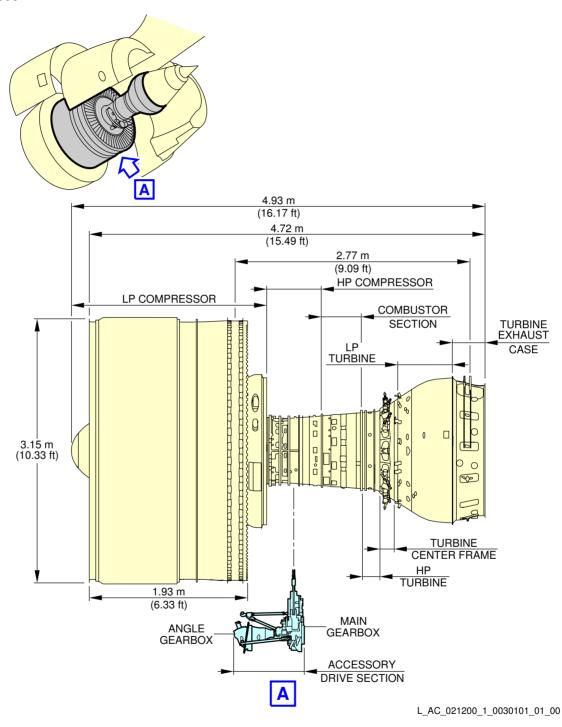
The fan exhaust structure has left and right cowls hinged at the top to the wing pylon and latched together at the bottom centerline. Its forward end is attached at the aft of the fan case.

### (5) Exhaust System

Primary air is the part of the air absorbed by the fan that enters the engine near the fan blade platform, continues through the Low Pressure (LP) and High Pressure (HP) compressors, the combustor, and the HP and LP turbines, and is accelerated and exhausted to the atmosphere through the turbine exhaust system.

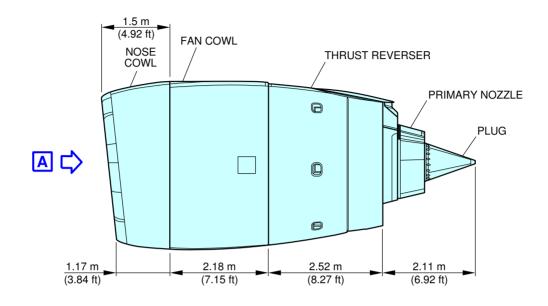
The turbine exhaust flow path is formed by the inner surface of the exhaust nozzle and the outer surface of the exhaust plug.

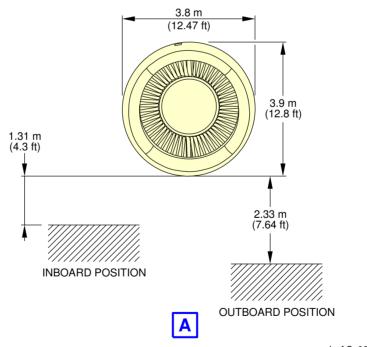
Secondary air is the part of the air absorbed by the fan that is directly discharged from the outer portion of the fan, by-passes the core engine and flows through the fan exhaust to the atmosphere.



Power Plant Handling Engine Dimensions - GP 7200 Engine FIGURE-02-12-00-991-003-A01

## \*\*ON A/C A380-800

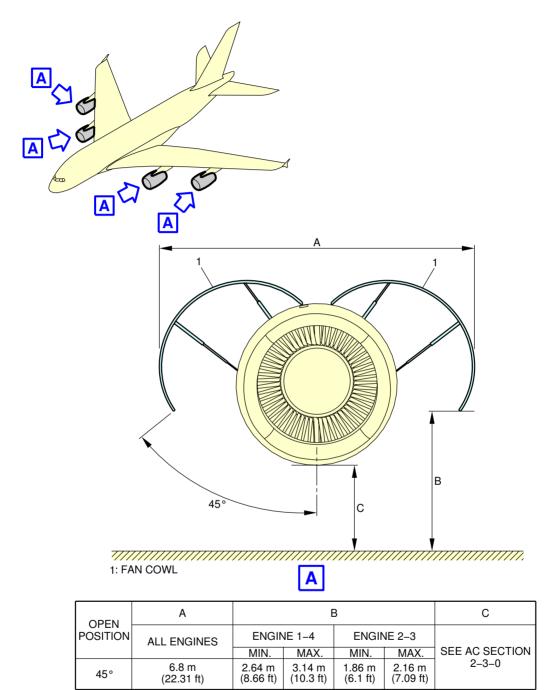




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Power Plant Handling Nacelle Dimensions - GP 7200 Engine FIGURE-02-12-00-991-004-A01

## \*\*ON A/C A380-800

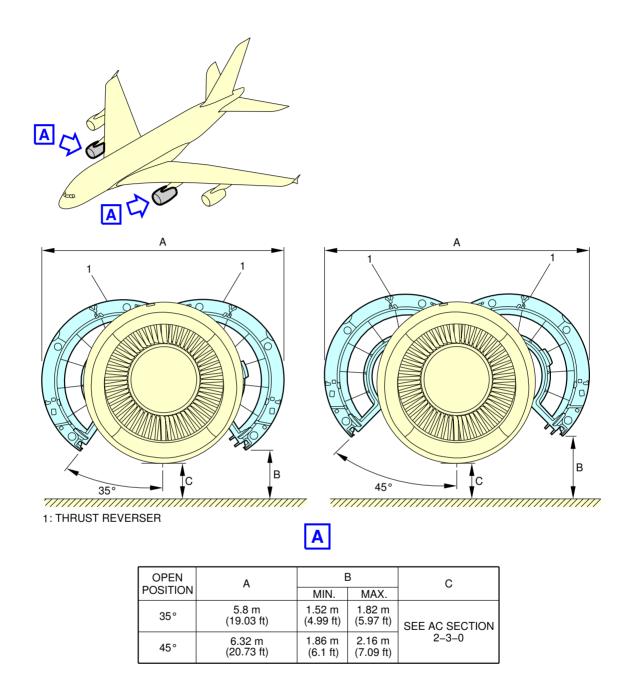


NOTE: B AND C DEPENDING ON AIRCRAFT CONFIGURATION.

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Power Plant Handling Fan Cowls - GP 7200 Engine FIGURE-02-12-00-991-005-A01

## \*\*ON A/C A380-800

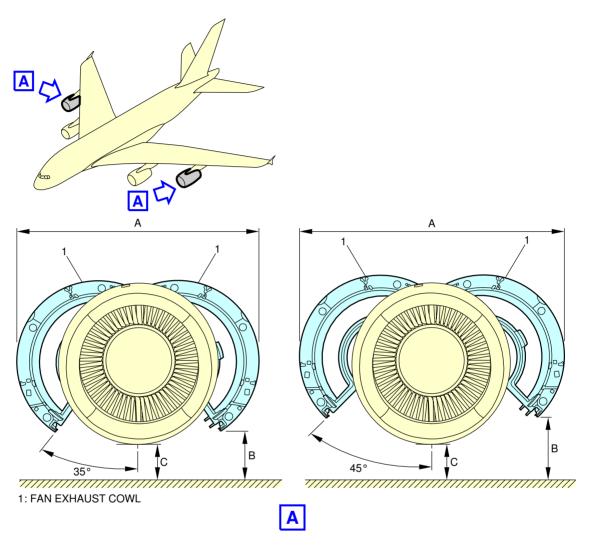


NOTE: B AND C DEPENDING ON AIRCRAFT CONFIGURATION.

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Power Plant Handling Thrust Reverser Cowls - GP 7200 Engine FIGURE-02-12-00-991-006-A01

## \*\*ON A/C A380-800



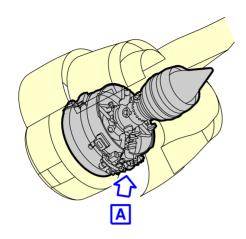
OPEN A POSITION	Δ	В		С
	MIN.	MAX.		
35°	5.8 m (19.03 ft)	2.3 m (7.55 ft)	2.8 m (9.19 ft)	SEE AC SECTION 2-3-0
45°	6.32 m (20.73 ft)	2.64 m (8.66 ft)	3.14 m (10.3 ft)	

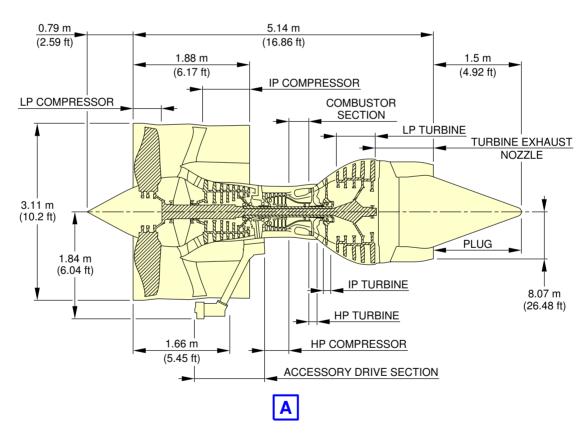
NOTE: B AND C DEPENDING ON AIRCRAFT CONFIGURATION.

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Power Plant Handling
Fan Exhaust Cowls - GP 7200 Engine
FIGURE-02-12-00-991-007-A01

## \*\*ON A/C A380-800

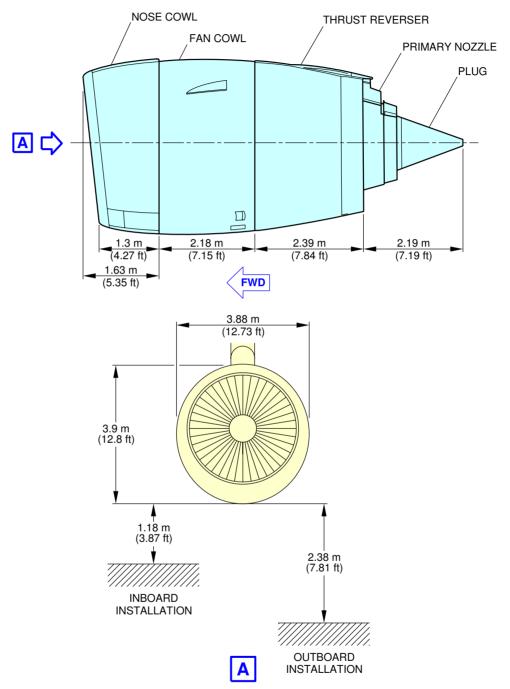




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Power Plant Handling Engine Dimensions - TRENT 900 Engine FIGURE-02-12-00-991-008-A01

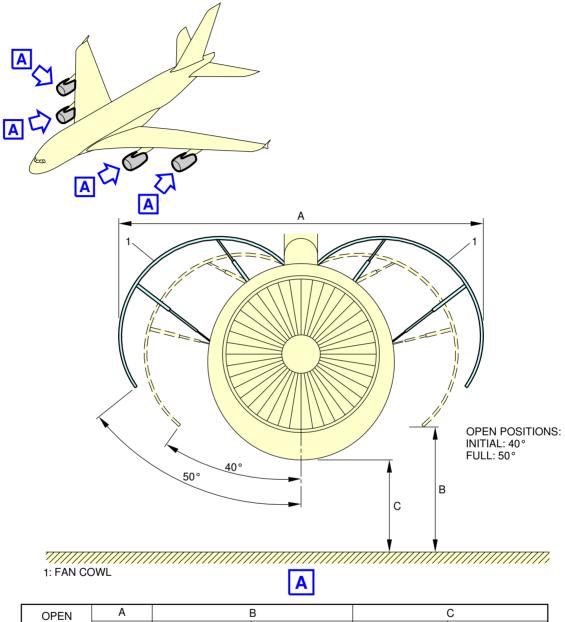
## \*\*ON A/C A380-800



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Power Plant Handling
Nacelle Dimensions - TRENT 900 Engine
FIGURE-02-12-00-991-009-A01

# \*\*ON A/C A380-800

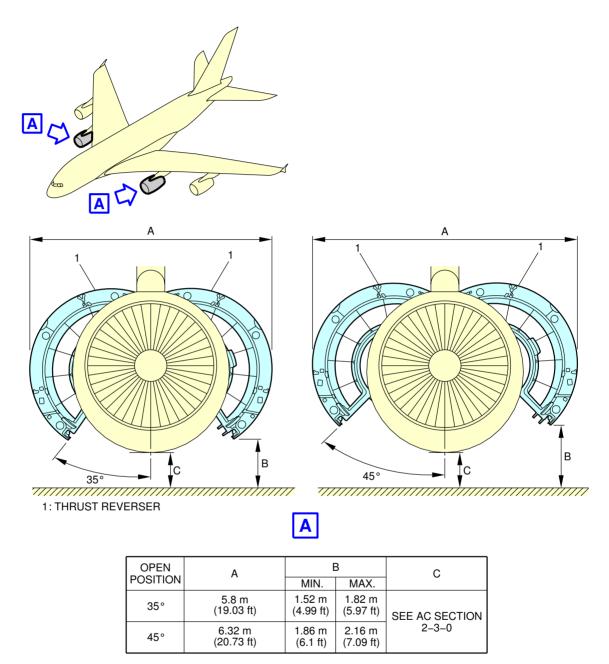


OPEN	Α		В		С
POSITION	ALL ENG.	INBOARD ENG.	OUTBOARD ENG.	INBOARD ENG.	OUTBOARD ENG.
40°	6.95 m	2 m	3 m	1.3 m	2.27 m
	(22.8 ft)	(6.56 ft)	(9.84 ft)	(4.27 ft)	(7.45 ft)
50°	7.3 m	2.4 m	3.4 m	1.3 m	2.27 m
	(23.95 ft)	(7.87 ft)	(11.15 ft)	(4.27 ft)	(7.45 ft)

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Power Plant Handling Fan Cowls - TRENT 900 Engine FIGURE-02-12-00-991-010-A01

# \*\*ON A/C A380-800

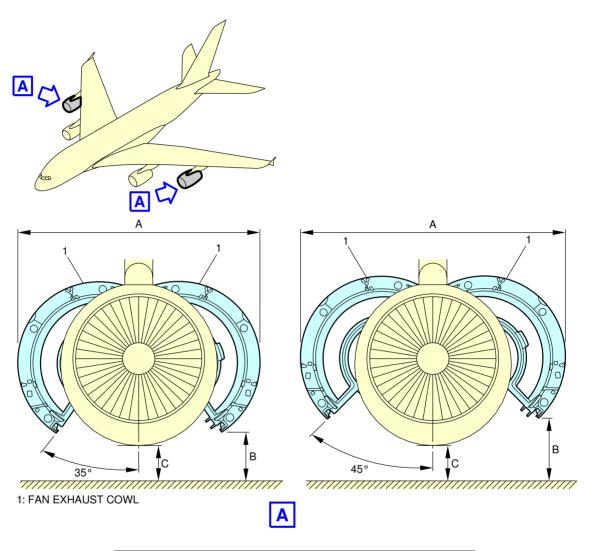


NOTE: B AND C DEPENDING ON AIRCRAFT CONFIGURATION.

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Power Plant Handling Thrust Reverser Cowls - TRENT 900 Engine FIGURE-02-12-00-991-011-A01

# \*\*ON A/C A380-800



OPEN	Δ	Е	3	С	
POSITION	А	MIN.	MAX.	· ·	
35°	5.8 m (19.03 ft)	2.3 m (7.55 ft)	2.8 m (9.19 ft)	SEE AC SECTION	
45°	6.32 m (20.73 ft)	2.64 m (8.66 ft)	3.14 m (10.3 ft)	2–3–0	

NOTE: B AND C DEPENDING ON AIRCRAFT CONFIGURATION.

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Power Plant Handling
Fan Exhaust Cowls - TRENT 900 Engine
FIGURE-02-12-00-991-012-A01

# 02-13-00 Leveling, Symmetry and Alignment

\*\*ON A/C A380-800

# Leveling, Symmetry and Alignment

1. Quick Leveling

There are three alternative procedures to level the aircraft:

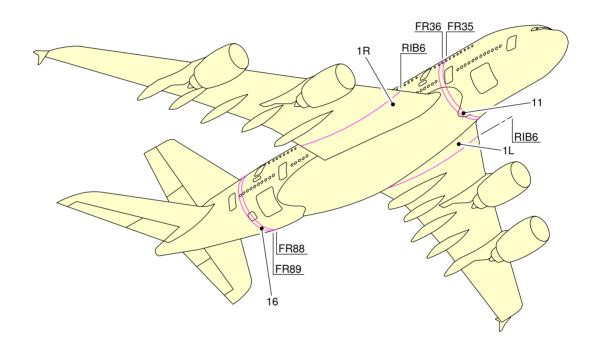
- Quick leveling procedure with Air Data/Inertial Reference System (ADIRS).
- Quick leveling procedure with a spirit level in the upper or main deck passenger compartment.
- Quick leveling procedure with a spirit level in the FWD cargo compartment.

# 2. Precise Leveling

For precise leveling, it is necessary to install sighting rods in the receptacles located under the fuselage (points 11 and 16 for longitudinal leveling) and under the wings (points 1L and 1R for lateral leveling) and use a sighting tube. With the aircraft on jacks, adjust the jacks until the reference marks on the sighting rods are aligned in the sighting plane (aircraft level).

3. Symmetry and Alignment Check
Possible deformation of the aircraft is measured by photogrammetry.

\*\*ON A/C A380-800



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Location of Leveling Points FIGURE-02-13-00-991-001-A01

02-14-00 **Jacking** 

#### \*\*ON A/C A380-800

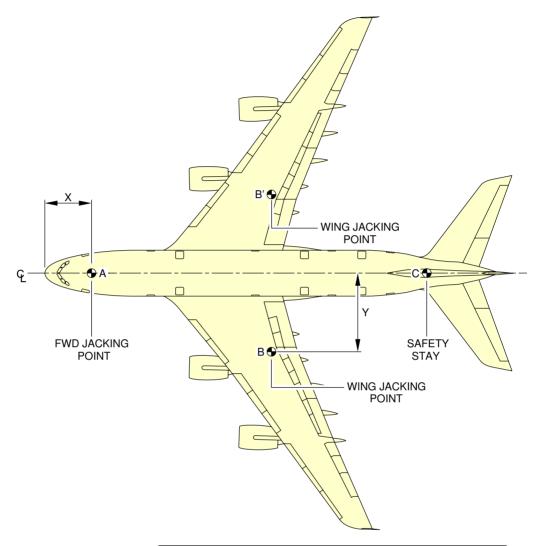
#### Jacking for Maintenance

- 1. Aircraft Jacking Points for Maintenance
  - A. General
    - (1) The A380-800 can be jacked:
      - At not more than 333 700 kg (735 682 lb)
      - Within the limits of the permissible wind speed when the aircraft is jacked outside a closed environment.
  - B. Primary Jacking Points
    - (1) The aircraft is provided with three primary jacking points:
      - One located under the forward fuselage
      - Two located under the wings (one under each wing).
    - (2) Three jack adapters (ground equipment) are used as intermediary parts between the aircraft jacking points and the jacks:
      - One male spherical jack adapter at the forward fuselage
      - Two female spherical jack pad adapters at the wings (one at each wing).
  - C. Auxiliary Jacking Point (Safety Stay)
    - (1) When the aircraft is on jacks, a safety stay is installed under the AFT fuselage (Ref. Fig. Jacking Point Location) to prevent tail tipping caused by accidental displacement of the aircraft center of gravity.
    - (2) The safety point must not be used for lifting the aircraft.
    - (3) One male spherical stay adapter (ground equipment) is used as an intermediary part between the aircraft safety point and the stay.
- 2. Jacks and Safety Stay
  - A. Jack Design
    - (1) The maximum eligible loads given in the table (Ref. Fig. Jacking Point Location) are the maximum loads applicable on jack fittings.
    - (2) In fully retracted position (jack stroke at minimum), the height of the jacks is such that the jack may be placed beneath the aircraft under the most adverse conditions, namely, tires deflated and shock absorbers depressurized, with sufficient clearance between the aircraft jacking point and the jack upper end.
    - (3) The jacks stroke enables the aircraft to be jacked up so that the Fuselage Datum Line (FDL) may be positioned up to 7 200 mm (283.46 in) from the ground to allow all required maintenance procedures and in particular, the removal/installation of the landing-gear shock absorbers.



- B. Safety Stay
  - (1) The stay stroke enables the aircraft tail to be supported up to the Fuselage Datum Line (FDL) positioned 7 200 mm (283.46 in) from the ground.

# \*\*ON A/C A380-800



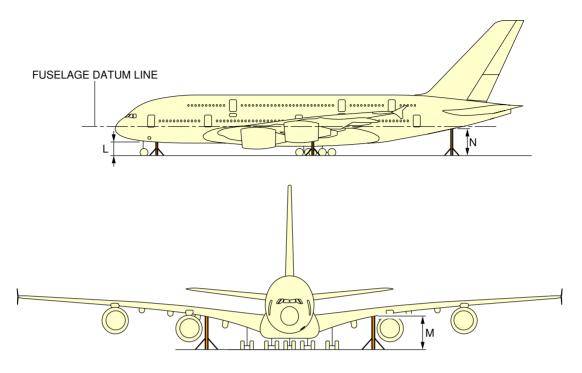
		Х		Υ		MAXIMUM LOAD ELIGIBLE
		m	ft	m	ft	daN
FORWARD FUSELA JACKING POINT	AGE A	7.29	23.92	0	0	34 011
WING JACKING	В	35.23	115.58	12.22	40.09	157 480
POINT	B'	35.23	115.58	-12.22	-40.09	157 480
SAFETY STAY	С	59.34	194.68	0	0	7 874

NOTE: SAFETY STAY IS NOT USED FOR JACKING.

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Jacking for Maintenance Jacking Points Location FIGURE-02-14-00-991-001-A01

# \*\*ON A/C A380-800

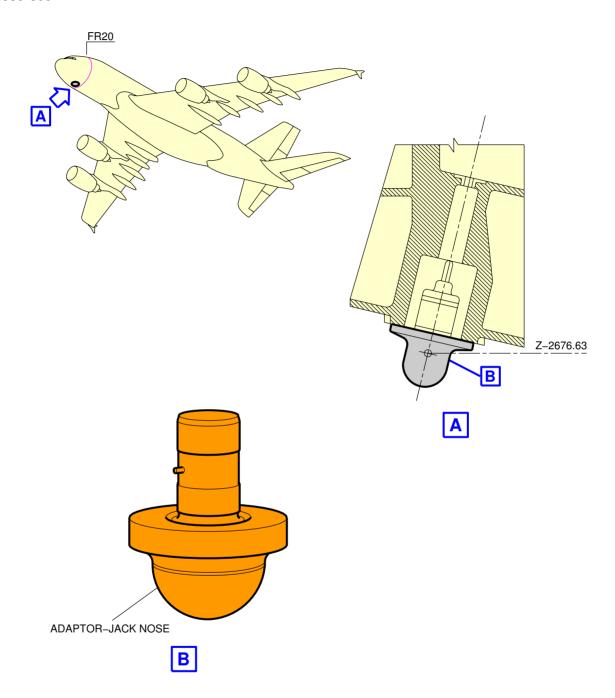


	L	М	N
AIRCRAFT ON WHEELS WITH STANDARD TIRES, MAX. JACK WEIGHT 333 700 kg (735 682 lb)	2 472 mm (97.32 in)	5 112 mm (201.26 in)	4 707 mm (185.31 in)
AIRCRAFT ON WHEELS, SHOCK ABSORBERS DEFLATED AND TIRES FLAT	2 259 mm (88.94 in)	4 788 mm (188.5 in)	4 462 mm (175.67 in)
AIRCRAFT ON WHEELS, NOSE LANDING GEAR SHOCK ABSORBERS DEFLATED AND TIRES FLAT	2 296 mm (90.39 in)	5 117 mm (201.46 in)	5 044 mm (198.58 in)
AIRCRAFT ON WHEELS, LEFT WING AND BODY LANDING GEARS SHOCK ABORBERS DEFLATED AND TIRES FLAT (SAME DATA FOR RIGHT SIDE CONDITIONS)	2 474 mm (97.4 in)	4 523 mm (178.07 in)	4 257 mm (167.6 in)
AIRCRAFT ON WHEELS, WING AND BODY LANDING GEARS SHOCK ABSORBERS DEFLATED AND TIRES FLAT	2 391mm (94.13 in)	4 803 mm (189.09 in)	4 291 mm (168.94 in)
AIRCRAFT ON JACKS, FUSELAGE DATUM LINE PARALLEL TO GROUND AT 6 350 mm (250 in) FOR LANDING GEARS EXTENSION/RETRACTION	3 673 mm (144.61 in)	6 158 mm (242.44 in)	5 830 mm (229.53 in)
AIRCRAFT ON JACKS, FUSELAGE DATUM LINE PARALLEL TO GROUND AT 7 200 mm (283.46 in) FOR LANDING GEARS REMOVAL/INSTALLATION	4 523 mm (178.07 in)	7 008 mm (275.91 in)	6 680 mm (262.99 in)
AIRCRAFT JACKED AT FORWARD JACKING POINT, WING AND BODY LANDING GEARS WHEELS ON THE GROUND, FOR NOSE LANDING GEAR EXTENSION/RETRACTION TEST	4 523 mm (178.07 in)	N/A	2 910 mm (114.57 in)

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Jacking for Maintenance Jacking Dimensions FIGURE-02-14-00-991-002-A01

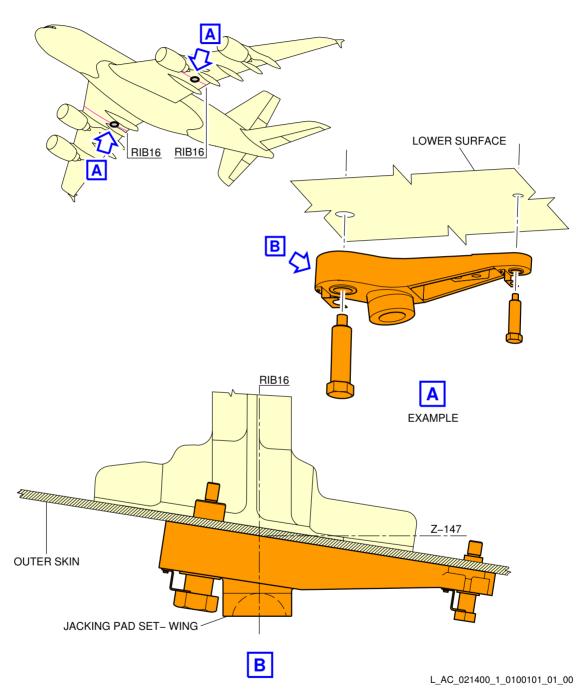
# \*\*ON A/C A380-800



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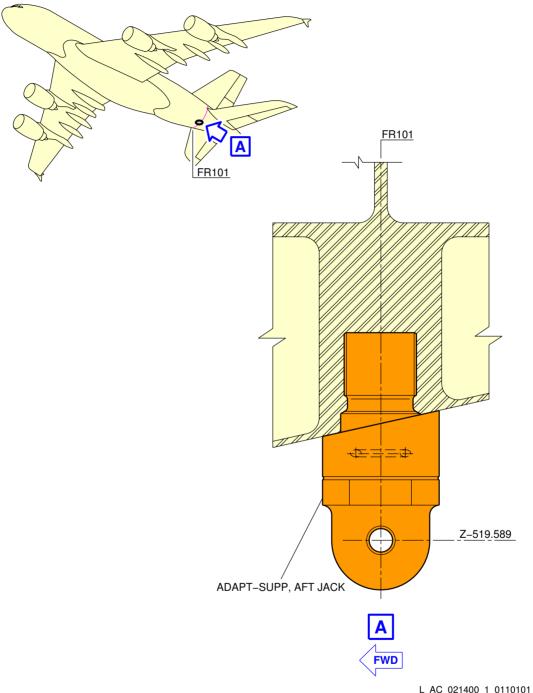
Jacking for Maintenance Forward Jacking Point FIGURE-02-14-00-991-003-A01

# \*\*ON A/C A380-800



Jacking for Maintenance Wing Jacking Point FIGURE-02-14-00-991-010-A01

# \*\*ON A/C A380-800



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Jacking for Maintenance Auxiliary Jacking Point - Safety Stay FIGURE-02-14-00-991-011-A01

# \*\*ON A/C A380-800

#### Jacking for Wheel Change

1. To replace a wheel or wheel brake assembly on any of the landing gears it is necessary to lift the landing gear with a jack. The landing gear can be lifted by a pillar jack or with a cantilever jack.

NOTE: You can lift the aircraft at Maximum Ramp Weight (MRW).

A. Nose Landing Gear (NLG)

The nose gear can be lifted with a pillar jack or a cantilever jack. The NLG has a dome shaped jacking adaptor at the base of the shock absorber strut. The adapter is 31.75 mm (1.25 in) in diameter.

Important dimensions of the NLG when lifted are shown in Fig. 001.

The reaction loads at the jacking position are shown in Fig. 004.

<u>NOTE</u>: The load at each jacking position is the load required to give a 25.5 mm (1 in) clearance between the ground and the tire.

B. Wing Landing Gear (WLG)

An adapter at the front and rear of each bogie is fitted to make sure that the jack is located correctly. The adapter is 31.75 mm (1.25 in) in diameter. The wheels and brake units can be replaced on the end of the bogie beam that is lifted.

The FWD and AFT ends of the bogie can be lifted at the same time. When lifting both ends at the same time the bogie beam must always be kept level to prevent damage.

If a WLG has all four tires deflated or shredded, replace the wheel assemblies in this sequence:

- Replace the wheel assemblies on the AFT axle
- Replace the wheel assemblies on the FWD axle.

Important dimensions of the WLG when lifted are shown in Fig. 002.

The reaction loads at the jacking position are shown in Fig. 005.

<u>NOTE</u>: The load at each jacking position is the load required to give a 25.5 mm (1 in) clearance between the ground and the tire.

C. Body Landing Gear (BLG)

An adapter at the front and at the rear of each bogie is fitted to make sure that the jack is located correctly. The adapter is 31.75 mm (1.25 in) in diameter. Both wheels and brake units can be replaced on the end of the bogie beam that is lifted.

For a center wheel change only, the FWD and AFT ends of the bogie can be lifted at the same time. When lifting both ends at the same time the bogie beam must always be kept level to prevent damage.

If a BLG has all six tires deflated or shredded, replace the wheel assemblies in this sequence:

- Replace the wheel assemblies on the AFT axle
- Replace the wheel assemblies on the center axle
- Replace the wheel assemblies on the FWD axle.

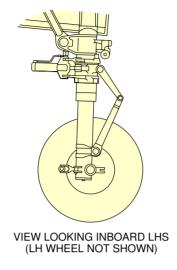


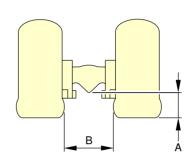
Important dimensions of the BLG when lifted are shown in Fig. 003. The reaction loads at the jacking position are shown in Fig. 006.

NOTE: The load at each jacking position is the load required to give a 25.5 mm (1 in) clearance between the ground and the tire.



# \*\*ON A/C A380-800





#### DATA FOR 1 270 x 455 R22 TIRES

CONFIGURATION	WEIGHT	CG%	DIM. A	DIM. B
2 INFLATED TIRES	MRW	43	400 (15.75)	541 (21.3)
1 INFLATED TIRE	MRW	43	353 (13.9)	530 (20.87)
2 DEFLATED TIRES +50% RIM DAMAGE	MLW -PAX	29	134 (5.28)	519 (20.43)
2 DEFLATED TIRES +50% RIM DAMAGE	MLW -PAX	44	136 (5.35)	519 (20.43)
2 DEFLATED TIRES NO RIM DAMAGE	MLW -PAX	29	164 (6.46)	519 (20.43)
2 DEFLATED TIRES NO RIM DAMAGE	MLW -PAX	44	166 (6.54)	519 (20.43)
20 DEFLATED TIRES +50% RIM DAMAGE	N/A	N/A	137 (5.39)	519 (20.43)
20 DEFLATED TIRES NO RIM DAMAGE	N/A	N/A	168 (6.61)	519 (20.43)
MAXIMUM JACKING HEIGHT TO CHANGE WHEELS	N/A	N/A	506 (19.92)	N/A

NOTE: DIMENSIONS IN MILLIMETERS (INCHES IN BRACKETS)

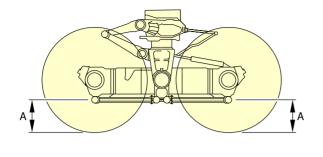
MRW = 562 000 kg (1 238 998 lb) MLW = 386 000 kg (850 984 lb)

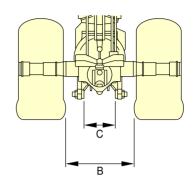
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Nose Landing Gear Jacking Point Heights FIGURE-02-14-00-991-004-A01



# \*\*ON A/C A380-800





DATA FOR 1 400 x 530 R23 TIRES

CONFIGURATION	WEIGHT	CG%	DIM. A FWD	DIM. A AFT	DIM. B	DIM. C
ALL 4 TIRES SERVICEABLE	MRW	43	347 (13.66)	347 (13.66)	750 (29.53)	364 (14.33)
1 FWD TIRE DEFLATED	MRW	43	264 (10.39)	353 (13.9)	718 (28.27)	364 (14.33)
1 AFT TIRE DEFLATED	MRW	43	353 (13.9)	264 (10.39)	718 (28.27)	364 (14.33)
2 DEFLATED FWD TIRES +50% RIM DAMAGE	MLW -PAX	44	93 (3.66)	406 (15.98)	686 (27.01)	364 (14.33)
2 DEFLATED AFT TIRES +50% RIM DAMAGE	MLW -PAX	44	406 (15.98)	93 (3.66)	686 (27.01)	364 (14.33)
4 TIRES DEFLATED +50% RIM DAMAGE	MLW -PAX	44	93 (3.66)	93 (3.66)	686 (27.01)	364 (14.33)
FWD TIRE CHANGE MAX. GROWN TIRE	MRW	43	513 (20.2)	331 (13.03)	795 (31.3)	364 (14.33)
AFT TIRE CHANGE MAX. GROWN TIRE	MRW	43	331 (13.03)	513 (20.2)	795 (31.3)	364 (14.33)
20 FLAT TIRES +50% RIM DAMAGE	N/A	N/A	83 (3.27)	83 (3.27)	686 (27.01)	364 (14.33)

NOTE: DIMENSIONS IN MILLIMETERS (INCHES IN BRACKETS)

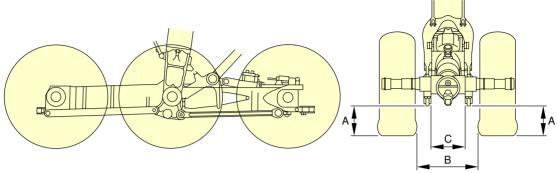
MRW = 562 000 kg (1 238 998 lb) MLW = 386 000 kg (850 984 lb)

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Wing Landing Gear Jacking Point Heights FIGURE-02-14-00-991-005-A01



# \*\*ON A/C A380-800



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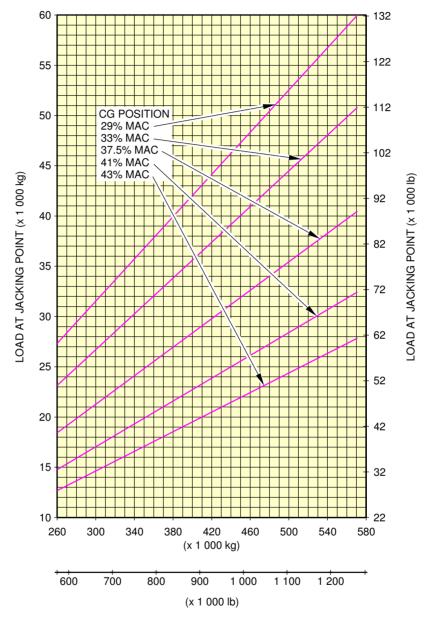
CONFIGURATION	WEIGHT	CG%	DIM. A FWD	DIM. A AFT	DIM. B	DIM. C FWD	DIM. C AFT
ALL 6 TIRES SERVICEABLE	MRW	43	347 (13.66)	312 (12.28)	930 (36.61)	460 (18.11)	432 (17.01)
1 FWD TIRE UNSERVICEABLE	MRW	43	295 (11.61)	328 (12.91)	898 (35.35)	460 (18.11)	432 (17.01)
1 CENTER TIRE UNSERVICEABLE	MRW	43	334 (13.15)	299 (11.77)	898 (35.35)	460 (18.11)	432 (17.01)
1 AFT TIRE UNSERVICEABLE	MRW	43	363 (14.29)	260 (10.24)	898 (35.35)	460 (18.11)	432 (17.01)
2 FWD TIRES DEFLATED +50% RIM DAMAGE	MLW -PAX	44	74 (2.91)	505 (19.88)	866 (34.09)	460 (18.11)	432 (17.01)
2 CENTER TIRES DEFLATED	MLW -PAX	44	358 (14.09)	323 (12.72)	866 (34.09)	460 (18.11)	432 (17.01)
2 AFT TIRES DEFLATED +50% RIM DAMAGE	MLW -PAX	44	540 (21.26)	40 (1.57)	866 (34.09)	460 (18.11)	432 (17.01)
6 TIRES DEFLATED +50% RIM DAMAGE	MLW -PAX	44	74 (2.91)	39 (1.54)	866 (34.09)	460 (18.11)	432 (17.01)
FWD TIRE CHANGE MAX. GROWN TIRE	MRW	43	496 (19.53)	264 (10.39)	975 (38.39)	460 (18.11)	432 (17.01)
CTR TIRE CHANGE POSITION MAX. GROWN TIRE	MRW	43	496 (19.53)	461 (18.15)	975 (38.39)	460 (18.11)	432 (17.01)
AFT TIRE CHANGE MAX. GROWN TIRE	MRW	43	299 (11.77)	461 (18.15)	975 (38.39)	460 (18.11)	432 (17.01)
20 DEFLATED TIRES +50% RIM DAMAGE	N/A	N/A	102 (4.02)	67 (2.64)	866 (34.09)	460 (18.11)	432 (17.01)

