AIRCRAFT CHARACTERISTICS
AIRPORT AND MAINTENANCE PLANNING

AC

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Customer Services
Technical Data Support and Services
31707 Blagnac Cedex
FRANCE

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<table>
<thead>
<tr>
<th>LOCATIONS</th>
<th>CHG CODE</th>
<th>DESCRIPTIONS OF CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHAPTER 1</td>
<td>R</td>
<td>PURPOSE CHANGED DUE TO MERGE OF THE MFP AND AC MANUALS.</td>
</tr>
<tr>
<td>Section 1-1</td>
<td>R</td>
<td>WEIGHT DEFINITIONS UPDATED.</td>
</tr>
<tr>
<td>Subject 1-1-0</td>
<td>R</td>
<td>OEW AND PAYLOAD DELETED.</td>
</tr>
<tr>
<td>Subject 2-1-0</td>
<td>R</td>
<td>REPLACED &quot;AIRPLANE&quot; BY &quot;AIRCRAFT&quot; AND COMPLETED TITLE OF ILLUSTRATIONS. DESCRIPTION TITLE UPDATED. ILLUSTRATION REVISED</td>
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<tr>
<td>Subject 2-2-0</td>
<td>R</td>
<td>REVISED GROUND CLEARANCES TO SHOW THE DIMENSIONS FOR A LIGHT AND HEAVY WEIGHT VARIANT. DELETED THE TERM &quot;OWE&quot;.</td>
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<tr>
<td>Subject 2-3-0</td>
<td>R</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>Figure Ground Clearances</td>
<td>R</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>Figure Ground Clearances - Ground Clearances with Sharklets</td>
<td>R</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>LOCATIONS</td>
<td>CHG CODE</td>
<td>DESCRIPTIONS OF CHANGE</td>
</tr>
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<td>--------------------------------------------------------------------------</td>
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<tr>
<td>FIGURE Ground Clearances - Flaps and Flap Track Fairings When Flaps Fully Extended</td>
<td>N</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>FIGURE Ground Clearances - Flap Track Fairings Up</td>
<td>N</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>FIGURE Ground Clearances - Aileron Down</td>
<td>N</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>FIGURE Ground Clearances - Aileron Up and Spoilers 1 to 5 Extended</td>
<td>N</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>FIGURE Ground Clearances - Slats Extended</td>
<td>N</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>Section 2-6</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Subject 2-6-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cargo Compartments</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>FIGURE Cargo Compartments - Locations, Dimensions and Loading Combinations</td>
<td>N</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>Subject 02-06-01</td>
<td>D</td>
<td></td>
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<tr>
<td>Section 2-8</td>
<td>N</td>
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<tr>
<td>Subject 2-8-0</td>
<td>N</td>
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<td>Escape Slides</td>
<td>N</td>
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</tr>
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<td>FIGURE Escape Slides - Location</td>
<td>N</td>
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<tr>
<td>FIGURE Escape Slides - Dimensions</td>
<td>N</td>
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<tr>
<td>Section 2-9</td>
<td>N</td>
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</tr>
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<td>Landing Gear</td>
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<td>N</td>
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<td>FIGURE Landing Gear - Main Landing Gear Dimensions - Twin Wheel</td>
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<td>FIGURE Landing Gear - Nose Landing Gear</td>
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<td>FIGURE Landing Gear - Nose Landing Gear Dimensions</td>
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<td>FIGURE Landing Gear Maintenance Pits - Maintenance Pit Envelopes</td>
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<td>Exterior Lighting</td>
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<td>Subject 2-11-0</td>
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<td>Subject 2-12-0</td>
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<td>Auxiliary Power Unit</td>
<td>N</td>
<td></td>
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<td>FIGURE Auxiliary Power Unit - Access Doors</td>
<td>N</td>
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<td>FIGURE Auxiliary Power Unit - General Layout</td>
<td>N</td>
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<td>Engine and Nacelle</td>
<td>N</td>
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<td>FIGURE Power Plant Handling - Major Dimensions - CFM56 Series Engine</td>
<td>N</td>
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<td>N</td>
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<td>FIGURE Power Plant Handling - Fan Cowls - CFM56 Series Engine</td>
<td>N</td>
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<tr>
<td>FIGURE Power Plant Handling - Thrust Reverser Cowls - CFM56 Series Engine</td>
<td>N</td>
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<td>FIGURE Power Plant Handling - Nacelle Dimensions - PW 6000 Series Engine</td>
<td>N</td>
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<td>FIGURE Power Plant Handling - Fan Cowls - PW 6000 Series Engine</td>
<td>N</td>
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<tr>
<td>FIGURE Power Plant Handling - Thrust Reverser Halves - PW 6000 Series Engine</td>
<td>N</td>
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<td>Section 2-13</td>
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<tr>
<td>Subject 2-13-0</td>
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<td>FIGURE Location of the Leveling Points</td>
<td>N</td>
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<td>Section 2-14</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Subject 2-14-0</td>
<td>N</td>
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</tr>
<tr>
<td>Jacking for Maintenance</td>
<td>N</td>
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<td>FIGURE Jacking for Maintenance - Jacking Point Location</td>
<td>N</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>FIGURE Jacking for Maintenance - Forward Jacking Point</td>
<td>N</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>FIGURE Jacking for Maintenance - Wing Jacking Points</td>
<td>N</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>FIGURE Jacking for Maintenance - Safety Stay</td>
<td>N</td>
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<tr>
<td>FIGURE Jacking for Maintenance - Jacking Design</td>
<td>N</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>Jacking for Wheel Change</td>
<td>N</td>
<td>ILLUSTRATION ADDED</td>
</tr>
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<td>FIGURE Landing Gear Jacking for Wheel Change - MLG Jacking Point Location - Twin Wheels</td>
<td>N</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>FIGURE Landing Gear Jacking for Wheel Change - MLG Jacking with Cantilever Jack - Twin Wheels</td>
<td>N</td>
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<tr>
<td>LOCATIONS</td>
<td>CHG CODE</td>
<td>DESCRIPTIONS OF CHANGE</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>----------</td>
<td>---------------------------------------------</td>
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<tr>
<td>FIGURE Landing Gear Jacking for Wheel Change - Loads at MLG Jacking Points - Twin Wheels</td>
<td>N</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>FIGURE Landing Gear Jacking for Wheel Change - NLG Jacking - Point Location</td>
<td>N</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>FIGURE Landing Gear Jacking for Wheel Change - Loads at NLG Jacking Points</td>
<td>N</td>
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</tr>
</tbody>
</table>

**CHAPTER 3**

**CHAPTER 4**

Section 4-2

Subject 4-2-0

- FIGURE Turning Radii, No Slip Angle | R | ILLUSTRATION REVISED
- FIGURE Turning Radii, No Slip Angle | R | ILLUSTRATION REVISED

Section 4-3

Subject 4-3-0

- FIGURE Minimum Turning Radii | R

Section 4-4

Subject 4-4-0

- Visibility from Cockpit in Static Position | R
- FIGURE Visibility from Cockpit in Static Position | R
- FIGURE Binocular Visibility Through Windows from Captain Eye Position | N | ILLUSTRATION ADDED

Section 4-5

Subject 4-5-1

- 135° Turn - Runway to Taxiway | R
- FIGURE 135° Turn - Runway to Taxiway - Cockpit Over Centerline Method | R
- FIGURE 135° Turn - Runway to Taxiway - Judgemental Oversteering Method | N | ILLUSTRATION ADDED

Subject 4-5-2

- 90° Turn - Runway to Taxiway | R
<table>
<thead>
<tr>
<th>LOCATIONS</th>
<th>CHG CODE</th>
<th>DESCRIPTIONS OF CHANGE</th>
</tr>
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<tr>
<td>FIGURE 90° Turn - Runway to Taxiway - Cockpit Over Centerline Method</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>FIGURE 90° Turn - Runway to Taxiway - Judgemental Oversteering Method</td>
<td>N</td>
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<tr>
<td>Subject 4-5-3</td>
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<tr>
<td>180° Turn on a Runway</td>
<td>N</td>
<td></td>
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<td>FIGURE 180° turn on a Runway - Edge of Runway Method</td>
<td>N</td>
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<tr>
<td>Subject 4-5-4</td>
<td></td>
<td></td>
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<tr>
<td>FIGURE 135° Turn - Taxiway to Taxiway - Cockpit Over Centerline Method</td>
<td>R</td>
<td>ILLUSTRATION REVISED</td>
</tr>
<tr>
<td>Subject 4-5-5</td>
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<td></td>
</tr>
<tr>
<td>FIGURE 90° Turn - Taxiway to Taxiway - Cockpit Over Centerline Method</td>
<td>R</td>
<td>ILLUSTRATION REVISED</td>
</tr>
<tr>
<td>Subject 04-05-06</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Section 4-6</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Subject 4-6-0</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>FIGURE Runway Holding Bay (Apron)</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Section 4-7</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Subject 4-7-0</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>CHAPTER 5</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Section 5-1</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Subject 5-1-0</td>
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<td>Subject 5-1-2</td>
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<td>Typical Ramp Layout - Open Apron</td>
<td>R</td>
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<td>FIGURE Typical Ramp Layout - Open Apron - Bulk Loading</td>
<td>R</td>
<td>ILLUSTRATION REVISED</td>
</tr>
<tr>
<td>Subject 5-1-3</td>
<td>R</td>
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<td>FIGURE Typical Ramp Layout - Gate</td>
<td>R</td>
<td>ILLUSTRATION REVISED</td>
</tr>
<tr>
<td>Section 5-2</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Subject 5-2-0</td>
<td>R</td>
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<tr>
<td>Terminal Operations - Full Servicing Turn</td>
<td>R</td>
<td>DESCRIPTION TITLE UPDATED</td>
</tr>
<tr>
<td>Round Time</td>
<td></td>
<td></td>
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<tr>
<td>FIGURE Turn Round Stations - Full</td>
<td>N</td>
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<tr>
<td>Servicing (34 Min.)</td>
<td></td>
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<tr>
<td>Subject 05-02-0</td>
<td>D</td>
<td></td>
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<tr>
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</tr>
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<td>Terminal Operation - Minimum Servicing</td>
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<tr>
<td>Turn Round Time</td>
<td></td>
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<tr>
<td>FIGURE Turn Round Stations - Minimum</td>
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<td>Servicing (20 Min.)</td>
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<td>Ground Service Connections Layout</td>
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<td>FIGURE Ground Service Connections -</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Subject 5-4-3</td>
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<td></td>
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<tr>
<td>Hydraulic System</td>
<td>R</td>
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<td>Subject 5-4-4</td>
<td>R</td>
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<td>Electrical System</td>
<td>R</td>
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<td>R</td>
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<td>Fuel System</td>
<td>R</td>
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<td>CHG CODE</td>
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<td>FIGURE Ground Service Connections - Overpressure Protector and NACA Flame Arrestor</td>
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<tr>
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<td>High Ambient Temperatures</td>
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<td>R</td>
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<td>FIGURE Engine Starting Pneumatic Requirements - High Ambient Temperature +38°C (+100°F) – PW 6000 series engine</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Section 5-6 Subject 5-6-0</td>
<td></td>
<td>ADDED NOTE FOR GROUND PNEUMATIC POWER REQUIREMENTS.</td>
</tr>
<tr>
<td>Ground Pneumatic Power Requirements</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Section 5-8 Subject 5-8-0</td>
<td></td>
<td>SAE REFERENCES UPDATED AND FIGURES CORRESPONDING TO TYPICAL TOW BAR CONFIGURATION DELETED NOTE AMENDED</td>
</tr>
<tr>
<td>Ground Towing Requirements</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Section 5-9 Subject 5-9-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>De-Icing and External Cleaning</td>
<td>N</td>
<td>REVISED TABLES FOR DE-ICING AND EXTERNAL CLEANING AREAS.</td>
</tr>
<tr>
<td>Chapter 7 Section 7-8 Subject 07-08-00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subject 7-8-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FIGURE Radius of Relative Stiffness - (Reference: Portland Cement Association)</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Subject 7-8-2</td>
<td></td>
<td>MOVED THE TEXT FROM 7-8-0 TO 7-8-2.</td>
</tr>
<tr>
<td>Rigid Pavement Requirements - LCN Conversion</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Chapter 8 Section 8-0 Subject 8-0-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>LOCATIONS</td>
<td>CHG CODE</td>
<td>DESCRIPTIONS OF CHANGE</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>----------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>Scaled Drawings</td>
<td>N</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>FIGURE Scaled Drawing</td>
<td>N</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>Section 08-01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHAPTER 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Section 10-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subject 10-0-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aircraft Rescue and Fire Fighting</td>
<td>N</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>FIGURE Front Page</td>
<td>N</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>FIGURE Highly Flammable and Hazardous Materials and Components</td>
<td>N</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>FIGURE Wheel Safety Area</td>
<td>N</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>FIGURE Composite Materials</td>
<td>N</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>FIGURE LG Ground Lock Safety Devices</td>
<td>N</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>FIGURE Evacuation/Escape Slide/Raft</td>
<td>N</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>FIGURE Pax/Crew Doors</td>
<td>N</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>FIGURE Emergency Exit Hatch</td>
<td>N</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>FIGURE FWD and AFT Lower Deck Cargo Doors</td>
<td>N</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>FIGURE Control Panels</td>
<td>N</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>FIGURE APU Access Door</td>
<td>N</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>FIGURE Aircraft Ground Clearances</td>
<td>N</td>
<td>ILLUSTRATION ADDED</td>
</tr>
<tr>
<td>FIGURE Structural Break-in Points</td>
<td>N</td>
<td>ILLUSTRATION ADDED</td>
</tr>
</tbody>
</table>
# LIST OF EFFECTIVE CONTENT

**Revision No. 9 - Jun 01/12**

<table>
<thead>
<tr>
<th>CONTENT</th>
<th>CHG CODE</th>
<th>LAST REVISION DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CHAPTER 1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subject 1-1-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purpose</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td><strong>CHAPTER 2</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subject 2-1-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Airplane Characteristics</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>Subject 2-1-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Airplane Characteristics Data</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>Subject 2-2-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Aircraft Dimensions</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE General Aircraft Dimensions - Wing Tip Fence</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>Subject 2-3-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ground Clearances</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Ground Clearances</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Ground Clearances - Ground Clearances with Sharklets</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Ground Clearances - Flaps and Flap Track Fairings When Flaps Fully Extended</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Ground Clearances - Flap Track Fairings Up</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Ground Clearances - Aileron Down</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Ground Clearances - Aileron Up and Spoilers 1 to 5 Extended</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Ground Clearances - Slats Extended</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>Subject 2-4-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interior Arrangements</td>
<td>Dec 01/07</td>
<td></td>
</tr>
<tr>
<td><strong>Subject 2-4-1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Typical Configuration</td>
<td>Sep 01/10</td>
<td></td>
</tr>
<tr>
<td>FIGURE Typical Configuration - Typical Configuration Single-Class, High Density</td>
<td>Sep 01/10</td>
<td></td>
</tr>
<tr>
<td>CONTENT</td>
<td>CHG CODE</td>
<td>LAST REVISION DATE</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>----------</td>
<td>--------------------</td>
</tr>
<tr>
<td>FIGURE Typical Configuration - Typical Configuration Two-Class</td>
<td></td>
<td>Sep 01/10</td>
</tr>
<tr>
<td>Subject 2-5-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passenger Compartment Cross-section</td>
<td></td>
<td>Sep 01/10</td>
</tr>
<tr>
<td>FIGURE Passenger Compartment Cross-section</td>
<td></td>
<td>Sep 01/10</td>
</tr>
<tr>
<td>FIGURE Passenger Compartment Cross-section - Economy Class, 6 Abreast</td>
<td></td>
<td>Sep 01/10</td>
</tr>
<tr>
<td>Wider Aisle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FIGURE Passenger Compartment Cross-section - Passenger Compartment</td>
<td></td>
<td>Sep 01/10</td>
</tr>
<tr>
<td>Cross-section, First-class</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subject 2-6-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cargo Compartments</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Cargo Compartments - Locations, Dimensions and Loading</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>Combinations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subject 2-7-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doors Clearances</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>Subject 2-7-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forward Passenger / Crew Doors</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>FIGURE Doors Clearances - Forward Passenger / Crew Doors</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>Subject 2-7-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergency Exits</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>FIGURE Doors Clearances - Emergency Exits</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>Subject 2-7-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aft Passenger / Crew Doors</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>FIGURE Doors Clearances - Aft Passenger / Crew Doors</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>Subject 2-7-4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forward Cargo Compartment Door</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>FIGURE Doors Clearances - Forward Cargo Compartment Door</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>Subject 2-7-5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aft Cargo Compartment Door</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>FIGURE Doors Clearances - Aft Cargo Compartment Door</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>Subject 2-7-7</td>
<td></td>
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</tr>
<tr>
<td>CONTENT</td>
<td>CHG CODE</td>
<td>LAST REVISION DATE</td>
</tr>
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<tr>
<td>Main Landing Gear Doors</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>FIGURE Doors Clearances - Main Landing Gear Doors</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>Subject 2-7-8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radome</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>FIGURE Doors Clearances - Radome</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>Subject 2-7-9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>APU and Nose Landing Gear Doors</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>FIGURE Doors Clearances - APU and Nose Landing Gear Doors</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>Subject 2-8-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Escape Slides</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Escape Slides - Location</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Escape Slides - Dimensions</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>Subject 2-9-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Landing Gear</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Landing Gear - Main Landing Gear - Twin Wheel</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Landing Gear - Main Landing Gear Dimensions - Twin Wheel</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Landing Gear - Nose Landing Gear</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Landing Gear - Nose Landing Gear Dimensions</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>Landing Gear Maintenance Pits</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Landing Gear Maintenance Pits - Maintenance Pit Envelopes</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Landing Gear Maintenance Pits - Maintenance Pit Envelopes</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>Subject 2-10-0</td>
<td></td>
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<tr>
<td>Exterior Lighting</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Exterior Lighting</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
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<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Exterior Lighting</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Exterior Lighting</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>Subject 2-11-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antennas and Probes Location</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>CONTENT</td>
<td>CHG CODE</td>
<td>LAST REVISION DATE</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>----------</td>
<td>--------------------</td>
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<tr>
<td>FIGURE Antennas and Probes - Location</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>SUBJECT 2-12-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auxiliary Power Unit</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Auxiliary Power Unit - Access Doors</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Auxiliary Power Unit - General Layout</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>Engine and Nacelle</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Power Plant Handling - Major Dimensions - CFM56 Series Engine</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Power Plant Handling - Major Dimensions - CFM56 Series Engine</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Power Plant Handling - Fan Cowls - CFM56 Series Engine</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Power Plant Handling - Thrust Reverser Cowls - CFM56 Series Engine</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Power Plant Handling - Major Dimensions - PW 6000 Series Engine</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Power Plant Handling - Nacelle Dimensions - PW 6000 Series Engine</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Power Plant Handling - Fan Cowls - PW 6000 Series Engine</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Power Plant Handling - Thrust Reverser Halves - PW 6000 Series Engine</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>SUBJECT 2-13-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leveling, Symmetry and Alignment</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Location of the Leveling Points</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>SUBJECT 2-14-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jacking for Maintenance</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Jacking for Maintenance - Jacking Point Location</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Jacking for Maintenance - Forward Jacking Point</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Jacking for Maintenance - Wing Jacking Points</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Jacking for Maintenance - Safety Stay</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Jacking for Maintenance - Jacking Design</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>Jacking for Wheel Change</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
</tbody>
</table>
### CONTENT