NOTE: DIMENSIONS IN MILLIMETERS (INCHES IN BRACKETS)

MRW = 562 000 kg (1 238 998 lb) MLW = 386 000 kg (850 984 lb)

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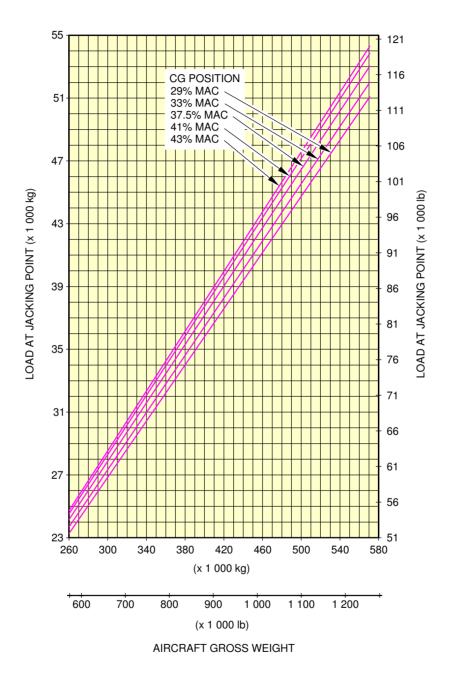
Body Landing Gear Jacking Point Heights FIGURE-02-14-00-991-006-A01



AIRCRAFT GROSS WEIGHT

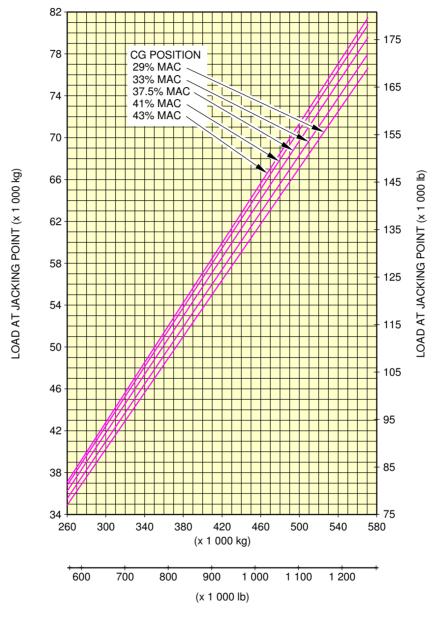
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Nose Landing Gear Jacking Point Loads FIGURE-02-14-00-991-007-A01



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Wing Landing Gear Jacking Point Loads FIGURE-02-14-00-991-008-A01



AIRCRAFT GROSS WEIGHT

L\_AC\_021400\_1\_0090101\_01\_00

Body Landing Gear Jacking Point Loads FIGURE-02-14-00-991-009-A01

# **AIRCRAFT PERFORMANCE**

03-01-00 General Information

\*\*ON A/C A380-800

# **General Information**

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

Standard day temperatures for the altitudes							
A	ltitude	Standard Day	Temperature				
FEET	METERS	°F	°C				
0	0	59.0	15.0				
2000	610	51.9	11.6				
4000	1220	44.7	7.1				
6000	1830	37.6	3.1				
8000	2440	30.5	-0.8				

# **©A380**

# AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

03-02-00 Payload / Range

\*\*ON A/C A380-800

Payload /Range

1. Payload / Range



03-02-01 ISA Conditions

\*\*ON A/C A380-800

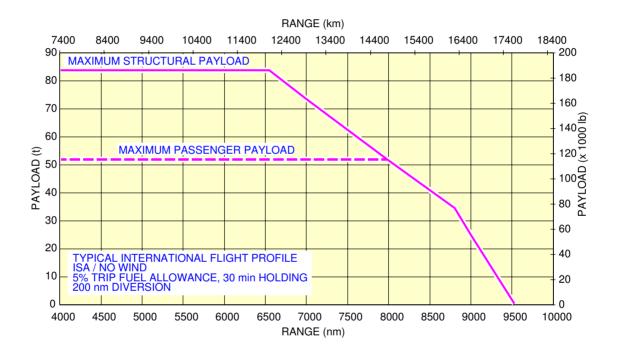
Payload/Range - Pax

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



\*\*ON A/C A380-800

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



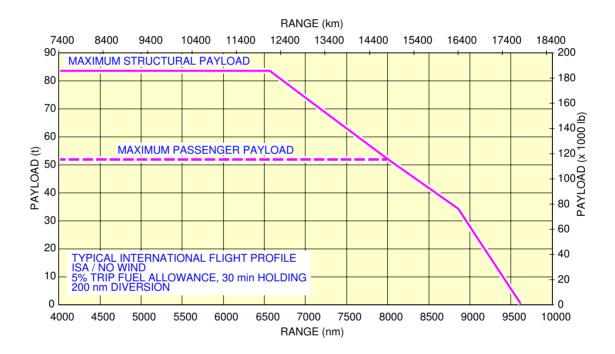
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Payload/Range ISA Conditions - TRENT 900 Engines FIGURE-03-02-01-991-001-A01



\*\*ON A/C A380-800

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 ISA Conditions - GP 7200 Engines FIGURE-03-02-01-991-008-A01



03-03-01 Take Off Weight Limitation - ISA Conditions

\*\*ON A/C A380-800

- FAA/EASA Take Off Weight Limitation Pax
  - 1. This section gives the take-off weight limitation at ISA conditions.

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

#### RUNWAY LENGTH (ft) 5000 6000 7000 8000 9000 10000 11000 12000 13000 14000 15000 16000 17000 18000 TAKE-OFF WEIGHT (x 1000 lb) AIRFIELD PRESSURE ALTITUDE (ft) TAKE-OFF WEIGHT (t) RUNWAY LENGTH (m)

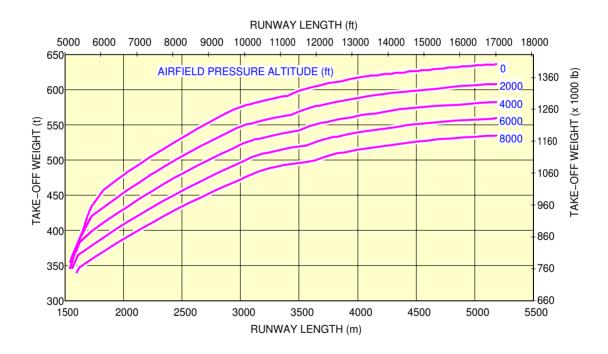
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FAA/EASA Take-Off Weight Limitation ISA Conditions - TRENT 900 Engines FIGURE-03-03-01-991-001-A01

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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FAA/EASA Take-Off Weight Limitation ISA Conditions - GP 7200 Engines FIGURE-03-03-01-991-008-A01

# **GA380**

#### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

03-03-02 Take Off Weight Limitation - ISA + 15  $^{\circ}$ C (59  $^{\circ}$ F)

\*\*ON A/C A380-800

- FAA/EASA Take Off Weight Limitation ISA + 15  $^{\circ}$ C (59  $^{\circ}$ F)
  - 1. This section gives the take-off weight limitation at ISA +15 °C (59 °F) conditions.

\*\*ON A/C A380-800

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

#### RUNWAY LENGTH (ft) 5000 6000 7000 8000 9000 10000 11000 12000 13000 14000 15000 16000 17000 18000 650 0 AIRFIELD PRESSURE ALTITUDE (ft) 1360 (1260 L) 1260 (1260 L) 1360 (1260 L) 13 2000 600 4000 TAKE-OFF WEIGHT (t) 6000 550 8000 500 450 400 860 350 760 300 -660 1500 2000 2500 3000 3500 4000 4500 5000 5500 RUNWAY LENGTH (m)

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FAA/EASA Take-Off Weight Limitation ISA + 15 °C (59 °F) - TRENT 900 Engines FIGURE-03-03-02-991-001-A01

\*\*ON A/C A380-800

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

#### RUNWAY LENGTH (ft) 5000 6000 7000 8000 9000 10000 11000 12000 13000 14000 15000 16000 17000 18000 AIRFIELD PRESSURE ALTITUDE (ft) 1360 (a) 1260 (b) 1160 (a) 1160 (b) 1260 (c) 126 TAKE-OFF WEIGHT (t) RUNWAY LENGTH (m)

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FAA/EASA Take-Off Weight Limitation ISA + 15 °C (59 °F) - GP 7200 Engines FIGURE-03-03-02-991-008-A01

# **GA380**

# AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

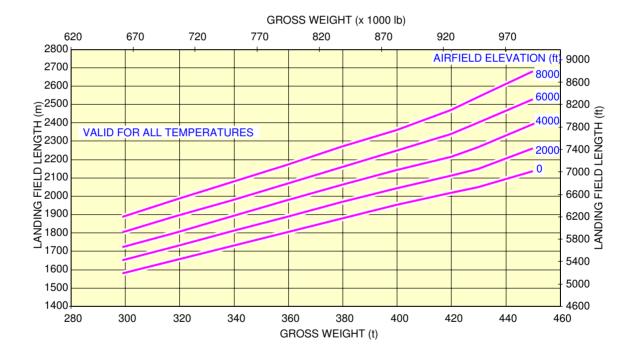
03-04-01 Landing Field Length

\*\*ON A/C A380-800

- FAA/EASA Landing Field Length
- 1. This section gives the landing field length on a dry runway.

\*\*ON A/C A380-800

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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FAA/EASA Landing Field Length Dry Runway FIGURE-03-04-01-991-001-A01

03-05-00 Final Approach Speed

\*\*ON A/C A380-800

# Final Approach Speed

- 1. This section gives the final approach speed which is the indicated airspeed at threshold in the landing configuration at the certificated maximum flap setting and maximum landing weight at standard atmospheric conditions. The approach speed is used to classify the aircraft into Aircraft Approach Category, a grouping of aircraft based on the indicated airspeed at threshold.
- 2. The final approach speed is 138 kt at a Maximum Landing Weight (MLW) of 395 000 kg (870 826 lb) and classifies the aircraft into the Aircraft Approach Category C.

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

# **GROUND MANEUVERING**

04-01-00 General Information

\*\*ON A/C A380-800

#### General

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

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

In 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 a high risk of jet blast damage. For these reasons, ground maneuvering requirements should be coordinated with the airlines in question prior to layout planning.

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# AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

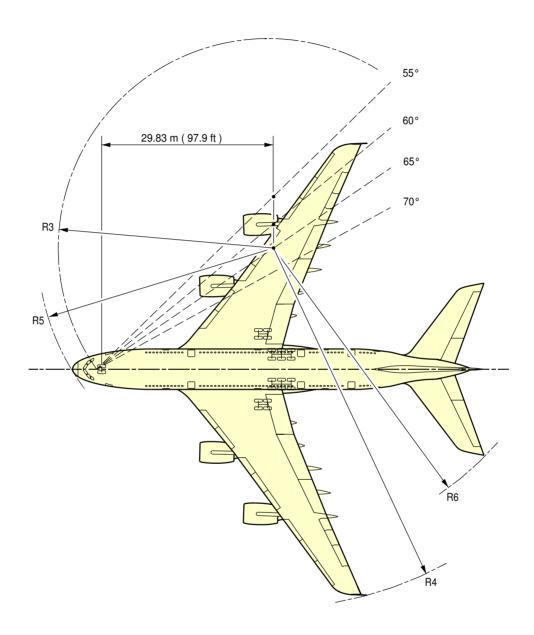
04-02-00 Turning Radii

\*\*ON A/C A380-800

# Turning Radii

1. This section gives the turning radii.

# \*\*ON A/C A380-800



NOTE: SEE PAGE 2 FOR DIMENSIONS

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Turning Radii
Turning Radii (Sheet 1)
FIGURE-04-02-00-991-001-A01

\*\*ON A/C A380-800

A380-8	00/800F TURNI	NG RADII						
TYPE OF TURN	STEERING ANGLE	EFFECTIVE STEERING ANGLE		R3	R4	R5	R6	
2	20°	17.9°	m	100.16	135.45	101.01	115.87	
_			ft	328.6	444.4	331.4	380.1	
2	25°	22.7°	m	78.86	113.14	80.12	94.90	
_	20	ZZ.7	ft	258.7	371.2	262.9	311.4	
2	30°	27.5°	m	65.69	98.90	67.33	81.91	
_	30	27.5	ft	215.5	324.5	220.9	268.7	
2	35°	32.1°	m	56.84	88.97	58.83	73.13	
	33	32.1	ft	186.5	291.9	193.0	239.9	
2	40°	36.6°	m	50.59	81.61	52.89	66.84	
	40		ft	166.0	267.8	173.5	219.3	
2	45°	41.0°	m	46.02	75.94	48.61	62.16	
	45	41.0	ft	151.0	249.1	159.5	203.9	
2	50°	45.1°	m	42.61	71.43	45.45	58.57	
	30	45.1	ft	139.8	234.4	149.1	192.2	
1	55°	51.2°	m	40.13	67.02	43.22	55.43	
'	33	31.2	ft	131.6	219.9	141.8	181.9	
1	60°	57.3°	m	37.64	62.60	40.98	52.29	
'	60	60	37.3	ft	123.5	205.4	134.5	171.5
1	65°	63.4°	m	35.15	58.18	38.75	49.15	
'	03	03.4	ft	115.3	190.9	127.1	161.2	
1	70°	69.5°	m	32.66	53.76	36.52	46.01	
'	, 0	09.5	ft	107.2	176.4	119.8	150.9	

### NOTE:

TYPE 1 TURNS USE:

ASYMMETRIC THRUST – BOTH ENGINES ON THE INSIDE OF THE TURN TO BE AT IDLE THRUST DIFFERENTIAL BRAKING – BRAKING APPLIED TO THE WING GEAR WHEELS ON THE INSIDE OF THE TURN.

TYPE 2 TURNS USE:

SYMMETRIC THRUST AND NO BRAKING.

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Turning Radii
Turning Radii (Sheet 2)
FIGURE-04-02-00-991-002-A01

# **GA380**

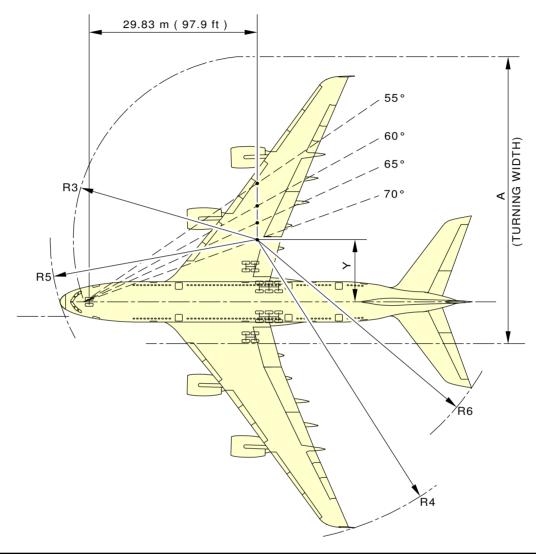
## AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

04-03-00 Minimum Turning Radii

\*\*ON A/C A380-800

# Minimum Turning Radii

1. This section gives the minimum turning radii.



A380–800/800F Minimum Turning Radius									
Type of Turn	Steering Angle	Effective Steering Angle		Y	А	R3	R4	R5	R6
1	1 700	70° 69.5°	m	11.08	50.91	32.66	53.76	36.52	46.01
1 70°	69.5°	ft	36.3	167.0	107.2	176.4	119.8	150.9	

NOTE: TURN PERFORMED WITH ASYMMETRIC THRUST AND DIFFERENTIAL BRAKING

L\_AC\_040300\_1\_0010101\_01\_01

Minimum Turning Radii FIGURE-04-03-00-991-001-A01



04-04-00 Visibility from Cockpit in Static Position

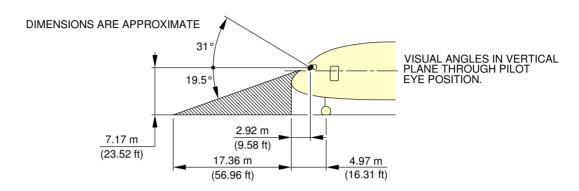
\*\*ON A/C A380-800

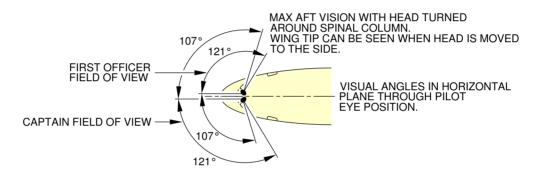
# Visibility from Cockpit in Static Position

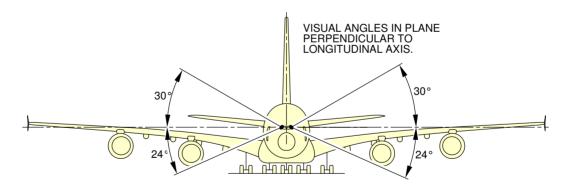
1. This section gives the visibility from cockpit in static position.

## \*\*ON A/C A380-800

# NOT TO BE USED FOR LANDING APPROACH VISIBILITY

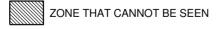






#### NOTE:

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

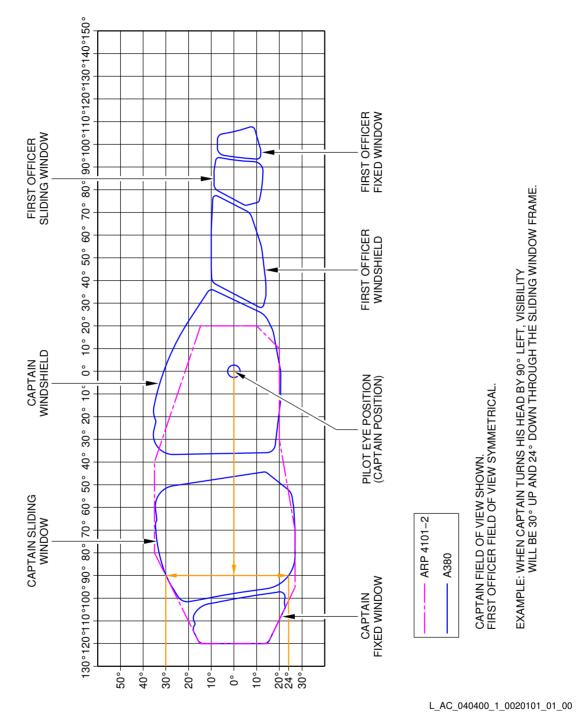


L\_AC\_040400\_1\_0010101\_01\_01

Visibility from Cockpit in Static Position FIGURE-04-04-00-991-001-A01

# **©A380**

## \*\*ON A/C A380-800



Binocular Visibility Through Windows from Captain Eye Position FIGURE-04-04-00-991-002-A01

# **GA380**

## AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

04-05-00 Runway and Taxiway Turn Paths

\*\*ON A/C A380-800

Runway and Taxiway Turn Paths

1. Runway and Taxiway Turn Paths

# **@A380**

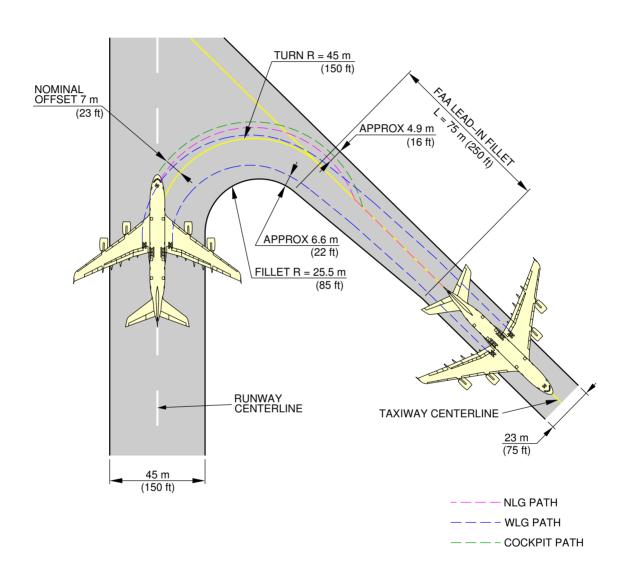
## AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

04-05-01 135° Turn - Runway to Taxiway

\*\*ON A/C A380-800

135° Turn - Runway to Taxiway

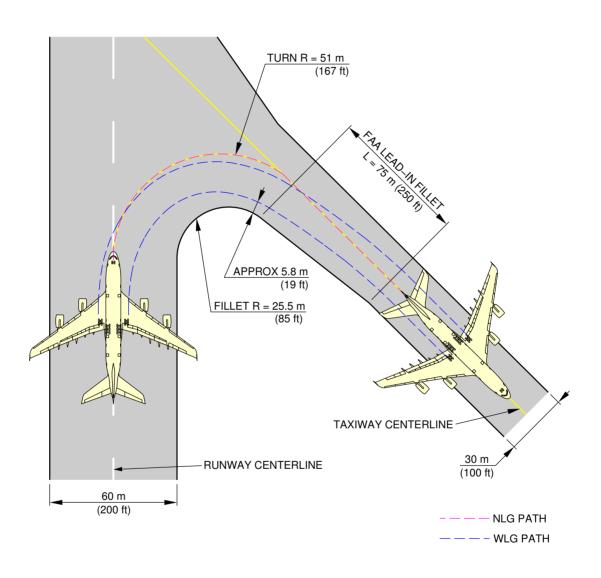
1. This section gives the 135° turn – runway to taxiway.



NOTE: FAA GROUP V FACILITIES.

L\_AC\_040501\_1\_0010101\_01\_01

135 ° Turn – Runway to Taxiway Judgemental Oversteer Method FIGURE-04-05-01-991-001-A01



NOTE: FAA GROUP VI FACILITIES.

L\_AC\_040501\_1\_0020101\_01\_01

135° Turn – Runway to Taxiway Cockpit Tracks Centreline Method FIGURE-04-05-01-991-002-A01

# **GA380**

## AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

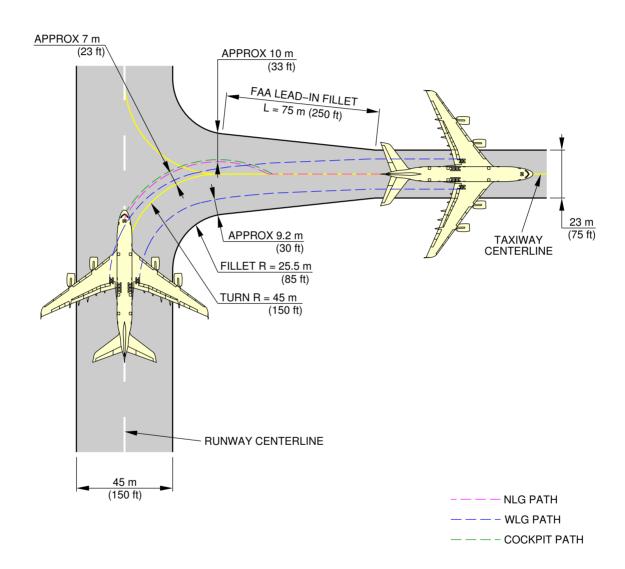
04-05-02 90° Turn - Runway to Taxiway

\*\*ON A/C A380-800

90° Turn - Runway to Taxiway

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

# \*\*ON A/C A380-800

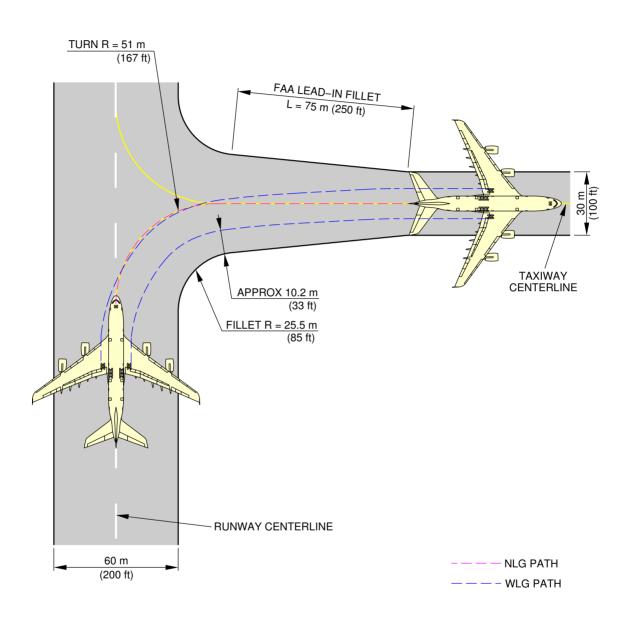


NOTE: FAA GROUP V FACILITIES.

L\_AC\_040502\_1\_0010101\_01\_01

90° Turn – Runway to Taxiway Judgemental Oversteer Method FIGURE-04-05-02-991-001-A01

# \*\*ON A/C A380-800



NOTE: FAA GROUP VI FACILITIES.

L\_AC\_040502\_1\_0020101\_01\_01

90° Turn – Runway to Taxiway Cockpit Tracks Centreline Method FIGURE-04-05-02-991-002-A01

# **GA380**

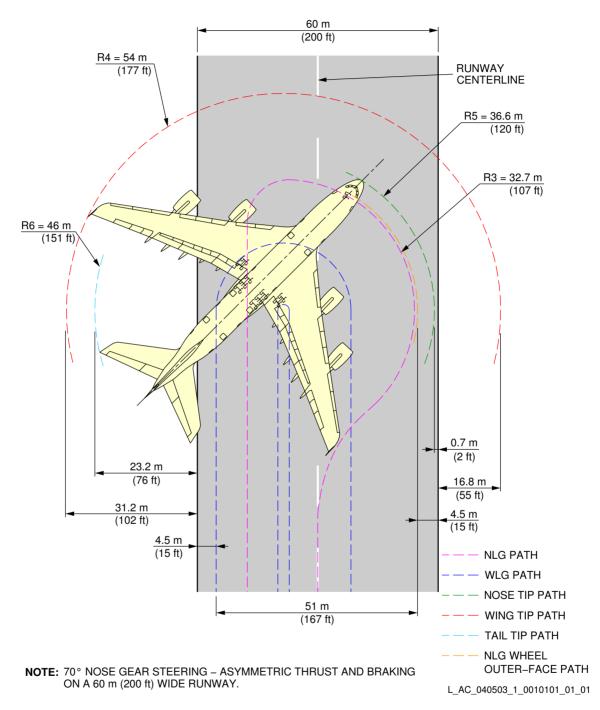
## AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

04-05-03 180° Turn on a Runway

\*\*ON A/C A380-800

180° Turn on a Runway

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



180° Turn on a Runway FIGURE-04-05-03-991-001-A01

# **@A380**

## AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

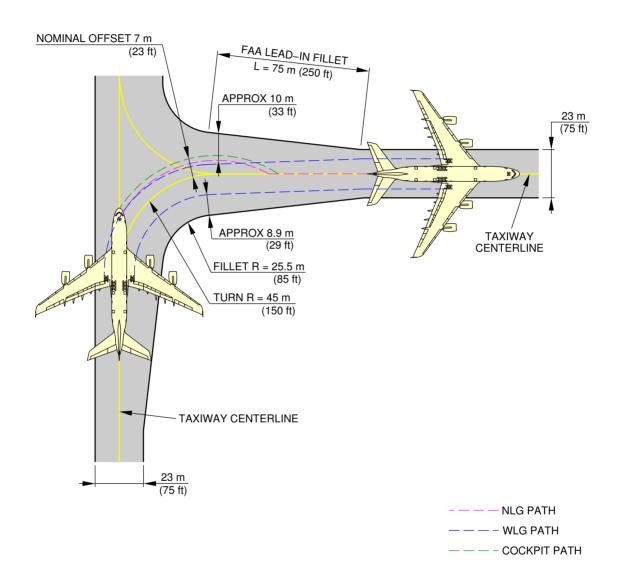
04-05-04 90° Turn - Taxiway to Taxiway

\*\*ON A/C A380-800

90° Turn - Taxiway to Taxiway

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

## \*\*ON A/C A380-800

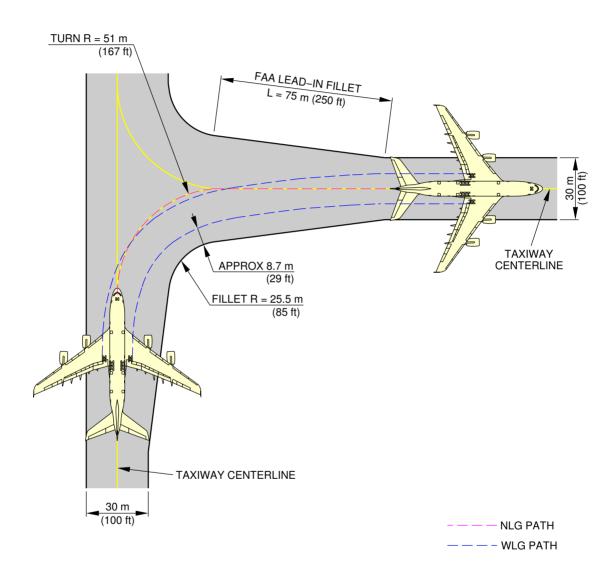


NOTE: FAA GROUP V FACILITIES.

L\_AC\_040504\_1\_0010101\_01\_01

90° Turn – Taxiway to Taxiway Judgemental Oversteer Method FIGURE-04-05-04-991-001-A01

# \*\*ON A/C A380-800



NOTE: FAA GROUP VI FACILITIES.

L\_AC\_040504\_1\_0020101\_01\_01

90° Turn – Taxiway to Taxiway Cockpit Tracks Centreline Method FIGURE-04-05-04-991-002-A01

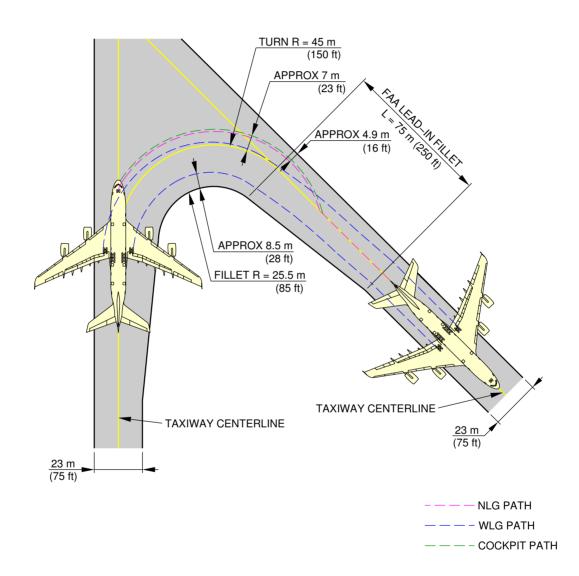
# **GA380**

## AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

\*\*ON A/C A380-800

135° Turn - Taxiway to Taxiway

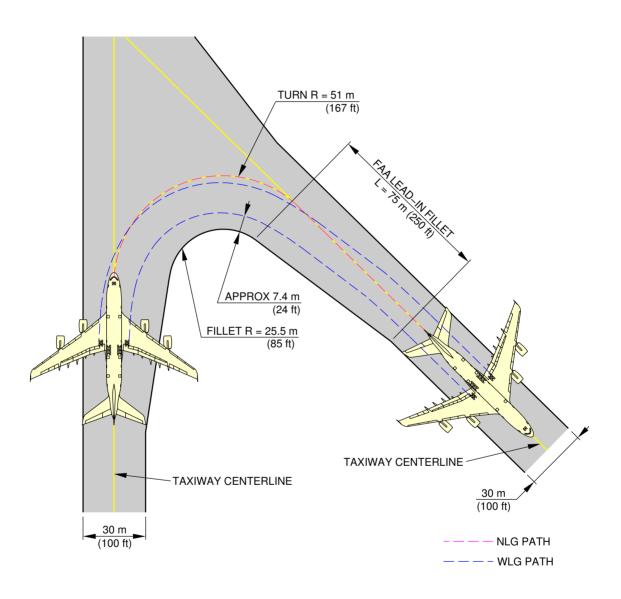
1. This section gives the 135° turn - taxiway to taxiway.



NOTE: FAA GROUP V FACILITIES.

L\_AC\_040505\_1\_0010101\_01\_01

135 ° Turn – Taxiway to Taxiway Judgemental Oversteer Method FIGURE-04-05-05-991-001-A01



NOTE: FAA GROUP VI FACILITIES.

L\_AC\_040505\_1\_0020101\_01\_01

135 ° Turn – Taxiway to Taxiway Cockpit Tracks Centerline Method FIGURE-04-05-05-991-002-A01

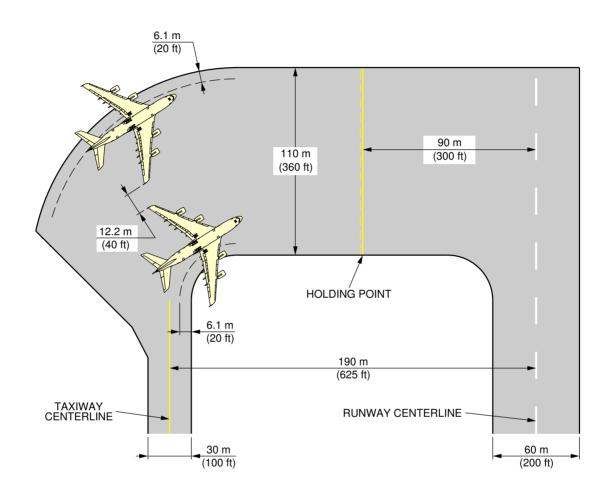


04-06-00 Runway Holding Bay (Apron)

\*\*ON A/C A380-800

Runway Holding Bay (Apron)

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



NOTE: COORDINATE WITH USING AIRLINE FOR SPECIFIC PLANNED OPERATING PROCEDURE.

L\_AC\_040600\_1\_0010101\_01\_01

Runway Holding Bay (Apron) FIGURE-04-06-00-991-001-A01

# 04-07-00 Minimum Line-Up Distance Corrections

## \*\*ON A/C A380-800

### Minimum Line-Up Distance Corrections

1. The ground manoeuvres were performed using asymmetric thrust and differential only braking to initiate the turn.

TODA: Take-Off Available Distance

ASDA: Acceleration-Stop Distance Available

2. 90° Turn on Runway Entry

This section gives the minimum line-up distance correction for a  $90^{\circ}$  turn on runway entry. This manoeuvre consists in a  $90^{\circ}$  turn at minimum turn radius starting with the edge of the WLG at a distance of 4.5 m (15 ft) from taxiway edge, and finishing with the aircraft aligned on the centerline of the runway, see FIGURE 4-7-0-991-003-A.

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

3. 180° Turn on Runway Turn Pad

This section gives the minimum line-up distance correction for a  $180^{\circ}$  turn on runway turn pad. This manoeuvre consists in a  $180^{\circ}$  turn at minimum turn radius on a standard ICAO runway turn pad geometry, .

It starts with the edge of the WLG at 4.5 m (15 ft) from pavement edge, and it finishes with the aircraft aligned on the centerline of the runway, see FIGURE 4-7-0-991-004-A.

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

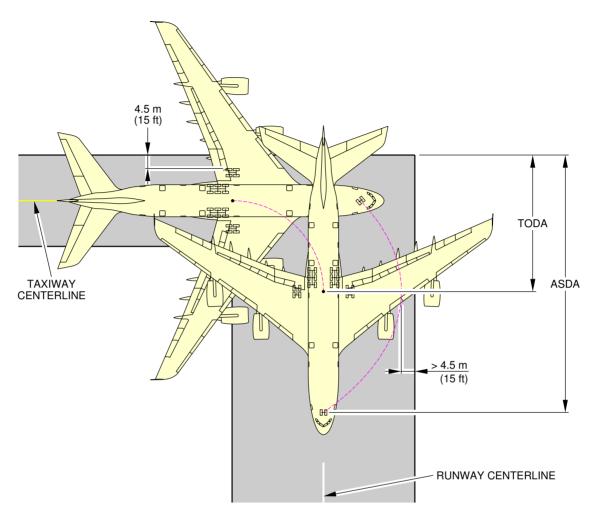
4. 180° Turn on Runway Width

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

As per the "180° turn on runway" standard operating procedures described in the Flight Crew Operating Manual, the aircraft is initially angled with respect to runway centerline when starting the 180° turn, see FIGURE 4-7-0-991-005-A.

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

# \*\*ON A/C A380-800



90° TURN ON RUNWAY ENTRY									
AIRCRAFT	MAX STEERING	45 r	m (150 ft) W (STANDAF	IDE RUNWAY D WIDTH)		60 m (200 ft) WIDE RUNWAY			
TYPE	ANGLE	DI	_	LINE-UP ORRECTION	ON	MINIMUM LINE-UP DISTANCE CORRECTIO			DN
		ON T	ODA	ON A	SDA	ON T	ODA	ON A	SDA
A380-800	70°	28.6 m	94 ft	58.5 m	192 ft	22.8 m	75 ft	52.7 m	173 ft

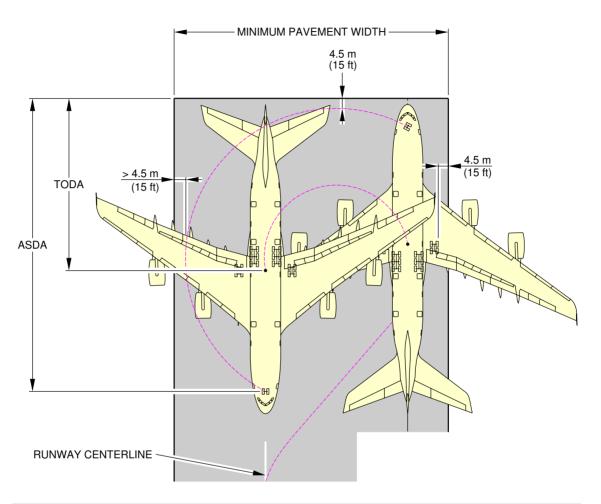
#### NOTE:

ASDA: ACCELERATION-STOP DISTANCE AVAILABLE

TODA: TAKE-OFF DISTANCE AVAILABLE

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Minimum Line-Up Distance Corrections 90° Turn on Runway Entry FIGURE-04-07-00-991-003-A01



180° TURN ON RUNWAY TURNPAD									
			(150 ft) WIDE R STANDARD WIE		60 m (200 ft) WIDE RUNWAY				
AIRCRAFT TYPE	MAX STEERING ANGLE	DIST	1 LINE-UP ANCE ECTION	MINI PAVE	JIRED MUM MENT DTH	DIST	I LINE-UP ANCE ECTION	MINI PAVE	JIRED MUM MENT DTH
		ON TODA	ON ASDA	68.1 m	68.1 m   224 ft	ON TODA	ON ASDA	64 m	209.9 ft
A380-800	70°	39.5 m 130 ft	69.3 m 227 ft	00.1 111	224 11	37.1 m 122 ft	66.9 m 219 ft	04 111	209.9 11

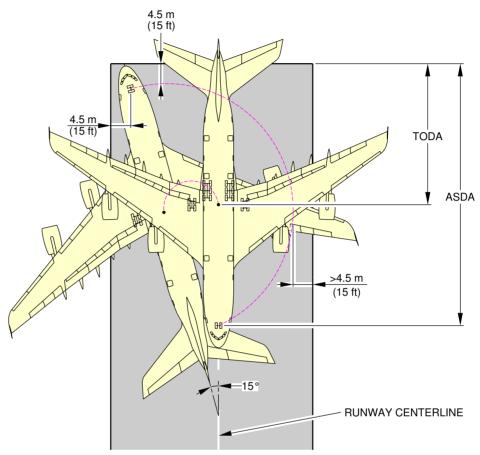
#### NOTE:

ASDA: ACCELERATION-STOP DISTANCE AVAILABLE

TODA: TAKE-OFF DISTANCE AVAILABLE

L\_AC\_040700\_1\_0040101\_01\_00

Minimum Line-Up Distance Corrections 180° Turn on Runway Turn Pad FIGURE-04-07-00-991-004-A01



180° TURN ON RUNWAY WIDTH						
AIRCRAFT	MAX STEERING	45 m (150 ft) W (STANDAF	VIDE RUNWAY RD WIDTH)	60 m (200 ft) WIDE RUNWAY		
TYPE	ANGLE		MINIMUM LINE-UP DISTANCE CORRECTION		LINE-UP ORRECTION	
	ON TODA		ON ASDA	ON TODA	ON ASDA	
A380-800	70°	NOT PC	SSIBLE	NOT PO	SSIBLE	

### NOTE:

ASDA: ACCELERATION-STOP DISTANCE AVAILABLE

TODA: TAKE-OFF DISTANCE AVAILABLE

IN THE A380 FCOM, THERE IS AN OPERATIONAL PROCEDURE THAT DESCRIBES HOW TO PERFORM A 180  $^{\circ}$ TURN ON A 60 m (200 ft) RUNWAY WIDTH, BUT THE RECOMMENDED 4.5 m (15 ft) MARGINS CANNOT BE MET. L\_AC\_040700\_1\_0050101\_01\_00

> Minimum Line-Up Distance Corrections 180° Turn on Runway Width FIGURE-04-07-00-991-005-A01

# **GA380**

## AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

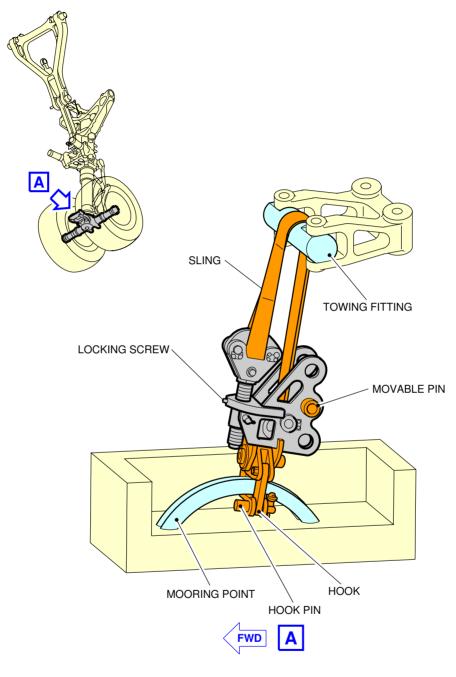
04-08-00 Aircraft Mooring

\*\*ON A/C A380-800

Aircraft Mooring

1. This section provides information on aircraft mooring.

# \*\*ON A/C A380-800



L\_AC\_040800\_1\_0010101\_01\_00

Aircraft Mooring FIGURE-04-08-00-991-001-A01

### **TERMINAL SERVICING**

### 05-00-00 TERMINAL SERVICING

## \*\*ON A/C A380-800

## Introduction

### 1. Terminal servicing

This chapter provides typical ramp layouts, corresponding minimum turn round 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 aircraft conditions.

Section 5.1 shows typical ramp layouts for passenger aircraft at the gate or on an open apron.

Section 5.2.1 shows the minimum turn round schedule for full servicing arrangements (turn round stations).

Section 5.2.2 shows the minimum turn round schedule for minimum servicing arrangements (en route stations).

Section 5.3 shows the minimum turn round schedule for full servicing arrangements for the freighter.

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.

## 05-01-00 Aircraft Servicing Arrangements

# \*\*ON A/C A380-800

# Airplane Servicing Arrangements

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

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

GROUND SUPPO	ORT EQUIPMENT
AC	AIR CONDITIONING UNIT
AS	AIR START UNIT
BULK	BULK TRAIN
CAT	CATERING TRUCK
СВ	CONVEYOR BELT
CLEAN	CLEANING TRUCK
FUEL	FUEL HYDRANT DISPENSER OR TANKER
GPU	GROUND POWER UNIT
LDCL	LOWER DECK CARGO LOADER
LV	LAVATORY VEHICLE
PBB	PASSENGER BOARDING BRIDGE
PS	PASSENGER STAIRS
TOW	TOW TRACTOR
UDCAT	UPPER DECK CATERING TRUCK
ULD	ULD TRAIN
WV	POTABLE WATER VEHICLE



05-01-01 Typical Ramp Layout (Open Apron)

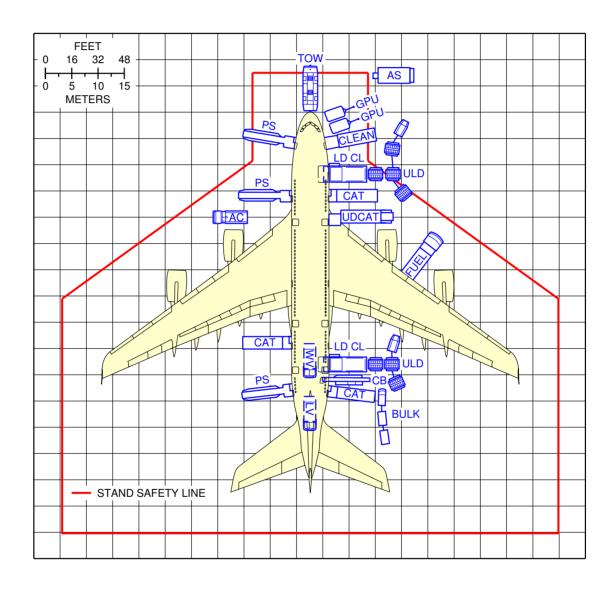
\*\*ON A/C A380-800

Typical Ramp Layout (Open Apron)

1. This section gives the typical ramp layout (Open Apron).

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

# \*\*ON A/C A380-800



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Typical Ramp Layout Open Apron FIGURE-05-01-01-991-001-A01



05-01-02 Typical Ramp Layout (Gate)

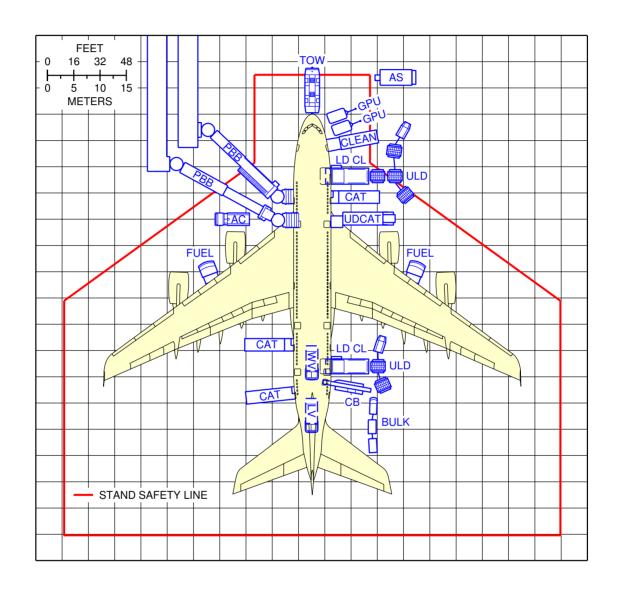
\*\*ON A/C A380-800

# Typical Ramp Layout (Gate)

1. This section gives the baseline ramp layout (Gate).

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

# \*\*ON A/C A380-800



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Typical Ramp Layout Gate FIGURE-05-01-02-991-001-A01

#### 05-02-01 Typical Turn-Round Time - Standard Servicing Via Main Deck and Upper Deck

#### \*\*ON A/C A380-800

#### Typical Turn-Round Time - Standard Servicing Via Main Deck and Upper Deck

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

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

2. Assumptions used for standard servicing via main and upper deck during typical turn-round time

#### A. PASSENGER HANDLING

555 pax (22 F/C + 96 B/C + / 437 YC)

All passengers deboard and board the aircraft

2 Passenger Boarding Bridges (PBB) used at doors M2L and U1L

Equipment positioning/removal main deck + opening/closing door = +3 min.

Equipment positioning/removal upper deck + opening/closing door = +4 min.

No Passenger with Reduced Mobility (PRM) on board

#### Deboarding:

- 356 pax at door M2L (22 F/C + 334 Y/C)
- 199 pax at door U1L (96 B/C + 103 Y/C)
- Deboarding rate = 25 pax/min per door
- Priority deboarding for premium passengers

#### Boarding:

- 356 pax at door M2L (22 F/C + 334 Y/C)
- 199 pax at door U1L (96 B/C + 103 Y/C)
- Boarding rate = 15 pax/min per door
- Last Pax Seating allowance (LPS) + headcounting = +4 min.

#### B. CARGO

2 cargo loaders + 1 belt loader

Equipment positioning/removal + opening/closing door = +2.5 min.

#### 100% cargo exchange:

- FWD cargo compartment: 20 containers
- AFT cargo compartment: 16 containers
- Bulk cargo compartment: 1 000 kg (2 205 lb)

#### Container unloading/loading times:

- Unloading = 1.2 min/container
- Loading = 1.4 min/container

Bulk unloading/loading times:

- Unloading = 110 kg/min (243 lb/min)
- Loading = 95 kg/min (209 lb/min)
- C. REFUELLING

242 700 l (64 115 US gal) at 40 psig Dispenser positioning/removal = +8 min.

D. CLEANING

Cleaning is performed in available time

E. CATERING

3 main deck catering trucks + 1 upper deck catering truck Main deck equipment positioning + door opening = +5 min. Main deck closing door + equipment removal = 3 min. Upper deck equipment positioning + door opening = +9 min. Upper deck closing door + equipment removal = 4 min.

Full Size Trolley Equivalent (FSTE) to unload and load: 78 FSTE

- 28 FSTE at door M2R
- 16 FSTE at door M4R
- 23 FSTE at door U1R
- 11 FSTE at door M5L

Time for trolley exchange = 1.5 min per FSTE Time for trolley exchange via lift = 2 min per FSTE

F. GROUND HANDLING/SERVICING

Start of operations:

- Bridges/stairs: t0 = 0
- Other equipment: t = t0 + 1 min.

Ground Power Unit (GPU): up to 4 x 90 kVA

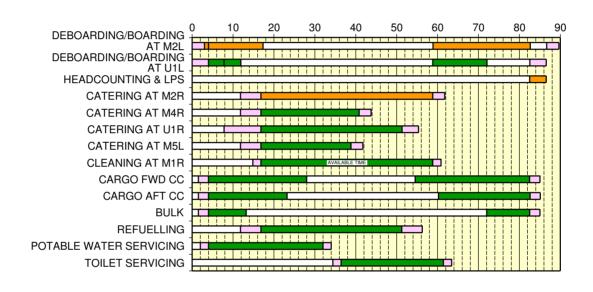
Air conditioning: up to 4 hoses

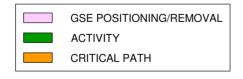
Potable water servicing: 100% uplift, 1 700 I (449 US gal) at 60 I/min (15.85 US gal/min)

Toilet servicing: draining + rinsing

# \*\*ON A/C A380-800

TRT: 90 min





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Typical Turn-Round Time Servicing Via Main and Upper Deck FIGURE-05-02-01-991-002-A01

#### 05-02-02 Typical Turn-Round Time - Servicing Via Main Deck

#### \*\*ON A/C A380-800

#### Typical Turn-Round Time - Servicing Via Main Deck

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

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

2. Assumptions used for standard servicing via main deck only during typical turn-round time

#### A. PASSENGER HANDLING

555 pax (22 F/C + 96 B/C + 437 Y/C)

All passengers deboard and board the aircraft

2 Passenger Boarding Bridges (PBB) used at doors M1L and M2L

Equipment positioning/removal main deck + opening/closing door = +3 min.

No Passenger with Reduced Mobility (PRM) on board

#### Deboarding:

- 221 pax at door M1L (22 F/C + 96 B/C + 103 Y/C)
- 334 pax at door M2L (334 Y/C)
- Deboarding rate = 25 pax/min per door
- Priority deboarding for premium passengers

#### Boarding:

- 221 pax at door M1L (22 F/C + 96 B/C + 103 Y/C)
- 334 pax at door M2L (334 Y/C)
- Boarding rate = 15 pax/min per door
- Last Pax Seating allowance (LPS) + headcounting = +4 min.

#### B. CARGO

2 cargo loaders + 1 belt loader

Equipment positioning/removal + opening/closing door = +2.5 min.

#### 100% cargo exchange:

- FWD cargo compartment: 20 containers
- AFT cargo compartment: 16 containers
- Bulk compartment: 1 000 kg (2 205 lb)

#### Container unloading/loading times:

- Unloading = 1.2 min/container
- Loading = 1.4 min/container

#### Bulk unloading/loading times:

- Unloading = 110 kg/min (243 lb/min)
- Loading = 95 kg/min (209 lb/min)
- C. REFUELLING

242 700 l (64 115 US gal) at 40 psig Dispenser positioning/removal = +8 min.

D. CLEANING

Cleaning is performed in available time

E. CATERING

3 main deck catering trucks

Main deck equipment positioning + door opening = +5 min.

Main deck closing door + equipment removal = 3 min.

Full Size Trolley Equivalent (FSTE) to unload and load: 78 FSTE

- 28 FSTE at door M2R
- 16 FSTE at door M4R
- 23 FSTE at door U1R
- 11 FSTE at door M5L

Time for trolley exchange = 1.5 min per FSTE

Time for trolley exchange via lift = 2 min per FSTE

#### F. GROUND HANDLING/SERVICING

Start of operations:

- Bridges/stairs: t0 = 0
- Other equipment: t = t0 + 1 min.

Ground Power Unit (GPU): up to 4 x 90 kVA

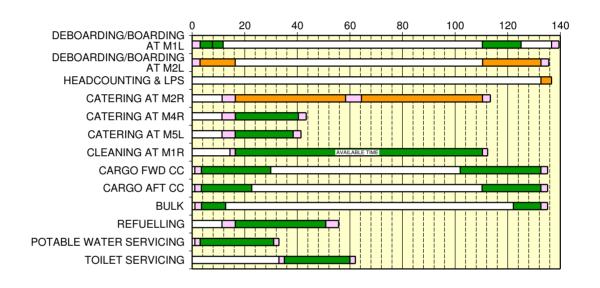
Air conditioning: up to 4 hoses

Potable water servicing: 100% uplift, 1 700 I (449 US gal) at 60 I/min (15.85 US gal/min)

Toilet servicing: draining + rinsing

# \*\*ON A/C A380-800

**TRT: 140 min** 



GSE POSITIONING/REMOVAL
ACTIVITY
CRITICAL PATH

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Typical Turn-Round Time Servicing Via Main Deck FIGURE-05-02-02-991-001-A01



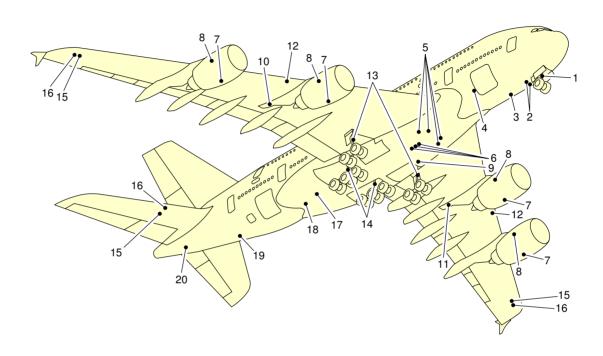
05-04-01 Ground Service Connections Layout

\*\*ON A/C A380-800

# **Ground Service Connections Layout**

1. This section gives the ground service connections layout.

#### \*\*ON A/C A380-800



- 1 GROUNDING POINT NLG
- 2 GROUND ELECTRICAL POWER CONNECTORS
- 3 POTABLE WATER DRAIN PANEL
- 4 OXYGEN SYSTEM
- 5 LOW PRESSURE PRECONDITIONED AIR
- 6 HIGH PRESSURE AIR ENGINE START
- 7 VFG AND STARTER OIL FILLING
- 8 ENGINE OIL FILLING\*
- 9 HYDRAULIC RESERVOIR SERVICING PANEL
- 10 YELLOW HYDRAULIC GROUND CONNECTOR
- 11 GREEN HYDRAULIC GROUND CONNECTOR
- 12 PRESSURE REFUEL CONNECTORS
- 13 GROUNDING POINT WLG
- 14 GROUNDING POINT BLG
- 15 NACA FLAME ARRESTOR
- 16 OVERPRESSURE PROTECTOR
- 17 REFUEL/DEFUEL CONTROL PANEL
- 18 POTABLE WATER SERVICE PANEL 19 – TOILET AND WASTE SERVICE PANEL
- 20 APU OIL FILLING

#### NOTE:

\* THE ENGINE OIL SERVICING POINTS (8) ARE SHOWN FOR THE RR TRENT 900 ENGINE. FOR THE GP 7200 ENGINE, THE ENGINE OIL SERVICING POINTS (8) ARE LOCATED SYMMETRICALLY ON THE LH SIDE OF EACH ENGINE.

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Ground Service Connections Layout FIGURE-05-04-01-991-001-A01

#### 05-04-02 Grounding Points

\*\*ON A/C A380-800

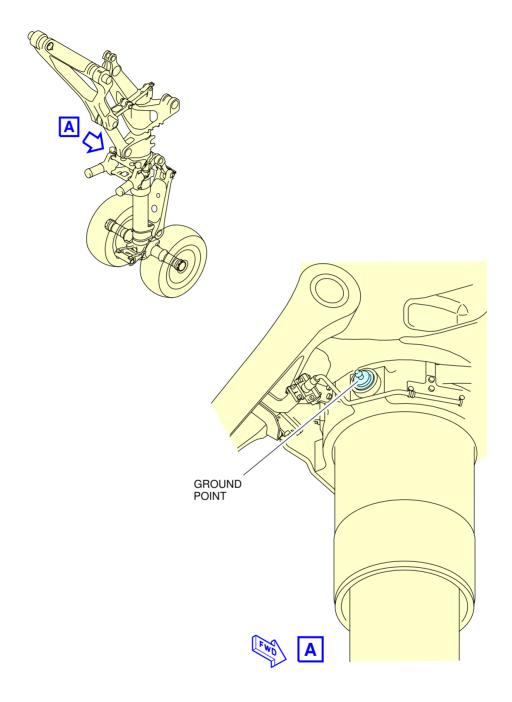
#### **Grounding Points**

1. Grounding Points

	DISTANCE: Meters (ft)		
	AFT OF NOSE	FROM AIRPLANE CENTERLINE	MEAN HEIGHT FROM GROUND
On Nose Landing Gear	5.713 (18.7)	0.182 (0.6) On the RH side	1.385 (4.5)
On left Wing Gear leg	34.207 (112.2)	5.949 (19.5)	1.237 (4.0)
On right Wing Gear leg	34.207 (112.2)	5.949 (19.5)	1.237 (4.0)
On left Body Gear leg (Outboard)	37.158 (121.9)	2.852 (9.4)	1.379 (4.5)
On left Body Gear leg (Inboard)	37.158 (121.9)	2.412 (7.9)	1.379 (4.5)
On right Body Gear leg (Outboard)	37.158 (121.9)	2.852 (9.4)	1.379 (4.5)
On right Body Gear leg (Inboard)	37.158 (121.9)	2.412 (7.9)	1.379 (4.5)

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

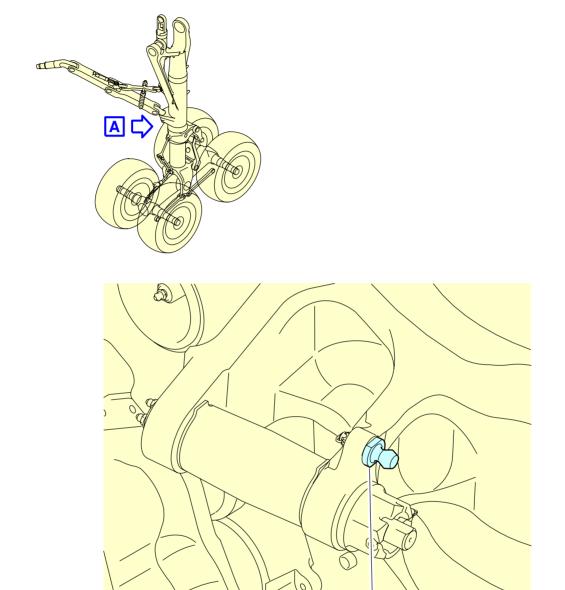
# \*\*ON A/C A380-800



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Ground Points NLG FIGURE-05-04-02-991-001-A01

# \*\*ON A/C A380-800

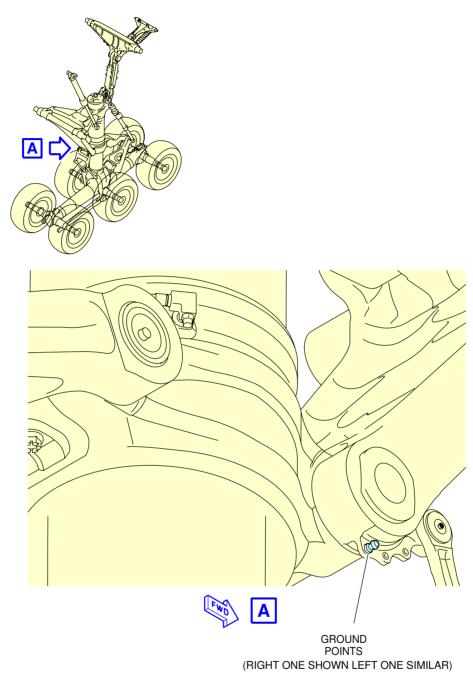


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GROUND POINT

Ground Point WLG FIGURE-05-04-02-991-002-A01

# \*\*ON A/C A380-800



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Ground Points BLG FIGURE-05-04-02-991-003-A01

05-04-03 Hydraulic System

\*\*ON A/C A380-800

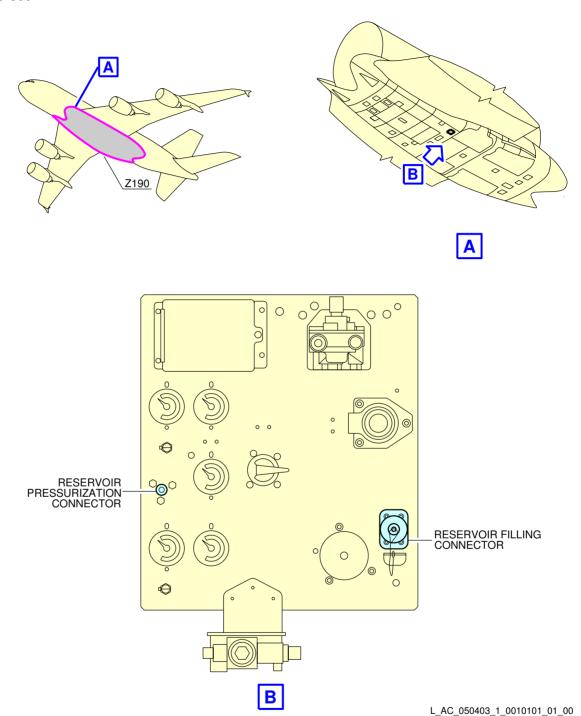
Hydraulic System

1. Door Location

	DISTANCE: Meters (ft)				
	AFT OF NOSE	FROM AIRCRAFT CENTERLINE		MEAN HEIGHT	
	NOSE	RH SIDE	LH SIDE	FROM GROUND	
<ul><li>Green Hydraulic Ground Connectors:</li><li>(Access door 469FL)</li></ul>	34.67 (113.75)		14.90 (48.88)	5.08 (16.67)	
<ul><li>Yellow Hydraulic Ground Connectors: (Access door 479FL)</li></ul>	34.67 (113.75)	14.90 (48.88)		5.08 (16.67)	
– Hydraulic Reservoir Servicing Panel: (Access door 197CB)	31.89 (104.63)		2.34 (7.68)	1.71 (5.61)	

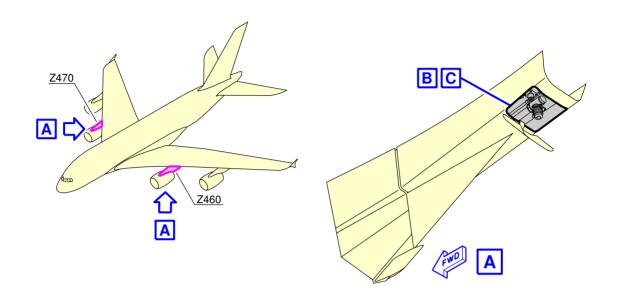
- A. Reservoir Pressurization
  - (1) One connector ISO 4570.
- B. Reservoir Filling
  - (1) One connector AE96993E, 1/4 in.

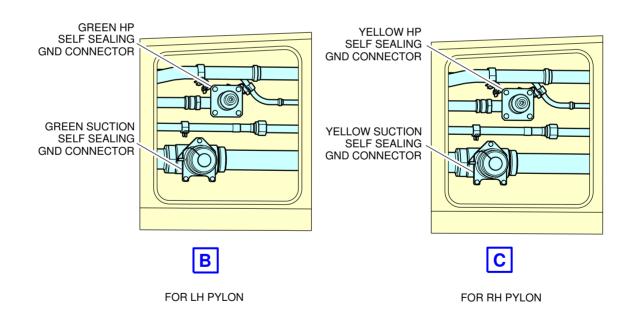
# \*\*ON A/C A380-800



Ground Service Connections Hydraulic Reservoir Servicing Panel FIGURE-05-04-03-991-001-A01

# \*\*ON A/C A380-800





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Ground Service Connections Hydraulic Ground Connections FIGURE-05-04-03-991-002-A01

#### 05-04-04 Electrical System

\*\*ON A/C A380-800

#### **Electrical System**

#### 1. AC External Power

	DISTANCE					
ACCESS		FROM AIRCRAF	MEAN HEIGHT			
ACCE33	AFT OF NOSE	RH SIDE	LH SIDE	FROM GROUND		
Right Side Access Door: 134AR	5.99 m (19.65 ft)	0.45 m (1.48 ft)	-	2.59 m (8.5 ft)		
Left Side Access Door: 133AL	5.99 m (19.65 ft)	-	0.45 m (1.48 ft)	2.59 m (8.5 ft)		

A. External Power Receptacles:

(1) Four standard ISO 461 Style 3 - 90 kVA each.

B. Power Supply:

(1) Three-phase, 115V, 400 Hz.

C. Electrical Connectors:

(1) AC outlets: HUBBELL 5258

(2) DC outlets: HUBBELL 7472.

D. Electrical Loads on Ground:

For detailed information, refer to SIL 24-076.

<u>NOTE</u>: "Default Loads" are the basic loads that are supplied when the electrical power system is activated (avionics fan, etc.).

<u>NOTE</u>: This paragraph gives examples based on typical configuration. The values may vary depending on aircraft configuration.

(1) Ground Service Network:

When only the Ground Service Network is activated, only the electrical loads for cargo loading, cleaning, servicing and main cabin lighting are available.

One 90 kVA GPU is necessary.

(2) Cabin Preparation:

Default loads: 53 kVA

Cabin fans: 35 kVA

- Galley (1% used): 2 kVA

- Lights: 23.5 kVA

Vacuum cleaners: 12.5 kVA

Cargo door opening (EMP): 10 kVA

Total loads: 136 kVA

Two 90 kVA GPU are necessary.

#### (3) Standard Turn-Around:

Default loads: 53 kVA

Cabin fans: 35 kVA

- Supplemental Cooling System: 40 kVA

Galley (10% used): 10.5 kVA

- Fuel ground automatic transfer: 20 kVA

- Lights: 23.5 kVA

IFE (20% used): 8 kVA

- Vacuum cleaners: 12.5 kVA

- Cargo loading: 10 kVA

Cargo door opening (EMP): 10 kVA

Total loads: 222.5 kVA

Four 90 kVA GPU are necessary.

#### (4) Hangar Maintenance:

The most consuming configuration is a full check of the flight controls with the four Electrical Motor Pumps (EMP) switched ON.

Default loads: 53 kVA

Cabin fans: 35 kVA

- Lights: 23.5 kVA

- EHA/EBHA: 24 kVA

- EMP (x4): 92 kVA

Total loads: 227.5 kVA

Four 90 kVA GPU are necessary.

#### 2. AC Emergency Generation

ı		DISTANCE				
	ACCESS		FROM AIRCRAFT CENTERLINE		MEAN HEIGHT	
	ACCE33	AFT OF NOSE	RH SIDE	LH SIDE	FROM GROUND	
	RAT Safety-Pin Installation Access Panel: 531DL	31 m (101.71 ft)	-	9.5 m (31.17 ft)	3.2 m (10.5 ft)	

The AC Emergency Generation System supplies 115VAC electrical power to the emergency bus bar if an electrical emergency occurs. There is an electrical emergency when:

- A Loss of Main Electrical System (LMES) signal occurs
- A Total Engine Flame-Out (TEFO) signal occurs.

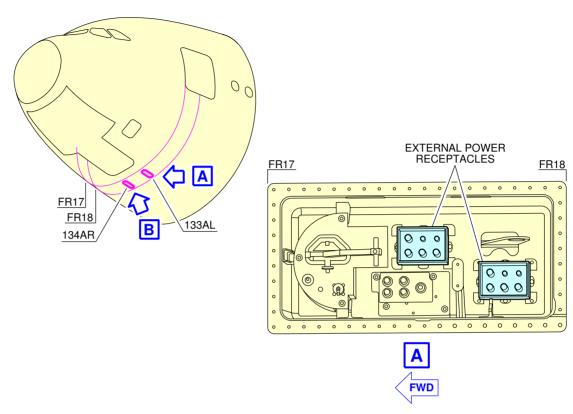


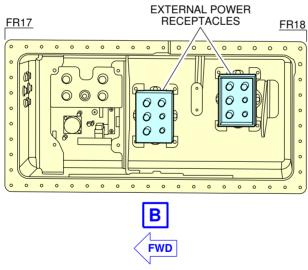
When the system operates, a Ram Air Turbine (RAT-ELEC) module extends from the flap-track 2 fairing of the left wing into the airflow. The turbine supplies power to a generator through mechanical transmission. The system includes an Emergency Generator Control-Unit (GCU-ELEC RAT) that controls and monitors generator operation. The system can operate automatically or manually.

A safety pin is used to prevent unwanted extension of the RAT during servicing or maintenance tasks.

The pin is engaged in the RAT uplock assembly through the RAT fairing hand hole when the RAT is retracted.