<table>
<thead>
<tr>
<th>CONTENT</th>
<th>CHG CODE</th>
<th>LAST REVISION DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIGURE Landing Gear Jacking for Wheel Change - MLG Jacking</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>Point Location - Twin Wheels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FIGURE Landing Gear Jacking for Wheel Change - MLG Jacking with</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>Cantilever Jack - Twin Wheels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FIGURE Landing Gear Jacking for Wheel Change - Loads at MLG Jacking</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>Points - Twin Wheels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FIGURE Landing Gear Jacking for Wheel Change - NLG Jacking - Point</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>Location</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FIGURE Landing Gear Jacking for Wheel Change - Loads at NLG Jacking</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>Points</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### CHAPTER 3

#### Subject 3-1-0

General Information

Dec 01/07

#### Subject 3-2-0

Payload / Range

Dec 01/07

#### Subject 3-2-1

ISA Conditions

Dec 01/07

FIGURE Payload / Range - CFM56 series engine

Dec 01/07

FIGURE Payload / Range - PW 6000 series engine

Dec 01/07

#### Subject 3-3-0

FAR / JAR Take-off Weight Limitation

Dec 01/07

#### Subject 3-3-1

ISA Conditions

Dec 01/07

FIGURE FAR / JAR Take-off Weight Limitation - ISA Conditions – CFM56 series engine

Dec 01/07

FIGURE FAR / JAR Take-off Weight Limitation - ISA Conditions – PW 6000 series engine

Dec 01/07

#### Subject 3-3-2

ISA +15°C (+59°F) Conditions

Dec 01/07

FIGURE FAR / JAR Take-off Weight Limitation - ISA +15°C (+59°F) Conditions – CFM56 series engine

Dec 01/07
<table>
<thead>
<tr>
<th>CONTENT</th>
<th>CHG CODE</th>
<th>LAST REVISION DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIGURE FAR / JAR Take-off Weight Limitation - ISA +15°C (+59°F)</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>Conditions – PW 6000 series engine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subject 3-4-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FAR / JAR Landing Field Length</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>Subject 3-4-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISA Conditions</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>FIGURE FAR / JAR Landing Field Length - CFM56-5B series engine</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>FIGURE FAR / JAR Landing Field Length - PW 6000 series engine</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>Subject 3-5-0</td>
<td></td>
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<tr>
<td>Final Approach Speed</td>
<td></td>
<td>Dec 01/07</td>
</tr>
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<td>FIGURE Final Approach Speed - CFM56-5B8 and CFM56-5B9 series engine</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>FIGURE Final Approach Speed - PW 6000 series engine</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>CHAPTER 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subject 4-1-0</td>
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<td></td>
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<tr>
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<td>Dec 01/07</td>
</tr>
<tr>
<td>Subject 4-2-0</td>
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<tr>
<td>Turning Radii</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>FIGURE Turning Radii, No Slip Angle R</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Turning Radii, No Slip Angle R</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>Subject 4-3-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum Turning Radii</td>
<td></td>
<td>Dec 01/07</td>
</tr>
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<td>FIGURE Minimum Turning Radii R</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>Subject 4-4-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visibility from Cockpit in Static Position R</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Visibility from Cockpit in Static Position R</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Binocular Visibility Through Windows from Captain Eye Position</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>Subject 4-5-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Runway and Taxiway Turn Paths</td>
<td></td>
<td>Dec 01/07</td>
</tr>
</tbody>
</table>

L.E.C.
Page 6
Jun 01/12
<table>
<thead>
<tr>
<th>CONTENT</th>
<th>CHG CODE</th>
<th>LAST REVISION DATE</th>
</tr>
</thead>
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<tr>
<td><strong>Subject 4-5-1</strong></td>
<td></td>
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<tr>
<td>135° Turn - Runway to Taxiway</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE 135° Turn - Runway to Taxiway - Cockpit Over Centerline Method</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE 135° Turn - Runway to Taxiway - Judgemental Oversteering Method</td>
<td>N</td>
<td>Jun 01/12</td>
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<tr>
<td><strong>Subject 4-5-2</strong></td>
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<tr>
<td>90° Turn - Runway to Taxiway</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
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<td>FIGURE 90° Turn - Runway to Taxiway - Cockpit Over Centerline Method</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
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<td>FIGURE 90° Turn - Runway to Taxiway - Judgemental Oversteering Method</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
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<td><strong>Subject 4-5-3</strong></td>
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<tr>
<td>180° Turn on a Runway</td>
<td>N</td>
<td>Jun 01/12</td>
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<tr>
<td>FIGURE 180° Turn on a Runway - Edge of Runway Method</td>
<td>N</td>
<td>Jun 01/12</td>
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<tr>
<td><strong>Subject 4-5-4</strong></td>
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<td>135° Turn - Taxiway to Taxiway</td>
<td>Dec 01/07</td>
<td></td>
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<td>FIGURE 135° Turn - Taxiway to Taxiway - Cockpit Over Centerline Method</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
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<td><strong>Subject 4-5-5</strong></td>
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<td>90° Turn - Taxiway to Taxiway</td>
<td>Dec 01/07</td>
<td></td>
</tr>
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<td>FIGURE 90° Turn - Taxiway to Taxiway - Cockpit Over Centerline Method</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td><strong>Subject 4-6-0</strong></td>
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<td></td>
</tr>
<tr>
<td>Runway Holding Bay (Apron)</td>
<td>Dec 01/07</td>
<td></td>
</tr>
<tr>
<td>FIGURE Runway Holding Bay (Apron)</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td><strong>Subject 4-7-0</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Airplane Parking</td>
<td>Dec 01/07</td>
<td></td>
</tr>
<tr>
<td>FIGURE Airplane Parking - Minimum Parking Space Requirements</td>
<td>Dec 01/07</td>
<td></td>
</tr>
<tr>
<td>FIGURE Airplane Parking - Steering Geometry</td>
<td>Dec 01/07</td>
<td></td>
</tr>
<tr>
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<td>Dec 01/07</td>
<td></td>
</tr>
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<td>FIGURE Airplane Parking - Steering Geometry</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
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<td></td>
<td>Dec 01/07</td>
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<td>Dec 01/07</td>
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<td>Dec 01/07</td>
</tr>
<tr>
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<td></td>
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<td>FIGURE Airplane Parking - Steering Geometry</td>
<td></td>
<td>Dec 01/07</td>
</tr>
</tbody>
</table>

**CHAPTER 5**

**Subject 5-0-0**

- Terminal Servicing                                                     | Sep 01/10 |

**Subject 5-1-0**

- Airplane Servicing Arrangements                                        | Sep 01/10 |

**Subject 5-1-1**

- Symbols Used on Servicing Diagrams                                    | Sep 01/10 |

**Subject 5-1-2**

- Typical Ramp Layout - Open Apron                                       | R         | Jun 01/12          |
- FIGURE Typical Ramp Layout - Open Apron - Bulk Loading                 | R         | Jun 01/12          |

**Subject 5-1-3**

- Typical Ramp Layout - Gate                                             | R         | Jun 01/12          |
- FIGURE Typical Ramp Layout - Gate                                       | R         | Jun 01/12          |

**Subject 5-2-0**

- Terminal Operations - Full Servicing Turn Round Time                   | R         | Jun 01/12          |
- FIGURE Turn Round Stations - Full Servicing (34 Min.)                  | N         | Jun 01/12          |

**Subject 5-3-0**

- Terminal Operation - Minimum Servicing Turn Round Time                 | R         | Jun 01/12          |
- FIGURE Turn Round Stations - Minimum Servicing (20 Min.)               | N         | Jun 01/12          |

**Subject 5-4-0**

- Ground Service Connections                                             | Dec 01/07 |

**Subject 5-4-1**

- Ground Service Connections Layout                                      | R         | Jun 01/12          |
<table>
<thead>
<tr>
<th>CONTENT</th>
<th>CHG CODE</th>
<th>LAST REVISION DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIGURE Ground Service Connections - Ground Service Connections Layout</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>Subject 5-4-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grounding Points</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>FIGURE Ground Service Connections - Grounding Points</td>
<td></td>
<td>Dec 01/07</td>
</tr>
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<td></td>
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<tr>
<td>Subject 5-4-3</td>
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<tr>
<td>Hydraulic System</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Hydraulic System - Green System Ground Service Panel</td>
<td></td>
<td>Sep 01/10</td>
</tr>
<tr>
<td>FIGURE Hydraulic System - Blue System Ground Service Panel</td>
<td></td>
<td>Sep 01/10</td>
</tr>
<tr>
<td>FIGURE Hydraulic System - Yellow System Ground Service Panel</td>
<td></td>
<td>Sep 01/10</td>
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<tr>
<td>Subject 5-4-4</td>
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<tr>
<td>Electrical System</td>
<td>R</td>
<td>Jun 01/12</td>
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<tr>
<td>FIGURE Ground Service Connections - External Power Receptacles</td>
<td></td>
<td>Sep 01/10</td>
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<tr>
<td>Subject 5-4-5</td>
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<td>Oxygen System</td>
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<td>Dec 01/07</td>
</tr>
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<td>Subject 5-4-6</td>
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</tr>
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<td>Fuel System</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Ground Service Connections - Refuel/Defuel Panel</td>
<td></td>
<td>Sep 01/10</td>
</tr>
<tr>
<td>FIGURE Ground Service Connections - Refuel/Defuel Couplings</td>
<td></td>
<td>Sep 01/10</td>
</tr>
<tr>
<td>FIGURE Ground Service Connections - Gravity Refuel Couplings</td>
<td></td>
<td>Sep 01/10</td>
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<td>FIGURE Ground Service Connections - Overpressure Protector and NACA Flame Arrestor</td>
<td>N</td>
<td>Jun 01/12</td>
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<tr>
<td>Potable Water System</td>
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<td>Sep 01/10</td>
</tr>
<tr>
<td>FIGURE Ground Service Connections - Potable Water Ground Service Panel</td>
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<td>Sep 01/10</td>
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<td>Subject 5-4-9</td>
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<td>Oil System</td>
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<td>Sep 01/10</td>
</tr>
<tr>
<td>FIGURE Ground Service Connections - Engine Oil Tank – CFM56 Series Engine</td>
<td></td>
<td>Sep 01/10</td>
</tr>
<tr>
<td>FIGURE Ground Service Connections - IDG Oil Tank – CFM56 Series Engine</td>
<td></td>
<td>Sep 01/10</td>
</tr>
<tr>
<td>FIGURE Ground Service Connections - Starter Oil Tank – CFM56 Series Engine</td>
<td></td>
<td>Sep 01/10</td>
</tr>
<tr>
<td>FIGURE Ground Service Connections - Engine Oil Tank – PW 6000 Series Engine</td>
<td></td>
<td>Sep 01/10</td>
</tr>
<tr>
<td>FIGURE Ground Service Connections - IDG Oil Tank – PW 6000 Series Engine</td>
<td></td>
<td>Sep 01/10</td>
</tr>
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<td>FIGURE Ground Service Connections - Starter Oil Tank – PW 6000 Series Engine</td>
<td></td>
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</tr>
<tr>
<td>FIGURE Ground Service Connections - APU Oil Tank</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>Subject 5-4-10</td>
<td></td>
<td>Sep 01/10</td>
</tr>
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<td>Vacuum Toilet System</td>
<td></td>
<td>Sep 01/10</td>
</tr>
<tr>
<td>FIGURE Ground Service Connections - Waste Water Ground Service Panel</td>
<td></td>
<td>Sep 01/10</td>
</tr>
<tr>
<td>Subject 5-5-0</td>
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<td>R Jun 01/12</td>
</tr>
<tr>
<td>Engine Starting Pneumatic Requirements</td>
<td></td>
<td>R Jun 01/12</td>
</tr>
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<td>FIGURE Engine Starting Pneumatic Requirements - Engine Starting Pneumatic Requirements</td>
<td></td>
<td>N Jun 01/12</td>
</tr>
<tr>
<td>Subject 5-5-1</td>
<td></td>
<td>R Jun 01/12</td>
</tr>
<tr>
<td>Low Ambient Temperatures</td>
<td></td>
<td>R Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Engine Starting Pneumatic Requirements - Low Ambient Temperature -40 °C ( -40 °F ) – CFM56 series engine</td>
<td></td>
<td>R Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Engine Starting Pneumatic Requirements - Low Ambient Temperature -40 °C ( -40 °F ) – PW 6000 series engine</td>
<td></td>
<td>R Jun 01/12</td>
</tr>
<tr>
<td>Subject 5-5-2</td>
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<td>R Jun 01/12</td>
</tr>
<tr>
<td>Medium Ambient Temperatures</td>
<td></td>
<td>R Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Engine Starting Pneumatic Requirements - Medium Ambient Temperature +15 °C ( +59 °F ) – CFM56 series engine</td>
<td></td>
<td>R Jun 01/12</td>
</tr>
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<td>FIGURE Engine Starting Pneumatic Requirements - Medium Ambient Temperature +15 °C (+59 °F) – PW 6000 series engine</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>High Ambient Temperatures</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Engine Starting Pneumatic Requirements - High Ambient Temperature +50 °C (+122 °F) – CFM56 series engine</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Engine Starting Pneumatic Requirements - High Ambient Temperature +38 °C (+100 °F) – PW 6000 series engine</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>Ground Pneumatic Power Requirements</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>Heating</td>
<td>Dec 01/07</td>
<td></td>
</tr>
<tr>
<td>FIGURE Ground Pneumatic Power Requirements - Heating</td>
<td>Dec 01/07</td>
<td></td>
</tr>
<tr>
<td>Cooling</td>
<td>Dec 01/07</td>
<td></td>
</tr>
<tr>
<td>FIGURE Ground Pneumatic Power Requirements - Cooling</td>
<td>Dec 01/07</td>
<td></td>
</tr>
<tr>
<td>Preconditioned Airflow Requirements</td>
<td>Dec 01/07</td>
<td></td>
</tr>
<tr>
<td>FIGURE Preconditioned Airflow Requirements</td>
<td>Dec 01/07</td>
<td></td>
</tr>
<tr>
<td>Ground Towing Requirements</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Ground Towing Requirements</td>
<td>Sep 01/10</td>
<td></td>
</tr>
<tr>
<td>De-Icing and External Cleaning</td>
<td>N</td>
<td>Jun 01/12</td>
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</tbody>
</table>