# \*\*ON A/C A380-800



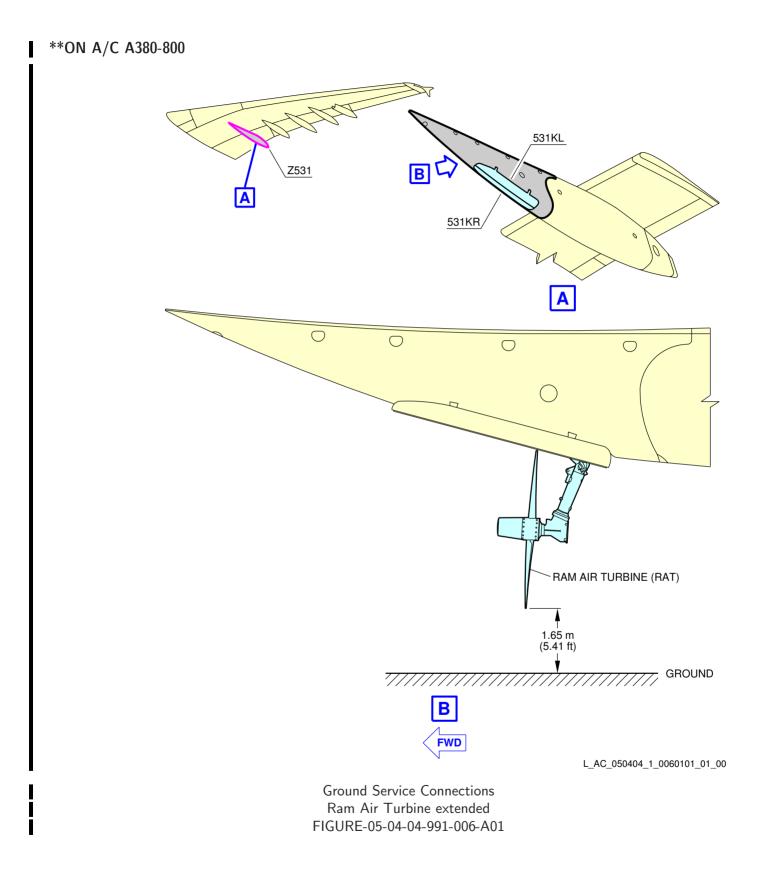


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Ground Service Connections Electrical Service Panel FIGURE-05-04-04-991-001-A01

# \*\*ON A/C A380-800 531DL REMOVE BEFORE FLIGHT RAT UPLOCK SAFETY-PIN RAM AIR TURBINE (RAT) ALWAYS KEEP THE WARNING FLAG OUT OF THE RAT FAIRING HAND HOLE. L\_AC\_050404\_1\_0050101\_01\_00

Ground Service Connections Ram Air Turbine retracted FIGURE-05-04-04-991-005-A01



05-04-05 Oxygen System

\*\*ON A/C A380-800

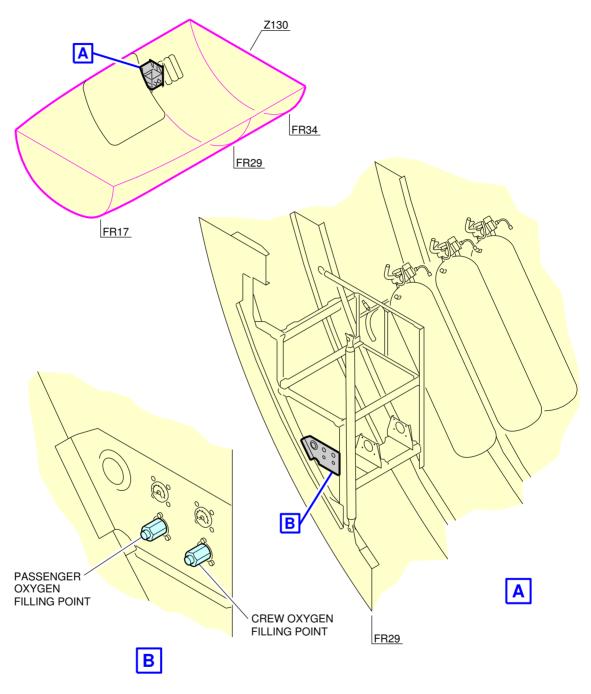
Oxygen System

1. Oxygen System

	DISTANCE			
ACCECC		FROM AIRCRAFT CENTERLINE		MEAN
ACCESS	AFT OF NOSE	CENTE	KLINE	HEIGHT
		RH SIDE	LH SIDE	FROM GROUND
Access Panels: 132AJW	13.32 m	2.23 m		3.25 m
132EJW	(43.70 ft)	(7.32 ft)	_	(10.66 ft)

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

# \*\*ON A/C A380-800



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Ground Service Connections Oxygen System FIGURE-05-04-05-991-002-A01

05-04-06 Fuel System

\*\*ON A/C A380-800

# Fuel System

1. Refuel/Defuel Control Panel

		DISTANCE				
	AFT OF NOSE	FROM AIRCRAF	FROM AIRCRAFT CENTERLINE			
	AFT OF NOSE	RH SIDE LH SIDE		FROM GROUND		
Refuel/Defuel Control Panel: (Access Door 199KB)	48 m (157.48 ft)	0.68 m (2.23 ft)	-	1.98 m (6.50 ft)		

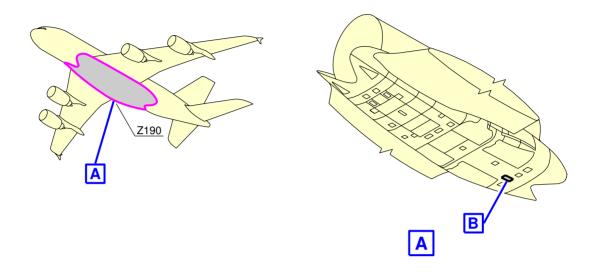
# 2. Refuel/Defuel Connectors

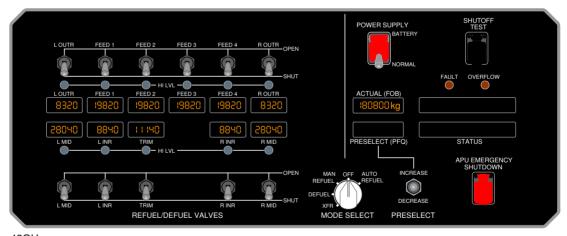
	DISTANCE				
	AFT OF NOSE	FROM AIRCRAF	FROM AIRCRAFT CENTERLINE		
	ALL OLINOSE	RH SIDE	LH SIDE	FROM GROUND	
Refuel/Defuel Coupling, Left: (Access Door 522 GB)	31.89 m (104.63 ft)	-	17.97 m (58.96 ft)	5.94 m (19.49 ft)	
Refuel/Defuel Coupling, Right: (Access Door 622 GB)	· · · · · · · · · · · · · · · · · · ·		-	5.94 m (19.49 ft)	

- A. Refuel/Defuel couplings:
  - (1) Four standard 2.5 in. ISO 45 connections.
- B. Refuel pressure:
  - (1) Maximum pressure: 50 psi (3.45 bar).
- 3. Overpressure Protector and NACA Flame Arrestor

		DISTANCE				
	AFT OF NOSE	FROM AIRCRAF	FROM AIRCRAFT CENTERLINE			
	AFT OF NOSE	RH SIDE	FROM GROUND			
Overpressure Protector	46.65 m	36.75 m	36.75 m	7.51 m		
	(153.05 ft)	(120.57 ft) (120.57 ft)		(24.64 ft)		
NACA Flame Arrestor	46.33 m (152.00 ft)	35.98 m 35.98 m (118.04 ft) (118.04 ft)		7.44 m (24.41 ft)		

# \*\*ON A/C A380-800





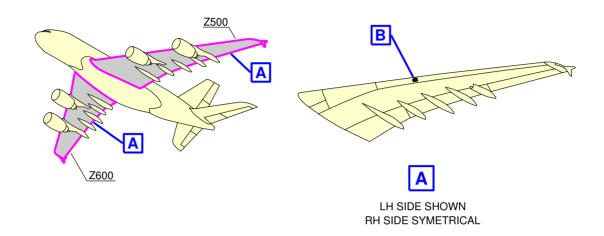
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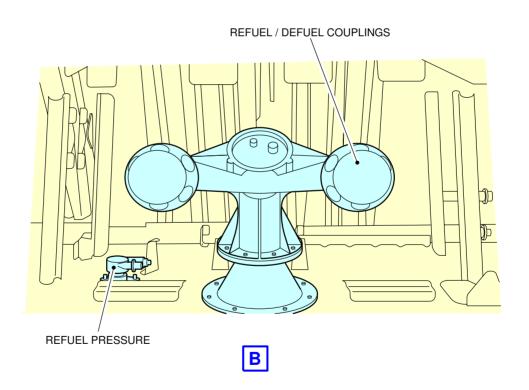


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Ground Service Connections Refuel/Defuel Control Panel FIGURE-05-04-06-991-001-A01

# \*\*ON A/C A380-800

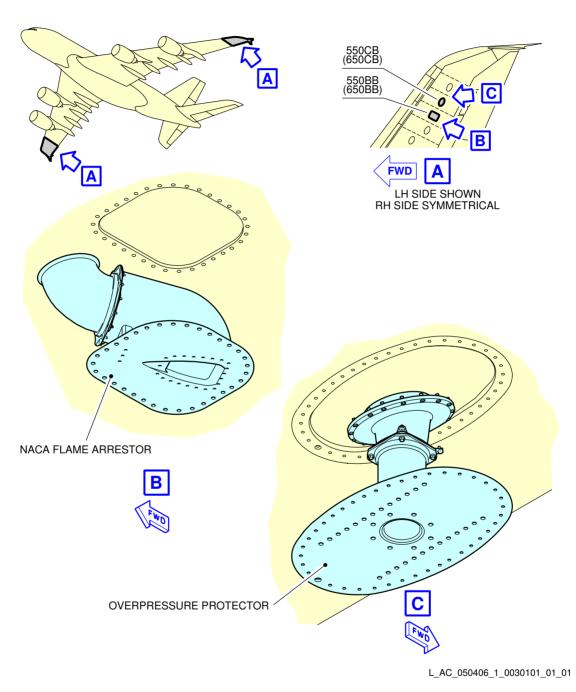




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Ground Service Connections Pressure Refuel Connections FIGURE-05-04-06-991-002-A01

# \*\*ON A/C A380-800



Ground Service Connections
Overpressure Protector and NACA Flame Arrestor
FIGURE-05-04-06-991-003-A01

# 05-04-07 Pneumatic System

\*\*ON A/C A380-800

# Pneumatic System

1. Low Pressure Connectors

	DISTANCE : Meters (ft)				
		FROM AIRPLANE (	ENTERLINE		
	AFT OF NOSE	R SIDE	MEAN HEIGHT FROM GROUND		
access doors 191GB	21.85 (71.69)		1.24 (4.07)	2.08 (6.82)	
access doors 191JB	22.36 (73.36)		1.76 (5.77)	2.08 (6.82)	
access doors 191HB	21.85 (71.69)	1.24 (4.07)		2.08 (6.82)	
access doors 191KB	22.36 (73.36)	1.76 (5.77)		2.08 (6.82)	

#### A. Connectors:

(1) Four ISO 1034, 8 in.

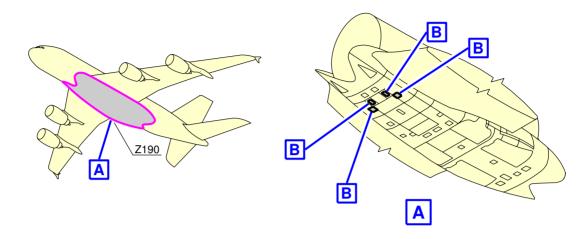
# 2. High Pressure Connectors

	DISTANCE : Meters (ft)				
		FROM AIRPLANE (			
	AFT OF NOSE	R SIDE	L SIDE	MEAN HEIGHT	
				FROM GROUND	
access doors 193BB	25.37 (83.23)		0.2 (0.66)	1.78 (5.84)	

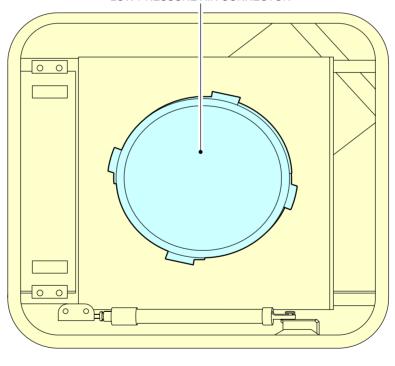
#### A. Connectors:

(1) Three ISO 2026, 3 in.

# \*\*ON A/C A380-800



#### LOW PRESSURE AIR CONNECTOR



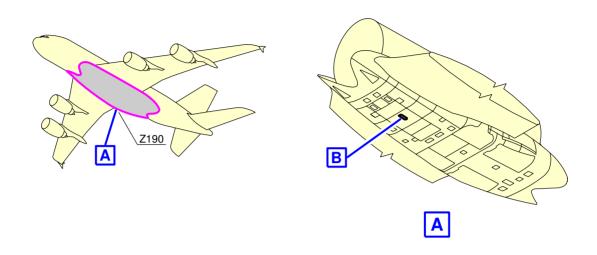


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Ground Service Connections Low Pressure Preconditioned Air FIGURE-05-04-07-991-001-A01



# \*\*ON A/C A380-800



# HIGH PRESSURE AIR CONNECTORS



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Ground Service Connections
High Pressure Preconditioned Air
FIGURE-05-04-07-991-002-A01

#### 05-04-08 Potable Water System

\*\*ON A/C A380-800

#### Potable Water System

1. Potable Water System

This section gives data related to the location of the ground service connections.

		DISTANCE: N	Neters (ft)	
		FROM AI	RCRAFT	MEAN
	AFT OF NOSE	CENTERLINE		HEIGHT
	ALL OF NOSE	LH Side F		FROM
				GROUND
Potable water ground service panel:	43.67		0.37	2.13
access door 199NB	(143.27)		(1.21)	(6.99)
Potable water drain panel:	9.83		0.3	2.74
access door 133BL	(32.25)		(0.98)	(8.99)

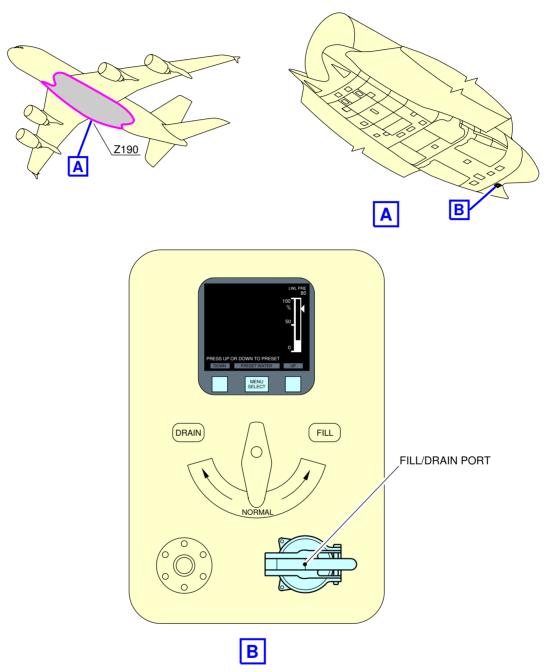
<u>NOTE</u>: Distances are approximate.

A. Connections

Fill and drain port - ISO 17775, 3/4 in.

- B. Capacity:
  - (1) Total Capacity
    - Standard configuration (six tanks): 1700 I (449 US gal).
    - Optional configuration (seven tanks): 1998 I (528 US gal).
    - Optional configuration (eight tanks): 2267 I (599 US gal).
- C. Filling pressure:
  - (1) Max Filling Pressure: 8.6 bar (125 psi).

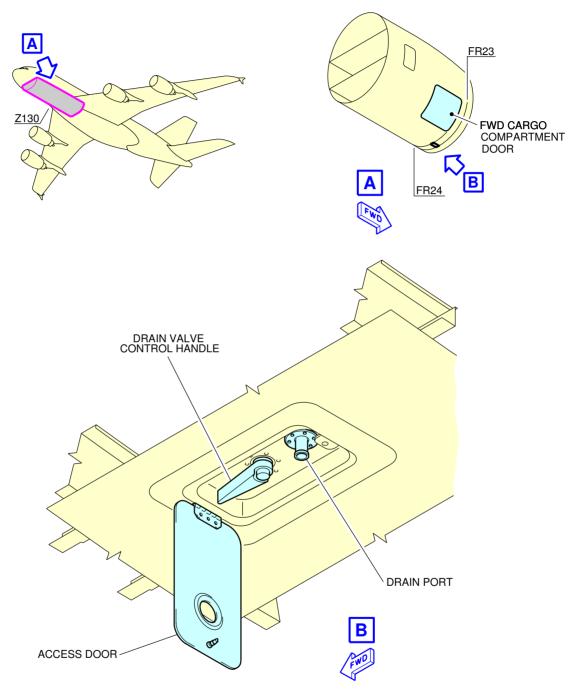
# \*\*ON A/C A380-800



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Ground Service Connections
Potable Water Ground Service Panel
FIGURE-05-04-08-991-001-A01

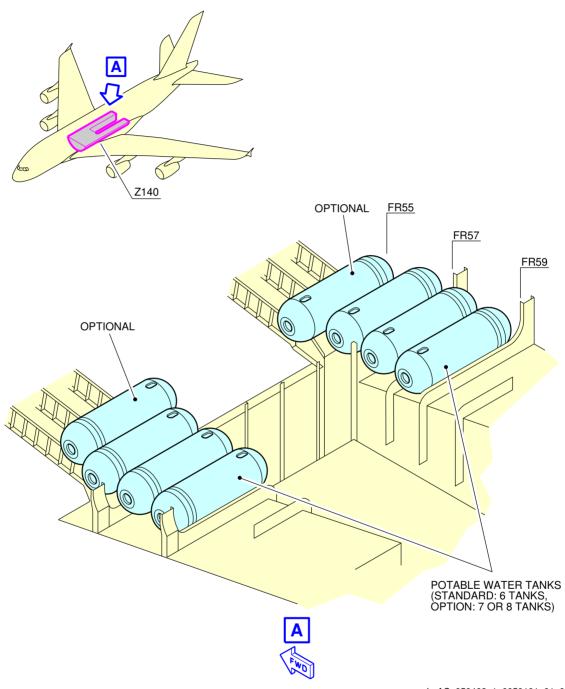
# \*\*ON A/C A380-800



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Ground Service Connections Potable Water Drain Panel FIGURE-05-04-08-991-004-A01

# \*\*ON A/C A380-800



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Ground Service Connections Potable Water Tanks Location FIGURE-05-04-08-991-005-A01

05-04-09 Oil System

\*\*ON A/C A380-800

# **Engine Oil Servicing**

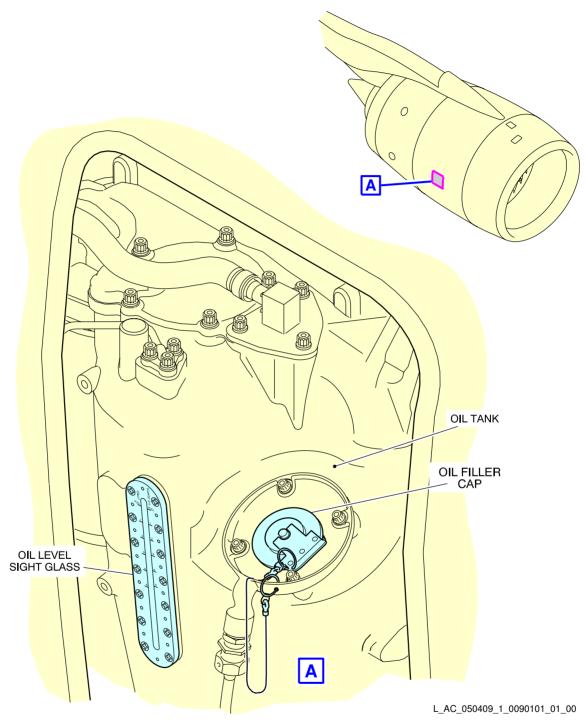
# 1. Engine Oil Servicing (TRENT900 Engines)

	DISTANCE : Meters (ft)					
	AFT OF NOSE	FROM AIRPLANE CENTERLINE		MEAN HEIGHT		
		R SIDE	L SIDE	FROM GROUND		
– Engine 1 (access door 416BR)	32.65 (107.12)		23.58 (77.36)	4.24 (13.91)		
– Engine 2 (access door 426BR)	24.98 (81.96)		12.74 (41.79)	3.08 (10.10)		
– Engine 3 (access door 436BR)	24.98 (81.96)	16.61 (54.49)		3.08 (10.10)		
– Engine 4 (access door 446BR)	32.65 (107.12)	27.45 (90.05)		4.24 (13.91)		

# 2. Engine Oil Servicing (GP7200 Engines)

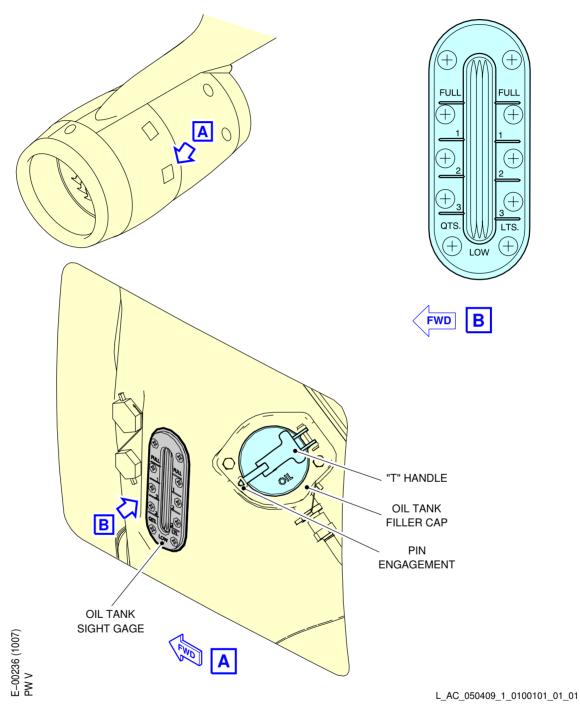
	DISTANCE : Meters (ft)					
	AFT OF NOSE	FROM AIRPLANE		MEAN		
		CENTERLINE		HEIGHT		
		R SIDE	L SIDE	FROM		
				GROUND		
– Engine 1 (access door 415CL)	33.03 (108.37)		27.42 (89.96)	4.4 (14.44)		
– Engine 2 (access door 425CL)	25.35 (83.17)		16.62 (54.53)	3.13 (10.27)		
– Engine 3 (access door 435CL)	25.35 (83.17)	12.78 (41.93)		3.13 (10.27)		
– Engine 4 (access door 445CL)	33.03 (108.37)	23.62 (77.49)		4.4 (14.44)		

# \*\*ON A/C A380-800



Ground Service Connections
Engine Oil Servicing - TRENT 900 Engines
FIGURE-05-04-09-991-009-A01

## \*\*ON A/C A380-800



Ground Service Connections
Engine Oil Servicing - GP 7200 Engines
FIGURE-05-04-09-991-010-A01

# \*\*ON A/C A380-800

# VFG Oil Servicing

## 1. VFG oil servicing (TRENT900 Engines)

		DISTANCE : Meters (ft)					
	AFT OF NOSE	FROM AIF CENTER	MEAN HEIGHT				
	AFT OF NOSE	R SIDE	L SIDE	FROM GROUND			
– Engine 1 (access door 415CL)	33.17 (108.83)		26.14 (85.76)	2.56 (8.39)			
– Engine 2 (access door 425CL)	25.57 (83.89)		15.31 (50.22)	1.33 (4.36)			
– Engine 3 (access door 435CL)	25.57 (83.89)	13.93 (45.70)		1.33 (4.36)			
– Engine 4 (access door 445CL)	33.17 (108.83)	24.90 (81.69)		2.56 (8.39)			

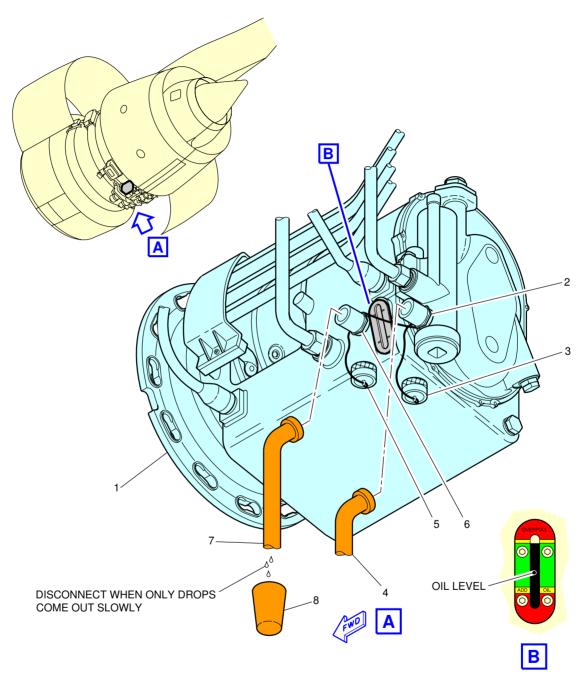
# 2. VFG oil servicing (GP7200 Engines)

	DISTANCE : Meters (ft)						
	AFT OF NOCE		IRPLANE ERLINE	MEAN HEIGHT			
	AFT OF NOSE	R SIDE	L SIDE	FROM GROUND			
- Engine 1	34.49 (113.16)		25.43 (83.43)	2.63 (8.63)			
- Engine 2	26.81 (87.96)		14.63 (48.00)	1.36 (4.46)			
- Engine 3	26.81 (87.96)	14.63 (48.00)		1.36 (4.46)			
- Engine 4	34.49 (113.16)	25.43 (83.43)		2.63 (8.63)			

For VFG (GP7200 Engines), open:

- Fan Exhaust Cowl (engine 1 4)
- Thrust Reverser Cowl (engine 2 -3)

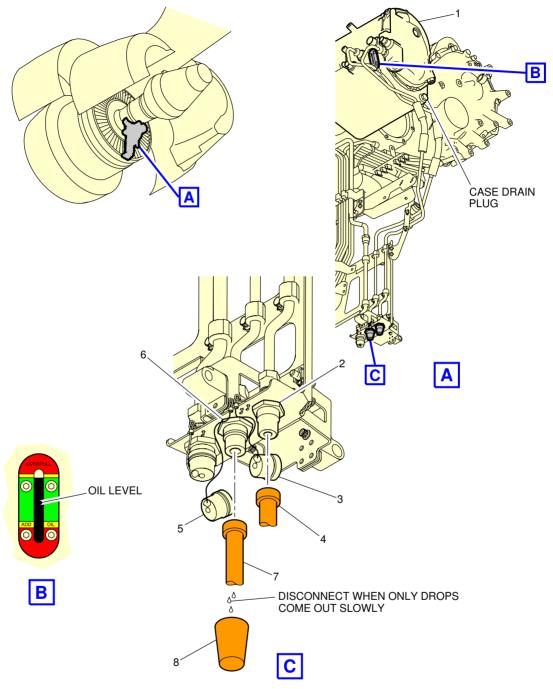
## \*\*ON A/C A380-800



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Ground Service Connections
VFG Oil Servicing - TRENT 900 Engines
FIGURE-05-04-09-991-011-A01

## \*\*ON A/C A380-800



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Ground Service Connections
VFG Oil Servicing - GP 7200 Engines
FIGURE-05-04-09-991-012-A01

# \*\*ON A/C A380-800

# Starter Oil Servicing

# 1. Starter Oil Servicing (TRENT900 Engines)

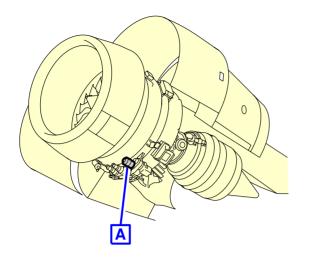
	DISTANCE : Meters (ft)					
	AFT OF NOSE	FROM AIF CENTER	MEAN HEIGHT			
	AFT OF NOSE	R SIDE	L SIDE	FROM GROUND		
- Engine 1	39.78 (130.51)		25.78 (84.57)	2.59 (8.49)		
- Engine 2	32.15 (105.49)		14.94 (49.01)	1.39 (4.56)		
- Engine 3	32.15 (105.49)	14.42 (47.30)		1.39 (4.56)		
- Engine 4	39.78 (130.51)	25.25 (82.84)		2.59 (8.49)		

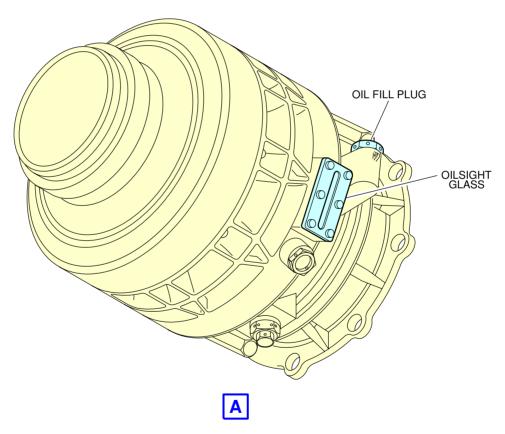
## 2. Starter Oil Servicing (GP7200 Engines)

	DISTANCE : Meters (ft)						
	4 F.T. 0 F. N. 0 G.	FROM A CENT	MEAN HEIGHT				
	AFT OF NOSE	R SIDE	L SIDE	FROM GROUND			
- Engine 1	40.42 (132.61)		27.34 (89.70)	3.35 (10.99)			
- Engine 2	32.74 (107.41)		16.55 (54.30)	2.47 (8.10)			
- Engine 3	32.74 (107.41)	12.71 (41.70)		2.47 (8.10)			
– Engine 4	40.42 (132.61)	23.53 (77.20)		3.35 (10.99)			

For access to Starter Oil Servicing, open Fan Cowl

# \*\*ON A/C A380-800

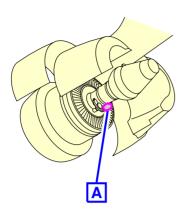


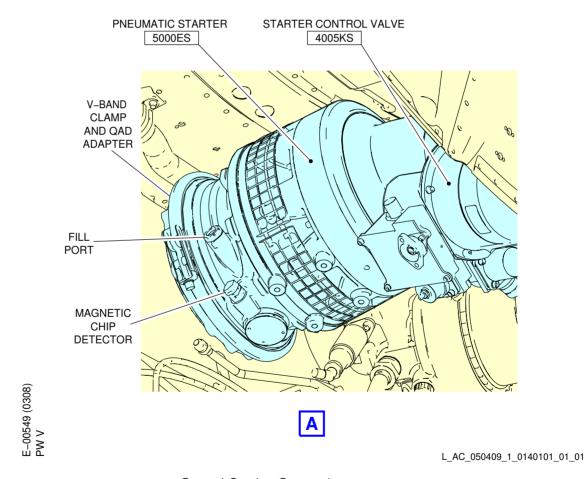


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Ground Service Connections
Starter Oil Servicing - TRENT 900 Engines
FIGURE-05-04-09-991-013-A01

## \*\*ON A/C A380-800





Ground Service Connections Starter Oil Servicing - GP 7200 Engines FIGURE-05-04-09-991-014-A01

# \*\*ON A/C A380-800

# **APU Oil Servicing**

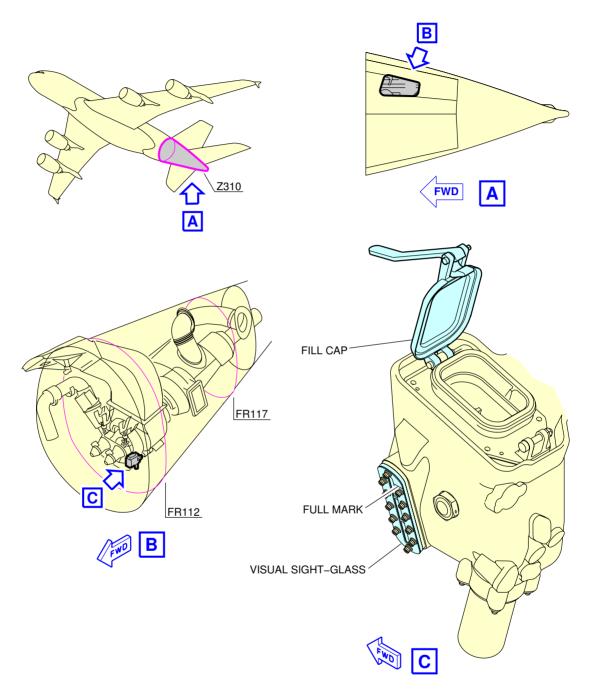
# 1. APU Oil

	DISTANCE : Meters (ft)					
		FROM A	MEAN			
	AFT OF NOSE	CENT	HEIGHT			
	AFT OF NOSE	R SIDE	L SIDE	FROM		
				GROUND		
- access doors : 315AL, 315AR	67.55 (221.62)		0.44 (1.44)	6.83 (22.40)		

# A. Capacity:

(1) 18.13L (4.35 USgal)

# \*\*ON A/C A380-800



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Ground Service Connections APU Oil Servicing FIGURE-05-04-09-991-015-A01

### 05-04-10 Vacuum Toilet System

#### \*\*ON A/C A380-800

#### Vacuum Toilet System

1. Access

This section gives data related to the location of the ground service connections.

2. Technical specifications

	DISTANCES: Meters (ft)					
	AFT OF NOSE	FROM AIRCR	MEAN HEIGHT			
	AFT OF NOSE	LH Side	RH Side	FROM GROUND		
Waste Water Ground Service Panel Access door 171AL	53.31 (174.90)	0.26 (0.85)		3.40 (11.15)		

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

#### A. Connectors

- (1) Toilet waste drain-connection ISO 17775, 4 in.
- (2) Toilet rinse/fill port ISO 17775, 1 in.

#### B. Capacity

There are four waste tanks, two upper deck tanks and two main deck tanks, see FIGURE 5-4-10-991-003-A.

- (1) Upper Deck Waste-Tanks
  - 373 I (99 US gal).

Each tank is precharged with 35 I (9 US gal) of chemical fluid.

- (2) Main Deck Waste-Tanks
  - 675 I (178 US gal).

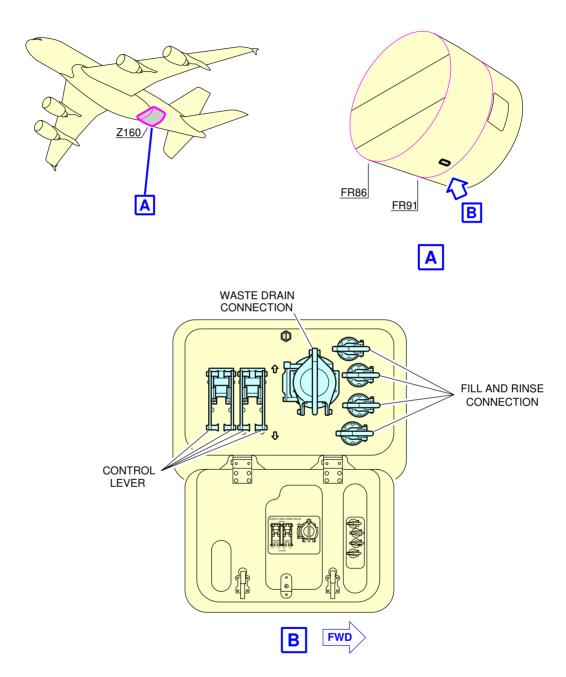
Each tank is precharged with 35 I (9 US gal) of chemical fluid.

- (3) Total Waste Tank Capacity
  - 2096 I (554 US gal).

#### C. Pressure

Maximum pressure for rinsing and precharge to the rinse/fill port is 3.45 bar (50 psi).

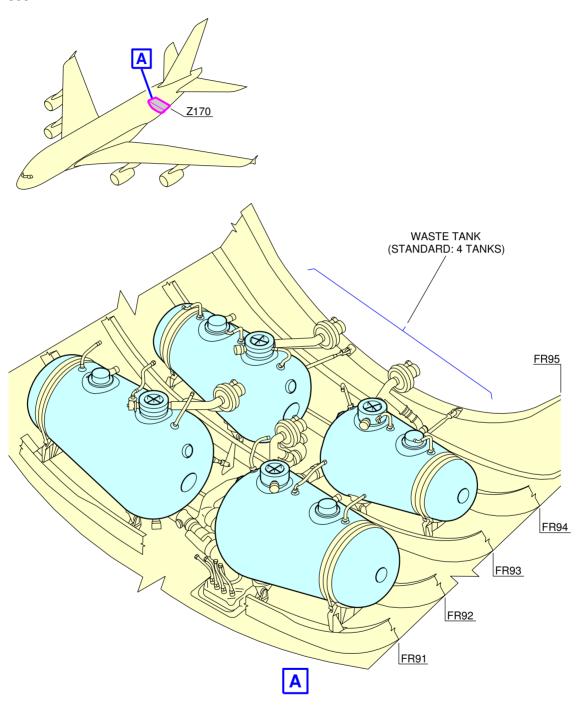
## \*\*ON A/C A380-800



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Ground Service Connections Vacuum Toilet System FIGURE-05-04-10-991-001-A01

# \*\*ON A/C A380-800



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Ground Service Connections Waste Tanks Location FIGURE-05-04-10-991-003-A01

### 05-05-00 Engine Starting Pneumatic Requirements

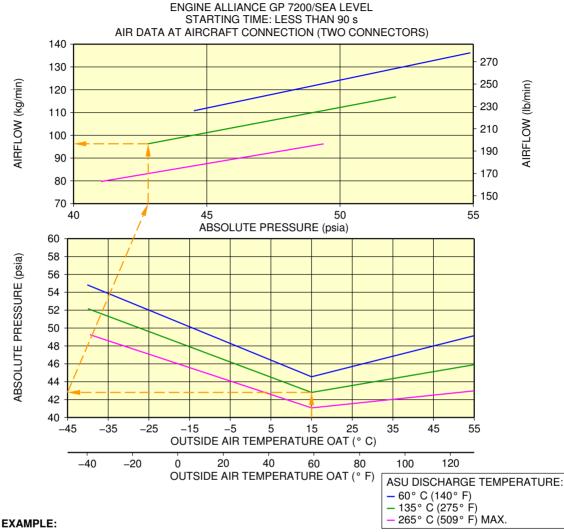
\*\*ON A/C A380-800

### **Engine Starting Pneumatic Requirements**

1. The purpose of this section is to provide the air data at the aircraft connection, needed to start the engine within no more than 90 seconds, at sea level (0 ft), for a set of Outside Air Temperatures (OAT).