**CHAPTER 6**

Subject 6-1-0

Engine Exhaust Velocities and Temperatures                           Dec 01/07

Subject 6-1-1

Engine Exhaust Velocities Contours - Ground Idle Power              Dec 01/07
<table>
<thead>
<tr>
<th>CONTENT</th>
<th>CHG CODE</th>
<th>LAST REVISION DATE</th>
</tr>
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<tr>
<td>FIGURE Engine Exhaust Velocities - Ground Idle Power – CFM56 series engine</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>FIGURE Engine Exhaust Velocities - Ground Idle Power – PW 6000 series engine</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>Subject 6-1-2</td>
<td></td>
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</tr>
<tr>
<td>Engine Exhaust Temperatures Contours - Ground Idle Power</td>
<td></td>
<td>Dec 01/07</td>
</tr>
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<td>FIGURE Engine Exhaust Temperatures - Ground Idle Power – CFM56 series engine</td>
<td></td>
<td>Dec 01/07</td>
</tr>
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<td>FIGURE Engine Exhaust Temperatures - Ground Idle Power – PW 6000 series engine</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>Subject 6-1-3</td>
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<tr>
<td>Engine Exhaust Velocities Contours - Breakaway Power</td>
<td></td>
<td>Dec 01/07</td>
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<td>FIGURE Engine Exhaust Velocities - Breakaway Power – CFM56 series engine</td>
<td></td>
<td>Dec 01/07</td>
</tr>
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<td>FIGURE Engine Exhaust Velocities - Breakaway Power – PW 6000 series engine</td>
<td></td>
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</tr>
<tr>
<td>Subject 6-1-4</td>
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<td>Engine Exhaust Temperatures Contours - Breakaway Power</td>
<td></td>
<td>Dec 01/07</td>
</tr>
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<td>FIGURE Engine Exhaust Temperatures - Breakaway Power – CFM56 series engine</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>FIGURE Engine Exhaust Temperatures - Breakaway Power – PW 6000 series engine</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>Subject 6-1-5</td>
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</tr>
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<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>FIGURE Engine Exhaust Velocities - Takeoff Power – CFM56 series engine</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>FIGURE Engine Exhaust Velocities - Takeoff Power – PW 6000 series engine</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>Subject 6-1-6</td>
<td></td>
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<td>Dec 01/07</td>
</tr>
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<td>FIGURE Engine Exhaust Temperatures - Takeoff Power – CFM56 series engine</td>
<td></td>
<td>Dec 01/07</td>
</tr>
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</tr>
<tr>
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<td>--------------------</td>
</tr>
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<td>FIGURE Engine Exhaust Temperatures - Takeoff Power – PW 6000 series engine</td>
<td>Dec 01/07</td>
<td></td>
</tr>
<tr>
<td>Subject 6-2-0</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>Airport and Community Noise</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>Subject 6-2-1</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>Noise Data</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>FIGURE Airport and Community Noise - CFM56-5A series engine</td>
<td>Dec 01/07</td>
<td></td>
</tr>
<tr>
<td>FIGURE Airport and Community Noise - CFM56-5B series engine</td>
<td>Dec 01/07</td>
<td></td>
</tr>
<tr>
<td>FIGURE Airport and Community Noise - PW 6000 series engine</td>
<td>Dec 01/07</td>
<td></td>
</tr>
<tr>
<td>Subject 6-3-0</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>Danger Areas of Engines</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>Subject 6-3-1</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>Ground Idle Power</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>FIGURE Danger Areas of Engines - CFM56 series engine</td>
<td>Dec 01/07</td>
<td></td>
</tr>
<tr>
<td>FIGURE Danger Areas of Engines - PW 6000 series engine</td>
<td>Dec 01/07</td>
<td></td>
</tr>
<tr>
<td>Subject 6-3-2</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>Takeoff Power</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>FIGURE Danger Areas of Engines - CFM56 series engine</td>
<td>Dec 01/07</td>
<td></td>
</tr>
<tr>
<td>FIGURE Danger Areas of Engines - PW 6000 series engine</td>
<td>Dec 01/07</td>
<td></td>
</tr>
<tr>
<td>Subject 6-4-0</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>APU Exhaust Velocities and Temperatures</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>Subject 6-4-1</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>APU - APIC &amp; GARRETT</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>FIGURE Exhaust Velocities and Temperatures - APU – APIC &amp; GARRETT</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>CHAPTER 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subject 7-1-0</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>General Information</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>FIGURE Aircraft Codes</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>Subject 7-2-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONTENT</td>
<td>CHG CODE</td>
<td>LAST REVISION DATE</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>----------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Landing Gear Footprint</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>FIGURE Landing Gear Footprint - Landing Gear Footprint</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>FIGURE Landing Gear Footprint - Landing Gear Footprint</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>FIGURE Landing Gear Footprint - Landing Gear Footprint</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>Subject 7-3-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum Pavement Loads</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>FIGURE Maximum Pavement Loads - Maximum Pavement Loads</td>
<td></td>
<td>May 01/11</td>
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<tr>
<td>FIGURE Maximum Pavement Loads - Maximum Pavement Loads</td>
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<td>May 01/11</td>
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<tr>
<td>FIGURE Maximum Pavement Loads - Maximum Pavement Loads</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>Subject 7-4-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Landing Gear Loading on Pavement</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>Subject 7-4-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Landing Gear Loading on Pavement</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>FIGURE Landing Gear Loading on Pavement</td>
<td></td>
<td>May 01/11</td>
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<tr>
<td>FIGURE Landing Gear Loading on Pavement</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>Subject 7-5-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flexible Pavement Requirements - U.S. Army Corps of Engineers Design Method</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>Subject 7-5-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flexible Pavement Requirements - U.S. Army Corps of Engineers Design Method</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>FIGURE Flexible Pavement Requirements</td>
<td></td>
<td>May 01/11</td>
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<tr>
<td>CONTENT</td>
<td>CHG CODE</td>
<td>LAST REVISION DATE</td>
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<td>FIGURE Flexible Pavement Requirements</td>
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<td>May 01/11</td>
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<td>FIGURE Flexible Pavement Requirements</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>FIGURE Flexible Pavement Requirements (PCA)</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>FIGURE Flexible Pavement Requirements - Flexible Pavement Requirements</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>FIGURE Flexible Pavement Requirements</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>FIGURE Flexible Pavement Requirements - Flexible Pavement Requirements</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>Subject 7-6-0</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>Flexible Pavement Requirements - LCN Conversion</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>Subject 7-6-1</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>Flexible Pavement Requirements - LCN Conversion</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>FIGURE Flexible Pavement Requirements - LCN Conversion</td>
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<td>May 01/11</td>
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<td>FIGURE Flexible Pavement Requirements - LCN Conversion</td>
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<td>FIGURE Flexible Pavement Requirements - LCN Conversion</td>
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<td>May 01/11</td>
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<tr>
<td>FIGURE Flexible Pavement Requirements - LCN Conversion</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>Subject 7-7-0</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>Rigid Pavement Requirements - Portland Cement Association Design Method</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>Subject 7-7-1</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>Rigid Pavement Requirements - Portland Cement Association Design Method</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>FIGURE Rigid Pavement Requirements (PCA)</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>FIGURE Rigid Pavement Requirements (PCA)</td>
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<td>May 01/11</td>
</tr>
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<td>CONTENT</td>
<td>CHG CODE</td>
<td>LAST REVISION DATE</td>
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<tr>
<td>FIGURE Rigid Pavement Requirements (PCA)</td>
<td></td>
<td>May 01/11</td>
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<td></td>
<td>May 01/11</td>
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<tr>
<td>FIGURE Rigid Pavement Requirements (PCA)</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>Subject 7-8-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radius of Relative Stiffness</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>FIGURE Radius of Relative Stiffness - (Reference: Portland Cement</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>Association)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subject 7-8-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rigid Pavement Requirements - LCN Conversion</td>
<td>R</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Rigid Pavement Requirements - LCN Conversion</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>FIGURE Rigid Pavement Requirements - LCN Conversion</td>
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<td>May 01/11</td>
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<td>May 01/11</td>
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<td>FIGURE Rigid Pavement Requirements - LCN Conversion</td>
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<td>May 01/11</td>
</tr>
<tr>
<td>FIGURE Rigid Pavement Requirements - LCN Conversion</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>FIGURE Rigid Pavement Requirements - LCN Conversion</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>FIGURE Rigid Pavement Requirements - LCN Conversion</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>Subject 7-8-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radius of Relative Stiffness (Other values of &quot;E&quot; and &quot;L&quot;)</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>Subject 7-8-4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radius of Relative Stiffness</td>
<td></td>
<td>Dec 01/07</td>
</tr>
<tr>
<td>FIGURE Radius of Relative Stiffness - (Effect E and (\mu) on &quot;L&quot;</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>values)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subject 7-9-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACN/PCN Reporting System</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>CONTENT</td>
<td>CHG CODE</td>
<td>LAST REVISION DATE</td>
</tr>
<tr>
<td>---------</td>
<td>----------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Subject 7-9-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aircraft Classification Number - Flexible Pavement</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>FIGURE Aircraft Classification Number – Flexible Pavement</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>FIGURE Aircraft Classification Number – Flexible Pavement</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>FIGURE Aircraft Classification Number – Flexible Pavement</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>FIGURE Aircraft Classification Number – Flexible Pavement</td>
<td></td>
<td>May 01/11</td>
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<td>FIGURE Aircraft Classification Number – Flexible Pavement</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>FIGURE Aircraft Classification Number – Flexible Pavement</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>FIGURE Aircraft Classification Number – Flexible Pavement</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>FIGURE Aircraft Classification Number – Flexible Pavement</td>
<td></td>
<td>May 01/11</td>
</tr>
<tr>
<td>FIGURE Aircraft Classification Number – Flexible Pavement</td>
<td></td>
<td>May 01/11</td>
</tr>
</tbody>
</table>

| Subject 7-9-2 | | |
| Aircraft Classification Number - Rigid Pavement | | May 01/11 |
| FIGURE Aircraft Classification Number – Rigid Pavement | | May 01/11 |
| FIGURE Aircraft Classification Number – Rigid Pavement | | May 01/11 |
| FIGURE Aircraft Classification Number – Rigid Pavement | | May 01/11 |
| FIGURE Aircraft Classification Number – Rigid Pavement | | May 01/11 |
| FIGURE Aircraft Classification Number – Rigid Pavement | | May 01/11 |
| FIGURE Aircraft Classification Number – Rigid Pavement | | May 01/11 |
| FIGURE Aircraft Classification Number – Rigid Pavement | | May 01/11 |
| FIGURE Aircraft Classification Number – Rigid Pavement | | May 01/11 |
| FIGURE Aircraft Classification Number – Rigid Pavement | | May 01/11 |

| CHAPTER 8 | | |
| Subject 8-0-0 | | |
| Scaled Drawings | N | Jun 01/12 |
| FIGURE Scaled Drawing | N | Jun 01/12 |

<p>| CHAPTER 10 | | |
| Subject 10-0-0 | | |</p>
<table>
<thead>
<tr>
<th>CONTENT</th>
<th>CHG CODE</th>
<th>LAST REVISION DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aircraft Rescue and Fire Fighting</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Front Page</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Highly Flammable and Hazardous Materials and Components</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Wheel Safety Area</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Composite Materials</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE LG Ground Lock Safety Devices</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Evacuation/Escape Slide/Raft</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Pax/Crew Doors</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Emergency Exit Hatch</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE FWD and AFT Lower Deck Cargo Doors</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Control Panels</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE APU Access Door</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Aircraft Ground Clearances</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
<tr>
<td>FIGURE Structural Break-in Points</td>
<td>N</td>
<td>Jun 01/12</td>
</tr>
</tbody>
</table>
TABLE OF CONTENTS

1 SCOPE
1-1-0 Purpose

2 AIRCRAFT DESCRIPTION
2-1-0 General Aircraft Characteristics
2-1-1 General Aircraft Characteristics Data
2-2-0 General Aircraft Dimensions
2-3-0 Ground Clearances
2-4-0 Interior Arrangements
2-4-1 Passenger Compartment Layout
2-5-0 Passenger Compartment Cross Section
2-6-0 Cargo Compartments
2-7-0 Door Clearances
2-7-1 Forward Passenger / Crew Doors
2-7-2 Emergency Exits
2-7-3 Aft Passenger / Crew Doors
2-7-4 Forward Cargo Compartment Doors
2-7-5 Aft Cargo Compartment Doors
2-7-7 Main Landing Gear Doors
2-7-8 Radome
2-7-9 APU and Nose Landing Gear Doors
2-8-0 Escape Slides
2-9-0 Landing Gear
2-10-0 Exterior Lighting
2-11-0 Antennas and Probes Location
2-12-0 Power Plant
2-13-0 Leveling, Symmetry and Alignment
2-14-0 Jacking

3 AIRCRAFT PERFORMANCE
3-1-0 General Information
3-2-0 Payload / Range
3-2-1 ISA Conditions
3-3-0 FAR / JAR Takeoff Weight Limitation
3-3-1 ISA Conditions
3-3-2 ISA +15 °C (+59 °F) Conditions
3-4-0 FAR / JAR Landing Field Length
3-4-1 ISA Conditions
3-5-0 Final Approach Speed

4 GROUND MANEUVERING
4-1-0 General Information
4-2-0 Turning Radii
4-3-0 Minimum Turning Radii
4-4-0 Visibility from Cockpit in Static Position
4-5-0 Runway and Taxiway Turn Paths
4-5-1 135° Turn - Runway to Taxiway
4-5-2 90° Turn - Runway to Taxiway
4-5-3 180° Turn on a Runway
4-5-4 135° Turn - Taxiway to Taxiway
4-5-5 90° Turn - Taxiway to Taxiway
4-6-0 Runway Holding Bay (Apron)
4-7-0 Parking

5 TERMINAL SERVICING
5-0-0 TERMINAL SERVICING
5-1-0 Servicing Arrangements
5-1-1 Symbols Used on Servicing Diagrams
5-1-2 Typical Ramp Layout - Open Apron
5-1-3 Typical Ramp Layout - Gate
5-2-0 Terminal Operations - Full Servicing
5-3-0 Terminal Operation - Transit
5-4-0 Ground Service Connections
5-4-1 Ground Service Connections Layout
5-4-2 Grounding Points
5-4-3 Hydraulic System
5-4-4 Electrical System
5-4-5 Oxygen System
5-4-6 Fuel System
5-4-7 Pneumatic System
5-4-8 Potable Water System
5-4-9 Oil System
5-4-10 Vacuum Toilet System
5-5-0 Engine Starting Pneumatic Requirements
5-5-1 Low Ambient Temperatures
5-5-2 Medium Ambient Temperatures
5-5-3 High Ambient Temperatures
5-6-0 Ground Pneumatic Power Requirements
5-6-1 Heating
5-6-2 Cooling
5-7-0 Preconditioned Airflow Requirements
5-8-0 Ground Towing Requirements
5-9-0 De-Icing and External Cleaning

6 OPERATING CONDITIONS
6-1-0 Engine Exhaust Velocities and Temperatures
6-1-1 Engine Exhaust Velocities Contours - Ground Idle Power
6-1-2 Engine Exhaust Temperatures Contours - Ground Idle Power
6-1-3 Engine Exhaust Velocities Contours - Breakaway Power
6-1-4 Engine Exhaust Temperatures Contours - Breakaway Power
6-1-5 Engine Exhaust Velocities Contours - Takeoff Power
6-1-6 Engine Exhaust Temperatures Contours - Takeoff Power
6-2-0 Airport and Community Noise
6-2-1 Noise Data
6-3-0 Danger Areas of Engines
6-3-1 Ground Idle Power
6-3-2 Takeoff Power
6-4-0 APU Exhaust Velocities and Temperatures
6-4-1 APU

7 PAVEMENT DATA
7-1-0 General Information
7-2-0 Landing Gear Footprint
7-3-0 Maximum Pavement Loads
7-4-0 Landing Gear Loading on Pavement
7-4-1 Landing Gear Loading on Pavement
7-5-0 Flexible Pavement Requirements - U.S. Army Corps of Engineers Design Method
7-5-1 Flexible Pavement Requirements - U.S. Army Corps of Engineers Design Method
7-6-0 Flexible Pavement Requirements - LCN Conversion
7-6-1 Flexible Pavement Requirements - LCN Conversion
7-7-0 Rigid Pavement Requirements - Portland Cement Association Design Method
7-7-1  Rigid Pavement Requirements - Portland Cement Association Design Method
7-8-1  Radius of Relative Stiffness
7-8-2  Rigid Pavement Requirements - LCN Conversion
7-8-3  Radius of Relative Stiffness (Other values of E and L)
7-8-4  Radius of Relative Stiffness
7-9-0  ACN/PCN Reporting System
7-9-1  Aircraft Classification Number - Flexible Pavement
7-9-2  Aircraft Classification Number - Rigid Pavement

8  SCALED DRAWINGS
8-0-0  SCALED DRAWINGS

10  AIRCRAFT RESCUE AND FIRE FIGHTING
10-0-0  AIRCRAFT RESCUE AND FIRE FIGHTING
SCAPE

1-1-0 Purpose

**ON A/C A318-100

**Purpose

1. General

The A318 AIRCRAFT CHARACTERISTICS -- AIRPORT AND MAINTENANCE PLANNING (AC) manual is issued for the A318-100 series aircraft, equipped with wing-tip fences or Sharklets to provide necessary data to airport operators, airlines and Maintenance/Repair Organizations (MRO) for airport and maintenance facilities planning.

This revision is now a merge 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.

The data given in this issue of the A318-100 AC equipped with Sharklets can be subject to change pending completion of the flight test phase. It is given for guidance only and does not constitute a contractual commitment.

This non-customized document conforms to NAS 3601 specification. This document must not be used for training purposes.

The single aisle A320 Family is a short to medium range aircraft delivering superior fuel efficiency, passenger comfort, environmental characteristics and economics, with a global market coverage. With record number of operators and wide market approval, the A320 Family benefits from continuous improvements such as:

- Sharklets

The A320 Family wider fuselage, advanced troubleshooting and Cargo Loading System enable easy and cost effective ground handling, whilst minimizing aircraft turn round time.

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31707 BLAGNAC CEDEX
FRANCE
2-1-0 General Aircraft Characteristics

**ON A/C A318-100**

General Airplane Characteristics

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

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

   **Maximum Landing Weight (MLW):**
   Maximum weight for landing as limited by aircraft strength and airworthiness requirements.