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

- A. Air data (discharge temperature, absolute discharge pressure) are given at the HPGC.
- B. For the requirements below, the configuration with two HPGC is used. Using more than two connectors (for a given mass flow rate and discharge pressure from the ASU) will lower the pressure loss in the ducts of the bleed system and therefore increase the performances at the engine starter.
- C. For a given OAT the following charts are used to determine an acceptable combination for air data: discharge temperature, absolute discharge pressure and mass flow rate at the HPGC.
- D. This section addresses requirements for the ASU only, and is not representative of the start performance of the aircraft using the APU or engine cross bleed procedure.
- E. To protect the A/C, the charts feature, if necessary:
  - The maximum discharge pressure at the HPGC
  - The maximum discharge temperature at the HPGC.



FOR AN OAT OF 15° C (59° F) AND AN ASU PROVIDING A DISCHARGE TEMPERATURE OF 135° C (275° F)

- THE REQUIRED PRESSURE AT HPGC IS 42.8 psia
- THE REQUIRED AIRFLOW AT A/C CONNECTION IS 96 kg/min.

#### NOTE:

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

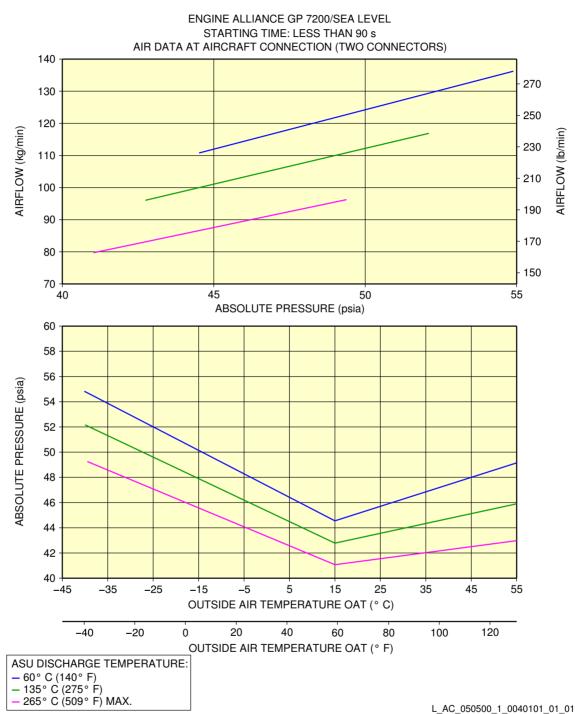
#### **EXAMPLE:**

FOR AN OAT OF 15° C (59° F) AND AN ASU PROVIDING A DISCHARGE TEMPERATURE OF 195° C (383° F) AT HPGC, INTERPOLATING BETWEEN THE LINES 135° C (275° F) AND 265° C (509° F) RESULTS IN:

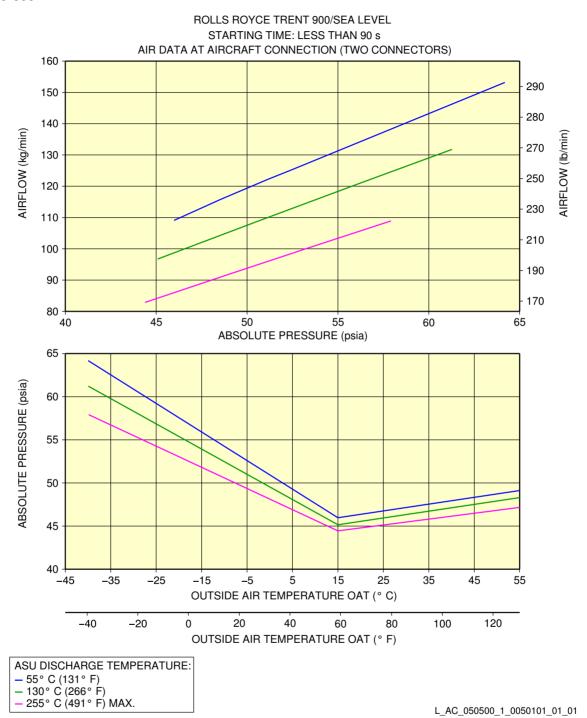
- A REQUIRED PRESSURE AT HPGC OF 41.8 psia
- A REQUIRED AIRFLOW AT A/C CONNECTION OF 88 kg/min.

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Example for Use of the Charts FIGURE-05-05-00-991-003-A01



Engine Starting Pneumatic Requirements Engine Alliance - GP 7200 FIGURE-05-05-00-991-004-A01



Engine Starting Pneumatic Requirements Rolls Royce - Trent 900 Engine FIGURE-05-05-00-991-005-A01

#### 05-06-00 Ground Pneumatic Power Requirements

#### \*\*ON A/C A380-800

### **Ground Pneumatic Power Requirements**

#### 1. General

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

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

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

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

An example of cooling capacity calculation is given in Section 5.7.

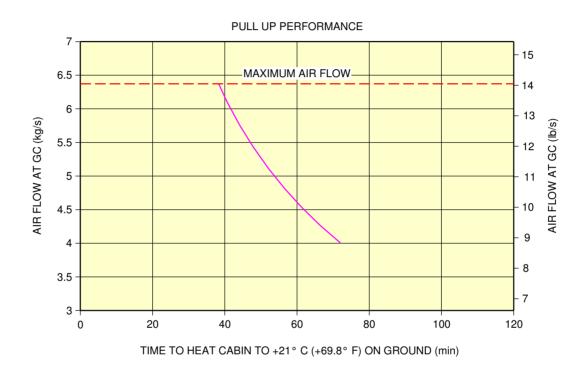
B. The air flow rates and temperature requirements for the GSE are given for the A/C in the configuration "4 LP ducts connected".

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

- C. For temperatures at ground connection below  $+2\,^{\circ}\mathrm{C}$  ( $+35.6\,^{\circ}\mathrm{F}$ ) (Subfreezing), the ground equipment shall be compliant with the Airbus document "Subfreezing PCA Carts Compliance Document for Suppliers" (contact Airbus to obtain this document) defining all the requirements with which Subfreezing Pre-Conditioning Air equipment must comply to allow its use on Airbus aircraft. These requirements are in addition to the functional specifications included in the IATA AHM997.
- 2. Ground Pneumatic Power Requirements
  This section provides the ground pneumatic power requirements for:



- Heating (pull up) the cabin, initially at OAT, up to 21 °C (69.8 °F) (see FIGURE 5-6-0-991-001-A)
- Cooling (pull down) the cabin, initially at OAT, down to 27  $^{\circ}$ C (80.6  $^{\circ}$ F) (see FIGURE 5-6-0-991-002-A).



OAT ISA -38° C (-36.4° F); GC OUTLET +70° C (+158° F); EMPTY CABIN; IFE OFF;
 NO SOLAR LOAD; LIGHTS ON; RECIRCULATION FANS ON

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Ground Pneumatic Power Requirements
Heating
FIGURE-05-06-00-991-001-A01



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

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

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Ground Pneumatic Power Requirements
Cooling
FIGURE-05-06-00-991-002-A01

### 05-07-00 Preconditioned Airflow Requirements

\*\*ON A/C A380-800

### Preconditioned Airflow Requirements

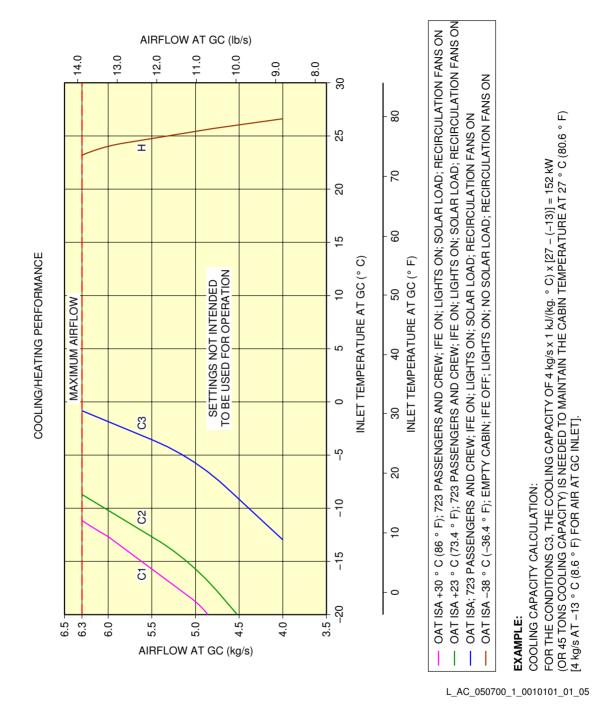
1. This section provides the preconditioned airflow rate and temperature needed to maintain the cabin temperature at 27 °C (80.6 °F).

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

For the air conditioning operation, the AMM details the procedure and the preconditioned airflow settings to maintain the cabin temperature below 27 °C (80.6 °F) during boarding (therefore it is not a steady state).

# **SA380**

### \*\*ON A/C A380-800



Preconditioned Airflow Requirements FIGURE-05-07-00-991-001-A01

#### 05-08-00 Ground Towing Requirements

#### \*\*ON A/C A380-800

### **Ground Towing Requirements**

1. This section provides information on aircraft Towing.

The A380-800 is designed with means for conventional towing or towbarless towing. Information on towbarless towing can be found in SIL 09-002 and chapter 9 of the Aircraft Maintenance Manual. It is possible to tow or push the aircraft, at maximum ramp weight with engines at zero or up to idle thrust, using a towbar attached to the nose gear leg. The towbar fitting is installed at the front of the leg (optional towing fitting for towing from the rear of the NLG available).

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

<u>NOTE</u>: Information on aircraft towing procedures and corresponding aircraft limitations are given in chapter 9 of the Aircraft Maintenance Manual.

Ground Towing Requirements A380-800 Models shows the chart to determine the towbar pull and tow tractor mass requirements as function of the following physical characteristics, see FIGURE 5-8-0-991-001-A:

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

The chart is based on the A380-800 engine type with the highest idle thrust. The chart is therefore valid for all A380-800 models.

#### 2. Towbar design guidelines

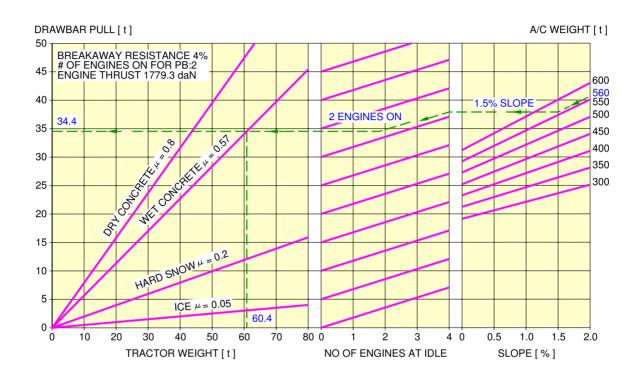
The aircraft towbar shall respect the following norms:

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

A standard type towbar 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 62000 daN (139381.53 lbf),
- A torsion pin calibrated at 4800 m.daN (424778.76 lbf.in).

The towing head is designed according to SAE/AS 1614 cat. V.



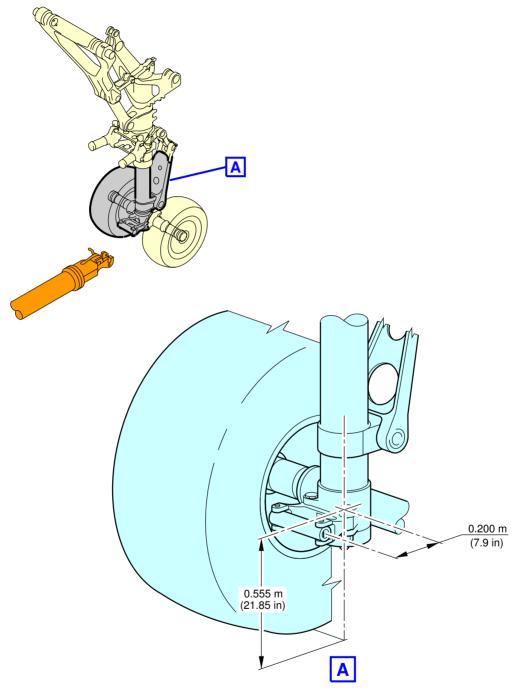
EXAMPLE HOW TO DETERMINE THE MASS REQUIREMENT TO TOW A A380 AT 560 t, AT 1.5% SLOPE, 2 ENGINES AT IDLE AND FOR WET TARMAC CONDITIONS:

- –ON THE RIGHT HAND SIDE OF THE GRAPH, CHOOSE THE RELEVANT AIRCRAFT WEIGHT (560 t), –FROM THIS POINT DRAW A PARALLEL LINE TO THE REQUIRED SLOPE PERCENTAGE (1.5%),
- -FROM THE POINT OBTAINED DRAW A STRAIGHT HORIZONTAL LINE UNTIL No. OF ENGINES AT IDLE = 4,
- -FROM THIS POINT DRAW A PARALLEL LINE TO THE REQUESTED NUMBER OF ENGINES (2),
- -FROM THIS POINT DRAW A STRAIGHT HORIZONTAL LINE TO THE DRAWBAR PULL AXIS,
- -THE Y-COORDINATE OBTAINED IS THE NECESSARY DRAWBAR PULL FOR THE TRACTOR (34.4 t),
- -SEARCH THE INTERSECTION WITH THE "WET CONCRETE" LINE.
- THE OBTAINED X-COORDINATE IS THE RECOMMENDED MINIMUM TRACTOR WEIGHT (60.4 t).

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**Ground Towing Requirements** FIGURE-05-08-00-991-001-A01

# \*\*ON A/C A380-800



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Ground Towing Requirements Nose Gear Towing Fittings FIGURE-05-08-00-991-004-A01

### 05-09-00 De-Icing and External Cleaning

### \*\*ON A/C A380-800

## De-Icing and External Cleaning

1. De-Icing and External Cleaning on Ground
The mobile equipment for aircraft de-icing and external cleaning must be capable of reaching heights up to approximately 24 m (79 ft).

### 2. De-Icing

AIRCRAFT TYPE	_	p Surface Sides)	(Both I Outside	Wingtip Devices (Both Inside and Outside Surfaces) (Both Sides)		HTP Top Surface (Both Sides)		VTP (Both Sides)	
	m <sup>2</sup>	ft <sup>2</sup>	$m^2$	ft <sup>2</sup>	$m^2$	ft <sup>2</sup>	m <sup>2</sup>	ft <sup>2</sup>	
A380 - 800	723	7782	10	108	186	2002	230	2476	

•		Top Surface I - 120° Arc)	Nacelle and Pylon (Top Third - 120° Arc) (All Engines)		Total De-Iced Area	
	m <sup>2</sup>	ft <sup>2</sup>	m <sup>2</sup>	ft <sup>2</sup>	$m^2$	ft <sup>2</sup>
A380 - 800	497	5350	112	1206	1757	18912

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

### 3. External Cleaning

			Wing	Lower	Wingtip	Devices				
	Wing Top Surface		(Both I	nside and	HTP	Тор	HTP	Lower		
AIRCRAFT	Su	rface	(Including Flap		(Including Flap Outside		Surface		Surface	
TYPE	(Both	n Sides)	Track Fairing)		Surfaces)		(Both	Sides)	(Both	Sides)
	·	•	(Both Sides)		(Both Sides)		·	,	,	ŕ
	m <sup>2</sup>	ft <sup>2</sup>	m <sup>2</sup>	ft <sup>2</sup>	$m^2$	ft <sup>2</sup>	m <sup>2</sup>	ft <sup>2</sup>	$m^2$	ft <sup>2</sup>
A380 - 800	723	7782	794	8547	10	108	186	2002	186	2002

VTP AIRCRAFT TYPE (Both Sides			Fuselage and Belly Fairing		Nacelle and Pylon (All Engines)		Total Cleaned Area	
	m <sup>2</sup>	ft <sup>2</sup>	m <sup>2</sup>	ft <sup>2</sup>	$m^2$	ft <sup>2</sup>	m <sup>2</sup>	ft <sup>2</sup>
A380 - 800	230	2476	1531	16480	373	4015	4034	43422

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

#### **OPERATING CONDITIONS**

### 06-01-00 Engine Exhaust Velocities and Temperatures

### \*\*ON A/C A380-800

#### **Engine Exhaust Velocities and Temperatures**

#### 1. General

This section shows the estimated engine exhaust efflux velocity and temperature contours for Maximum Take-off, Breakaway and Idle conditions for the A380 engine models.

Contours are available for both Rolls-Royce's Trent 900 engine and the Engine Alliance's GP7200 engine.

The Maximum Take-off data are presented at the maximum thrust rating for all the A380 engine models, including the A380-800F Freighter version. Therefore, contours hereafter include contours of the A380-800 Passenger version.

The Breakaway data are presented at a rating corresponding to the minimum thrust level required to initiate movement of an A380-800F model at its maximum ramp weight from static position and on uphill ground.

The Idle data are directly provided by the engine manufacturers.

In the charts, longitudinal distances are measured from the inboard engine core nozzle exit station, while lateral distances are measured from the aircraft fuselage centreline.

#### A. Data from Rolls-Royce's Trent 900:

The estimated efflux data are presented at ISA+15  $^{\circ}$ C (30  $^{\circ}$ C), Sea Level Static and negligible wind conditions.

The analysis assumes that the core and bypass streams are fully mixed and calculates the jet behaviour in free, still air and therefore does not take into account effects such as on-wing installation, ground entrainment and ambient wind conditions.

Velocity contours are presented at 50 ft/s (15 m/s), 100 ft/s (30 m/s) and 150 ft/s (46 m/s), while temperature contours are presented at 104  $^{\circ}$ F (40  $^{\circ}$ C), 122  $^{\circ}$ F (50  $^{\circ}$ C) and 172  $^{\circ}$ F (60  $^{\circ}$ C).

#### B. Data from Engine Alliance's GP7200:



The estimated efflux data are presented at ISA+15  $^{\circ}$ C (30  $^{\circ}$ C), Sea Level Static with 20 kt headwind. It also assumed ground plane and proximity effects. Velocity contours are presented at 35 MPH (15 m/s), 65 MPH (30 m/s) and 105 MPH (46 m/s), while temperature contours are presented at 122  $^{\circ}$ F (50  $^{\circ}$ C), 212  $^{\circ}$ F (100  $^{\circ}$ C) and 392  $^{\circ}$ F (200  $^{\circ}$ C). Engine Alliance strongly recommends that jet blast studies using their contours include the effect of a 20-knot headwind.

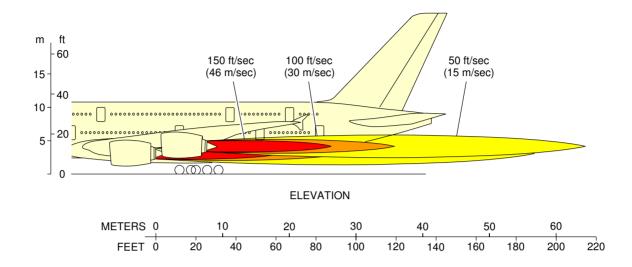


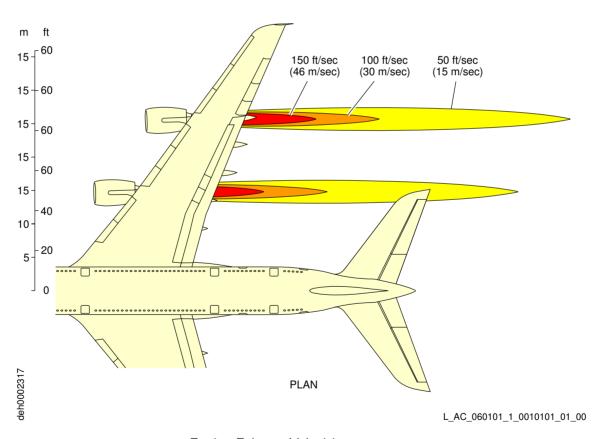
06-01-01 Engine Exhaust Velocities - Ground Idle Power

\*\*ON A/C A380-800

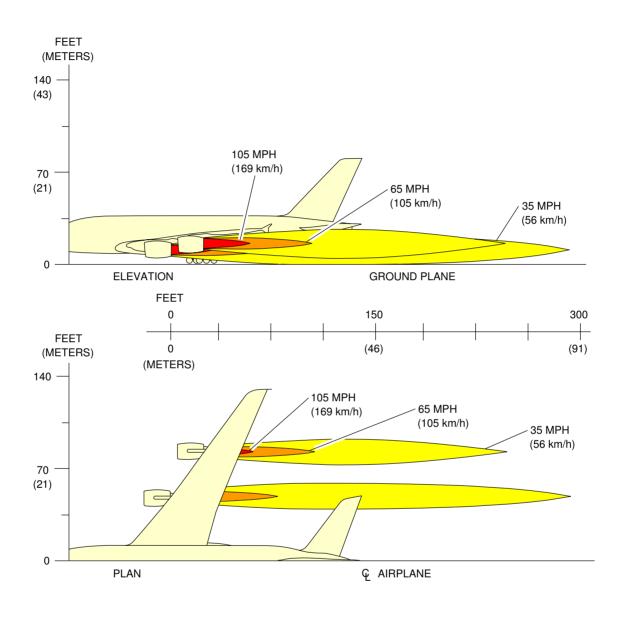
Engine Exhaust Velocities - Ground Idle Power

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





Engine Exhaust Velocities Ground Idle Power - TRENT 900 Engines FIGURE-06-01-01-991-001-A01



E-00224 (0207) PW V NOTE: ALL VELOCITY VALUES ARE IN STATUE MILES PER HOUR. **CONVERSION FACTOR** 

1 MPH = 1.6 km/h

DANGER (KEEP OUT) ZONES ≥35 MPH

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Engine Exhaust Velocities Ground Idle Power - GP 7200 Engines FIGURE-06-01-01-991-002-A01

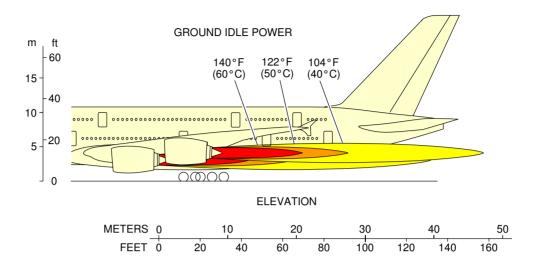


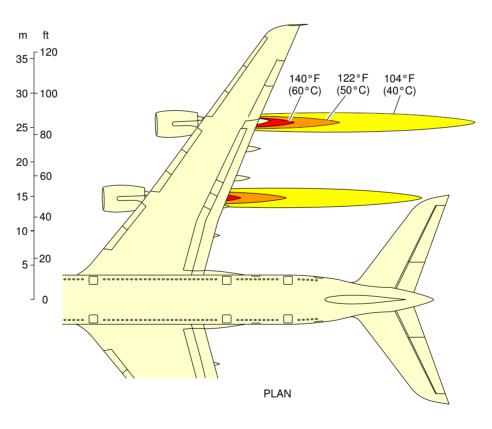
06-01-02 Engine Exhaust Temperatures - Ground Idle Power

\*\*ON A/C A380-800

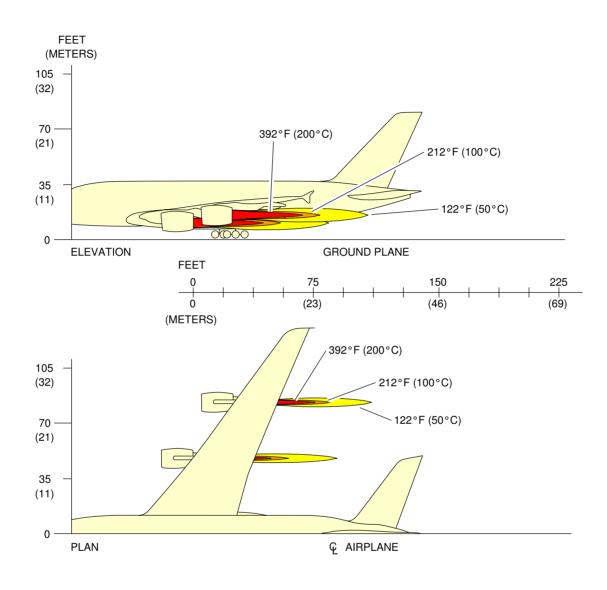
# Engine Exhaust Temperatures - Ground Idle Power

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





Engine Exhaust Temperatures Ground Idle Power - TRENT 900 Engines FIGURE-06-01-02-991-001-A01 L\_AC\_060102\_1\_0010101\_01\_01



E-00226 (0207) PW V

NOTE: ALL TEMPERATURES ARE IN FAHRENHEIT (CELSIUS).

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Engine Exhaust Temperatures Ground Idle Power - GP 7200 Engines FIGURE-06-01-02-991-002-A01

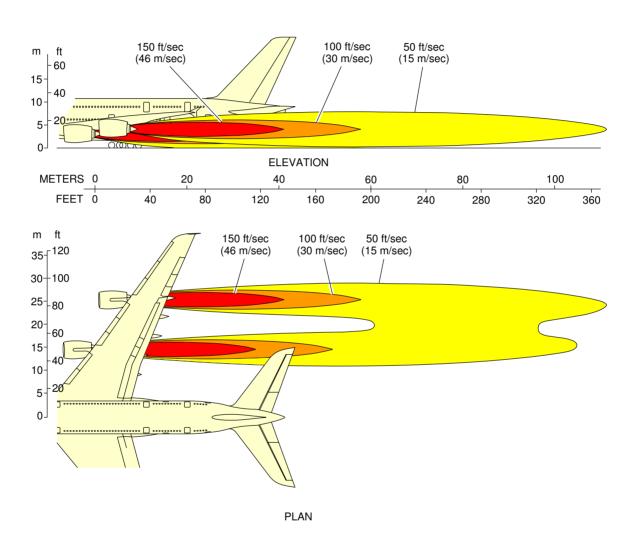


06-01-03 Engine Exhaust Velocities - Breakaway Power

\*\*ON A/C A380-800

Engine Exhaust Velocities - Breakaway Power

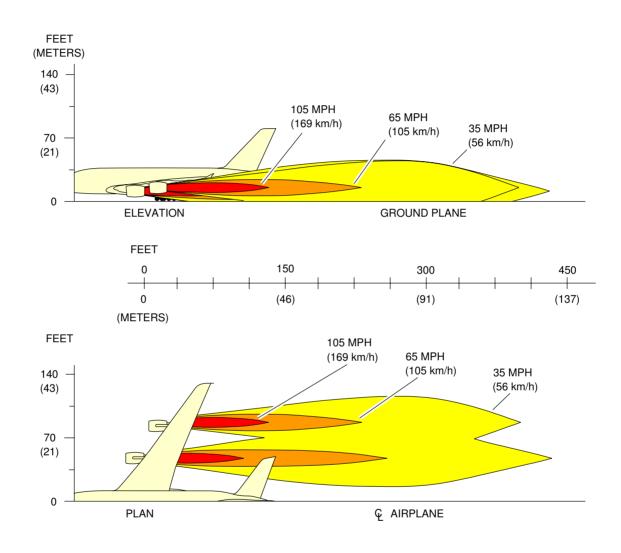
1. This section gives engine exhaust velocities at breakaway power.



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Engine Exhaust Velocities Breakaway Power - TRENT 900 Engines FIGURE-06-01-03-991-001-A01



E-02200 (0207) PW V

NOTE: ALL VELOCITY VALUES ARE IN STATUE MILES PER HOUR. CONVERSION FACTOR  $1 \ \text{MPH} = 1.6 \ \text{km/h}$  DANGER (KEEP OUT) ZONES  $\geq$  35 MPH

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Engine Exhaust Velocities
Breakaway Power - GP 7200 Engines
FIGURE-06-01-03-991-002-A01

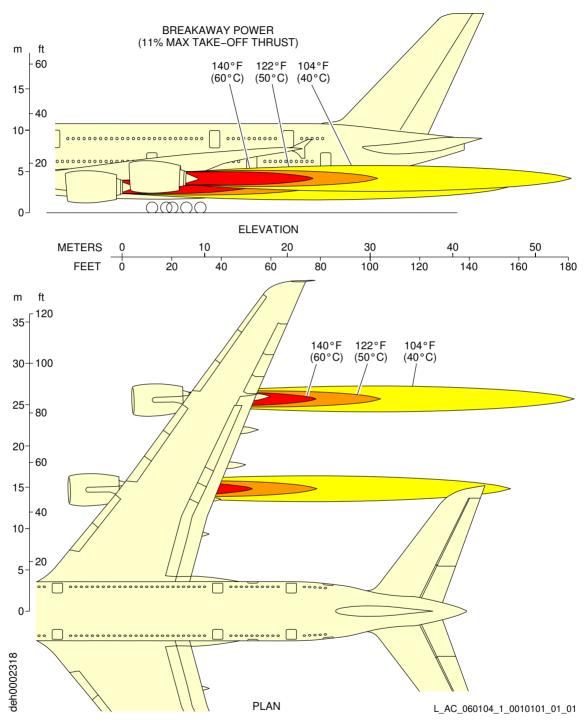


06-01-04 Engine Exhaust Temperatures - Breakaway Power

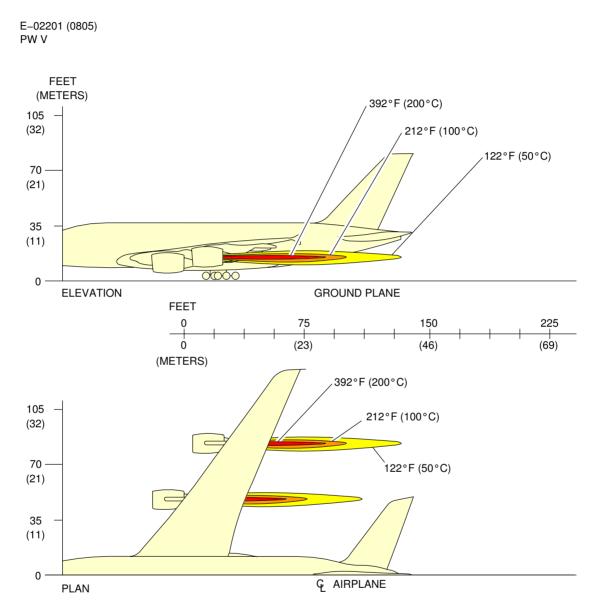
\*\*ON A/C A380-800

Engine Exhaust Temperatures - Breakaway Power

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



Engine Exhaust Temperatures
Breakaway Power - TRENT 900 Engines
FIGURE-06-01-04-991-001-A01



NOTE: ALL TEMPERATURES ARE IN FAHRENHEIT (CELSIUS).

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Engine Exhaust Temperatures
Breakaway Power - GP 7200 Engines
FIGURE-06-01-04-991-002-A01

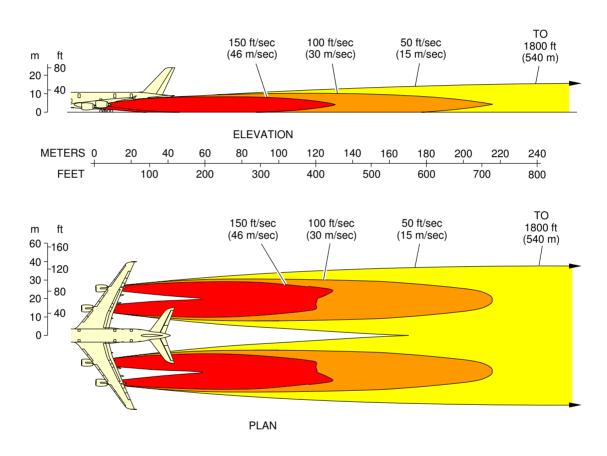


06-01-05 Engine Exhaust Velocities - Max Take-off Power

\*\*ON A/C A380-800

Engine Exhaust Velocities - Max Take-off Power

1. This section gives engine exhaust velocities at max take-off power.

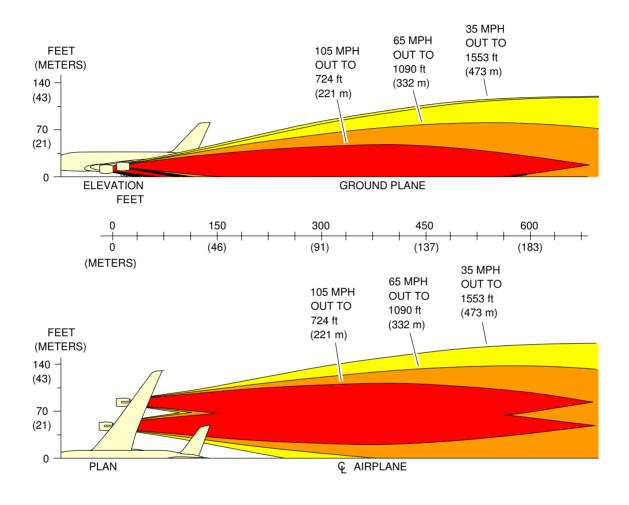


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Engine Exhaust Velocities

Max. Take-Off Power - TRENT 900 Engines
FIGURE-06-01-05-991-001-A01



E-00225 (0207) PW V

NOTE: ALL VELOCITY VALUES ARE IN STATUE MILES PER HOUR.

CONVERSION FACTOR

1 MPH = 1.6 km/h

DANGER (KEEP OUT) ZONES ≥ 35 MPH

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Engine Exhaust Velocities

Max. Take-Off Power - GP 7200 Engines
FIGURE-06-01-05-991-002-A01



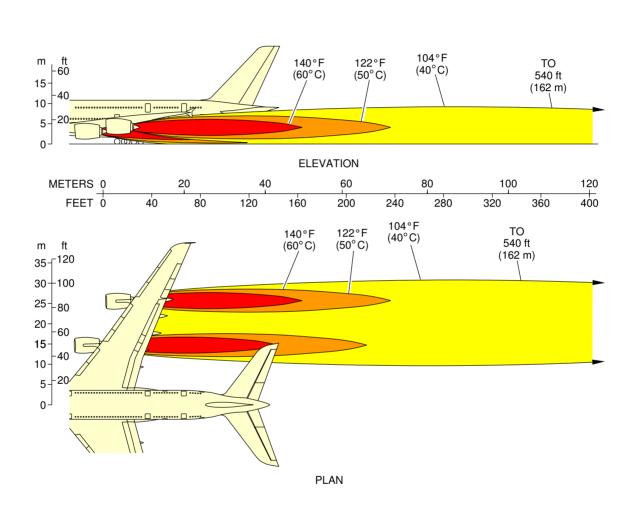
06-01-06 Engine Exhaust Temperatures - Max Take-off Power

\*\*ON A/C A380-800

Engine Exhaust Temperatures - Max Take-off Power

1. This section gives engine exhaust temperatures at max take-off power.

#### MAX TAKE-OFF POWER

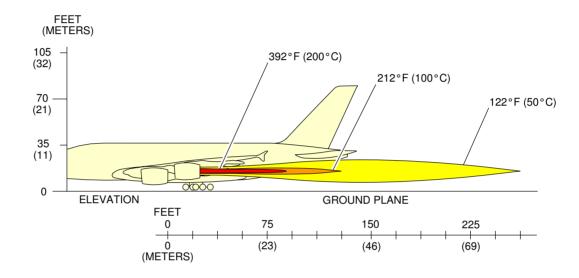


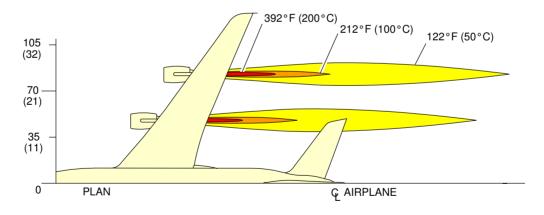
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Engine Exhaust Temperatures
Max Take-Off Power - TRENT 900 Engines
FIGURE-06-01-06-991-001-A01

E-00227 (0704) PW V





NOTE: ALL TEMPERATURES ARE IN FAHRENHEIT (CELSIUS).

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Engine Exhaust Temperatures
Max Take-Off Power - GP 7200 Engines
FIGURE-06-01-06-991-002-A01

# **GA380**

### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

06-02-00 Airport and Community Noise Data

\*\*ON A/C A380-800

Airport and Community Noise Data

1. Airport and Community Noise Data

### 06-02-01 Airport and Community Noise Data

#### \*\*ON A/C A380-800

### Airport and Community Noise Data

### 1. RR TRENT 900 Engines

### A. Description of Test Conditions

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

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

### B. Meteorological Data

The meteorological parameters measured 1.6 m from the ground on the day of test were as follows:

Temperature: 32°CRelative humidity: 31%

Atmospheric pressure: 996 hPa

- Wind speed: Negligible

- No rain

### 2. EA GP7200 Engines

### A. Description of Test Conditions

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

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

#### B. Meteorological Data

The meteorological parameters measured 1.6 m from the ground on the day of test were as follows:

- Temperature: 12°C

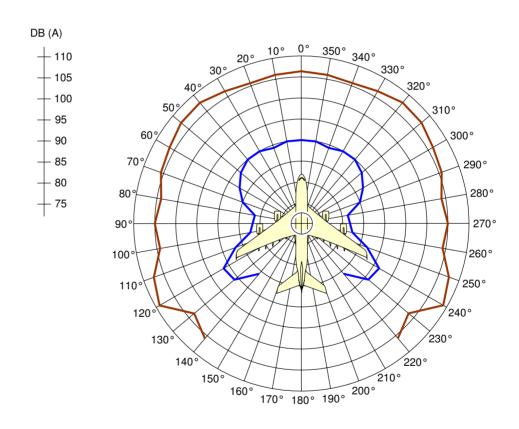
- Relative humidity: 90%

- Atmospheric pressure: 1015 hPa

- Wind speed: Negligible

- No rain

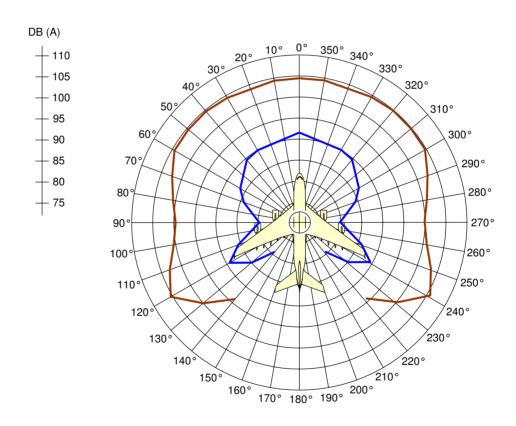
GROUND IDLE 4 ENGINES RUNNING	MAX THRUST POSSIBLE ON BRAKES 4 ENGINES RUNNING



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Airport and Community Noise Data TRENT 900 Engines FIGURE-06-02-01-991-003-A01

GROUND IDLE 4 ENGINES RUNNING	MAX THRUST POSSIBLE ON BRAKES 4 ENGINES RUNNING



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Airport and Community Noise Data GP 7200 Engines FIGURE-06-02-01-991-001-A01

06-03-00 Danger Areas of the Engines

\*\*ON A/C A380-800

# Danger Areas of the Engines

1. Danger Areas of the Engines

The intake suction danger areas, which are plotted in this chapter, correspond to very low suction velocities in order to prevent very low density objects (hat, handkerchief) from ingestion by engines. The primary aim of those danger areas is to protect the people working around the engines.

The A380 outer engines are high enough above ground to prevent the ingestion of typical loose objects, which can be found on ground at the edge of runways/taxiways paved areas (loose gravels for example), in the following conditions:

- at usual taxiway thrust (i.e. up to the breakaway power setting), even if the loose objects are below the A380 outer engines.
- at usual take-off thrust (i.e. up to the maximum take-off power setting), if the loose objects are beyond 3 meters from the A380 outer engines centreline.

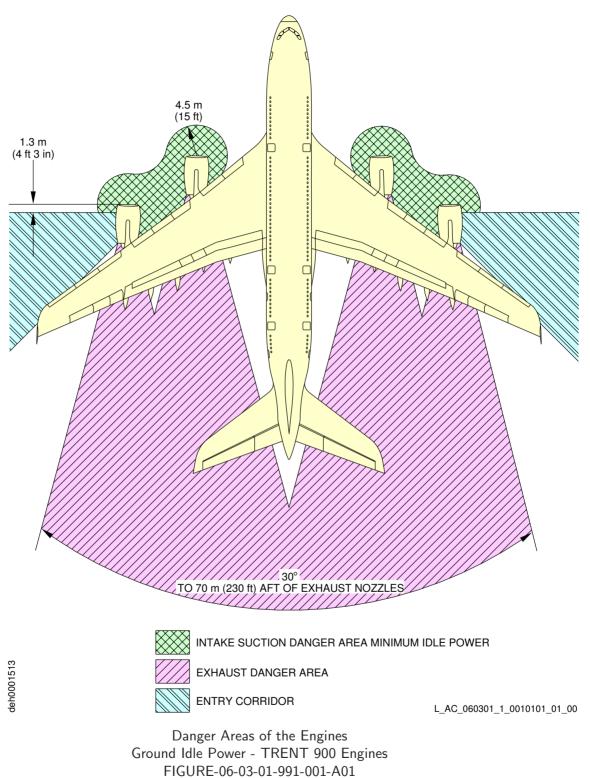


06-03-01 Danger Areas of the Engines - Ground Idle Power

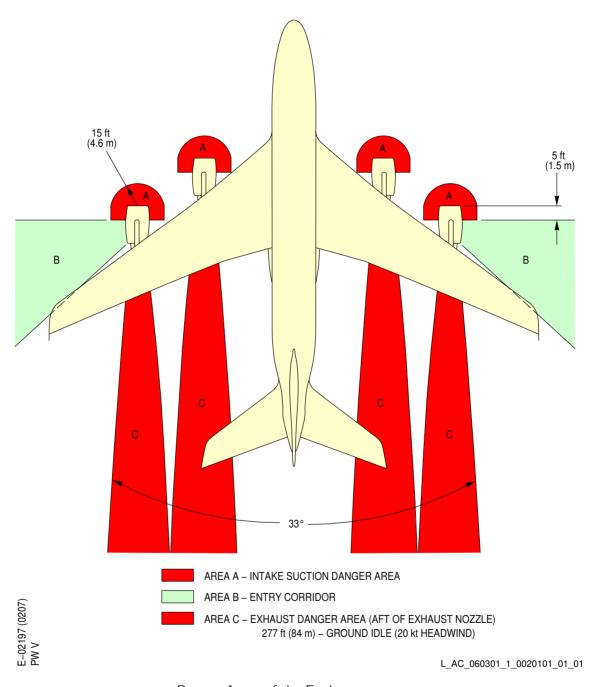
\*\*ON A/C A380-800

Danger Areas of the Engines - Ground Idle Power

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



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Danger Areas of the Engines Ground Idle Power - GP 7200 Engines FIGURE-06-03-01-991-002-A01

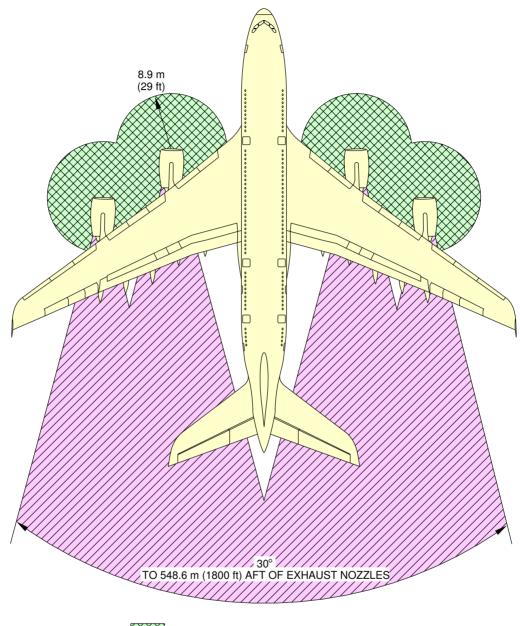


06-03-02 Danger Areas of the Engines - Max. Take-Off Power

\*\*ON A/C A380-800

Danger Areas of the Engines - Max. Take-Off Power

1. This section gives danger areas of the engines at max take-off power conditions.

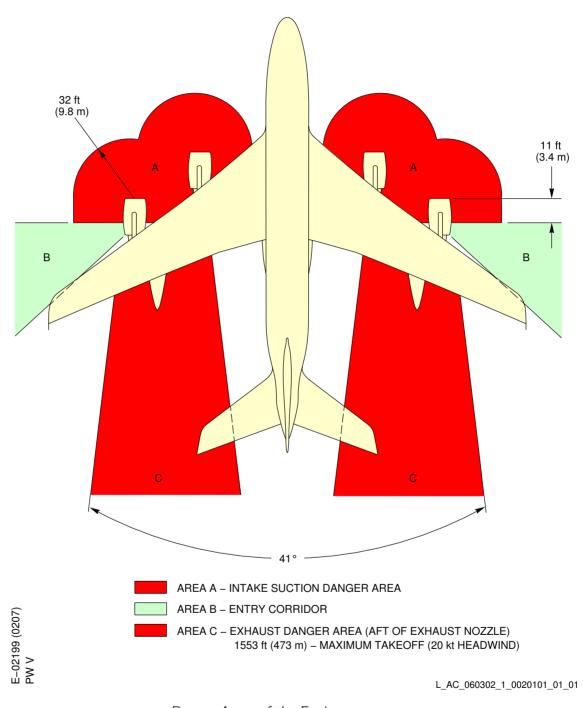


INTAKE SUCTION DANGER AREA MAX TAKE-OFF POWER

EXHAUST DANGER AREA

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Danger Areas of the Engines Max Take-Off Power - TRENT 900 Engines FIGURE-06-03-02-991-001-A01



Danger Areas of the Engines Max Take-Off Power - GP 7200 Engines FIGURE-06-03-02-991-002-A01

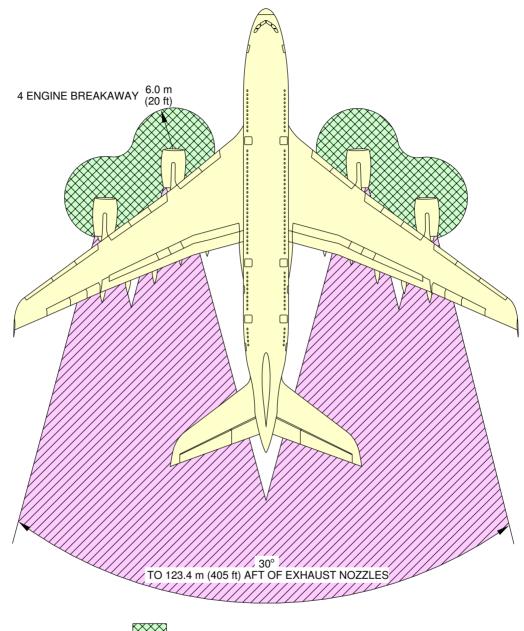


06-03-03 Danger Areas of the Engines - Breakaway Power

\*\*ON A/C A380-800

Danger Areas of the Engines - Breakaway Power

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



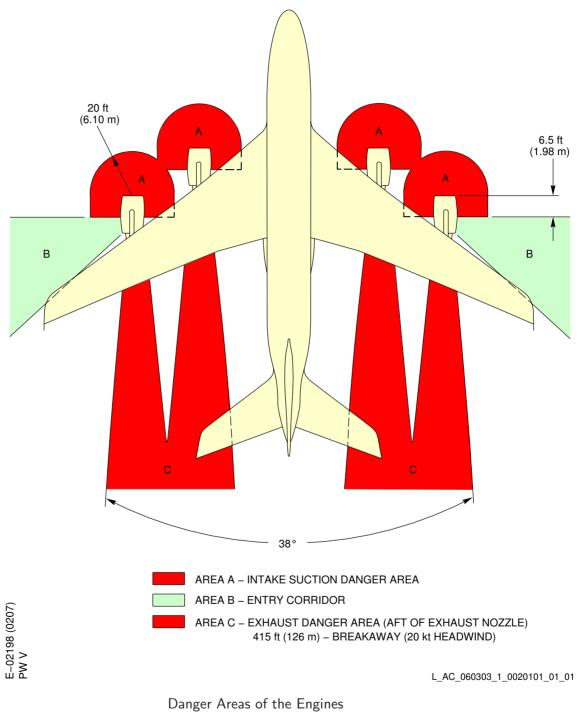
INTAKE SUCTION DANGER AREA BREAKAWAY POWER



EXHAUST DANGER AREA

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Danger Areas of the Engines Breakaway Power - TRENT 900 Engines FIGURE-06-03-03-991-001-A01



Danger Areas of the Engines
Breakaway Power - GP 7200 Engines
FIGURE-06-03-03-991-002-A01

# **@A380**

### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

06-04-00 APU Exhaust Velocities and Temperatures

\*\*ON A/C A380-800

**APU Exhaust Velocities and Temperatures** 

1. APU Exhaust Velocities and Temperatures

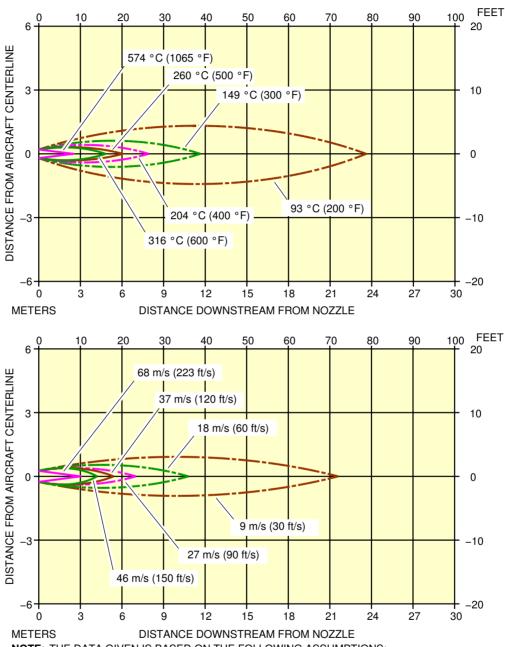


06-04-01 APU Exhaust Velocities and Temperatures

\*\*ON A/C A380-800

# APU Exhaust Velocities and Temperatures

1. This section gives APU exhaust velocities and temperatures in max. ECS conditions.



NOTE: THE DATA GIVEN IS BASED ON THE FOLLOWING ASSUMPTIONS:
-SEA LEVEL STATIC CONDITIONS

-ISA + 23 °C (73 °F)

-NO WIND

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APU Exhaust Velocities and Temperatures
Max. ECS Conditions
FIGURE-06-04-01-991-001-A01

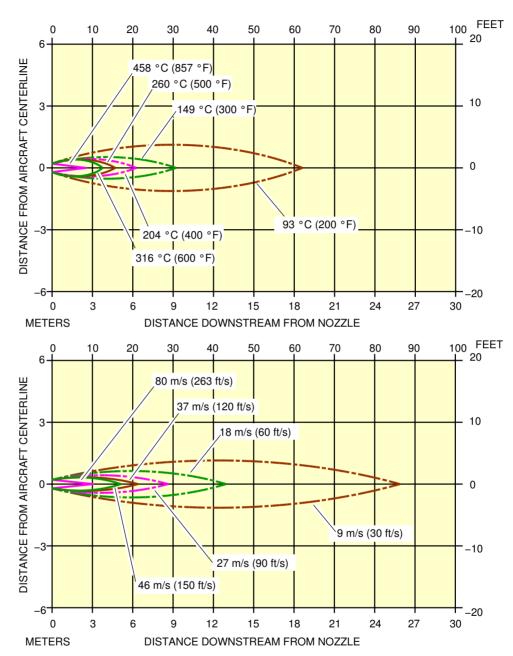


06-04-02 APU Exhaust Velocities and Temperatures - MES Conditions

\*\*ON A/C A380-800

# APU Exhaust Velocities and Temperatures - MES Conditions

1. This section gives the APU exhaust velocities and temperatures in MES conditions.



NOTE: THE DATA GIVEN IS BASED ON THE FOLLOWING ASSUMPTIONS:

-SEA LEVEL STATIC CONDITIONS

-ISA + 23 °C (73 °F)

-NO WIND

L\_AC\_060402\_1\_0010101\_01\_00

APU Exhaust Velocities and Temperatures MES Conditions FIGURE-06-04-02-991-001-A01

### **PAVEMENT DATA**

#### 07-01-00 General Information

\*\*ON A/C A380-800

### General Information

#### 1. General

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

To aid in the interpolation between the discrete values shown, each aircraft configuration is shown with a minimum range of five loads on the Main Landing Gear (MLG).

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

- The aircraft loaded to the Maximum Ramp Weight (MRW),
- The CG at its maximum permissible aft position.

Pavement requirements for commercial aircraft are derived from the static analysis of loads imposed on the MLG struts.

### Landing Gear Footprint:

Section 07-02-00 presents basic data on the landing gear footprint configuration, MRW and tire sizes and pressures.

#### Maximum Pavement Loads:

Section 07-03-00 shows maximum vertical and horizontal pavement loads for certain critical conditions at the tire-ground interfaces.

#### Landing Gear Loading on Pavement:

Section 07-04-00 contains charts to find these loads throughout the stability limits of the aircraft at rest on the pavement.

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

### Flexible Pavement Requirements - US Army Corps of Engineers Design Method:

Section 07-05-00 uses procedures in Instruction Report No. S-77-1 "Procedures for Development of CBR Design Curves", dated June 1977 and as modified according to the methods described in ICAO Aerodrome Design Manual, Part 3. Pavements, 2nd Edition, 1983, Section 1.1 (The ACN-PCN Method), and utilizing the alpha factors approved by ICAO in October 2007.

The report was prepared by the "U.S. Army Corps Engineers Waterways Experiment Station, Soils and Pavement Laboratory, Vicksburg, Mississippi".

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



Flexible Pavement Requirements - LCN Conversion Method:

The flexible pavement charts in Section 07-06-00 show Load Classification Number (LCN) against Equivalent Single Wheel Load (ESWL), and ESWL against pavement thickness.

All the LCN curves shown in the 'Flexible Pavement Requirements' were developed from a computer program based on data in International Civil Aviation Organization (ICAO) document 7920-AN/865/2, Aerodrome Manual, Part 2, "Aerodrome Physical Characteristics", Second Edition, 1965.

Rigid Pavement Requirements - PCA (Portland Cement Association) Design Method: Section 07-07-00 gives the rigid pavement design curves that have been prepared with the use of the Westergaard Equation.

This is in general accordance with the procedures outlined in the Portland Cement Association publications, "Design of Concrete Airport Pavement", 1973 and "Computer Program for Airport Pavement Design" (Program PDILB), 1967 both by Robert G. Packard.

Rigid Pavement Requirements - LCN Conversion:

Section 07-08-00 gives data about the rigid pavement requirements for the LCN conversion:

- For the radius of relative stiffness,
- For the radius of relative stiffness (other values of E and  $\mu$ ).

All the LCN curves shown in Rigid Pavement Requirements - LCN conversion were developed from a computer program based on data in International Civil Aviation Organization (ICAO) document 7920-AN/865/2, Aerodrome Manual, Part 2, "Aerodrome Physical Characteristics", Second Edition, 1965.

Rigid Pavement Requirements - LCN Conversion - Radius of Relative Stiffness: The rigid pavement charts show LCN against ESWL, and ESWL against radius of relative stiffness.

Rigid Pavement Requirements - LCN Conversion - Radius of Relative Stiffness (other values of E and  $\mu$ ):

The rigid pavement charts show LCN against ESWL, and ESWL against radius of relative stiffness affected by the other values of E and  $\mu$ .

### ACN/PCN Reporting System:

Section 07-09-00 provides ACN data prepared according to the ACN/PCN system as referenced in ICAO Annex 14, "Aerodromes", Volume 1 "Aerodrome Design and Operations" Fourth Edition, July 2004, incorporating Amendments 1 to 6.

The ACN/PCN system provides a standardized international aircraft/pavement rating system replacing the various S, T, TT, LCN, AUW, ISWL, etc., rating systems used throughout the world. ACN is the Aircraft Classification Number and PCN is the corresponding Pavement Classification Number.

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

Numerically the ACN is two times the derived single wheel load expressed in thousands of kilograms. The derived single wheel load is defined as the load on a single tire inflated to 1.25 MPa (181 psi) that would have the same pavement requirements as the aircraft.

Computationally the ACN/PCN system uses PCA program PDILB for rigid pavements and S-77-1 for flexible pavements to calculate ACN values.

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

	P(	CN	
PAVEMENT TYPE	SUBGRADE	TIRE PRESSURE	EVALUATION
	CATEGORY	CATEGORY	METHOD
R - Rigid	A - High	W - No pressure limit	T - Technical
F - Flexible		X - High pressure limited to 1.75 MPa (254 psi)	U - Using Aircraft
	C - Low	Y - Medium pressure limited to 1.25 MPa (181 psi)	
	D - Ultra Low	Z - Low pressure limited to 0.5 MPa (73 psi)	

For flexible pavements, the four subgrade categories are:

- A. High Strength CBR 15

- B. Medium Strength CBR 10

- C. Low Strength CBR 6

- D. Ultra Low Strength CBR 3

For rigid pavements, the four subgrade categories are:

- A. High Strength Subgrade  $k = 150 \text{ MN/m}^3 (550 \text{ pci})$ 

- 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  $= 20 \text{ MN/m}^3 (75 \text{ pci})$ 

k

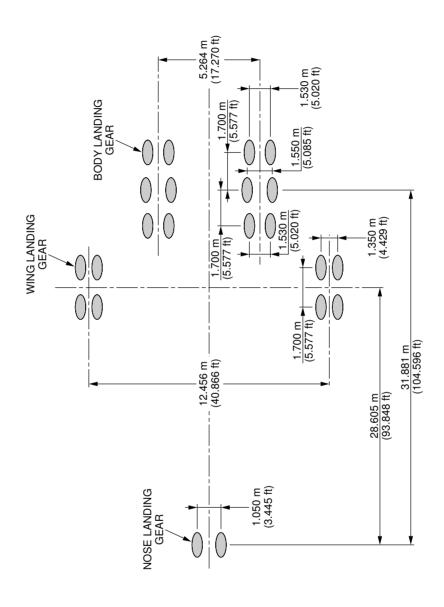


07-02-00 Landing Gear Footprint

\*\*ON A/C A380-800

# Landing Gear Footprint

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



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Landing Gear Footprint (Sheet 1 of 2) (Sheet 1 of 2) FIGURE-07-02-00-991-003-A01

WEIGHT	MAXIMUM RAMP WEIGHT	PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP	NOSE GEAR TIRE SIZE	NOSE GEAR TIRE PRESSURE	WING GEAR TIRE SIZE	WING GEAR TIRE PRESSURE	BODY GEAR TIRE SIZE	BODY GEAR TIRE PRESSURE
WV000	WV000 (1 239 000 lb)	95.1%	1 270x455 R22 32PR OR 50x20 R22 34PR	14.1 bar (205 psi)	1 400x530 R23 40PR	15 bar (218 psi)	1 400x530 R23 40PR	15 bar (218 psi)
WV001	WV001 (1 128 775 lb)	95.1%	1 270x455 R22 32PR OR 50x20 R22 34PR	14.1 bar (205 psi)	1 400x530 R23 40PR	14 bar (203 psi)	1 400x530 R23 40PR	14 bar (203 psi)
WV002	WV002 (1 258 850 lb)	94.3%	1 270x455 R22 32PR OR 50x20 R22 34PR	14.1 bar (205 psi)	1 400x530 R23 40PR	15 bar (218 psi)	1 400x530 R23 40PR	15 bar (218 psi)
WV003	WV003 512 000 kg (1 128 775 lb)	95.1%	1 270x455 R22 32PR OR 50x20 R22 34PR	14.1 bar (205 psi)	1 400x530 R23 40PR	14 bar (203 psi)	1 400x530 R23 40PR	14 bar (203 psi)
WV004	WV004 562 000 kg (1 239 000 lb)	95.1%	1 270x455 R22 32PR OR 50x20 R22 34PR	14.1 bar (205 psi)	1 400x530 R23 40PR	15 bar (218 psi)	1 400x530 R23 40PR	15 bar (218 psi)
WV005	WV005 (1 239 000 lb)	95.1%	1 270x455 R22 32PR OR 50x20 R22 34PR	14.1 bar (205 psi)	1 400x530 R23 40PR	15 bar (218 psi)	1 400x530 R23 40PR	15 bar (218 psi)
900AM	WV006 (1 267 650 lb)	94.3%	1270x455 R22 32PR OR 50x20 R22 34PR	14.1 bar (205 psi)	1 400x530 R23 40PR	15 bar (218 psi)	1 400x530 R23 40PR	15 bar (218 psi)
WV007	492 000 kg (1 084 675 lb)	95.1%	1 270x455 R22 32PR OR 50x20 R22 34PR	14.1 bar (205 psi)	1 400x530 R23 40PR	14 bar (203 psi)	1 400x530 R23 40PR	14 bar (203 psi)
WV008	WV008 (1 272 075 lb)	94.3%	1 270x455 R22 32PR OR 50x20 R22 34PR	14.1 bar (205 psi)	1 400x530 R23 40PR	15 bar (218 psi)	1 400x530 R23 40PR	15 bar (218 psi)
600/W	WV009 (1 183 875 lb)	95.1%	1 270x455 R22 32PR OR 50x20 R22 34PR	14.1 bar (205 psi)	1 400x530 R23 40PR	15 bar (218 psi)	1 400x530 R23 40PR	15 bar (218 psi)

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Landing Gear Footprint (Sheet 2 of 2) (Sheet 2 of 2) FIGURE-07-02-00-991-003-A01



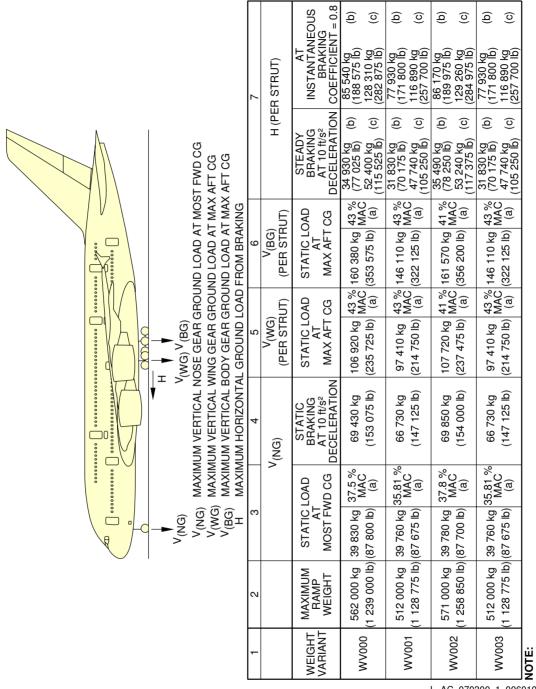
#### 07-03-00 Maximum Pavement Loads

\*\*ON A/C A380-800

# Maximum Pavement Loads

1. This section shows maximum vertical and horizontal pavement loads for some critical conditions at the tire-ground interfaces.

The maximum pavement loads are given for all the aircraft operational weight variants.



(a) LOADS CALCULATED USING AIRCRAFT AT MRW (b) BRAKED WING GEAR (c) BRAKED BODY GEAR L\_AC\_070300\_1\_0060101\_01\_00

Maximum Pavement Loads (Sheet 1 of 2) (Sheet 1 of 2) FIGURE-07-03-00-991-006-A01

	7 H (PER STRUT)	Eons	G T = 0.8	(q)	<u>(</u> )	<b>Q</b>	(c)	<b>Q</b>	(O)	(Q)	<u>(S</u>	(q)	<u>(S)</u>	<b>Q</b>	(c)
7		AT INSTANTANEOUS	BRAKING COEFFICIENT = 0.8	85 540 kg (188 575 lb)	128 310 kg (282 875 lb)	85 540 kg (188 575 lb)	128 310 kg (282 875 lb)	86 780 kg (191 300 lb)	130 160 kg (286 950 lb)	74 880 kg (165 100 lb)	112 320 kg (247 625 lb)	87 080 kg (191 975 lb)	130 620 kg (287 950 lb)	81 730 kg (180 200 lb)	122 600 kg (270 275 lb)
		≻ დ,	NOIL	(q)	<u>©</u>	(q)	(C)	(Q)	(C)	(q)	(C)	(q)	(C)	(Q)	(C)
	_	STEADY BRAKING	AI 10 ff/s² DECELERATION	34 930 kg (77 025 lb)	52 400 kg (115 525 lb)	34 930 kg (77 025 lb)	52 400 kg (115 525 lb)	35 740 kg (78 800 lb)	53 610 kg (118 200 lb)	30 580 kg (67 425 lb)	45 880kg (101 150 lb)	35 870 kg (79 075 lb)	53 800 kg (118 600 lb)	33 380 kg (73 600 lb)	50 070 kg (110 400 lb)
	, RUT)	OAD	9	43 %	(a)	43 %	(a)	%7	(a)	43 %	(a)	41%	(a)	43 %	(a)
9	V(BG) (PER STRUT)	STATIC LOAD	MAX AFT CG	160 380 kg	(353 575 lb)	106 920 kg 43 % 160 380 kg 43 %	(323 575 lb)	108 470 kg 41 % 162 700 kg 41 %	(358 700 lb)	43 % 140 410 kg 43 %	(al 055 e0s)	108 850 kg 41 % 163 270 kg 41 %	(329 950 lb)	153 250 kg	(337 850 lb)
	UT)	OAD	9	43 %	(a)	43 %	(a)	41% %	(a)	43 %	(a)	41% 2007	(a)	43 %	(a)
2	5 V(WG) (PER STRUT)	STATIC LOAD	MAX AFT CG	106 920 kg 43 % 160 380 kg 43 %	(235 725 lb)	106 920 kg	(235 725 lb)	108 470 kg	(239 125 lb)	93 600 kg	(206 350 lb)	108 850 kg	(239 975 lb)	102 170 kg 43 % 153 250 kg 43 %	(225 225 lb)
4	g)	STATIC	AI 10 ff/s² DECELERATION	69 430 kg	(153 075 lb)	69 430 kg	(153 075 lb)	70 340 kg	(155 075 lb)	65 610 kg	(144 650 lb)	70 590 kg	(155 625 lb)	68 030 kg	(149 975 lb)
	V <sub>(NG)</sub>	LOAD	VD CG	37.5%	(a)	37.5%	(a)	37.8%	(a)	35.06 %	(a)	37.8 %	(a)	36.72 %	(a)
က		STATIC LOAD	STATIC LOAD AT MOST FWD CG		(91 008 L8)				_	39 700 kg	(87 525 lb)	40 190 kg	(ql 009 88)	39 740 kg	(91 009 Z8)
2		MAXIMUM	WEIGHT	562 000 kg	(1 239 000 lb) (87 800 lb) (a)	562 000 kg 39 830 kg	(1 239 000 lb) (87 800 lb)	575 000 kg 40 050 kg	(1 267 650 lb) (88 300 lb)	492 000 kg 39 700 kg 35.06 %	(1 084 675 lb) (87 525 lb)	577 000 kg 40 190 kg	(1 272 075 lb) (88 600 lb)	537 000 kg	(1 183 875 lb) (87 600 lb) (a)
-		WEIGHT	VARIAN	200,000	4004 4004	100	c00^^	00000	900 ^ ^	1007	\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	000,000	8000 M	0000	600

NOTE: (a) LOADS CALCULATED USING AIRCRAFT AT MRW (b) BRAKED WING GEAR (c) BRAKED BODY GEAR

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Maximum Pavement Loads (Sheet 2 of 2) (Sheet 2 of 2) FIGURE-07-03-00-991-006-A01

#### 07-04-00 Landing Gear Loading on Pavement

\*\*ON A/C A380-800

### Landing Gear Loading on Pavement

This section gives data about landing gear loading on pavement.
 The MLG loading on pavement graphs are given for the weight variants that produce (at the MRW and max aft CG) the lowest MLG load and the highest MLG load for each type of aircraft.

## 2. MLG Loading on Pavement

Example, see FIGURE 7-4-0-991-001-A (sheet 1), calculation of the total weight on the MLG for:

- An aircraft with a MRW of 492 000 kg (1 084 675 lb),
- The aircraft gross weight is 420 000 kg (925 950 lb).
- A percentage of weight on the MLG of 95.1% (percentage of weight on the MLG at MRW and max aft CG).

The total weight on the MLG group is 399 530 kg (880 800 lb).

3. Wing Gear and Body Gear Loading on Pavement

The MLG group consists of two wing gears (4-wheel bogies) plus two body gears (6-wheel bogies).

Example, see FIGURE 7-4-0-991-001-A (sheet 2), calculation of the total weight on the MLG for:

- An aircraft with a MRW of 492 000 kg (1 084 675 lb),
- The aircraft gross weight is 420 000 kg (925 950 lb).

The load on the two wing gears is  $159\ 810\ kg$  ( $352\ 325\ lb$ ) and the load on the two body gears is  $239\ 720\ kg$  ( $528\ 475\ lb$ ).

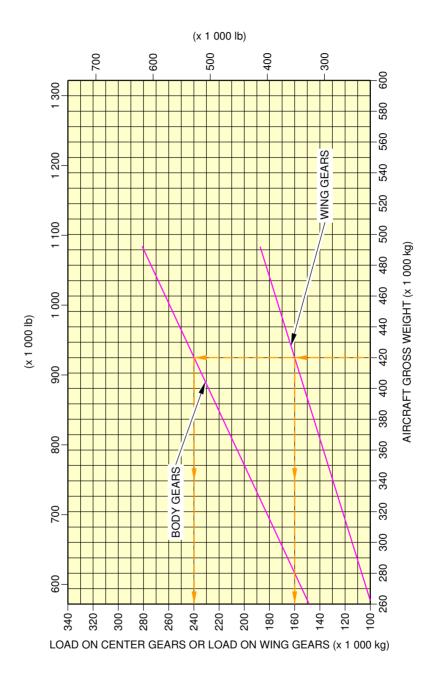
The total weight on the MLG group is 399 530 kg (880 800 lb).

<u>NOTE</u>: The CG in the figure title is the CG used for ACN/LCN calculation.

#### PERCENTAGE MAC - 1 300 - 1 250 - 1 200 CG FOR ACN/LCN CALCULATION 43% MAC - 1 150 WEIGHT ON MAIN LANDING GEAR (x 1 000 kg) MTOW - 490 000 kg - 1 100 AIRCRAFT GROSS WEIGHT - 1 050 35.06% MAC - 1 000 (x 1 000 kg) (x 1 000 lb) MLW - 800 - 750 MZFW TAKE OFF ANDING PERCENTAGE OF WEIGHT ON MAIN GEAR

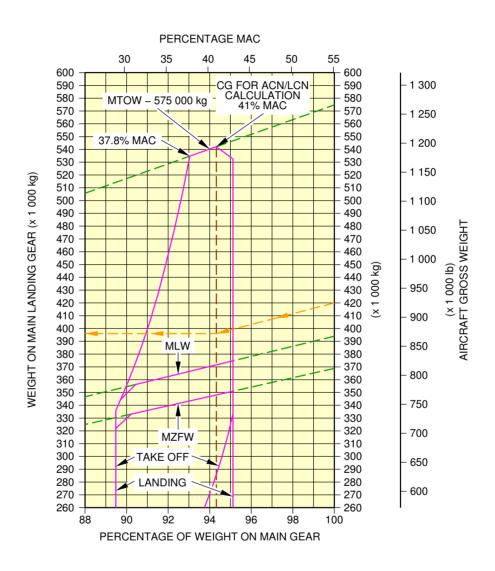
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Landing Gear Loading on Pavement WV007, MRW 492 000 kg, CG 43% (Sheet 1 of 2) (Sheet 1 of 2) FIGURE-07-04-00-991-001-A01



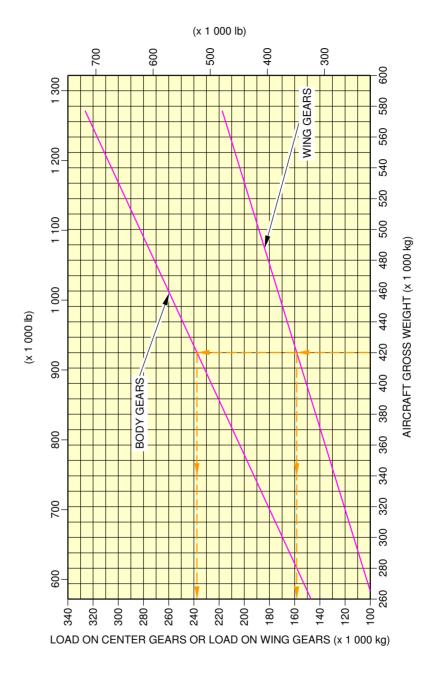
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Landing Gear Loading on Pavement WV007, MRW 492 000 kg, CG 43 % (Sheet 2 of 2) (Sheet 2 of 2) FIGURE-07-04-00-991-001-A01



L\_AC\_070400\_1\_0020101\_01\_00

Landing Gear Loading on Pavement WV008, MRW 577 000 kg CG 41% (Sheet 1 of 2) (Sheet 1 of 2) FIGURE-07-04-00-991-002-A01



L\_AC\_070400\_1\_0020102\_01\_00

Landing Gear Loading on Pavement WV008, MRW 577 000 kg, CG 41% (Sheet 2 of 2) (Sheet 2 of 2) FIGURE-07-04-00-991-002-A01

### 07-05-00 Flexible Pavement Requirements - US Army Corps of Engineers Design Method

#### \*\*ON A/C A380-800

## Flexible Pavement Requirements - US Army Corps of Engineers Design Method

1. This section gives data about the flexible pavement requirements.

The flexible pavement requirements graphs are given at standard tire pressure for the weight variants that produce (at the MRW and max aft CG) the lowest MLG and the highest MLG load of each type of aircraft.