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

   **Maximum Zero Fuel Weight (MZFW):**
   Maximum operational weight of the aircraft without usable fuel.

   **Standard Seating Capacity:**
   Number of passengers specifically certified or anticipated for certification.

   **Usable Volume:**
   Usable volume available for cargo, pressurized fuselage, passenger compartment and cockpit.

   **Usable Fuel Capacity:**
   Fuel available for aircraft propulsion.

   **Water Volume:**
   Volume of cargo compartment.
## 2-1-1 General Aircraft Characteristics Data

**ON A/C A318-100**

### General Airplane Characteristics Data

1. The following table provides characteristics of A318-100 Models, these data are specific to each Weight Variant:

<table>
<thead>
<tr>
<th>Aircraft Characteristics</th>
<th>WV000</th>
<th>WV001</th>
<th>WV002</th>
<th>WV003</th>
<th>WV004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Ramp Weight (MRW)</td>
<td>Kilograms</td>
<td>59 400</td>
<td>61 900</td>
<td>63 400</td>
<td>64 900</td>
</tr>
<tr>
<td></td>
<td>Pounds</td>
<td>130 955</td>
<td>136 466</td>
<td>139 773</td>
<td>143 080</td>
</tr>
<tr>
<td>Maximum Taxi Weight (MTW)</td>
<td>Kilograms</td>
<td>130 073</td>
<td>135 584</td>
<td>138 891</td>
<td>142 198</td>
</tr>
<tr>
<td></td>
<td>Pounds</td>
<td>56 000</td>
<td>56 000</td>
<td>57 500</td>
<td>57 500</td>
</tr>
<tr>
<td>Maximum Takeoff Weight (MTOW)</td>
<td>Kilograms</td>
<td>123 459</td>
<td>123 459</td>
<td>126 766</td>
<td>126 766</td>
</tr>
<tr>
<td></td>
<td>Pounds</td>
<td>53 000</td>
<td>53 000</td>
<td>54 500</td>
<td>54 500</td>
</tr>
<tr>
<td>Maximum Landing Weight (MLW)</td>
<td>Kilograms</td>
<td>116 845</td>
<td>116 845</td>
<td>120 152</td>
<td>120 152</td>
</tr>
<tr>
<td></td>
<td>Pounds</td>
<td>50 000</td>
<td>50 000</td>
<td>51 500</td>
<td>51 500</td>
</tr>
</tbody>
</table>

### Aircraft Characteristics

<table>
<thead>
<tr>
<th>Aircraft Characteristics</th>
<th>WV005</th>
<th>WV006</th>
<th>WV007</th>
<th>WV008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Ramp Weight (MRW)</td>
<td>Kilograms</td>
<td>68 400</td>
<td>56 400</td>
<td>61 400</td>
</tr>
<tr>
<td></td>
<td>Pounds</td>
<td>150 796</td>
<td>124 341</td>
<td>135 364</td>
</tr>
<tr>
<td>Maximum Taxi Weight (MTW)</td>
<td>Kilograms</td>
<td>149 914</td>
<td>123 459</td>
<td>134 482</td>
</tr>
<tr>
<td></td>
<td>Pounds</td>
<td>57 500</td>
<td>56 000</td>
<td>56 000</td>
</tr>
<tr>
<td>Maximum Takeoff Weight (MTOW)</td>
<td>Kilograms</td>
<td>126 766</td>
<td>126 766</td>
<td>123 459</td>
</tr>
<tr>
<td></td>
<td>Pounds</td>
<td>54 500</td>
<td>53 000</td>
<td>53 000</td>
</tr>
<tr>
<td>Maximum Landing Weight (MLW)</td>
<td>Kilograms</td>
<td>120 152</td>
<td>116 845</td>
<td>116 845</td>
</tr>
<tr>
<td></td>
<td>Pounds</td>
<td>50 000</td>
<td>50 000</td>
<td>51 500</td>
</tr>
</tbody>
</table>

2. The following table provides characteristics of A318 Models, these data are common to each Weight Variant:

<table>
<thead>
<tr>
<th>Aircraft Characteristics</th>
<th>Single-class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Seating Capacity</td>
<td>132</td>
</tr>
<tr>
<td>Aircraft Characteristics</td>
<td>Unit</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Usable Fuel Capacity</td>
<td>Liters</td>
</tr>
<tr>
<td></td>
<td>US gallons</td>
</tr>
<tr>
<td></td>
<td>Kilograms</td>
</tr>
<tr>
<td></td>
<td>(density = 0.785 kg/l)</td>
</tr>
<tr>
<td></td>
<td>Pounds</td>
</tr>
<tr>
<td>Pressurized Fuselage Volume (A/C non equipped)</td>
<td>Cubic meters</td>
</tr>
<tr>
<td></td>
<td>Cubic feet</td>
</tr>
<tr>
<td>Passenger Compartment Volume</td>
<td>Cubic meters</td>
</tr>
<tr>
<td></td>
<td>Cubic feet</td>
</tr>
<tr>
<td>Cockpit Volume</td>
<td>Cubic meters</td>
</tr>
<tr>
<td></td>
<td>Cubic feet</td>
</tr>
<tr>
<td>Usable Volume, FWD CC</td>
<td>Cubic meters</td>
</tr>
<tr>
<td></td>
<td>Cubic feet</td>
</tr>
<tr>
<td>Usable Volume, AFT CC</td>
<td>Cubic meters</td>
</tr>
<tr>
<td></td>
<td>Cubic feet</td>
</tr>
<tr>
<td>Usable Volume, Bulk CC</td>
<td>Cubic meters</td>
</tr>
<tr>
<td></td>
<td>Cubic feet</td>
</tr>
<tr>
<td>Water Volume, FWD CC</td>
<td>Cubic meters</td>
</tr>
<tr>
<td></td>
<td>Cubic feet</td>
</tr>
<tr>
<td>Water Volume, AFT CC</td>
<td>Cubic meters</td>
</tr>
<tr>
<td></td>
<td>Cubic feet</td>
</tr>
<tr>
<td>Water Volume, Bulk CC</td>
<td>Cubic meters</td>
</tr>
<tr>
<td></td>
<td>Cubic feet</td>
</tr>
</tbody>
</table>
2-2-0 General Aircraft Dimensions

**ON A/C A318-100

1. This section provides General Aircraft Dimensions.
**ON A/C A318-100**

General Aircraft Dimensions
Wing Tip Fence (Sheet 2 of 4)
FIGURE-2-2-0-991-001-A01
**ON A/C A318-100

General Aircraft Dimensions
Sharklet (Sheet 3 of 4)
FIGURE-2-2-0-991-001-A01
**ON A/C A318-100**

![Diagram of A318 aircraft with dimensions labeled in meters and feet.](image)

**General Aircraft Dimensions**

Sharklet (Sheet 4 of 4)

FIGURE-2-2-0-991-001-A01

N_AC_020200.1_0010108_01_00
2-3-0 Ground Clearances

**ON A/C A318-100

Ground Clearances

1. This section gives the height of various points of the aircraft, above the ground, for different aircraft configurations.
   Dimensions in the tables are approximate and will vary with tire type, weight and balance and other special conditions.

   The dimensions are given for:
   - a light weight, for an A/C in maintenance configuration with a mid CG,
   - the MRW for a light weight variant with a FWD CG and a AFT CG,
   - the MRW for a heavy weight variant with a FWD CG and a AFT CG,
   - aircraft on jacks, FDL at 4.6 m (15.09 ft).

   NOTE: Passenger and cargo door clearances are measured from the center of the door sill and from floor level.
**ON A/C A318-100**

**AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING**

---

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

---

**Ground Clearances**

FIGURE-2-3-0-991-001-A01

---

**Page 2**

Jun 01/12
**ON A/C A318-100**

**TABLE 2-3-0-991-027-A01**

<table>
<thead>
<tr>
<th>A/C CONFIGURATION</th>
<th>39 t</th>
<th>MRW 59 t</th>
<th>MRW 64 t</th>
<th>A/C JACKETED FDL = 4.60 m (15.09 ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CG 25%</td>
<td>FWD CG 15%</td>
<td>AFT CG 33%</td>
<td>FWD CG 15%</td>
</tr>
<tr>
<td></td>
<td>m ft</td>
<td>m ft</td>
<td>m ft</td>
<td>m ft</td>
</tr>
<tr>
<td>A</td>
<td>3.45</td>
<td>11.32</td>
<td>3.37</td>
<td>11.06</td>
</tr>
<tr>
<td>B</td>
<td>2.08</td>
<td>6.82</td>
<td>2.01</td>
<td>6.59</td>
</tr>
<tr>
<td>C1</td>
<td>1.79</td>
<td>5.87</td>
<td>1.71</td>
<td>5.61</td>
</tr>
<tr>
<td>C2</td>
<td>1.93</td>
<td>6.33</td>
<td>1.89</td>
<td>6.20</td>
</tr>
<tr>
<td>D1</td>
<td>5.93</td>
<td>19.46</td>
<td>5.86</td>
<td>19.23</td>
</tr>
<tr>
<td>E (CFM)</td>
<td>0.66</td>
<td>2.17</td>
<td>0.60</td>
<td>1.97</td>
</tr>
<tr>
<td>E (PW)</td>
<td>0.78</td>
<td>2.56</td>
<td>0.72</td>
<td>2.36</td>
</tr>
<tr>
<td>F</td>
<td>1.74</td>
<td>5.71</td>
<td>1.69</td>
<td>5.54</td>
</tr>
<tr>
<td>F1</td>
<td>2.73</td>
<td>8.96</td>
<td>2.68</td>
<td>8.79</td>
</tr>
<tr>
<td>F3</td>
<td>3.51</td>
<td>11.52</td>
<td>3.47</td>
<td>11.38</td>
</tr>
<tr>
<td>G</td>
<td>2.20</td>
<td>7.22</td>
<td>2.16</td>
<td>7.09</td>
</tr>
<tr>
<td>H</td>
<td>3.72</td>
<td>12.20</td>
<td>3.70</td>
<td>12.14</td>
</tr>
<tr>
<td>J</td>
<td>12.89</td>
<td>42.29</td>
<td>12.88</td>
<td>42.26</td>
</tr>
<tr>
<td>K2</td>
<td>6.83</td>
<td>22.41</td>
<td>6.80</td>
<td>22.31</td>
</tr>
<tr>
<td>L</td>
<td>5.62</td>
<td>18.44</td>
<td>5.60</td>
<td>18.37</td>
</tr>
<tr>
<td>N</td>
<td>3.97</td>
<td>13.02</td>
<td>3.91</td>
<td>12.83</td>
</tr>
<tr>
<td>Q</td>
<td>4.91</td>
<td>16.11</td>
<td>4.91</td>
<td>16.11</td>
</tr>
</tbody>
</table>

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

Ground Clearances
Ground Clearances with Sharklets
FIGURE-2-3-0-991-027-A01

Page 3
Jun 01/12
**ON A/C A318-100

---

**HEIGHT FROM GROUND**

<table>
<thead>
<tr>
<th></th>
<th>A/C IN MAINTENANCE CONFIGURATION MID CG</th>
<th>MAXIMUM RAMP WEIGHT FWD CG</th>
<th>MAXIMUM RAMP WEIGHT AFT CG</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>m</td>
<td>ft</td>
<td>m</td>
</tr>
<tr>
<td>A</td>
<td>2.05</td>
<td>6.73</td>
<td>1.99</td>
</tr>
<tr>
<td>B</td>
<td>2.77</td>
<td>9.09</td>
<td>2.71</td>
</tr>
<tr>
<td>C</td>
<td>2.81</td>
<td>9.22</td>
<td>2.75</td>
</tr>
<tr>
<td>D</td>
<td>3.65</td>
<td>11.98</td>
<td>3.60</td>
</tr>
<tr>
<td>E</td>
<td>2.1</td>
<td>6.89</td>
<td>2.03</td>
</tr>
<tr>
<td>F</td>
<td>2.59</td>
<td>8.50</td>
<td>2.53</td>
</tr>
<tr>
<td>G</td>
<td>3.05</td>
<td>10.01</td>
<td>2.99</td>
</tr>
</tbody>
</table>

Ground Clearances
Flaps and Flap Track Fairings When Flaps Fully Extended
FIGURE-2-3-0-991-006-A01

---

N_AC_020300_1_0060101_01_00

2-3-0
Page 4
Jun 01/12
**ON A/C A318-100**

GROUND CLEARANCES

**A/C IN MAINTENANCE CONFIGURATION MID CG**

<table>
<thead>
<tr>
<th></th>
<th>m</th>
<th>ft</th>
<th>m</th>
<th>ft</th>
<th>m</th>
<th>ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>2.68</td>
<td>8.79</td>
<td>2.62</td>
<td>8.60</td>
<td>2.59</td>
<td>8.50</td>
</tr>
<tr>
<td>J</td>
<td>3.09</td>
<td>10.14</td>
<td>3.02</td>
<td>9.91</td>
<td>3.0</td>
<td>9.84</td>
</tr>
</tbody>
</table>

Ground Clearances
Flap Track Fairings Up
FIGURE-2-3-0-991-007-A01
**ON A/C A318-100

Ground Clearances
Aileron Down
FIGURE-2-3-0-991-008-A01

<table>
<thead>
<tr>
<th>A/C IN MAINTENANCE CONFIGURATION MID CG</th>
<th>MAXIMUM RAMP WEIGHT FWD CG</th>
<th>MAXIMUM RAMP WEIGHT AFT CG</th>
</tr>
</thead>
<tbody>
<tr>
<td>m</td>
<td>ft</td>
<td>m</td>
</tr>
<tr>
<td>L</td>
<td>4.19</td>
<td>13.75</td>
</tr>
<tr>
<td>M</td>
<td>3.84</td>
<td>12.60</td>
</tr>
</tbody>
</table>
**ON A/C A318-100

Ground Clearances
Aileron Up and Spoilers 1 to 5 Extended
FIGURE-2-3-0-991-009-A01

### HEIGHT FROM GROUND

<table>
<thead>
<tr>
<th></th>
<th>A/C IN MAINTENANCE CONFIGURATION MID CG</th>
<th>MAXIMUM RAMP WEIGHT FWD CG</th>
<th>MAXIMUM RAMP WEIGHT AFT CG</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>m</td>
<td>ft</td>
<td>m</td>
</tr>
<tr>
<td>P</td>
<td>4.37</td>
<td>14.34</td>
<td>4.31</td>
</tr>
<tr>
<td>Q</td>
<td>4.60</td>
<td>15.09</td>
<td>4.54</td>
</tr>
<tr>
<td>S</td>
<td>4.35</td>
<td>14.27</td>
<td>4.29</td>
</tr>
<tr>
<td>T</td>
<td>4.21</td>
<td>13.81</td>
<td>4.15</td>
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<tr>
<td>U</td>
<td>4.07</td>
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<tr>
<td>V</td>
<td>4.01</td>
<td>13.16</td>
<td>3.94</td>
</tr>
<tr>
<td>W</td>
<td>3.75</td>
<td>12.30</td>
<td>3.69</td>
</tr>
</tbody>
</table>
**ON A/C A318-100**

---

**AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING**

---

**GROUND CLEARANCES**

Slats Extended

FIGURE-2-3-0-991-010-A01

---

<table>
<thead>
<tr>
<th></th>
<th>A/C IN MAINTENANCE MID CG</th>
<th>MAXIMUM RAMP WEIGHT FWD CG</th>
<th>MAXIMUM RAMP WEIGHT AFT CG</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>m</td>
<td>ft</td>
<td>m</td>
</tr>
<tr>
<td>X</td>
<td>2.54</td>
<td>8.33</td>
<td>2.48</td>
</tr>
<tr>
<td>Y</td>
<td>2.96</td>
<td>9.71</td>
<td>2.90</td>
</tr>
<tr>
<td>Z</td>
<td>3.05</td>
<td>10.01</td>
<td>2.99</td>
</tr>
<tr>
<td>A'</td>
<td>3.35</td>
<td>10.99</td>
<td>3.29</td>
</tr>
<tr>
<td>B'</td>
<td>3.35</td>
<td>10.99</td>
<td>3.29</td>
</tr>
<tr>
<td>C'</td>
<td>3.61</td>
<td>11.84</td>
<td>3.55</td>
</tr>
<tr>
<td>D'</td>
<td>3.61</td>
<td>11.84</td>
<td>3.55</td>
</tr>
<tr>
<td>E'</td>
<td>3.86</td>
<td>12.66</td>
<td>3.80</td>
</tr>
<tr>
<td>F'</td>
<td>3.86</td>
<td>12.66</td>
<td>3.80</td>
</tr>
<tr>
<td>G'</td>
<td>4.10</td>
<td>13.45</td>
<td>4.04</td>
</tr>
</tbody>
</table>
2-4-0 Interior Arrangements

**ON A/C A318-100

Interior Arrangements

1. This section gives the standard interior arrangements configuration.
2-4-1 Passenger Compartment Layout

**ON A/C A318-100

Typical Configuration

1. This section gives the typical interior configuration.
**ON A/C A318-100

Typical Configuration
Typical Configuration Single-Class, High Density
FIGURE-2-4-1-991-001-A01
**ON A/C A318-100**

Typical Configuration
Typical Configuration Two-Class
FIGURE-2-4-1-991-007-A01
2-5-0  Passenger Compartment Cross Section

**ON A/C A318-100

Passenger Compartment Cross-section

1. This section gives the typical passenger compartment cross-section configuration.
**ON A/C A318-100**

**NOTE:** DIMENSIONS m (in)

Passenger Compartment Cross-section
FIGURE-2-5-0-991-001-A01
**ON A/C A318-100

Passenger Compartment Cross-section
Economy Class, 6 Abreast - Wider Aisle (Sheet 1 of 2)
FIGURE-2-5-0-991-005-A01
**ON A/C A318-100**