They are calculated with the US Army Corps of Engineers Design Method.

To find a flexible pavement thickness, you must know the Subgrade Strength (CBR), the annual departure level and the weight on one MLG.

The line that shows 10 000 coverages is used to calculate the Aircraft Classification Number (ACN).

The procedure that follows is used to develop flexible pavement design curves:

- With the scale for pavement thickness at the bottom and the scale for CBR at the top, a random line is made to show 10 000 coverages,
- A plot is then made of the incremental values of the weight on the MLG,
- Annual departure lines are made based on the load lines of the weight on the MLG that is shown on the graph.

Example, see FIGURE 7-5-0-991-001-A (Sheet 1), calculation of the thickness of the flexible pavement for Wing Landing Gear:

- An aircraft with a MRW of 492 000 kg (1 084 675 lb),
- A "CBR" value of 10,
- An annual departure level of 3 000,
- The load on one WLG of 75 000 kg (165 350 lb).

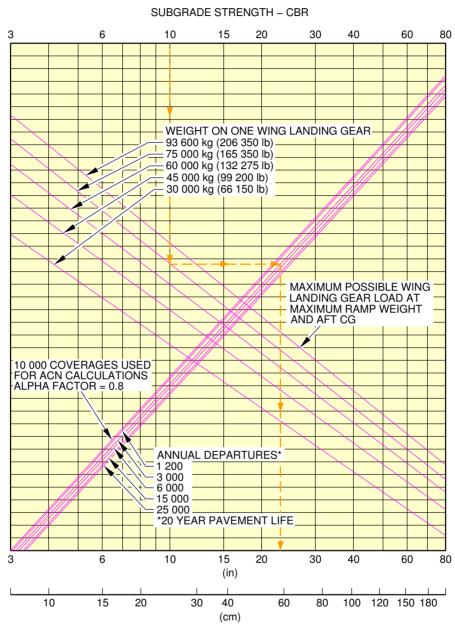
The required flexible pavement thickness is 58.5 cm (23 in).

Example, see FIGURE 7-5-0-991-001-A (Sheet 2), calculation of the thickness of the flexible pavement for Body Landing Gear:

- An aircraft with a Maximum Ramp Weight (MRW) of 492 000 kg (1 084 675 lb),
- A "CBR" value of 10,
- An annual departure level of 3 000,
- The load on one BLG of 125 000 kg (275 575 lb).

The required flexible pavement thickness is 61.1 cm (24 in).

<u>NOTE</u>: The CG in the figure title is the CG used for ACN calculation.



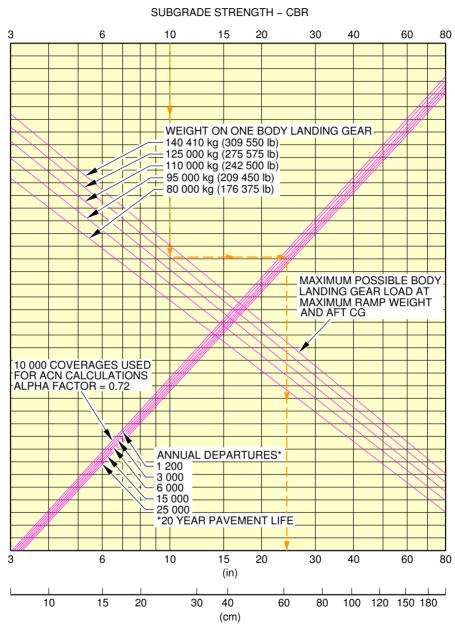
FLEXIBLE PAVEMENT THICKNESS

1 400 x 530 R23 40PR TIRES

TIRE PRESSURE CONSTANT AT 14 bar (203 psi)

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Flexible Pavement Requirements
WV007, MRW 492 000 kg, CG 43 % - Wing Landing Gear (Sheet 1 of 2) (Sheet 1 of 2)
FIGURE-07-05-00-991-001-A01



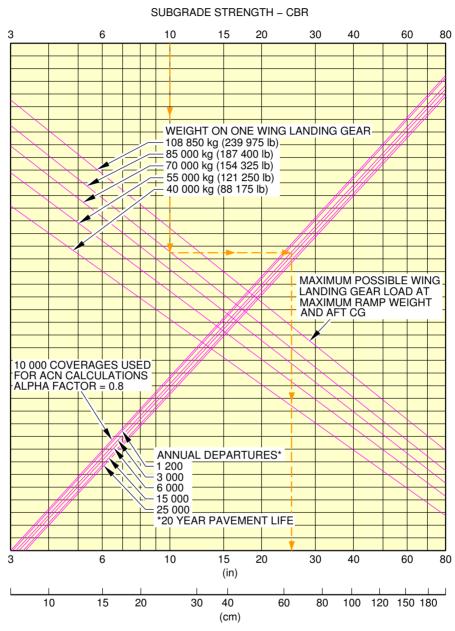
FLEXIBLE PAVEMENT THICKNESS

1 400 x 530 R23 40PR TIRES

TIRE PRESSURE CONSTANT AT 14 bar (203 psi)

L\_AC\_070500\_1\_0010102\_01\_00

Flexible Pavement Requirements
WV007, MRW 492 000 kg, CG 43 % - Body Landing Gear (Sheet 2 of 2) (Sheet 2 of 2)
FIGURE-07-05-00-991-001-A01



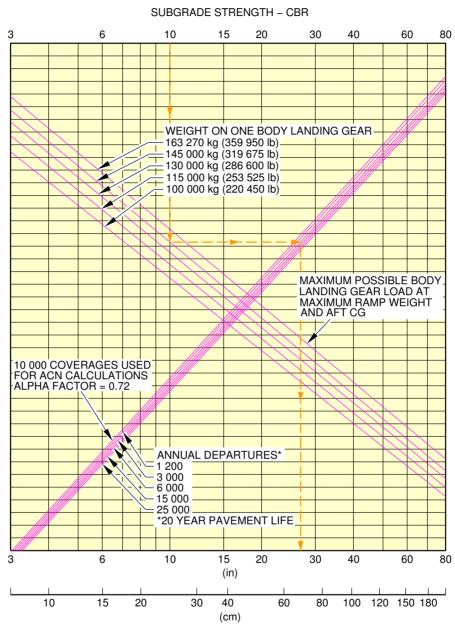
FLEXIBLE PAVEMENT THICKNESS

1 400 x 530 R23 40PR TIRES

TIRE PRESSURE CONSTANT AT 15 bar (218 psi)

L\_AC\_070500\_1\_0020101\_01\_00

Flexible Pavement Requirements
WV008, MRW 577 000 kg, CG 41 % - Wing Landing Gear (Sheet 1 of 2) (Sheet 1 of 2)
FIGURE-07-05-00-991-002-A01



FLEXIBLE PAVEMENT THICKNESS

1 400 x 530 R23 40PR TIRES

TIRE PRESSURE CONSTANT AT 15 bar (218 psi)

L\_AC\_070500\_1\_0020102\_01\_00

Flexible Pavement Requirements
WV008, MRW 577 000 kg, CG 41 % - Body Landing Gear (Sheet 2 of 2) (Sheet 2 of 2)
FIGURE-07-05-00-991-002-A01

### 07-06-00 Flexible Pavement Requirements - LCN Conversion

\*\*ON A/C A380-800

#### Flexible Pavement Requirements - LCN Conversion

1. This section gives data about the flexible pavement requirements for Load Classification Number (LCN) conversion.

The flexible pavement requirements graphs are given at standard tire pressure for the weight variants producing (at the MRW and maximum aft CG) the lowest MLG load and the highest MLG load for each A/C type.

To find the aircraft weight that a flexible pavement can support, you must know the LCN of the pavement and the thickness.

Example, see FIGURE 7-6-0-991-002-A (sheet 1), calculation of the thickness of the flexible pavement for the WLG:

- An aircraft with a MRW of 492 000 kg (1 084 675 lb),
- The flexible pavement thickness is 1 270 mm (50 in) with a related LCN of 112.

The weight on one MLG is 75 000 kg (165 350 lb).

Example, see FIGURE 7-6-0-991-002-A (sheet 2), calculation of the thickness of the flexible pavement for the BLG:

- An aircraft with a MRW of 492 000 kg (1 084 675 lb),
- The flexible pavement thickness is 1 270 mm (50 in) with a related LCN of 104.

The weight on one MLG is 125 000 kg (275 575 lb).

2. Flexible Pavement Requirements - LCN Table

The table in FIGURE 7-6-0-991-001-A provides LCN data in a tabular format similar to the one used by ICAO in the "Aerodrome Design Manual Part 3, Pavements - Edition 1977". In order to use the system accurately you should know the total pavement thickness for flexible pavement.

However, the pavement thickness for particular runways are not frequently published in the standard airport information sources (Jeppesen, AERAD, DOD, etc.).

Therefore it is common practice to use a standard thickness (20 in) when determining the LCN and the ESWL of the aircraft.

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

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

## \*\*ON A/C A380-800

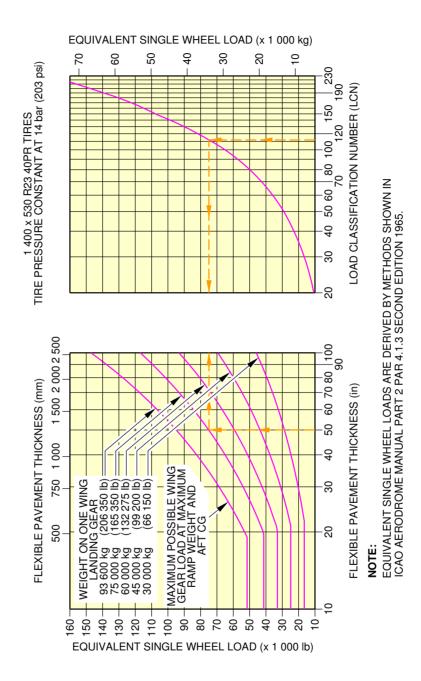
				FLEXIBLE PAVEMENT				
WEIGHT	ALL UP	LOAD ON ONE MAIN	TIRE	ES	LCN			
VARIANT	MASS (kg)	GEAR LEG	PRESSURE	x 1 000 kg				
"""""		(%) (MPa)			= 510 mm (20	in)		
		19 (WLG)		28	99			
	562 000	28.5 (BLG)		28	62 59	99		
WV000		19 (WLG)	1.50	14	31	96 56		
	300 000	28.5 (BLG)		14	31	56		
		19 (WLG)		25	55	88		
	512 000	28.5 (BLG)		24	53	85		
WV001		19 (WLG)	1.40	14	31	54		
	300 000	28.5 (BLG)	1	14	31	54		
	574 000	18.9 (WLG)		28	62	100		
14/1/000	571 000	28.3 (BLG)	1 50	27	59	97		
WV002	200,000	18.9 (WLG)	1.50	14	31	55		
	300 000	28.3 (BLG)		14	31	55		
	512 000	19 (WLG)		25	55	88		
WV003		28.5 (BLG)	1.40	24	53	85		
VVV003	300 000	19 (WLG)	1.40	14	31	54		
		28.5 (BLG)		14	31	54		
	562 000 300 000	19 (WLG)	1.50	28	62	99		
WV004		28.5 (BLG)		27	59	96		
		19 (WLG)		14	31	56		
	000 000	28.5 (BLG)		14	31	56		
	562 000	19 (WLG) 28.5 (BLG)		28	62	99		
WV005	300 000	19 (WLG)	1.50	27	59 31	96 56		
		28.5 (BLG)		14 14	31	56		
		18.9 (WLG)		28	62	101		
	575 000	28.3 (BLG)	-	27	59	97		
WV006		18.9 (WLG)	1.50	14	31	55		
	300 000	28.3 (BLG)	-	14	31	55		
		19 (WLG)		24	53	85		
	492 000	28.5 (BLG)		23	51	83		
WV007		19 (WLG)	1.40	14	31	54		
	300 000	28.5 (BLG)		14	31	54		
	F77.000	18.9 (WLG)		28	62	101		
WV008	577 000	28.3 (BLG)	1.50	27	59	98		
VV V U U 8	300 000	18.9 (WLG)	1.50	14	31	55		
		28.3 (BLG)		14	31	55		
	537 000	19 (WLG)		26	57	96		
WV009	337 000	28.5 (BLG)	1.50	26	57	93		
***************************************	300 000	19 (WLG)	1.50	14	31	56		
	000 000	28.5 (BLG)		14	31	56		

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Flexible Pavement Requirements LCN Table FIGURE-07-06-00-991-001-A01

# **GA380**

## \*\*ON A/C A380-800

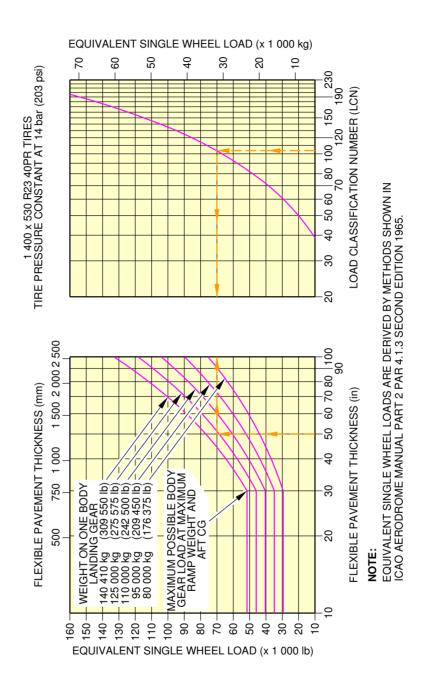


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Flexible Pavement Requirements - LCN WV007, MRW 492 000 kg, CG 43 % - WLG (Sheet 1 of 2) (Sheet 1 of 2) FIGURE-07-06-00-991-002-A01

# **GA380**

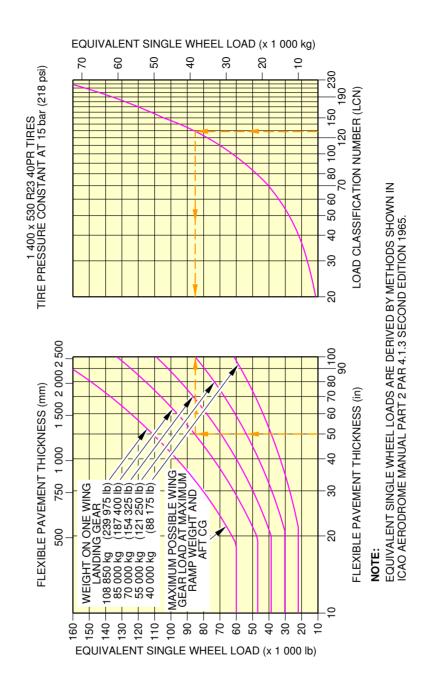
## \*\*ON A/C A380-800



L\_AC\_070600\_1\_0020102\_01\_00

Flexible Pavement Requirements - LCN WV007, MRW 492 000 kg, CG 43 % - BLG (Sheet 2 of 2) (Sheet 2 of 2) FIGURE-07-06-00-991-002-A01

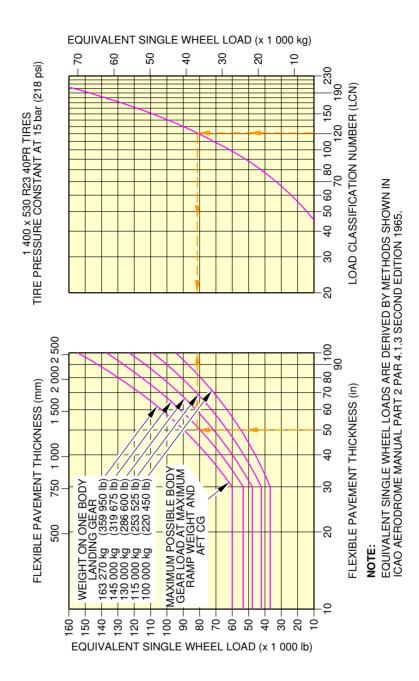
## \*\*ON A/C A380-800



L\_AC\_070600\_1\_0030101\_01\_00

Flexible Pavement Requirements - LCN WV008, MRW 577 000 kg, CG 41 % - WLG (Sheet 1 of 2) (Sheet 1 of 2) FIGURE-07-06-00-991-003-A01

## \*\*ON A/C A380-800



L\_AC\_070600\_1\_0030102\_01\_00

Flexible Pavement Requirements - LCN WV008, MRW 577 000 kg, CG 41 % - BLG (Sheet 2 of 2) (Sheet 2 of 2) FIGURE-07-06-00-991-003-A01

#### 07-07-00 Rigid Pavement Requirements - Portland Cement Association Design Method

#### \*\*ON A/C A380-800

## Rigid Pavement Requirements - Portland Cement Association Design Method

1. This section gives data about the rigid pavement requirements for the PCA (Portland Cement Association) design method.

The rigid pavement requirement graphs are given at standard tire pressure for the weight variants producing (at the MRW and max aft CG) the lowest MLG load and the highest MLG load for each A/C type.

To find a rigid pavement thickness, you must know the Subgrade Modulus (k), the permitted working stress and the weight on one MLG.

The procedure that follows is used to develop rigid pavement design curves:

- With the scale for pavement thickness on the left and the scale for permitted working stress on the right, a random load line is made. This represents the MLG maximum weight to be shown,
- A plot is then made of all values of the subgrade modulus (k values),
- More load lines for the incremental values of the weight on the MLG are made based on the curve for  $k = 80 \text{ MN/m}^3$ , which is already shown on the graph.

Example, see FIGURE 7-7-0-991-001-A (sheet 1), calculation of the thickness of the rigid pavement for the WLG:

- An aircraft with a MRW of 492 000 kg (1 084 675 lb),
- A k value of 80 MN/m³ (300 lbf/in³),
- A permitted working stress of 38.67 kg/cm<sup>2</sup> (550 lb/in<sup>2</sup>),
- The load on one MLG is 75 000 kg (165 350 lb).

The required rigid pavement thickness is 224 mm (9 in).

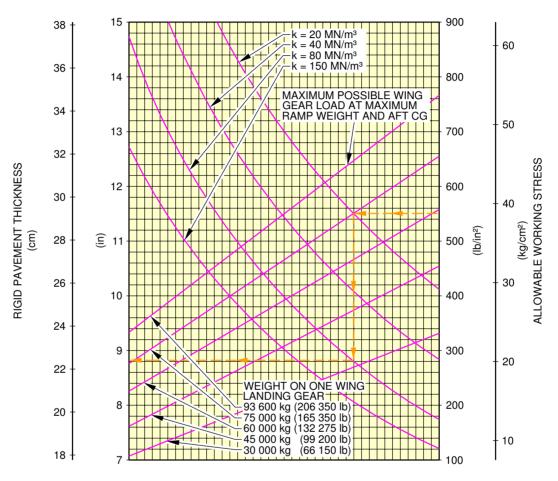
Example, see FIGURE 7-7-0-991-001-A (sheet 2), calculation of the thickness of the rigid pavement for the BLG:

- An aircraft with a MRW of 492 000 kg (1 084 675 lb),
- A k value of 80  $MN/m^3$  (300  $lbf/in^3$ ),
- A permitted working stress of 38.67 kg/cm<sup>2</sup> (550 lb/in<sup>2</sup>),
- The load on one MLG is 125 000 kg (275 575 lb).

The required rigid pavement thickness is 239 mm (9 in).

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

#### 1 400 x 530 R23 40PR TIRES TIRE PRESSURE CONSTANT AT 14 bar (203 psi)



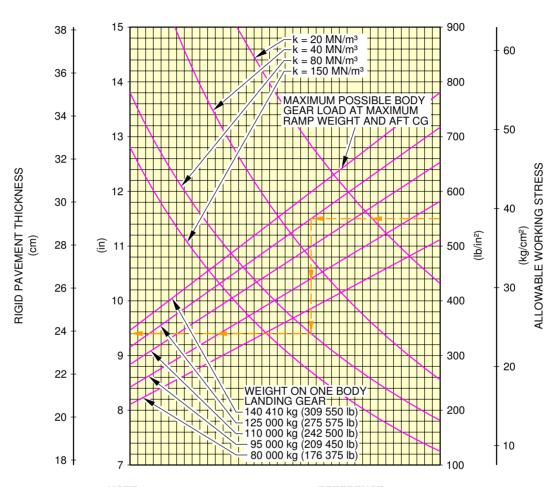
NOTE:
THE VALUES OBTAINED BY USING THE MAXIMUM LOAD REFERENCE LINE AND ANY VALUES FOR k ARE EXACT.
FOR LOADS LESS THAN MAXIMUM, THE CURVES ARE EXACT FOR k = 80 MN/m³ BUT DEVIATE SLIGHTLY FOR ANY OTHER VALUES OF k.

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
WV007, MRW 492 000 kg, CG 43 % - WLG (Sheet 1 of 2)
FIGURE-07-07-00-991-001-A01

#### 1 400 x 530 R23 40PR TIRES TIRE PRESSURE CONSTANT AT 14 bar (203 psi)



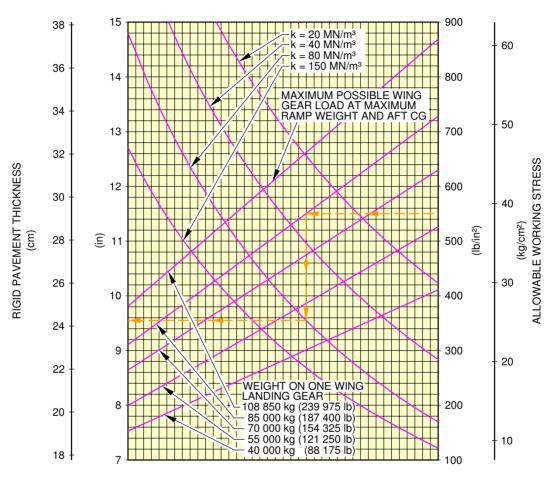
NOTE:
THE VALUES OBTAINED BY USING THE MAXIMUM LOAD REFERENCE LINE AND ANY VALUES FOR k ARE EXACT.
FOR LOADS LESS THAN MAXIMUM, THE CURVES ARE EXACT FOR k = 80 MN/m³ BUT DEVIATE SLIGHTLY FOR ANY OTHER VALUES OF k.

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 WV007, MRW 492 000 kg, CG 43 % - BLG (Sheet 2 of 2) FIGURE-07-07-00-991-001-A01

#### 1 400 x 530 R23 40PR TIRES TIRE PRESSURE CONSTANT AT 15 bar (218 psi)



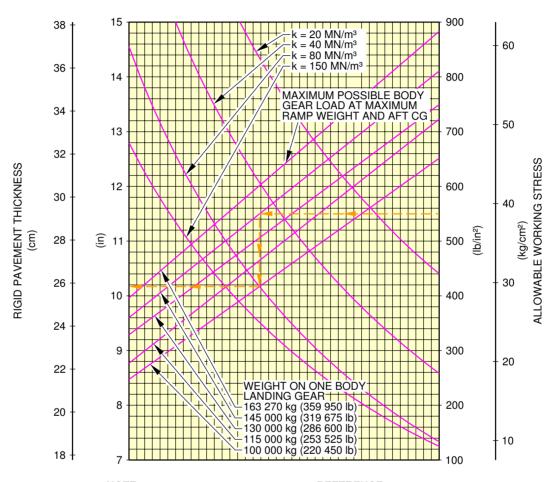
NOTE:
THE VALUES OBTAINED BY USING THE MAXIMUM LOAD REFERENCE LINE AND ANY VALUES FOR k ARE EXACT.
FOR LOADS LESS THAN MAXIMUM, THE CURVES ARE EXACT FOR k = 80 MN/m³ BUT DEVIATE SLIGHTLY FOR ANY OTHER VALUES OF k.

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
WV008, MRW 577 000 kg, CG 41 % - WLG (Sheet 1 of 2)
FIGURE-07-07-00-991-002-A01

#### 1 400 x 530 R23 40PR TIRES TIRE PRESSURE CONSTANT AT 15 bar (218 psi)



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 WV008, MRW 577 000 kg, CG 41 % - BLG (Sheet 2 of 2) FIGURE-07-07-00-991-002-A01

#### 07-08-00 Rigid Pavement Requirements - LCN Conversion

\*\*ON A/C A380-800

#### Rigid Pavement Requirements - LCN Conversion

1. This section gives data about the rigid pavement requirements for the Load Classification Number (LCN) conversion (radius of relative stiffness).

The rigid pavement requirement graphs are given at standard tire pressure for the weight variants producing (at the MRW and max aft CG) the lowest MLG load and the highest MLG load for each type of aircraft.

To find the aircraft weight that a rigid pavement can support, you must know the LCN of the pavement and the radius of relative stiffness (L).

The calculation of the radius of relative stiffness (L) is done with the formula and the table given in "Radius of Relative Stiffness" (L values based on Young's Modulus (E) of 4 000 000 psi and Poisson's Ratio ( $\mu$ ) of 0.15), see FIGURE 7-8-0-991-002-A.

Example, see FIGURE 7-8-0-991-003-A (Sheet 1), calculation of the aircraft weight through the radius of relative stiffness (L) of the rigid pavement for the Wing Landing Gear (WLG):

- An aircraft with a MRW of 492 000 kg (1 084 675 lb),
- The radius of relative stiffness is shown at 1 270 mm (50 in) with a related LCN of 86. The weight on one WLG is 75 000 kg (165 350 lb).

Example, see FIGURE 7-8-0-991-003-A (Sheet 2), calculation of the aircraft weight through the radius of relative stiffness (L) of the rigid pavement for the Body Landing Gear (BLG):

- An aircraft with a MRW of 492 000 kg (1 084 675 lb),
- The radius of relative stiffness is shown at 1 270 mm (50 in) with a related LCN of 81. The weight on one BLG is 125 000 kg (275 575 lb).

The following table provides LCN data in a tabular format similar to the one used by ICAO in the "Aerodrome Design Manual Part 3, Pavements - Edition 1977". In order to use the system accurately you should know the total pavement radius of relative stiffness (L-value) for rigid pavement. However, the pavement radius of relative stiffness for a particular runway are not frequently published in the standard airport information sources (Jeppesen, AERAD, DOD, etc.). Therefore it is common practice to use a standard radius of relative stiffness (30 inches) when determining the LCN and the ESWL of the aircraft.

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

2. Radius of Relative Stiffness (Other values of E and  $\mu$ )

This section gives data about the rigid pavement requirements for the Load Classification Number (LCN) conversion (radius of relative stiffness) with other values of E (Young's modulus) and  $\mu$  (Poisson's ratio).

The other values of E and  $\mu$  have an effect on the radius of relative stiffness (L-value).

The effect of E and  $\mu$  on the radius of relative stiffness (L-value) is shown in the graphs in FIGURE 7-8-0-991-005-A.

The table in FIGURE 7-8-0-991-002-A shows L-values based on a Young's modulus (E) of 4 000 000 psi and a Poisson's ratio ( $\mu$ ) of 0.15.

To find the L-value, you must know the values of E and  $\mu$ .

Example, see FIGURE 7-8-0-991-005-A, calculation of the L-values of the rigid pavement for an E of 3 000 000 psi.

The "E" factor is 0.931.

The radius of relative stiffness (L-value) is the value found in the table (see FIGURE 7-8-0-991-002-A) multiplied by 0.931.

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

## \*\*ON A/C A380-800

WEIGHT				RIGID PAVEMENT				
I WEIGHT I	ALL UP	LOAD ON ONE MAIN	TIRE	ES	• •			
VARIANT	MASS (kg)	GEAR LEG	PRESSURE	x 1 000 kg	LCN			
VALUAINI	(e.g)	(%)	(MPa)		x 1 000 lb	:\		
		10 (14(1-0)			= 760 mm (30	,		
	562 000	19 (WLG)		26	58	95		
WV000		28.5 (BLG)	1.50	9	20	74		
	300 000	19 (WLG) 28.5 (BLG)		14 5	31 11	53 41		
		28.5 (BLG) 19 (WLG)		24	53	84		
	512 000	28.5 (BLG)	-	8	18	66		
WV001		19 (WLG)	1.40	14	31	51		
	300 000	28.5 (BLG)		5	11	40		
		18.9 (WLG)		27	59	96		
	571 000	28.3 (BLG)		9	20	74		
WV002		18.9 (WLG)	1.50	14	31	53		
	300 000	28.3 (BLG)		5	11	40		
	512 000	19 (WLG)		24	53	84		
140/000		28.5 (BLG)		8	18	66		
WV003	300 000	19 (WLG)	1.40	14	31	51		
		28.5 (BLG)		5	11	40		
	562 000	19 (WLG)	1.50	26	58	95		
WV004		28.5 (BLG)		9	20	74		
VV V U U 4	300 000	19 (WLG)		14	31	53		
		28.5 (BLG)		5	11	41		
	562 000	19 (WLG)	1.50	26	58	95		
WV005		28.5 (BLG)		9	20	74		
1 *************************************	300 000	19 (WLG)	1.50	14	31	53		
		28.5 (BLG)		5	11	41		
	575 000	18.9 (WLG)		27	59	96		
WV006		28.3 (BLG)	1.50	9	20	75		
	300 000	18.9 (WLG)		14	31	53		
		28.3 (BLG)		5	11	40		
	492 000	19 (WLG) 28.5 (BLG)		23 8	51 18	82 64		
WV007		19 (WLG)	1.40	14	31	51		
	300 000	28.5 (BLG)		5	11	40		
		18.9 (WLG)		27	59	97		
	577 000	28.3 (BLG)		9	20	75		
WV008	300 000	18.9 (WLG)	1.50	14	31	53		
		28.3 (BLG)		5	11	40		
		19 (WLG)		25	55	92		
140/000	537 000	28.5 (BLG)	4.50	8	18	71		
WV009	300 000	19 (WLG)	1.50	14	31	53		
		28.5 (BLG)		5	11	41		

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Rigid Pavement Requirements LCN Table FIGURE-07-08-00-991-001-A01

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

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

WHERE E = YOUNG'S MODULUS = 4 x 10<sup>6</sup> psi

k = SUBGRADE MODULUS, lb/in<sup>3</sup>

d = RIGID PAVEMENT THICKNESS, (in)

 $\mu$  = POISSON'S RATIO = 0.15

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

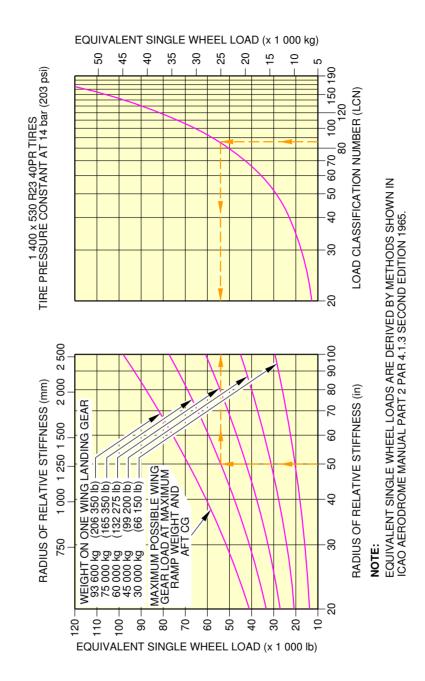
**REFERENCE:** 

PORTLAND CEMENT ASSOCIATION.

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Radius of Relative Stiffness (L) FIGURE-07-08-00-991-002-A01

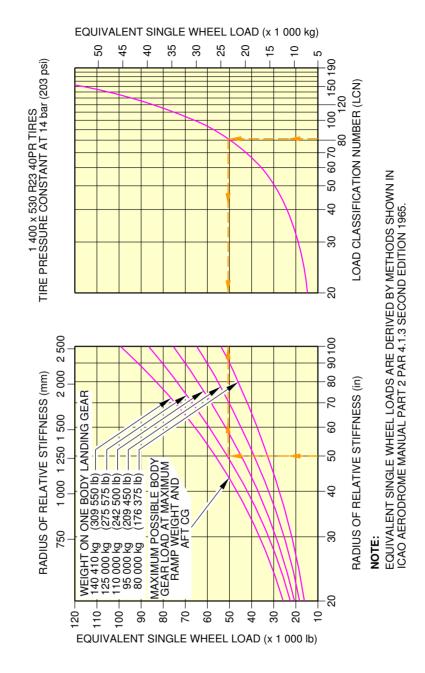
\*\*ON A/C A380-800



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Rigid Pavement Requirements - LCN WV007, MRW 492 000 kg, CG 43% - WLG (Sheet 1 of 2) FIGURE-07-08-00-991-003-A01

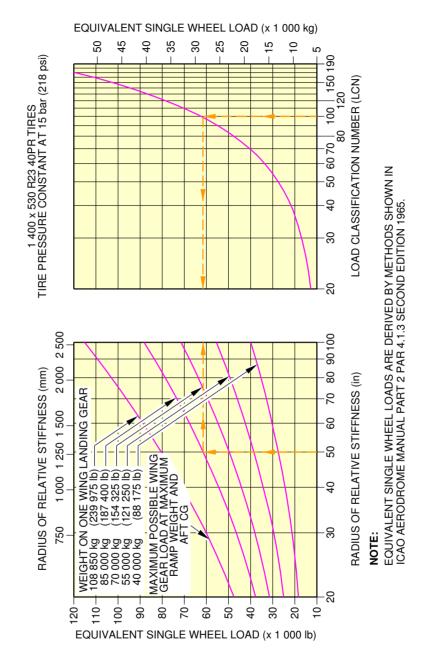
\*\*ON A/C A380-800



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Rigid Pavement Requirements - LCN WV007, MRW 492 000 kg, CG 43% - BLG (Sheet 2 of 2) FIGURE-07-08-00-991-003-A01

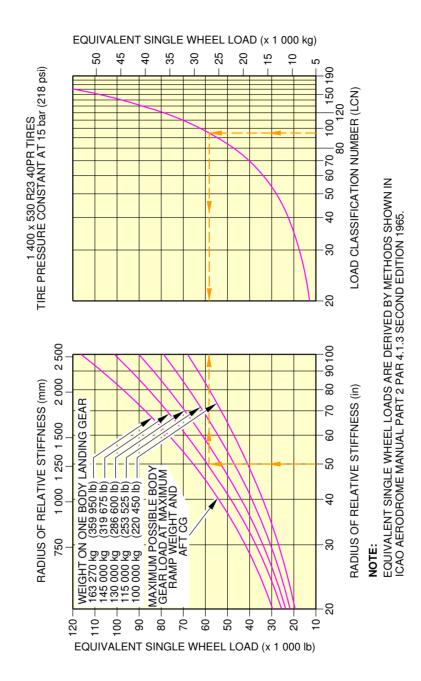
\*\*ON A/C A380-800



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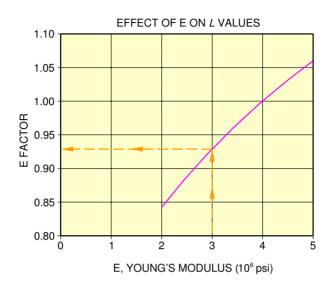
Rigid Pavement Requirements - LCN WV008, MRW 577 000 kg, CG 41% - WLG (Sheet 1 of 2) FIGURE-07-08-00-991-004-A01

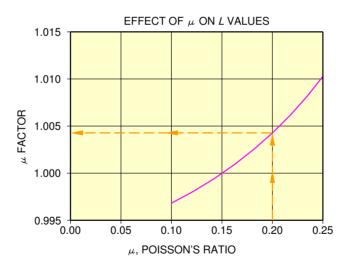
## \*\*ON A/C A380-800



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Rigid Pavement Requirements - LCN WV008, MRW 577 000 kg, CG 41% - BLG (Sheet 2 of 2) FIGURE-07-08-00-991-004-A01





#### NOTE:

BOTH CURVES ON THIS PAGE ARE USED TO ADJUST THE  $\it L$  VALUES OF RADIUS OF RELATIVE STIFFNESS ( $\it L$ ) TABLE.

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Radius of Relative Stiffness (Effect E and  $\mu$  on "L" values) FIGURE-07-08-00-991-005-A01

### 07-09-00 ACN/PCN Reporting System

\*\*ON A/C A380-800

## ACN/PCN Reporting System - Flexible and Rigid Pavements

1. This section gives data about the Aircraft Classification Number (ACN) for an aircraft gross weight in relation with a subgrade strength value for flexible and rigid pavement.

The flexible and rigid pavement requirement graphs are given at standard tire pressure for the weight variants producing (at the MRW and max aft CG) the lowest MLG load and the highest MLG load for each type of aircraft.

To find the ACN of an aircraft on flexible and rigid pavement, you must know the aircraft gross weight and the subgrade strength.