Passenger Compartment Cross-section
Economy Class, 6 Abreast - Wider Seat (Sheet 2 of 2)
FIGURE-2-5-0-991-005-A01

NOTE: DIMENSIONS m (in)
**ON A/C A318-100

**NOTE:** DIMENSIONS m (in)

Passenger Compartment Cross-section
Passenger Compartment Cross-section, First-class
FIGURE-2-5-0-991-006-A01
2-6-0 Cargo Compartments

**ON A/C A318-100

Cargo Compartments

1. This section gives the cargo compartments locations, dimensions and loading combinations.
**ON A/C A318-100**

**Cargo Compartments**

Locations, Dimensions and Loading Combinations

FIGURE-2-6-0-991-001-A01
2-7-0  Door Clearances

**ON A/C A318-100

Doors Clearances

1. This section gives doors clearances.
2-7-1 Forward Passenger / Crew Doors

**ON A/C A318-100

Forward Passenger / Crew Doors

1. This section gives forward passenger / crew doors clearances.
**ON A/C A318-100

Doors Clearances
Forward Passenger / Crew Doors
FIGURE-2-7-1-991-001-A01
2-7-2 Emergency Exits

**ON A/C A318-100

Emergency Exits

1. This section gives emergency exits doors clearances.
NOTE: ESCAPE SLIDE COMPARTMENT DOOR OPENS ON WING UPPER SURFACE.

Doors Clearances
Emergency Exits
FIGURE-2-7-2-991-002-A01
2-7-3 Aft Passenger / Crew Doors

**ON A/C A318-100

Aft Passenger / Crew Doors

1. This section gives Aft passenger / crew doors clearances.
Doors Clearances
Aft Passenger / Crew Doors
FIGURE-2-7-3-991-001-A01
2-7-4 Forward Cargo Compartment Doors

**ON A/C A318-100

Forward Cargo Compartment Door

1. This section gives forward cargo compartment door clearances.
Doors Clearances
Forward Cargo Compartment Door
FIGURE-2-7-4-991-001-A01
2-7-5 Aft Cargo Compartment Doors

**ON A/C A318-100

Aft Cargo Compartment Door

1. This section gives Aft cargo compartment door clearances.
Doors Clearances
Aft Cargo Compartment Door
FIGURE-2-7-5-991-001-A01
2-7-7 Main Landing Gear Doors

**ON A/C A318-100

Main Landing Gear Doors

1. This section gives the main landing gear doors clearances.
**On A/C A318-100**

Doors Clearances
Main Landing Gear Doors
FIGURE-2-7-7-991-001-A01
2-7-8 Radome

**ON A/C A318-100

Radome

1. This section gives the radome clearances.
Doors Clearances
Radome
FIGURE-2-7-8-991-001-A01
2-7-9 APU and Nose Landing Gear Doors

**ON A/C A318-100

APU and Nose Landing Gear Doors

1. This section gives APU and Nose Landing Gear doors clearances.
**ON A/C A318-100**

NOTE: VALUE OF CG: 25% RC.
2-8-0 Escape Slides

**ON A/C A318-100**

Escape Slides

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

2. Location
   Escape facilities are provided at the following locations:
   - one slide-raft at each passenger/crew door (total four)
   - one slide for each emergency exit door (total two). Dual lane offwing escape slides are installed above the wings in the left and right wing-to-fuselage fairings for off-the-wing evacuation.
**ON A/C A318-100

**EMERGENCY EVACUATION**

EMERGENCY DESCENT DEVICE THROUGH WINDOW OPENING

GRID EQUALS 1 m (3.28 ft) IN REALITY

Escape Slides
Dimensions
FIGURE-2-8-0-991-002-A01

N_AC_020800_1_0020101_01_00
2-9-0  Landing Gear

**ON A/C A318-100

Landing Gear

1. General

The landing gear is of the conventional retractable tricycle type comprising:
- Two main gears with twin wheel
- A twin wheel nose gear.

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

The nose landing gear retracts forward into a fuselage compartment located between STA 5394/FR 9 and 8077/FR 20.

The landing gear and landing gear doors operation is controlled electrically and hydraulically operated.
In abnormal operation, the landing gear can be extended by gravity.

For landing gear footprint and tire size, refer to 7-2-0.

2. Main Landing Gear

A. Twin wheel

Each of the two main landing gear assemblies consists of a conventional two wheel direct type with an integral shock absorber supported in the fore and aft direction by a fixed drag strut and laterally by a folding strut mechanically locked when in the DOWN position.

3. Nose Landing Gear

The nose landing gear comprises of a leg with a built-in shock absorber strut, carrying twin wheel with adequate shimmy damping and a folding strut mechanically locked when in the DOWN position.

4. Nose Wheel Steering

Steering is controlled by two hand wheels in the cockpit. For steering angle controlled by the hand wheels, refer to AMM 32-51-00.
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.
5. 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 12-14-32.

6. Braking
   A. General

      The four main wheels are equipped with carbon multidisc brakes.

      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
      - Alternative braking without anti-skid capability
      - Parking brake with full pressure application capability only.

   B. In-Flight Wheel Braking

      The main gear wheels are braked automatically before the wheels enter the wheel bay.

      The nose gear wheels are stopped by the wheels contacting a rubbing strip (the brake band) when the gear is in the retracted position.
**ON A/C A318-100

NOTE: MAIN DOOR SHOWN OPEN IN GROUND MAINTENANCE POSITION.

Landing Gear
Main Landing Gear - Twin Wheel (Sheet 1 of 2)
FIGURE-2-9-0-991-002-A01
**ON A/C A318-100

Landing Gear
Main Landing Gear - Twin Wheel (Sheet 2 of 2)
FIGURE-2-9-0-991-002-A01
**ON A/C A318-100

Landing Gear
Main Landing Gear Dimensions - Twin Wheel
FIGURE-2-9-0-991-003-A01

N_AC_020900_1_0030101_01_00
Landing Gear
Nose Landing Gear (Sheet 1 of 2)
FIGURE-2-9-0-991-004-A01
**ON A/C A318-100

Landing Gear
Nose Landing Gear (Sheet 2 of 2)
FIGURE-2-9-0-991-004-A01
**ON A/C A318-100

Landing Gear
Nose Landing Gear Dimensions
FIGURE-2-9-0-991-005-A01
**ON A/C A318-100**

Landing Gear Maintenance Pits

1. Description

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

All dimensions shown are minimum dimensions with zero clearances.

The dimensions for the pits have been determined as follows:
- The length and width of the pits allow the gear to rotate as the weight is taken off the landing gear
- The depth of the pits allows the shock absorber to be removed when all the weight is taken off the landing gear.

Dimensions for elevators and associated mechanisms must be added to those in Figures 1 and 2.
**ON A/C A318-100

**

**ON A/C A318-100**

**MAIN JACKING POINT**

7.61 m (24.97 ft)

5.28 m (17.32 ft)

1 m (3.28 ft)

1.5 m (4.92 ft)

17.72 m (58.14 ft)

17.87 m (58.63 ft)

FROM X0

1.92 m (6.30 ft)

N_AC_020900_1_0200101_01_00

Landing Gear Maintenance Pits

Maintenance Pit Envelopes

FIGURE-2-9-0-991-020-A01

2-9-0
**ON A/C A318-100**

**NOTE:**
1. Represents top of mechanical or hydraulic elevator, with aircraft weight supported and landing gear shock absorbers extended.
2. Represents top of mechanical or hydraulic elevator, shown with zero clearance lowered for shock absorber removal.

**DIM QUOTED IS WITH WHEELS REMOVED AND 53 mm (2.07 in) FROM JACKING DOME**

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>m</th>
<th>ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.52</td>
<td>1.71</td>
<td>1.17</td>
<td>3.84</td>
</tr>
</tbody>
</table>

Landing Gear Maintenance Pits
Maintenance Pit Envelopes
FIGURE-2-9-0-991-021-A01

N_AC_020900_1_0210101_01_00

Page 11
Jun 01/12
2-10-0 Exterior Lighting

**ON A/C A318-100

Exterior Lighting

1. General

This section gives the location of the aircraft exterior lighting.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>RIGHT NAVIGATION LIGHT (GREEN)</td>
</tr>
<tr>
<td>2</td>
<td>TAIL NAVIGATION LIGHT (WHITE)</td>
</tr>
<tr>
<td>3</td>
<td>LEFT NAVIGATION LIGHT (RED)</td>
</tr>
<tr>
<td>4</td>
<td>RETRACTABLE LANDING LIGHT</td>
</tr>
<tr>
<td>5</td>
<td>RUNWAY TURN OFF LIGHT</td>
</tr>
<tr>
<td>6</td>
<td>TAXI LIGHT</td>
</tr>
<tr>
<td>7</td>
<td>TAKE-OFF LIGHT</td>
</tr>
<tr>
<td>8</td>
<td>LOGO LIGHT</td>
</tr>
<tr>
<td>9</td>
<td>UPPER ANTI-COLLISION LIGHT/BEACON (RED)</td>
</tr>
<tr>
<td>10</td>
<td>LOWER ANTI-COLLISION LIGHT/BEACON (RED)</td>
</tr>
<tr>
<td>11</td>
<td>WING STROBE LIGHT (HIGH INTENSITY, WHITE)</td>
</tr>
<tr>
<td>12</td>
<td>TAIL STROBE LIGHT (HIGH INTENSITY, WHITE)</td>
</tr>
<tr>
<td>13</td>
<td>WING/ENGINE SCAN LIGHT</td>
</tr>
<tr>
<td>14</td>
<td>WHEEL WELL LIGHT (DOME)</td>
</tr>
<tr>
<td>15</td>
<td>CARGO COMPARTMENT FLOOD LIGHT</td>
</tr>
</tbody>
</table>
Exterior Lighting

FIGURE-2-10-0-991-001-A01
Exterior Lighting

FIGURE-2-10-0-991-002-A01
Exterior Lighting
FIGURE-2-10-0-991-003-A01
**ON A/C A318-100

EXAMPLE FOR LIGHT N° 15

CEILING LIGHT

SPOT LIGHT

GROUND

Exterior Lighting

FIGURE-2-10-0-991-017-A01
2-11-0 Antennas and Probes Location

**ON A/C A318-100

Antennas and Probes Location

1. This section gives the location of antennas and probes.
**ON A/C A318-100**

NOTE: DEPENDING ON AIRCRAFT CONFIGURATION

Antennas and Probes
Location
FIGURE-2-11-0-991-001-A01
2-12-0 Power Plant

**ON A/C A318-100

Auxiliary Power Unit

1. General

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

2. Controls and Indication

The primary APU controls and indications are installed on the overhead panel, on the center pedestal and on the center instrument panel. Additionally, an external APU panel is installed on the nose landing gear to initiate an APU emergency shutdown.
**ON A/C A318-100**

Engine and Nacelle

1. Engine and Nacelle - CFM Engine
   
   **A. Engine**
   The engine is a dual-rotor, variable stator, high bypass ratio turbo fan power plant for subsonic services. The principal modules of the engine are:
   
   - low pressure compressor (fan stator and fan rotor)
   - high pressure compressor
   - turbine frame
   - combustion chamber
   - high pressure turbine
   - low pressure turbine
   - accessory drives (gear box).

   The 9 stage high pressure compressor is driven by 1 stage high pressure turbine, and the integrated front fan and booster is driven by 4 stage low pressure turbine. An annular combustor converts fuel and compressor discharge air into energy to provide engine thrust part through primary exhaust and to drive the turbines. The accessory drive system extracts energy from the high pressure rotor to drive the engine accessories and the engine mounted aircraft accessories. Reverse thrust for braking the aircraft after landing is supplied by an integrated system which acts on the fan discharge airflow.

   **B. Nacelle**
   The cowls enclose the periphery of the engine so as to form the engine nacelle. Each engine is housed in a nacelle suspended from a pylon attached to the wing lower surface. The nacelle consists of the demountable powerplant, the fan cowls and the thrust reverser cowls.

   The nacelle installation is designed to provide cooling and ventilation air for engine accessories mounted along the fan and core casing. The nacelle provides:
   
   - protection for the engine and the accessories
   - airflow around the engine during its operation
   - lighting protection
   - HIRF and EMI attenuation.

2. Engine and Nacelle - PW Engine
   
   **A. Engine**
   The engine is a two spool, axial flow, high bypass ratio turbofan powerplant for subsonic service. The main modules of the engine are:
   
   - compressor section
   - combustion section
   - turbine section
   - accessory drives (gear box) section.

   The four stage Low Pressure Compressor (LPC) is driven by a three stage Low Pressure Turbine (LPT) and the six stage High Pressure Compressor (HPC) by a single stage High Pressure Turbine (HPT).
The PW6000 incorporates a Full Authority Digital Engine Control (FADEC) which governs all engine functions, including power management.

B. Nacelle
The cowls enclose the periphery of the engine so as to form the engine nacelle. Each engine is housed in a nacelle suspended from a pylon attached below the wing. The nacelle installation is designed to provide cooling and ventilation air for engine accessories mounted along the fan and core casing. The nacelle provides:
- protection for the engine and the accessories
- airflow around the engine during its operation
- lighting protection
- HIRF and EMI attenuation.
**ON A/C A318-100**

Power Plant Handling
Major Dimensions - CFM56 Series Engine
FIGURE-2-12-0-991-011-A01
**ON A/C A318-100**

**DISTANCE FROM THE NOSE**
- 8.8 m (28.9 in)
- 0.93 m (3.1 ft)
- 1.3 m (4.3 ft)
- 1.2 m (3.9 ft)

**FAN COWL**
- A
- B
- C
- D

**CENTERBODY**
- PRIMARY NOZZLE
- BLOCKER DOOR

**ENGINE AIR INLET COWL**
- 0.57 m (1.9 ft)

**Power Plant Handling**
Major Dimensions - CFM56 Series Engine
FIGURE-2-12-0-991-012-A01

**N_AC_021200_1_0120101_01_00**

Page 7
Jun 01/12
NOTE: APPROXIMATE DIMENSIONS

<table>
<thead>
<tr>
<th>m (ft)</th>
<th>θ</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>VIEW COWLING AFT</td>
<td>42°27</td>
<td>1.8 (5.9)</td>
<td>1.5 (4.9)</td>
<td>1.3 (4.3)</td>
</tr>
<tr>
<td></td>
<td>55°15</td>
<td>2.0 (6.6)</td>
<td>1.8 (5.9)</td>
<td>1.7 (5.6)</td>
</tr>
<tr>
<td>VIEW COWLING FWD</td>
<td>40°40</td>
<td>1.8 (5.9)</td>
<td>1.4 (4.6)</td>
<td>1.3 (4.3)</td>
</tr>
<tr>
<td></td>
<td>52°56</td>
<td>2.0 (6.6)</td>
<td>1.7 (5.6)</td>
<td>1.6 (5.2)</td>
</tr>
</tbody>
</table>

Power Plant Handling
Fan Cowls - CFM56 Series Engine
FIGURE-2-12-0-991-013-A01
**ON A/C A318-100**

NOTE: APPROXIMATE DIMENSIONS

CAUTION
DO NOT ACTUATE SLATS:
- WITH THRUST REVERSER COWLS 45° OPEN POSITION
- WITH BLOCKER DOORS OPEN AND THRUST REVERSER COWLS AT 35° AND 45° OPEN POSITION

Power Plant Handling
Thrust Reverser Cowls - CFM56 Series Engine
FIGURE-2-12-0-991-014-A01
**ON A/C A318-100**

Power Plant Handling
Major Dimensions - PW 6000 Series Engine
FIGURE-2-12-0-991-015-A01
**ON A/C A318-100**

<table>
<thead>
<tr>
<th></th>
<th>W</th>
<th>U</th>
<th>V</th>
</tr>
</thead>
<tbody>
<tr>
<td>A−A</td>
<td>2 m</td>
<td>0.9 m</td>
<td>1.05 m</td>
</tr>
<tr>
<td>(6.6 ft)</td>
<td>(3 ft)</td>
<td>(3.4 ft)</td>
<td></td>
</tr>
<tr>
<td>B−B</td>
<td>2.08 m</td>
<td>0.96 m</td>
<td>1.07 m</td>
</tr>
<tr>
<td>(6.8 ft)</td>
<td>(3.1 ft)</td>
<td>(3.5 ft)</td>
<td></td>
</tr>
<tr>
<td>C−C</td>
<td>1.63 m</td>
<td>0.76 m</td>
<td>0.81 m</td>
</tr>
<tr>
<td>(5.3 ft)</td>
<td>(2.5 ft)</td>
<td>(2.7 ft)</td>
<td></td>
</tr>
<tr>
<td>D−D</td>
<td>1.12 m</td>
<td>0.56 m</td>
<td>0.56 m</td>
</tr>
<tr>
<td>(3.7 ft)</td>
<td>(1.8 ft)</td>
<td>(1.8 ft)</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** ALL SIZES GIVEN ON THIS ILLUSTRATION ARE APPROXIMATE

Power Plant Handling
Nacelle Dimensions - PW 6000 Series Engine
FIGURE-2-12-0-991-016-A01
**ON A/C A318-100**

![Diagram of aircraft dimensions](image)

<table>
<thead>
<tr>
<th>°</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>27°</td>
<td>3.05 m (10 ft)</td>
<td>0.90 m (2.95 ft)</td>
<td>D + 0.2 m (D + 0.7 ft)</td>
<td>0.7 m (2.3 ft)</td>
</tr>
<tr>
<td>53°</td>
<td>3.85 m (12.63 ft)</td>
<td>1.65 m (5.41 ft)</td>
<td>D + 0.84 m (D + 2.8 ft)</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** APPROXIMATE DIMENSIONS  
ONLY MAIN DIMENSIONS SHOWN

Power Plant Handling  
Fan Cowls - PW 6000 Series Engine  
FIGURE-2-12-0-991-017-A01
**ON A/C A318-100**

Power Plant Handling

Thrust Reverser Halves - PW 6000 Series Engine

FIGURE-2-12-0-991-018-A01
2-13-0  Leveling, Symmetry and Alignment

**ON A/C A318-100

Leveling, Symmetry and Alignment

1. Quick Leveling
   There are three alternative procedures to level the aircraft:
   - Quick leveling procedure with Air Data/Inertial Reference Unit (ADIRU).
   - Quick leveling procedure with a spirit level in the 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 12 for longitudinal leveling) and under the wings (points 2LH and 2RH for lateral leveling) and use a sighting tube. With the aircraft on jacks, adjust the jacks until the reference marks on the sighting rods are aligned in the sighting plane (aircraft level).

3. Symmetry and Alignment Check
   Possible deformation of the aircraft is measured by photogrammetry.
**ON A/C A318-100**

Location of the Leveling Points

FIGURE-2-13-0-991-001-A01
**ON A/C A318-100**

1. **Jacking for Maintenance**
   
   A. **General**

   The A318 aircraft can be jacked:
   - at not more than the maximum permitted aircraft weight for jacking (53 000 kg (116 845 lb)) and,
   - within the limits of the permissible wind speed when the aircraft is jacked outside a closed environment.

   B. **Primary Jacking Points**

   The aircraft is provided with three jacking points:
   - one located under the forward fuselage (STA5194/FR8),
   - two located under the wings: one under each wing, located at the intersection of STA4862/RIB9 and the rear of spar-datum.

   Three jacking adapters are used as intermediary parts between the airplane and jacks:
   - one male spherical jacking adapter of 19 mm (0.75 in) radius, forming part of the airplane structure, FR8,
   - a wing jack pad, attached to each wing at RIB 9 by 2 bolts, provides the location for jacking adaptor.

   Wing jack pads are ground equipment.

   C. **Auxiliary Jacking Points - Safety Stay**

   When the aircraft is on jacks, it is recommended that a safety stay be placed under the fuselage, between FR73 and FR74 to prevent tail tipping caused by accidental displacement of the center of gravity.

   The safety stay is not used to lift the aircraft.

   A male spherical ball pad with a 19 mm (0.75 in) radius, forming part of the airplane structure is provided for using the safety stay.

2. **Jack Design**

   In fully retracted position (jack stroke at minimum), the height of the jack may be placed beneath the airplane under the most adverse conditions, namely, tires deflated and shock absorbers depressurized.
In addition, a clearance of 50 mm (1.97 in) approximately must be provided between the airplane jacking point and the jack upper end. The lifting jack stroke enables the aircraft to be jacked up so that the fuselage longitudinal datum line (aircraft center line) parallel to the ground, with a 100 mm (3.94 in) clearance between the main landing gear wheels and the ground. In particular, this enables the landing gear extension/retraction tests to be performed.

<table>
<thead>
<tr>
<th>Jacking Point Location</th>
<th>Z</th>
<th>Maximum Permitted Load</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forward Fuselage Jacking Point</td>
<td>-1.987 m</td>
<td>6 800 daN (15 287 lbf)</td>
</tr>
<tr>
<td></td>
<td>(-6.52 ft)</td>
<td></td>
</tr>
<tr>
<td>Wing Jacking Point</td>
<td>-0.828 m</td>
<td>28 500 daN (64 071 lbf)</td>
</tr>
<tr>
<td></td>
<td>(-2.72 ft)</td>
<td></td>
</tr>
<tr>
<td>Safety Stay</td>
<td>-0.748 m</td>
<td>2 000 daN (4 496 lbf)</td>
</tr>
<tr>
<td></td>
<td>(-2.45 ft)</td>
<td></td>
</tr>
</tbody>
</table>

The maximum permitted aircraft weight for the jacking procedure is 53 000 kg (116 845 lb). Centerline at 4.6 mm (0.18 in) parallel to the ground.
Jacking for Maintenance

Jacking Point Location

FIGURE-2-14-0-991-001-A01

2-14-0
**ON A/C A318-100

Jacking for Maintenance
Forward Jacking Point
FIGURE-2-14-0-991-003-A01
Jacking for Maintenance
Wing Jacking Points
FIGURE-2-14-0-991-056-A01

**ON A/C A318-100**

**WING JACK PAD**

**LOWER SURFACE**

**POINT BB' DETAIL**

**RIB9 INTERSECTION WITH REAR SPAR DATUM**

**SPHERICAL RADIUS**

32 mm (1.26 in)

**REAR SPAR DATUM**

Z-828.35

Z-895

EXAMPLE

N_AC_021400_1_0560101_01_00
**ON A/C A318-100

Jacking for Maintenance
Safety Stay
FIGURE-2-14-0-991-057-A01

SPHERICAL RADIUS 19 mm (0.75 in)
(19 DS35-71 595)

Z−744.932
Z−729.441

125.67 mm
(4.95 in)

X = 35.08
**ON A/C A318-100

The Center Line (CL) is a fictitious line around which the aircraft is built. Safety stay is not used for jacking. See Section 1−10, for ground clearances A/C on jacks.

<table>
<thead>
<tr>
<th>Aircraft Configuration</th>
<th>L</th>
<th>M</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aircraft on wheels, shock absorbers deflated and flat tires</td>
<td>1,560 mm (61.42 in)</td>
<td>2,846 mm (112.05 in)</td>
<td>3,047 mm (119.96 in)</td>
</tr>
<tr>
<td>Aircraft on jacks, center line (CL) parallel to ground</td>
<td>2,620 mm (103.15 in)</td>
<td>3,772 mm (148.50 in)</td>
<td>3,859 mm (151.93 in)</td>
</tr>
<tr>
<td>Shock absorbers extended, main wheel clearance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(standard tires) (49 x 17) 120 mm (4.72 in) for extended</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>and retracted landing gears</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aircraft on wheels, (standard tires) at max.</td>
<td>1,931 mm (76.02 in)</td>
<td>3,082 mm (121.34 in)</td>
<td>3,169 mm (124.76 in)</td>
</tr>
<tr>
<td>permitted weight for jacking</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aircraft on wheels, NLG shock absorber deflated and flat</td>
<td>1,545 mm (60.83 in)</td>
<td>2,761 mm (108.70 in)</td>
<td>2,892 mm (113.86 in)</td>
</tr>
<tr>
<td>tires</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

NOTE: The Center Line (CL) is a fictitious line around which the aircraft is built. Safety stay is not used for jacking. See Section 1−10, for ground clearances A/C on jacks.
**ON A/C A318-100

Jacking for Wheel Change

1. General

   Landing gear jacking will be required especially for replacing wheels and brake unit components.

   The maximum permitted aircraft weight for jacking is 53 000 kg (116 845 lb).

2. Main Gear Jacking

   The main gears are normally jacked up by placing a jack directly under the ball pad.

   The ball spherical radius is 19 mm (0.75 in).

   It is also possible to jack the main gear using a cantilever jack.

3. Nose Gear Jacking

   For nose gear jacking a 19 mm (0.75 in) radius ball pad is fitted under the lower end of the shock absorber sliding tube. Jacking can be accomplished either by placing a jack directly under the ball pad, or using an adapter fitting provided with an identical ball pad.
**ON A/C A318-100

**NOTE:** TWIN WHEEL TRACK IS 927 mm (36.5 in).
THE FLAT TIRES VIEW SHOWS THE MINIMUM HEIGHT TO ENGAGE JACK WITH 2 FLAT TIRES.
THE INFLATED TIRES VIEW SHOWS THE JACKING HEIGHT TO GIVE 25 mm (1 in)
CLEARANCE BETWEEN THE TIRE AND GROUND.
**ON A/C A318-100**

Landing Gear Jacking for Wheel Change
MLG Jacking with Cantilever Jack - Twin Wheels
FIGURE-2-14-0-991-013-A01
**ON A/C A318-100

Landing Gear Jacking for Wheel Change
Loads at MLG Jacking Points - Twin Wheels
FIGURE-2-14-0-991-014-A01
**ON A/C A318-100**

**NOTE:** THE FLAT TIRES VIEW SHOWS THE MINIMUM HEIGHT TO ENGAGE JACK WITH 2 FLAT TIRES. THE INFLATED TIRES VIEW SHOWS THE JACKING HEIGHT TO GIVE 25 mm (1 in) CLEARANCE BETWEEN THE TIRE AND GROUND.
**ON A/C A318-100**

Landing Gear Jacking for Wheel Change

Loads at NLG Jacking Points

FIGURE-2-14-0-991-016-A01
**ON A/C A318-100**

General Information

1. This section gives standard day temperatures.

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

   Section 3-3 represents FAR take-off runway length requirements at ISA and ISA +15°C (+59°F) for CFM56 and PW 6000 series engine conditions for FAA certification.

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

   Section 3-5 indicates final approach speeds.

   Standard day temperatures for the altitudes shown are tabulated below:

<table>
<thead>
<tr>
<th>Altitude</th>
<th>Standard Day Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>FEET</td>
<td>METERS</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2000</td>
<td>610</td>
</tr>
<tr>
<td>4000</td>
<td>1219</td>
</tr>
<tr>
<td>6000</td>
<td>1829</td>
</tr>
<tr>
<td>8000</td>
<td>2438</td>
</tr>
</tbody>
</table>
3-2-0 Payload / Range

**ON A/C A318-100

Payload / Range
1. Payload / Range
3-2-1 ISA Conditions

**ON A/C A318-100

ISA Conditions

1. This section gives the payload / range at ISA conditions.
NOTE: THESE CURVES ARE GIVEN FOR INFORMATION ONLY. THE APPROVED VALUE ARE STATED IN THE "OPERATING MANUALS" SPECIFIC TO THE AIRLINE OPERATING THE AIRCRAFT.

Cruise Conditions:
- ISA + 10° M = 0.76
- 35 000/39 000 ft
- International Reserves: En Route 10% Flight Time
- Overshoot
- 200 NM (370 KM) Diversion
- 30 Minutes Hold at 1500 ft
- Approach and Landing
NOTE: THESE CURVES ARE GIVEN FOR INFORMATION ONLY.
THE APPROVED VALUE ARE STATED IN THE "OPERATING
MANUALS" SPECIFIC TO THE AIRLINE OPERATING THE AIRCRAFT.

Cruise Conditions
ISA + 10° M = 0.76
35 000/39 000 ft

International Reserves:
En route 10% flight time
Overshoot
200 NM (370 KM) diversion
30 minutes hold at 1500 ft
Approach and landing

Payload / Range
PW 6000 series engine

Figure 3-2-1-991-002-A01
3-3-0 FAR / JAR Takeoff Weight Limitation

**ON A/C A318-100

FAR / JAR Take-off Weight Limitation

1. FAR / JAR Take-off Weight Limitation
3-3-1 ISA Conditions

**ON A/C A318-100

ISA Conditions

1. This section gives the take-off weight limitation at ISA conditions.
**ON A/C A318-100

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

FAR / JAR Take-off Weight Limitation
ISA Conditions – CFM56 series engine
FIGURE-3-3-1-991-001-A01
**ON A/C A318-100**

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

FAR / JAR Take-off Weight Limitation
ISA Conditions – PW 6000 series engine
FIGURE-3-3-1-991-002-A01
3-3-2  ISA +15°C (+59°F) Conditions

**ON A/C A318-100**

ISA +15°C (+59°F) Conditions

1. This section gives the take-off weight limitation at ISA +15°C (+59°F) conditions.
**ON A/C A318-100**

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

FAR / JAR Take-off Weight Limitation
ISA +15 °C (+59 °F) Conditions – CFM56 series engine
FIGURE-3-3-2-991-001-A01

1000 kg 1000 lb

TAKE-OFF WEIGHT

AIRPORT PRESSURE ALTITUDE (1000 ft)

AIRPORT PRESSURE ALTITUDE (1000 m)

RUNWAY LENGTH

1000 ft 1000 m
**ON A/C A318-100

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

FAR / JAR Take-off Weight Limitation
ISA +15 °C (+59 °F) Conditions – PW 6000 series engine
FIGURE-3-3-2-991-002-A01

N_AC_030302_1_0020101_01_00

Page 3
Jun 01/12
3-4-0 FAR / JAR Landing Field Length

**ON A/C A318-100

FAR / JAR Landing Field Length

1. FAR / JAR Landing Field Length
3-4-1 ISA Conditions

**ON A/C A318-100

ISA Conditions

1. This section gives the landing field length.
NOTE: THESE CURVES ARE GIVEN FOR INFORMATION ONLY. THE APPROVED VALUES ARE STATED IN THE "OPERATING MANUALS" SPECIFIC TO THE AIRLINE OPERATING THE AIRCRAFT.

FAR / JAR Landing Field Length
CFM56-5B series engine
FIGURE-3-4-1-991-001-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.
3-5-0 Final Approach Speed

**ON A/C A318-100**

Final Approach Speed

1. This section gives the final approach speed.
NOTE: THESE CURVES ARE GIVEN FOR INFORMATION ONLY
THE APPROVED VALUES ARE STATED IN THE "OPERATING
MANUALS" SPECIFIC TO THE AIRLINE OPERATING THE AIRCRAFT.

Final Approach Speed
CFM56-5B8 and CFM56-5B9 series engine
FIGURE-3-5-0-991-001-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.

Final Approach Speed
PW 6000 series engine
FIGURE-3-5-0-991-002-A01
**4-1-0 General Information**

**ON A/C A318-100**

General Information

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

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

   In the ground operating mode, varying airline practices may demand that more conservative turning procedures be adopted to avoid excessive tire wear and reduce possible maintenance problems. Airline operating techniques will vary in the level of performance, over a wide range of operating circumstances throughout the world. Variations from standard aircraft operating patterns may be necessary to satisfy physical constraints within the maneuvering area, such as adverse grades, limited area or high risk of jet blast damage. For these reasons, ground maneuvering requirements should be coordinated with the using airlines prior to layout planning.
4-2-0 Turning Radii

**ON A/C A318-100

Turning Radii

1. This section gives the turning radii.
NOTE: FOR STEERING DIMENSION TABLE SEE SHEET 2.

TURN TYPE:
1. ASYMMETRIC THRUST DIFFERENTIAL BRAKING (PIVOTING ON ONE MAIN GEAR).
2. SYMMETRIC THRUST NO BRAKING.

Turning Radii, No Slip Angle
FIGURE-4-2-0-991-001-A01
<table>
<thead>
<tr>
<th>TYPE OF TURN</th>
<th>MAXIMUM RAMP WEIGHT</th>
<th>R1 RMLG</th>
<th>R2 LMLG</th>
<th>R3 NLG</th>
<th>R4 - WING</th>
<th>R5 NOSE</th>
<th>R6 THS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>STEERING ANGLE (deg)</td>
<td>EFFECTIVE STEERING ANGLE (deg)</td>
<td>m</td>
<td>ft</td>
<td>m</td>
<td>ft</td>
<td>m</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td>19.3</td>
<td>26.1</td>
<td>86</td>
<td>33.7</td>
<td>111</td>
<td>31.3</td>
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<tr>
<td>2</td>
<td>25</td>
<td>24.1</td>
<td>19.8</td>
<td>65</td>
<td>27.3</td>
<td>90</td>
<td>25.4</td>
</tr>
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<td>2</td>
<td>30</td>
<td>29.0</td>
<td>15.4</td>
<td>51</td>
<td>23.0</td>
<td>75</td>
<td>21.5</td>
</tr>
<tr>
<td>2</td>
<td>35</td>
<td>33.8</td>
<td>12.2</td>
<td>40</td>
<td>19.8</td>
<td>65</td>
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<td>40</td>
<td>38.6</td>
<td>9.7</td>
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<td>17.3</td>
<td>57</td>
<td>16.7</td>
</tr>
<tr>
<td>2</td>
<td>45</td>
<td>43.4</td>
<td>7.7</td>
<td>25</td>
<td>15.3</td>
<td>50</td>
<td>15.2</td>
</tr>
<tr>
<td>2</td>
<td>50</td>
<td>48.2</td>
<td>6.1</td>
<td>20</td>
<td>13.7</td>
<td>45</td>
<td>14.0</td>
</tr>
<tr>
<td>2</td>
<td>55</td>
<td>52.9</td>
<td>4.6</td>
<td>15</td>
<td>12.2</td>
<td>40</td>
<td>13.1</td>
</tr>
<tr>
<td>2</td>
<td>60</td>
<td>57.6</td>
<td>3.4</td>
<td>11</td>
<td>11.0</td>
<td>36</td>
<td>12.3</td>
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<td>2.3</td>
<td>8</td>
<td>9.9</td>
<td>32</td>
<td>11.8</td>
</tr>
<tr>
<td>2</td>
<td>70</td>
<td>66.6</td>
<td>1.3</td>
<td>4</td>
<td>8.9</td>
<td>29</td>
<td>11.3</td>
</tr>
<tr>
<td>2</td>
<td>75 (MAX)</td>
<td>70.3</td>
<td>0.6</td>
<td>2</td>
<td>8.2</td>
<td>27</td>
<td>11.0</td>
</tr>
<tr>
<td>1</td>
<td>50</td>
<td>48.3</td>
<td>6.0</td>
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<td>13.6</td>
<td>45</td>
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<td>3.3</td>
<td>11</td>
<td>10.9</td>
<td>36</td>
<td>12.3</td>
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<tr>
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<td>65</td>
<td>62.8</td>
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<td>7</td>
<td>9.7</td>
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<td>8.8</td>
<td>29</td>
<td>11.3</td>
</tr>
<tr>
<td>1</td>
<td>75 (MAX)</td>
<td>71.8</td>
<td>0.3</td>
<td>1</td>
<td>7.8</td>
<td>26</td>
<td>10.9</td>
</tr>
</tbody>
</table>

**NOTE:** ABOVE 50°, AIRLINES MAY USE TYPE 1 OR TYPE 2 TURNS DEPENDING ON THE SITUATION. TYPE 1 TURNS USE: ASYMMETRIC THRUST DURING THE WHOLE TURN; AND DIFFERENTIAL BRAKING TO INITIATE THE TURN ONLY. TYPE 2 TURNS USE: SYMMETRIC THRUST DURING THE WHOLE TURN; AND NO DIFFERENTIAL BRAKING AT ALL. IT IS POSSIBLE TO GET LOWER VALUES THAN THOSE FROM TYPE 1 BY APPLYING DIFFERENTIAL BRAKING DURING THE WHOLE TURN.
4-3-0 Minimum Turning Radii

**ON A/C A318-100

Minimum Turning Radii

1. This section gives the minimum turning radii.
### Minimum Turning Radii

**ON A/C A318-100**

![Diagram of aircraft](image)

**NOTE:** NOSE GEAR RADI US TRACK R3, MEASURED FROM OUTSIDE FACE OF TIRE. MODEL 100 TURN DIMENSION SHOWN. THEORETICAL CENTER OF TURN FOR MINIMUM TURNING RADIUS. SLOW CONTINUOUS TURNING, APPROXIMATELY IDLE THRUST ON BOTH ENGINES. NO DIFFERENTIAL BRAKING. DRY SURFACE.