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

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

Example, see FIGURE 7-9-0-991-002-A (sheet 1), calculation of the ACN for flexible pavement for:

- An aircraft with a MRW of 492 000 kg (1 084 675 lb),
- An aircraft gross weight of 420 000 kg (925 950 lb),
- A medium subgrade strength (code B).

The ACN for flexible pavement is 43.

Example, see FIGURE 7-9-0-991-002-A (sheet 2), calculation of the ACN for rigid pavement for:

- An aircraft with a MRW of 492 000 kg (1 084 675 lb),
- An aircraft gross weight of 420 000 kg (925 950 lb),
- A medium subgrade strength (code B).

The ACN for rigid pavement is 44.

2. Aircraft Classification Number - ACN table

The table in FIGURE 7-9-0-991-001-A provides ACN data in tabular format similar to the one used by ICAO in the "Aerodrome Design Manual Part 3, Pavements - Edition 1983". If the ACN for an intermediate weight between MRW and the minimum weight of the aircraft is required, refer to the figures that follow.

<u>NOTE</u>: The CG in the figure title is the CG used for ACN calculation.

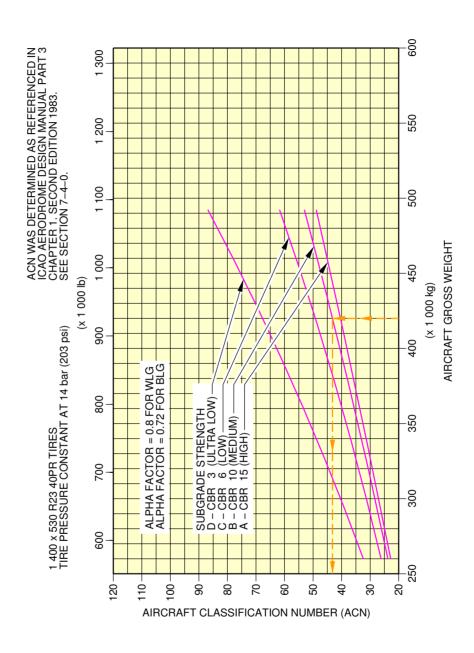
## \*\*ON A/C A380-800

WEIGHT	ALL UP MASS	LOAD ON ONE MAIN GEAR LEG	TIRE PRESSURE	ACN FOR RIGID PAVEMENT SUBGRADES-MN/m³					ACN FOR FLEXIBLE PAVEMENT SUBGRADES-CBR			
VARIANT	(kg)	(%)	(MPa)	HIGH 150	MEDIUM 80	LOW 40	ULTRAL-LOW 20	HIGH 15	MEDIUM 10	LOW 6	ULTRAL-LOW 3	
	562 000	19 (WLG)		56	66	78	91	59	64	75	102	
WV000	362 000	28.5 (BLG)		55	68	88	110	56	62	75	106	
VV V U U U	000 000	19 (WLG)	1.50	27	29	34	39	27	29	31	40	
	300 000	28.5 (BLG)		29	29	34	42	25	27	30	40	
	E40.000	19 (WLG)		49	57	68	79	51	56	66	90	
140/004	512 000	28.5 (BLG)		48	57	75	94	49	54	65	92	
WV001	000 000	19 (WLG)	1.40	26	29	33	38	27	28	31	40	
	300 000	28.5 (BLG)		28	28	33	42	25	27	30	40	
	F74 000	18.9 (WLG)		57	67	79	91	59	64	76	104	
140,4000	571 000	28.3 (BLG)	4.50	56	69	89	111	57	63	76	107	
WV002	000 000	18.9 (WLG)	1.50	27	29	33	38	27	28	31	40	
	300 000	28.3 (BLG)		28	29	34	42	25	26	30	39	
	540.000	19 (WLG)	1.40	49	57	68	79	51	56	66	90	
	512 000	28.5 (BLG)		48	57	75	94	49	54	65	92	
WV003	300 000	19 (WLG)		26	29	33	38	27	28	31	40	
		28.5 (BLG)		28	28	33	42	25	27	30	40	
	562 000	19 (WLG)	1.50	56	66	78	91	59	64	75	102	
140,400.4		28.5 (BLG)		55	68	88	110	56	62	75	106	
WV004	300 000	19 (WLG)		27	29	34	39	27	29	31	40	
		28.5 (BLG)		29	29	34	42	25	27	30	40	
	562 000	19 (WLG)	1.50	56	66	78	91	59	64	75	102	
140 (005		28.5 (BLG)		55	68	88	110	56	62	75	106	
WV005	300 000	19 (WLG)		27	29	34	39	27	29	31	40	
		28.5 (BLG)		29	29	34	42	25	27	30	40	
	· · · ·	18.9 (WLG)		58	67	80	92	60	65	77	105	
140 (000	575 000	28.3 (BLG)		56	69	90	113	57	63	77	108	
WV006		18.9 (WLG)	1.50	27	29	33	38	27	28	31	40	
	300 000	28.3 (BLG)		28	29	34	42	25	26	30	39	
	400.000	19 (WLG)		46	54	64	75	49	53	62	85	
140.4007	492 000	28.5 (BLG)		46	54	70	89	47	51	61	87	
WV007		19 (WLG)	1.40	26	29	33	38	27	28	31	40	
	300 000	28.5 (BLG)		28	28	33	42	25	27	30	40	
	F77.000	18.9 (WLG)		58	68	80	93	60	65	77	105	
140,4005	577 000	28.3 (BLG)	1.50	56	70	91	113	58	64	77	108	
WV008		18.9 (WLG)		27	29	33	38	27	28	31	40	
	300 000	28.3 (BLG)		28	29	34	42	25	26	30	39	
	507.000	19 (WLG)		53	62	74	85	55	60	70	96	
140,4005	537 000	28.5 (BLG)	4.50	52	63	82	103	53	58	70	99	
WV009	300 000	19 (WLG)	1.50	27	29	34	39	27	29	31	40	
		28.5 (BLG)		29	29	34	42	25	27	30	40	

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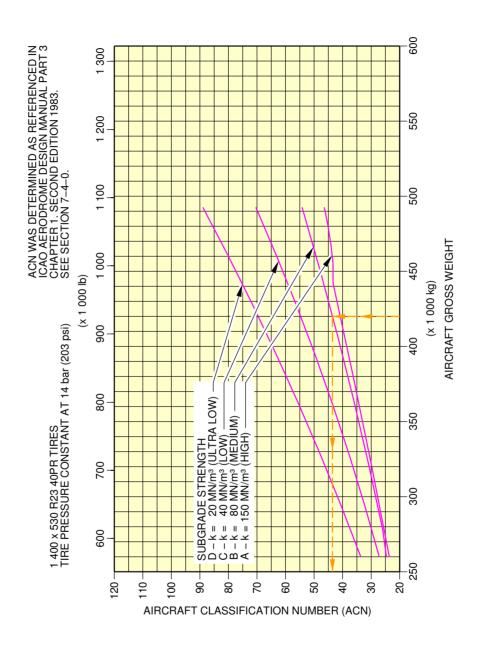
Aircraft Classification Number ACN Table FIGURE-07-09-00-991-001-A01

## \*\*ON A/C A380-800



L\_AC\_070900\_1\_0020101\_01\_00

Aircraft Classification Number
Flexible Pavement - WV007, MRW 492 000 kg, CG 43% (Sheet 1 of 2) (Sheet 1 of 2)
FIGURE-07-09-00-991-002-A01



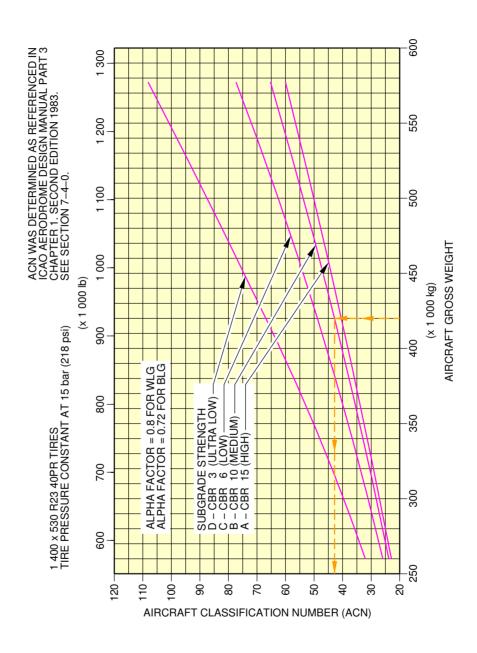
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Aircraft Classification Number Rigid Pavement - WV007, MRW 492 000 kg, CG 43% (Sheet 2 of 2) (Sheet 2 of 2) FIGURE-07-09-00-991-002-A01

# **DA380**

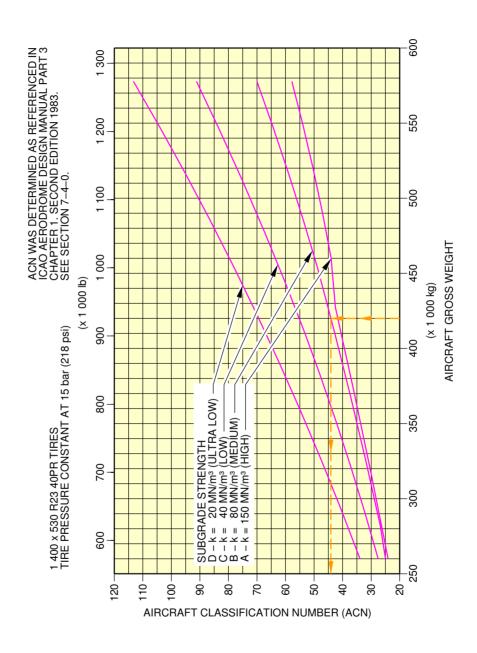
AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

# \*\*ON A/C A380-800



L\_AC\_070900\_1\_0030101\_01\_00

Aircraft Classification Number Flexible Pavement - WV008, MRW 577 000 kg, CG 41% (Sheet 1 of 2) (Sheet 1 of 2) FIGURE-07-09-00-991-003-A01



L\_AC\_070900\_1\_0030102\_01\_00

Aircraft Classification Number Rigid Pavement - WV008, MRW 577 000 kg, CG 41% (Sheet 2 of 2) (Sheet 2 of 2) FIGURE-07-09-00-991-003-A01

### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

# **SCALED DRAWINGS**

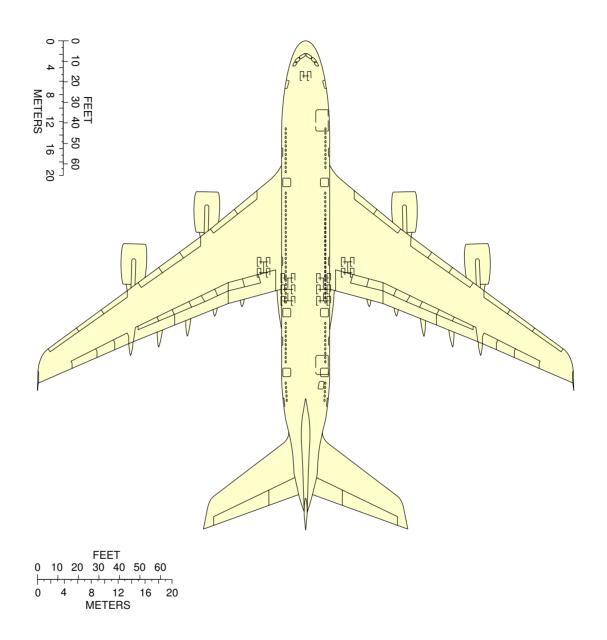
08-00-00 SCALED DRAWINGS

\*\*ON A/C A380-800

# **Scaled Drawings**

1. This section provides the scaled drawings.

<u>NOTE</u>: When printing this drawing, make sure to adjust for proper scaling.



NOTE: WHEN PRINTING THIS DRAWING, MAKE SURE TO ADJUST FOR PROPER SCALING. DB1A  $L_{AC\_080000\_1\_0010101\_01\_01}$ 

Scaled Drawing FIGURE-08-00-00-991-001-A01

### AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

# AIRCRAFT RESCUE AND FIRE FIGHTING

## 10-00-00 AIRCRAFT RESCUE AND FIRE FIGHTING

\*\*ON A/C A380-800

# Aircraft Rescue and Fire Fighting

1. Aircraft Rescue and Fire Fighting Charts

This section gives data related to aircraft rescue and fire fighting.

The figures contained in this section are the figures that are in the Aircraft Rescue and Fire Fighting Charts poster available on AIRBUSWorld and the Airbus website.





# Aircraft Rescue and Fire Fighting Chart

IOTE:

THIS CHART GIVES THE GENERAL LAYOUT OF THE A380–800 STANDARD VERSION.
THE NUMBER AND ARRANGEMENT OF THE INDIVIDUAL ITEMS VARY WITH THE CUSTOMERS.
FIGURES CONTAINED IN THIS POSTER ARE AVAILABLE SEPARATLY IN THE CHAPTER 10 OF THE "AIRCRAFT CHARACTERISTICS – AIRPORT AND MAINTENANCE PLANNING" DOCUMENT.

SSUED BY:

AIRBUS S.A.S CUSTOMER SERVICES TECHNICAL DATA SUPPORT AND SERVICES 31707 BLAGNAC CEDEX FRANCE

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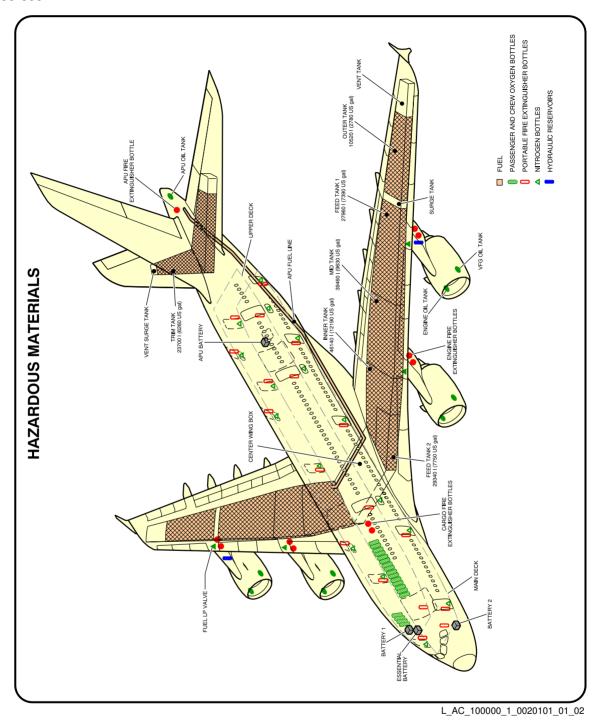
REVISION DATE: D REFERENCE : L SHEET 1/2

**DECEMBER 2013** 

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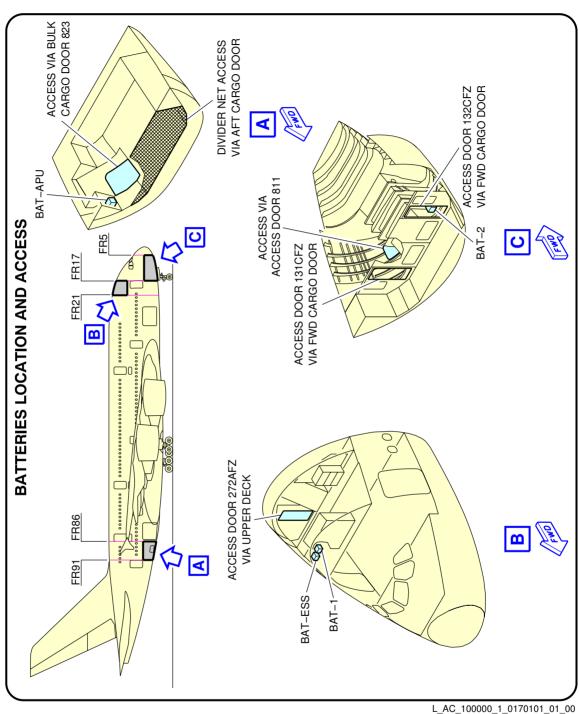
Front Page FIGURE-10-00-00-991-001-A01



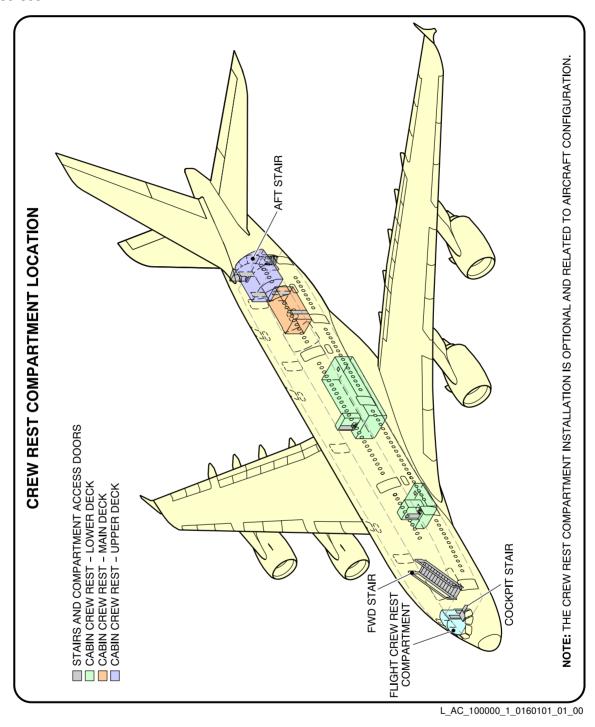
 $\begin{array}{c} \hbox{Highly Flammable and Hazardous Materials and Components} \\ \hbox{FIGURE-10-00-991-002-A01} \end{array}$ 

# AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

# \*\*ON A/C A380-800

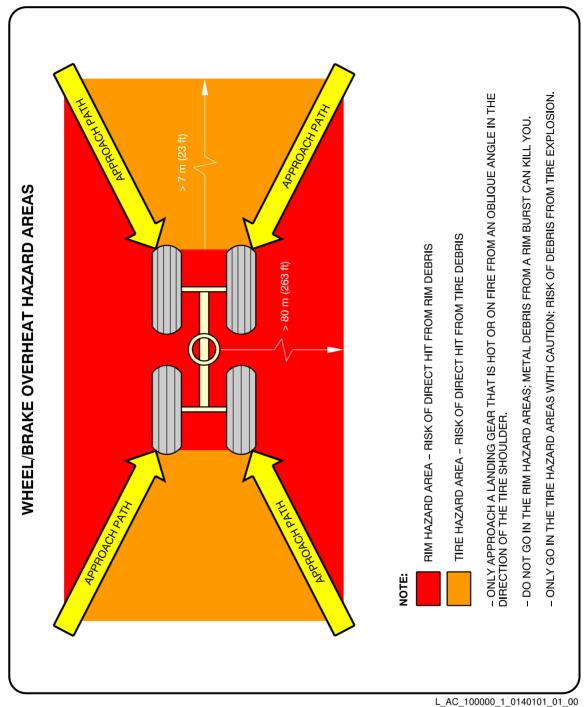


Batteries Location and Access FIGURE-10-00-00-991-017-A01



Crew Rest Compartments Location FIGURE-10-00-00-991-016-A01

# \*\*ON A/C A380-800



Wheel/Brake Overheat Wheel Safety Area (Sheet 1 of 2) FIGURE-10-00-00-991-014-A01



# BRAKE OVERHEAT AND LANDING GEAR FIRE

BE VERY CAREFUL WHEN THERE IS A BRAKE OVERHEAT AND/OR LANDING GEAR FIRE. THERE IS A RISK OF TIRE EXPLOSION AND/OR WHEEL RIM BURST THAT CAN CAUSE DEATH OR INJURY. MAKE SURE THAT YOU OBEY THE SAFETY PRECAUTIONS THAT FOLLOW. WARNING:

THE PROCEDURES THAT FOLLOW GIVE RECOMMENDATIONS AND SAFETY PRECAUTIONS FOR THE COOLING OF VERY HOT BRAKES AFTER ABNORMAL OPERATIONS SUCH AS A REJECTED TAKE-OFF OR OVERWEIGHT LANDING. FOR THE COOLING OF BRAKES AFTER NORMAL TAXI-IN, REFER TO YOUR COMPANY PROCEDURES.

# BRAKE OVERHEAT

**NOTE:** AT HIGH TEMPERATURES (≻800°C), THERE IS A RISK OF WARPING OF THE LANDING GEAR STRUTS AND AXLES 1 – GET THE BRAKE TEMPERATURE FROM THE COCKPIT OR USE A REMOTE MEASUREMENT TECHNIQUE. THE REAL TEMPERATURE OF THE BRAKES CAN BE MUCH HIGHER THAN THE TEMPERATURE SHOWN ON THE ECAM.

APPROACH THE LANDING GEAR WITH EXTREME CAUTION AND FROM AN OBLIQUE ANGLE IN THE DIRECTION OF THE TIRE SHOULDER. DO NOT GO INTO THE RIM HAZARD AREA AND ONLY GO IN THE TIRE HAZARD AREA WITH CAUTION. (REF FIG. WHEEL/BRAKE OVERHEAT HAZARD AREAS). IF POSSIBLE, STAY IN A VEHICLE. 2

IF THE TIRES ARE STILL INFLATED (FUSE PLUGS NOT MELTED), THERE IS A RISK OF TIRE EXPLOSION AND RIM BURST 3 - LOOK AT THE CONDITION OF THE TIRES:

DO NOT USE COOLING FANS BECAUSE THEY CAN PREVENT OPERATION OF THE FUSE PLUGS

USE WATER MIST TO DECREASE THE TEMPERATURE OF THE COMPLETE WHEEL AND BRAKE ASSEMBLY. USE A TECHNIQUE THAT PREVENTS SUDDEN COOLING. SUDDEN COOLING CAN CAUSE WHEEL CRACKS OR RIM BURST. DO NOT APPLY WATER, FOAM OR CO2. THESE COOLING AGENTS (AND ESPECIALLY CO2, WHICH HAS A VERY STRONG COOLING EFFECT) CAN CAUSE THERMAL SHOCKS AND BURST OF HOT PARTS.

# LANDING GEAR FIRE:

CAUTION: AIRBUS RECOMMENDS THAT YOU DO NOT USE DRY POWDERS OR DRY CHEMICALS ON HOT BRAKES OR TO EXTINGUISH LANDING GEAR FIRES. THESE AGENTS CAN CHANGE INTO SOLID OR ENAMELED DEPOSITS. THEY CAN DECREASE THE SPEED OF HEAT DISSIPATION WITH A POSSIBLE RISK OF PERMANENT STRUCTURAL DAMAGE TO THE BRAKES, WHEELS OR WHEEL AXLES. A) APPROACH THE LANDING GEAR WITH EXTREME CAUTION FROM AN OBLIQUE ANGLE IN THE DIRECTION OF THE TIRE SHOULDER. DO NOT GO INTO THE RIM HAZARD AREA AND ONLY GO IN THE TIRE HAZARD AREA WITH CAUTION. IF POSSIBLE, STAY IN A VEHICLE.

1 – IMMEDIATELY STOP THE FIRE:

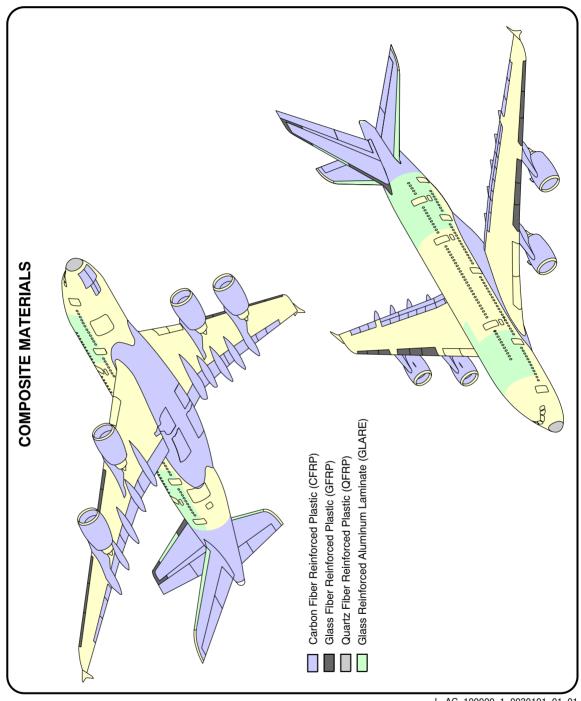
B) USE LARGE AMOUNTS OF WATER, WATER MIST; IF THE FUEL TANKS ARE AT RISK, USE FOAM. USE A TECHNIQUE THAT PREVENTS SUDDEN COOLING. SUDDEN COOLING CAN CAUSE WHEEL CRACKS OR RIM BURST.

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Wheel/Brake Overheat Recommendations (Sheet 2 of 2) FIGURE-10-00-00-991-014-A01

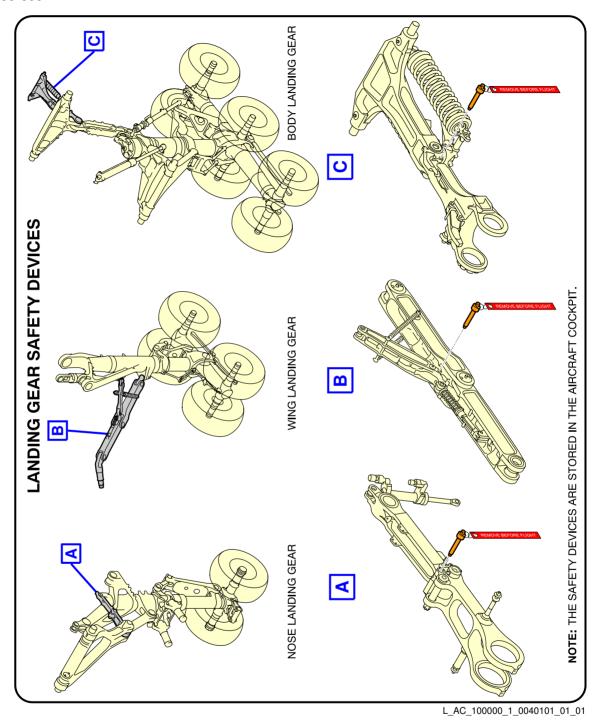
C) DO NOT USE FANS OR BLOWERS

# \*\*ON A/C A380-800



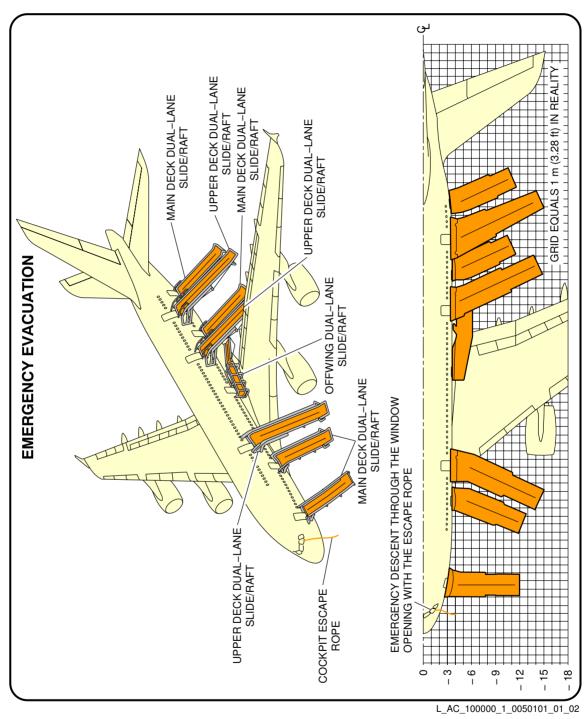
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Composite Materials Location FIGURE-10-00-00-991-003-A01



Landing Gear Ground Lock Safety Devices FIGURE-10-00-00-991-004-A01

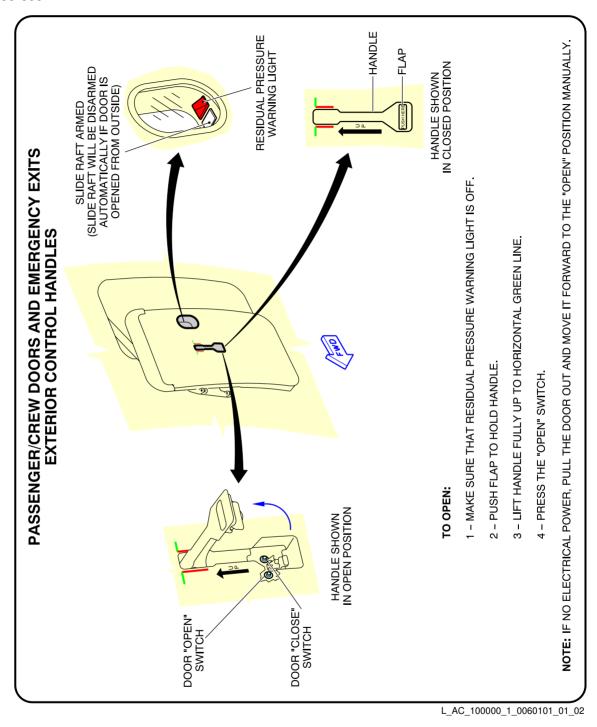
# \*\*ON A/C A380-800



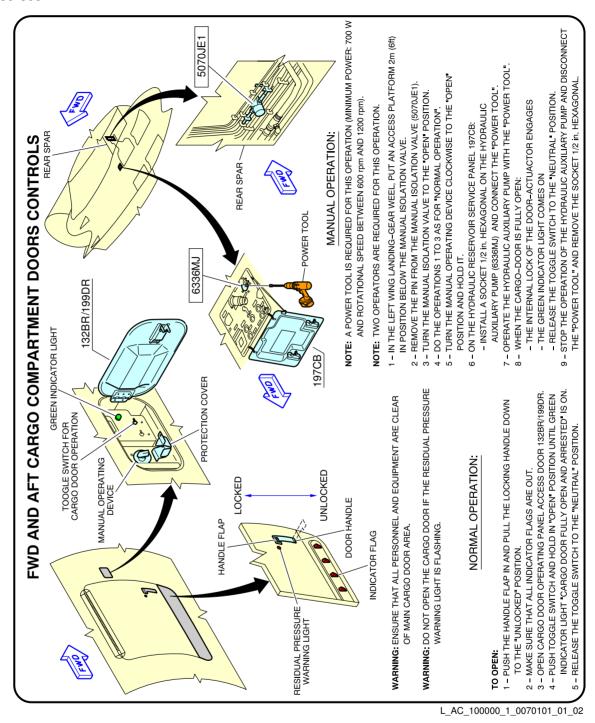
Emergency Evacuation Devices FIGURE-10-00-00-991-005-A01

# **@A380**

# \*\*ON A/C A380-800



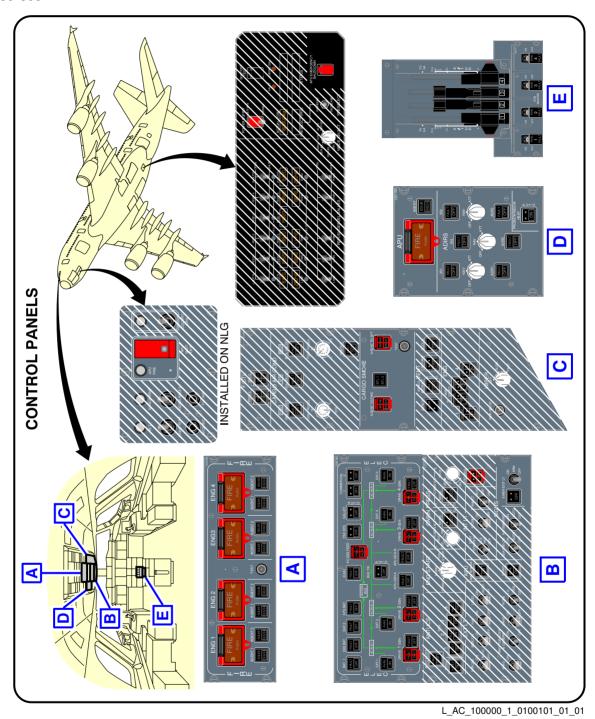
Pax/Crew Doors and Emergency Exits FIGURE-10-00-00-991-006-A01



Cargo Doors FWD and AFT Lower Deck Cargo Doors FIGURE-10-00-00-991-007-A01

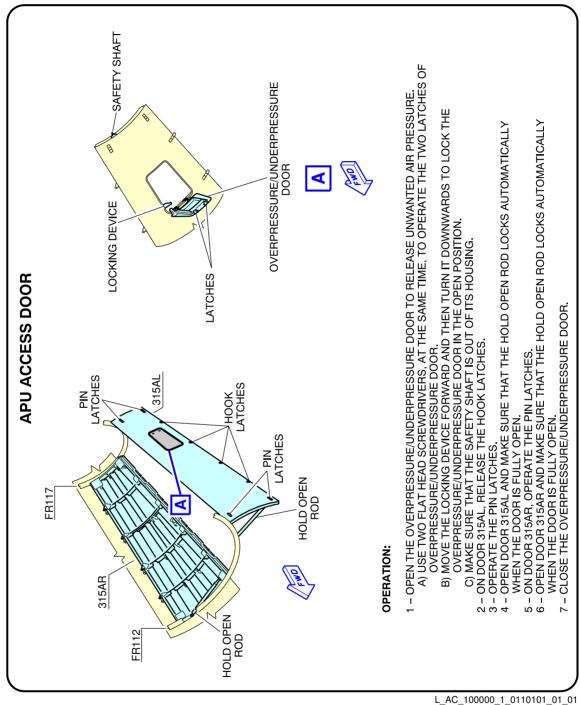
# **GA380**

# \*\*ON A/C A380-800

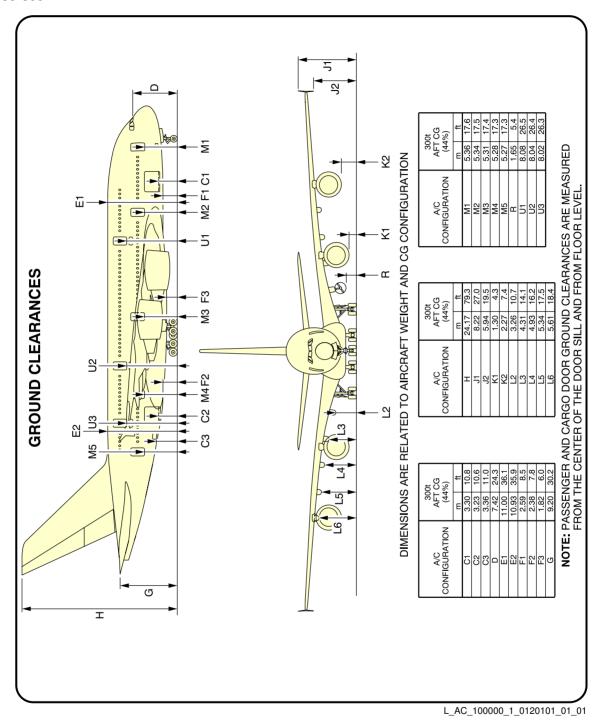


Control Panels FIGURE-10-00-00-991-010-A01

# **@ 4380**

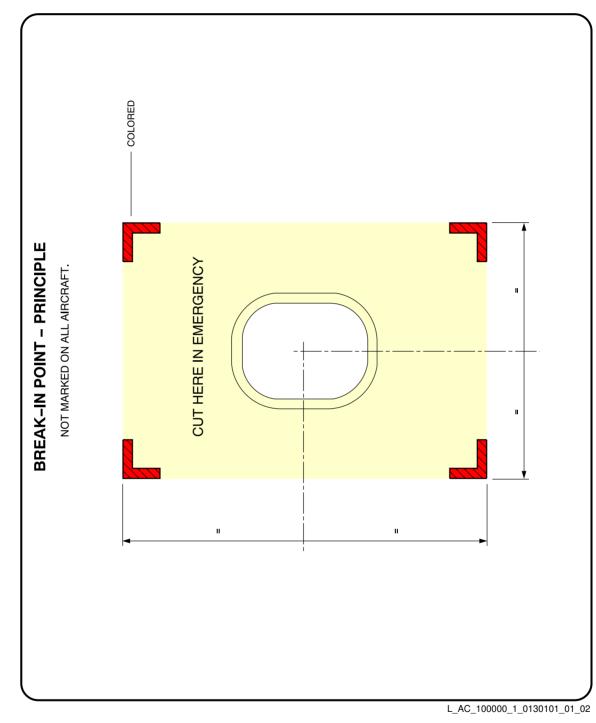


**APU Compartment Access** FIGURE-10-00-00-991-011-A01



Aircraft Ground Clearances FIGURE-10-00-00-991-012-A01

# **@A380**



Structural Break-in Points FIGURE-10-00-00-991-013-A01