<table>
<thead>
<tr>
<th>TYPE OF TURN</th>
<th>STEERING ANGLE (DEG)</th>
<th>EFFECTIVE STEERING ANGLE</th>
<th>Y (m)</th>
<th>A (m)</th>
<th>R3 (m)</th>
<th>R4 WING</th>
<th>R5 NOSE</th>
<th>R6 THS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>75 (MAX)</td>
<td>71.8°</td>
<td>3.4</td>
<td>19.0</td>
<td>10.9</td>
<td>20.9</td>
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<td></td>
<td>11</td>
<td>62</td>
<td>36</td>
<td>68</td>
<td>71</td>
<td>51</td>
</tr>
<tr>
<td>2</td>
<td>75 (MAX)</td>
<td>70.3°</td>
<td>3.7</td>
<td>19.4</td>
<td>11.0</td>
<td>21.2</td>
<td>22.0</td>
<td>15.8</td>
</tr>
<tr>
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<td>64</td>
<td>36</td>
<td>69</td>
<td>72</td>
<td>52</td>
</tr>
</tbody>
</table>

**NOTE:** IT IS POSSIBLE TO GET LOWER VALUES THAN THOSE FROM TYPE 1 BY APPLYING DIFFERENTIAL BRAKING DURING THE WHOLE TURN.
Visibility from Cockpit in Static Position

**ON A/C A318-100

Visibility from Cockpit in Static Position

1. This section gives the visibility from cockpit in static position.
Visibility from Cockpit in Static Position

**ON A/C A318-100**

**NOT TO BE USED FOR LANDING APPROACH VISIBILITY**

**VISUAL ANGLES IN VERTICAL PLANE THROUGH PILOT EYE POSITION.**

**DIMENSIONS ARE APPROXIMATE**

- 30°
- 20°

**MAX AFT VISION WITH HEAD TURNED AROUND SPINAL COLUMN. WING TIP CAN BE SEEN WHEN HEAD IS MOVED TO THE SIDE.**

**FIRST OFFICER FIELD OF VIEW**

- 111°
- 133°

**CAPTAIN FIELD OF VIEW**

- 111°
- 133°

**VISUAL ANGLES IN HORIZONTAL PLANE THROUGH PILOT EYE POSITION.**

**VISUAL ANGLES IN PLANE PERPENDICULAR TO LONGITUDINAL AXIS.**

- 46°
- 33°

**ZONE THAT CANNOT BE SEEN**

**NOTE:**
- PILOT EYE POSITION WHEN PILOT’S EYES ARE IN LINE WITH THE RED AND WHITE BALLS.

Visibility from Cockpit in Static Position

FIGURE-4-4-0-991-001-A01
Binocular Visibility Through Windows from Captain Eye Position

**ON A/C A318-100**

FIGURE-4-4-0-991-005-A01
Runway and Taxiway Turn Paths

**ON A/C A318-100

Runway and Taxiway Turn Paths

1. Runway and Taxiway Turn Paths.
4-5-1 135° Turn - Runway to Taxiway

**ON A/C A318-100

135° Turn - Runway to Taxiway

1. This section gives the 135° turn - runway to taxiway.
**ON A/C A318-100

NOTE: FAA GROUP III FACILITIES.

135° Turn - Runway to Taxiway
Cockpit Over Centerline Method
FIGURE-4-5-1-991-001-A01
**ON A/C A318-100**

NOTE: FAA GROUP III FACILITIES.

135° Turn - Runway to Taxiway
Judgemental Oversteering Method
FIGURE-4-5-1-991-011-A01

Page 3
Jun 01/12
4-5-2 90° Turn - Runway to Taxiway

**ON A/C A318-100

90° Turn – Runway to Taxiway

1. This section gives the 90° turn - runway to taxiway.
**ON A/C A318-100

NOTE: FAA GROUP III FACILITIES.
**ON A/C A318-100

**NOTE:** FAA GROUP III FACILITIES.

90° Turn - Runway to Taxiway
Judgemental Oversteering Method
FIGURE-4-5-2-991-008-A01

FAA LEAD−IN FILLET
L = 45 m (150 ft)

APPROX 9.3 m
(30 ft)

FILLET R = 16.5 m
(55 ft)

TURN R = 30 m
(100 ft)

RUNWAY CENTERLINE

FAA LEAD−IN FILLET
L = 45 m (150 ft)

15 m
(50 ft)

TAXIWAY CENTERLINE

30 m
(100 ft)

NLG PATH

MLG PATH
4-5-3 180° Turn on a Runway

**ON A/C A318-100

180° Turn on a Runway

1. This section gives the 180° turn on a runway.
**ON A/C A318-100

180° turn on a Runway

Edge of Runway Method (Sheet 1 of 2)

FIGURE-4-5-3-991-005-A01
**ON A/C A318-100**

135° Turn - Taxiway to Taxiway

1. This section gives the 135° turn - taxiway to taxiway.
**ON A/C A318-100

NOTE: FAA GROUP III FACILITIES

135° Turn - Taxiway to Taxiway
Cockpit Over Centerline Method (Sheet 1 of 2)
FIGURE-4-5-4-991-001-A01
**ON A/C A318-100**

NOTE: FAA GROUP III FACILITIES

135° Turn - Taxiway to Taxiway  
Judgemental Oversteering Method (Sheet 2 of 2)  
FIGURE-4-5-4-991-001-A01
4-5-5 90° Turn - Taxiway to Taxiway

**ON A/C A318-100

90° Turn - Taxiway to Taxiway

1. This section gives the 90° turn - taxiway to taxiway.
90° Turn - Taxiway to Taxiway
Cockpit Over Centerline Method (Sheet 1 of 2)
FIGURE-4-5-5-991-001-A01

NOTE: FAA GROUP III FACILITIES.
**ON A/C A318-100

NOTE: FAA GROUP III FACILITIES.

90° Turn - Taxiway to Taxiway
Judgemental Oversteering Method (Sheet 2 of 2)
FIGURE-4-5-5-991-001-A01
4-6-0 Runway Holding Bay (Apron)

**ON A/C A318-100

Runway Holding Bay (Apron)

1. This section gives the runway holding bay (Apron).
**ON A/C A318-100

Runway Holding Bay (Apron)
FIGURE-4-6-0-991-001-A01
4-7-0 Parking

**ON A/C A318-100**

Airplane Parking

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

   The rectangle includes allowance for swinging the airplane on arrival and departure.
   - Steering Geometry
   - Minimum Parking Space Requirements
**ON A/C A318-100

NOTE: ± 75° NOSE WHEEL STEERING (POWER OUT).
± 95° NOSE WHEEL STEERING (PUSH BACK, PUSH OUT).
3.05 m (10 ft) TRAVEL WITH NOSE WHEEL STRAIGHT AHEAD BEFORE AND AFTER PARKED POSITION.
4.5 m (15 ft) BUILDING CLEARANCE FOR NOSE−IN PARKING.
7.5 m (25 ft) BUILDING CLEARANCE FOR OTHER PARKING POSITIONS.
7.5 m (25 ft) AIRPLANE TO AIRPLANE CLEARANCE DURING PARKING MANOEUVRES.
LIAISE WITH USER AIRLINE FOR SPECIFIC PLANNED OPERATION PROCEDURE.
**ON A/C A318-100

Airplane Parking
Steering Geometry
FIGURE-4-7-0-991-002-A01
**ON A/C A318-100

Airplane Parking
Steering Geometry
FIGURE-4-7-0-991-003-A01
**ON A/C A318-100**

Airplane Parking
Steering Geometry
FIGURE-4-7-0-991-004-A01
**ON A/C A318-100

Airplane Parking
Steering Geometry
FIGURE-4-7-0-991-005-A01
**ON A/C A318-100

45° ENTRY−PUSH OUT

Airplane Parking
Steering Geometry
FIGURE-4-7-0-991-006-A01
NOTE: 73.2° EFFECTIVE STEERING ANGLE.
**ON A/C A318-100

NOTE: 73.2° EFFECTIVE STEERING ANGLE.
**ON A/C A318-100**

Terminal Servicing

1. General
   This chapter provides typical ramp layouts, corresponding minimum turnaround time estimations, locations of ground service points and service requirements.
   The information given in this chapter reflects ideal conditions. Actual ramp layouts and service requirements may vary according to local regulations, airline procedures and the airplane condition.
   - Section 5.1 shows typical ramp layouts for passenger aircraft at the gate or on an open apron.
   - Section 5.2 shows the minimum turnaround schedules for full servicing arrangements.
   - Section 5.3 shows the minimum turnaround schedule for reduced servicing arrangements.
   - Section 5.4 gives the locations of ground service connections, the standard of connections used and typical capacities and requirements.
   - Section 5.5 provides the engine starting pneumatic requirements for different engine types and different ambient temperatures.
   - Section 5.6 provides the air conditioning requirements for heating and cooling (pull-down and pull-up) using ground conditioned air for different ambient temperatures.
   - Section 5.7 provides the air conditioning requirements for heating and cooling to maintain a constant cabin air temperature using low pressure conditioned air.
   - Section 5.8 shows the ground towing requirements taking into account different ground surface and aircraft conditions.
5-1-0 Servicing Arrangements

**ON A/C A318-100

Airplane Servicing Arrangements

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

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

   The associated turnaround chart for full servicing is given in section 5.2.
   The associated turnaround chart for minimum servicing arrangement is given in section 5.3.
### 5-1-1 Symbols Used on Servicing Diagrams

**ON A/C A318-100**

Symbols Used on Servicing Diagrams

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

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC</td>
<td>AIR CONDITIONING UNIT</td>
</tr>
<tr>
<td>AS</td>
<td>AIR STARTING UNIT</td>
</tr>
<tr>
<td>BULK</td>
<td>BULK TRAIN</td>
</tr>
<tr>
<td>CAT</td>
<td>CATERING TRUCK</td>
</tr>
<tr>
<td>CB</td>
<td>CONVEYOR BELT</td>
</tr>
<tr>
<td>CLEAN</td>
<td>CLEANING TRUCK</td>
</tr>
<tr>
<td>FUEL</td>
<td>FUEL HYDRANT DISPENSER or TANKER</td>
</tr>
<tr>
<td>GPU</td>
<td>GROUND POWER UNIT</td>
</tr>
<tr>
<td>LD CL</td>
<td>LOWER DECK CARGO LOADER</td>
</tr>
<tr>
<td>LV</td>
<td>LAVATORY VEHICLE</td>
</tr>
<tr>
<td>PBB</td>
<td>PASSENGER BOARDING BRIDGE</td>
</tr>
<tr>
<td>PS</td>
<td>PASSENGER STAIRS</td>
</tr>
<tr>
<td>TOW</td>
<td>TOW TRACTOR</td>
</tr>
<tr>
<td>ULD</td>
<td>ULD TRAIN</td>
</tr>
<tr>
<td>WV</td>
<td>POTABLE WATER VEHICLE</td>
</tr>
</tbody>
</table>
5-1-2 Typical Ramp Layout - Open Apron

**ON A/C A318-100

Typical Ramp Layout - Open Apron

1. This section gives the typical servicing arrangement for pax version (Open Apron).

    The Stand Safety Line delimits the Aircraft Safety Area (minimum distance 7.5 m from the aircraft). No vehicle must be parked in this area before complete stop of the aircraft (wheel chocks in position on landing gears).
NOTE: TYPICAL RAMP LAYOUT APPLICABLE TO AIRCRAFT WITH OR WITHOUT SHARKLETS.

Typical Ramp Layout
Open Apron - Bulk Loading
FIGURE-5-1-2-991-001-A01
5-1-3 Typical Ramp Layout - Gate

**ON A/C A318-100**

Typical Ramp Layout - Gate

1. This section gives the typical servicing arrangement for pax version (Passenger Bridge).

   The Stand Safety Line delimits the Aircraft Safety Area (minimum distance of 7.5 m 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 A318-100

STAND SAFETY LINE

NOTE: TYPICAL RAMP LAYOUT APPLICABLE TO AIRCRAFT WITH OR WITHOUT SHARKLETS.

Typical Ramp Layout
Gate
FIGURE-5-1-3-991-004-A01
5-2-0  Terminal Operations - Full Servicing

**ON A/C A318-100

Terminal Operations - Full Servicing Turn Round Time

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

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

   For each turn round time chart, the associated typical ramp layout is given in Section 5-1.

2. Assumptions for full turn round chart

   A. PASSENGER HANDLING
      107 pax, all Y/C
      All passengers deboard and board the aircraft
      1 Passenger Boarding Bridge (PBB) used at door L1
      Equipment positioning/removal + opening/closing door = 2 min

      Deboarding:
      - 107 pax at door L1
      - Deboarding rate = 22 pax/min per door
      - No Passenger with Reduced Mobility (PRM)

      Boarding:
      - 107 pax at door L1
      - Boarding rate = 18 pax/min per door
      - Last Pax Seating allowance (LPS) + headcounting = +2 min
      - No Passenger with Reduced Mobility

   B. CARGO
      2 belt loaders
      Equipment positioning/removal + opening/closing door = +1 min

      Cargo exchange:
      - 15 kg (33 lb) per pax
      - FWD cargo compartment: 700 kg (1543 lb)
      - AFT cargo compartment: 900 kg (1984 lb)
      - Bulk off-loading rate = 120 kg/min (265 lb/min)
      - Bulk loading rate = 100 kg/min (220 lb/min)

   C. REFUELLING
      2 hoses, one side
      6624 l (1750 US gal) at 50 psi (3 bar)
Dispenser positioning/removal = 4 min

D. CLEANING
Performed in available time

E. CATERING
1 catering truck for servicing galleys sequentially at doors R1 & R2
Equipment positioning/removal + door opening/closing = 2 min
Time to drive from one door to the other = 1 min
Full Size Trolley Equivalent (FSTE) to unload and load:
- 4 FSTE at door R1
- 4 FSTE at door R2
Time for trolley exchange = 1.5 min per FSTE

F. GROUND HANDLING SERVICING
Start of operations:
- Bridges: t0 = 0
- Other equipment: t = t0 + 1 min
Potable water servicing: 100% uplift, 200 l (53 US gal), max filling pressure = 3.45 bar (50 psi)
Toilet servicing: draining + rinsing = 5 min, max rinse & precharge pressure = 3.45 bar (50 psi)
**ON A/C A318-100

TRT: 34 min

Turn Round Stations
Full Servicing (34 Min.)
FIGURE-5-2-0-991-004-A01
Terminal Operation - Transit

**ON A/C A318-100**

Terminal Operation - Minimum Servicing Turn Round Time

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

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

   For each turn round time chart, the associated typical ramp layout is given in Section 5-1.

2. Assumptions for minimum turn round chart

   A. PASSENGER HANDLING
      132 pax, all Y/C
      2 Stairways used at doors L1 & L2
      Equipment positioning/removal + opening/closing door = 2 min

      Deboarding:
      - 66 pax at door L1
      - 66 pax at door L2
      - Deboarding rate = 20 pax/min per door
      - No Passenger with Reduced Mobility (PRM)

      Boarding:
      - 66 pax at door L1
      - 66 pax at door L2
      - Boarding rate = 15 pax/min per door
      - Last Pax Seating allowance (LPS) + headcounting = +2 min
      - No Passenger with Reduced Mobility

   B. CARGO
      2 belt loaders
      Equipment positioning/removal + opening/closing door = +1 min

      Cargo exchange:
      - 10 kg (22 lb) per pax
      - FWD cargo compartment: 660 kg (1455 lb)
      - AFT cargo compartment: 660 kg (1455 lb)
      - Bulk off-loading rate = 120 kg/min (265 lb/min)
      - Bulk loading rate = 100 kg/min (220 lb/min)

   C. REFUELLING
      2 hoses, one side
AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

6624 l (1750 US gal) at 50 psi (3 bar)
Dispenser positioning/removal = 4 min

D. CLEANING
   Performed in available time

E. CATERING
   No catering

F. GROUND HANDLING SERVICING
   Start of operations:
   - Bridges: \( t_0 = 0 \)
   - Other equipment: \( t = t_0 + 1 \text{ min} \)
   No potable water servicing
   No toilet servicing
**ON A/C A318-100**

TRT: 20 min

- DEBOARDING/BOARDING AT DOOR L1
- DEBOARDING/BOARDING AT DOOR L2
- HEADCOUNTING
- CATERING
- CLEANING
- CARGO FWD CC
- CARGO AFT CC
- REFUELLING
- POTABLE WATER SERVICING
- TOILET SERVICING

Turn Round Stations
Minimum Servicing (20 Min.)
FIGURE-5-3-0-991-001-A01
5-4-0  Ground Service Connections

**ON A/C A318-100

Ground Service Connections

1.  Ground Service Connections.
5-4-1 Ground Service Connections Layout

**ON A/C A318-100

Ground Service Connections Layout

1. This section gives the ground service connections layout.
**ON A/C A318-100

Ground Service Connections
Ground Service Connections Layout
FIGURE-5-4-1-991-001-A01
5-4-2 Grounding Points

**ON A/C A318-100

Grounding Points

1. Grounding Points.

<table>
<thead>
<tr>
<th>Distance</th>
<th>Distance</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>At End of Nose Landing Gear Leg</td>
<td>5.07 m (16.63 ft)</td>
<td>0.94 m (3.08 ft)</td>
</tr>
<tr>
<td>At Left Main Landing Gear Leg</td>
<td>15.32 m (50.26 ft)</td>
<td>3.79 m (12.43 ft)</td>
</tr>
<tr>
<td>At Right Main Landing Gear Leg</td>
<td>15.32 m (50.26 ft)</td>
<td>3.79 m (12.43 ft)</td>
</tr>
</tbody>
</table>

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

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

NOTE: In all other conditions, the electrostatic discharge through the tyre is sufficient.
**ON A/C A318-100

Ground Service Connections
Grounding Points
FIGURE-5-4-2-991-001-A01

N_AC_050402_1_0010101_01_00

Page 2
Jun 01/12
**ON A/C A318-100

FOR SPECIFICATIONS REFER TO FLIGHT MANUAL

NOTE: R SIDE SYMMETRICAL

Ground Service Connections
Grounding Points
FIGURE-5-4-2-991-002-A01
**ON A/C A318-100**

Hydraulic System

1. Access.

<table>
<thead>
<tr>
<th>ACCESS</th>
<th>AFT OF NOSE m (ft)</th>
<th>FROM AIRPLANE CENTERLINE</th>
<th>MEAN HEIGHT FROM GROUND m (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green System:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access door 197CB</td>
<td>16.43 (53.9)</td>
<td>1.27 (4.17)</td>
<td>1.76 (5.77)</td>
</tr>
<tr>
<td>Yellow System:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access door 198CB</td>
<td>16.43 (53.9)</td>
<td>1.27 (4.17)</td>
<td>1.76 (5.77)</td>
</tr>
<tr>
<td>Blue System:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access door 197EB</td>
<td>16.96 (55.64)</td>
<td>1.27 (4.17)</td>
<td>1.76 (5.77)</td>
</tr>
</tbody>
</table>

**NOTE:** Distances are approximate.

2. Reservoir Pressurization.

On the air pressurization manifold:

<table>
<thead>
<tr>
<th>ACCESS</th>
<th>AFT OF NOSE m (ft)</th>
<th>POSITION FROM AIRCRAFT CENTERLINE</th>
<th>MEAN HEIGHT FROM GROUND m (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access door 195BB</td>
<td>13.2 (43.31)</td>
<td>0.25 (0.82)</td>
<td>1.74 (5.71)</td>
</tr>
</tbody>
</table>

**NOTE:** Distances are approximate.
- One 1/4 in. AEROQUIP AE 96994E self-sealing connection common to the 3 reservoirs.

3. Accumulator Charging.

Four (MS28889-1) connections (one for each accumulator) for:

<table>
<thead>
<tr>
<th>ACCESS</th>
<th>AFT OF NOSE m (ft)</th>
<th>POSITION FROM AIRCRAFT CENTERLINE</th>
<th>MEAN HEIGHT FROM GROUND m (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yellow System accumulator:</td>
<td>13.8 (45.28)</td>
<td>0.25 (0.82)</td>
<td>1.99 (6.53)</td>
</tr>
</tbody>
</table>
### Green System accumulator: Left MLG door
- Aft of Nose: 14.3 m (46.92 ft)
- Position from Aircraft Centerline: 0.25 m (0.82 ft) RH side, 3.2 m (10.5 ft) LH side

### Blue System accumulator: Access door 195BB
- Aft of Nose: 15.8 m (51.84 ft)
- Position from Aircraft Centerline: 0.25 m (0.82 ft) RH side, 1.99 m (6.53 ft) LH side

### Yellow System braking accumulator: Access door 196BB
- Aft of Nose: 13.8 m (45.28 ft)
- Position from Aircraft Centerline: 0.76 m (2.49 ft) RH side, 1.74 m (5.71 ft) LH side

**NOTE**: Distances are approximate.

4. **Reservoir Filling.**
   On the Green system ground service panel:

<table>
<thead>
<tr>
<th>ACCESS</th>
<th>AFT OF NOSE m (ft)</th>
<th>POSITION FROM AIRCRAFT CENTERLINE</th>
<th>MEAN HEIGHT FROM GROUND m (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access door 197CB</td>
<td>16.43 (53.9)</td>
<td>1.27 (4.17)</td>
<td>1.76 (5.77)</td>
</tr>
</tbody>
</table>

**NOTE**: Distances are approximate.

One 1/4 in. AEROQUIP AE96993E self-sealing connection for pressurized supply.
One handpump filling connection for unpressurized (suction) supply.

5. **Reservoir Drain.**
   On 3/8 in. self-sealing connection on reservoir for:

<table>
<thead>
<tr>
<th>ACCESS</th>
<th>AFT OF NOSE m (ft)</th>
<th>POSITION FROM AIRCRAFT CENTERLINE</th>
<th>MEAN HEIGHT FROM GROUND m (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yellow System: Access door 196 BB - 198 CB</td>
<td>13.8 (45.27)</td>
<td>1.43 (4.69)</td>
<td>1.9 (6.23)</td>
</tr>
<tr>
<td>Green System: Left MLG door</td>
<td>14.3 (46.92)</td>
<td>1.27 (4.17)</td>
<td>2.61 (8.56)</td>
</tr>
</tbody>
</table>
### ACCESS

<table>
<thead>
<tr>
<th>ACCESS</th>
<th>AFT OF NOSE m (ft)</th>
<th>POSITION FROM AIRCRAFT CENTERLINE</th>
<th>MEAN HEIGHT FROM GROUND m (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue System: Access door 197 EB</td>
<td>16.96 (55.64)</td>
<td>1.27 (4.17)</td>
<td>1.76 (5.77)</td>
</tr>
</tbody>
</table>

**NOTE**: Distances are approximate.

6. **Ground Test.**

   - On each ground service panel:
     - One self-sealing connector AE80532N (suction).
     - One self-sealing connector AE80531K (delivery).
**ON A/C A318-100

**

Hydraulic System
Green System Ground Service Panel
FIGURE-5-4-3-991-004-A01
Hydraulic System
Blue System Ground Service Panel
FIGURE-5-4-3-991-005-A01
**ON A/C A318-100

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

**ON A/C A318-100

Electrical System

1. Electrical System.
   This chapter gives data related to the location of the ground service connections.

<table>
<thead>
<tr>
<th>ACCESS</th>
<th>AFT OF NOSE m (ft)</th>
<th>POSITION FROM AIRCRAFT CENTERLINE</th>
<th>MEAN HEIGHT FROM GROUND m (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A/C External Power:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access door 121AL</td>
<td>2.55 (8.37)</td>
<td>on centerline</td>
<td>2.00 (6.56)</td>
</tr>
</tbody>
</table>

**NOTE**: Distances are approximate.

2. Technical Specifications
   This chapter gives data related to the location of the ground service connections.

   A. External Power Receptacle:
      - One Style3 ISO 461 receptacle - 90 KVA.

   B. Power Supply:
      - Three-phase, 400 Hz, 115/200V

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

   D. Electrical Loads in Ground Configuration
      In ground configuration, in addition to the power necessary for maintenance, all the circuits, except those which are connected to the engines, are supplied as in flight.
      In these conditions, the maximum power on ground is approximately 75 KVA; this value does not take into account the supply of the galleys, which according to the aircraft interior layout, may reach 30 KVA.

   E. Electrical Power necessary for Maintenance at Line Stop and Workshops
      - Hydraulic electric-pumps: 34 KVA
      - Air Conditioning/Ventilation: 20.8 KVA
      - Fuel pumps: 12 KVA
      - Lighting commercial: 6.7 KVA
      - Lighting technical: 3 KVA
      - Ice and rain protection: 3 KVA
      - Cargo loading: 3 KVA
      - AFS, Flight controls, ADS, Recorders: 3.3 KVA
      - Communications: 1.3 KVA
- Radio navigation: 1.2 KVA.
Ground Service Connections
External Power Receptacles
FIGURE-5-4-4-991-001-A01
5-4-5 Oxygen System

**ON A/C A318-100

Oxygen System

1. Replenishment of high pressure oxygen source.
   A. For the A318 aircraft (basic version), the oxygen source is replenished by replacing the oxygen cylinder installed in the avionics compartment.
### Fuel System

**ON A/C A318-100**

#### Fuel System

1. Refuel/Defuel Control Panel.

<table>
<thead>
<tr>
<th>ACCESS</th>
<th>AFT OF NOSE m (ft)</th>
<th>POSITION FROM AIRCRAFT CENTERLINE</th>
<th>MEAN HEIGHT FROM GROUND m (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refuel/Defuel Integrated Panel: Access door 192MB</td>
<td>14.01 (45.96)</td>
<td>1.8 (5.91)</td>
<td>1.8 (5.91)</td>
</tr>
</tbody>
</table>

2. Refuel/Defuel Connectors.

<table>
<thead>
<tr>
<th>ACCESS</th>
<th>AFT OF NOSE m (ft)</th>
<th>POSITION FROM AIRCRAFT CENTERLINE</th>
<th>MEAN HEIGHT FROM GROUND m (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refuel/Defuel coupling, Left Access Door 522HB (Optional)</td>
<td>15.2 (49.87)</td>
<td>9.83 (32.25)</td>
<td>3.65 (11.98)</td>
</tr>
<tr>
<td>Refuel/Defuel coupling, Right Access Door 622HB</td>
<td>15.2 (49.87)</td>
<td>9.83 (32.25)</td>
<td>3.65 (11.98)</td>
</tr>
<tr>
<td>Gravity Refuel Coupling</td>
<td>16.71 (54.82)</td>
<td>12.4 (40.68)</td>
<td>12.4 (40.68)</td>
</tr>
</tbody>
</table>

A. Refuel/Defuel couplings:
- Right wing: one standard ISO 45, 2.5 in.
- Left wing: one optional standard ISO 45, 2.5 in.

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

C. Refuel Flow:
- 1400 l/minute (369.84 US gal/minute).
3. Overpressure Protector and NACA Flame Arrestor.

<table>
<thead>
<tr>
<th>ACCESS</th>
<th>AFT OF NOSE m (ft)</th>
<th>POSITION FROM AIRCRAFT CENTERLINE</th>
<th>MEAN HEIGHT FROM GROUND m (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>RH SIDE m (ft)</td>
<td>LH SIDE m (ft)</td>
</tr>
<tr>
<td>Overpressure Protector</td>
<td>17.96 (58.92)</td>
<td>14.9 (48.88)</td>
<td>14.9 (48.88)</td>
</tr>
<tr>
<td>NACA Flame Arrestor</td>
<td>17.4 (57.09)</td>
<td>13.7 (44.95)</td>
<td>13.7 (44.95)</td>
</tr>
</tbody>
</table>

**NOTE:** Distances are approximate.
**ON A/C A318-100**

NOTE: STANDARD CONFIGURATION OF REFUEL/DEFUEL PANEL.

Ground Service Connections
Refuel/Defuel Panel
FIGURE-5-4-6-991-001-A01
Ground Service Connections
Refuel/Defuel Couplings
FIGURE-5-4-6-991-002-A01
Ground Service Connections
Gravity Refuel Couplings
FIGURE-5-4-6-991-003-A01

**ON A/C A318-100**

RIB19

RIB20

ADAPTER (REF ONLY)

GROUND CONNECTION (REF ONLY)

44QM

45QM

N_AC_050406_1_0030101_01_00
**ON A/C A318-100

Ground Service Connections
Overpressure Protector and NACA Flame Arrestor
FIGURE-5-4-6-991-004-A01
**Pneumatic System**

**ON A/C A318-100**

1. High Pressure Air Connectors.

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

<table>
<thead>
<tr>
<th>ACCESS</th>
<th>AFT OF NOSE m (ft)</th>
<th>POSITION FROM AIRCRAFT CENTERLINE</th>
<th>MEAN HEIGHT FROM GROUND m (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP Connector</td>
<td>10.43 (34.22)</td>
<td>0.84 (2.76)</td>
<td>1.76 (5.77)</td>
</tr>
<tr>
<td>Access door 191DB</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   **NOTE**: Distances are approximate.

   A. Connector:
   - One standard MS33740, 3 in.

2. Low Pressure Air Connectors.

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

<table>
<thead>
<tr>
<th>ACCESS</th>
<th>AFT OF NOSE m (ft)</th>
<th>POSITION FROM AIRCRAFT CENTERLINE</th>
<th>MEAN HEIGHT FROM GROUND m (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LP Connector</td>
<td>9.9 (32.48)</td>
<td>1.11 (3.64)</td>
<td>1.73 (5.68)</td>
</tr>
<tr>
<td>Access door 191CB</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   **NOTE**: Distances are approximate

   A. Connector:
   - One standard SAE AS4262 type B, 8 in.
5-4-8       Potable Water System

**ON A/C A318-100

Potable Water System
1. Potable Water Ground Service Panel.

<table>
<thead>
<tr>
<th>ACCESS</th>
<th>AFT OF NOSE m (ft)</th>
<th>POSITION FROM AIRCRAFT CENTERLINE</th>
<th>MEAN HEIGHT FROM GROUND m (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potable Water Ground Service Panel: Access door 171AL:</td>
<td>25.2 (82.67)</td>
<td>0.3 (0.98)</td>
<td>2.6 (8.53)</td>
</tr>
</tbody>
</table>

NOTE: Distances are approximate

2. Potable Water Ground Drain Panel.

<table>
<thead>
<tr>
<th>ACCESS</th>
<th>AFT OF NOSE m (ft)</th>
<th>POSITION FROM AIRCRAFT CENTERLINE</th>
<th>MEAN HEIGHT FROM GROUND m (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potable Water Ground Service Panel: Access door 133AL:</td>
<td>11.4 (37.4)</td>
<td>0.15 (0.49)</td>
<td>1.75 (5.74)</td>
</tr>
</tbody>
</table>

NOTE: Distances are approximate

3. Technical Specifications
   A. Connectors:
      (1) On the potable ground service panel (Access Door 171AL)
         - Fill/Drain Nipple 3/4 in (ISO 17775).
         - One ground pressurization connector.
      (2) On drain panel (Access Door 133AL)
         - Drain Nipple 3/4 in (ISO 17775)
   B. Usable capacity:
      - Standard configuration - one tank:200 l (52.83 US gal)
   C. Filling pressure:
      - 3.45 bar (50 psi).
D. Typical flow rate:
   - 50 l/min (13.21 US gal/min).
Ground Service Connections
Potable Water Ground Service Panel
FIGURE-5-4-8-991-001-A01
**5-4-9 Oil System**

**ON A/C A318-100**

Oil System

1. **Engine Oil Replenishment for CFM56 Series Engine** (See FIGURE 5---9-99--001-A):
   One gravity filling cap and one pressure filling connection per engine.

<table>
<thead>
<tr>
<th>ACCESS</th>
<th>AFT OF NOSE m (ft)</th>
<th>POSITION FROM AIRCRAFT CENTERLINE</th>
<th>MEAN HEIGHT FROM GROUND m (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine Oil Gravity Filling Cap: Access door: 437BL (LH), 447BL (RH)</td>
<td>12.3 (40.35)</td>
<td>6.63 (21.75)</td>
<td>4.82 (15.81)</td>
</tr>
<tr>
<td>Engine Oil Pressure Filling Port:</td>
<td>12.2 (40.03)</td>
<td>6.49 (21.29)</td>
<td>4.74 (15.55)</td>
</tr>
</tbody>
</table>

   **NOTE:** Distances are approximate
   
   A. Tank capacity:
      - Full level: 19.6 l (5.18 US gal)
      - Usable: 9.46 l (2.50 US gal)
   
   B. Maximum delivery pressure required: 25 psi (1.72 bar)
      Maximum delivery flow required: 180 l/h (47.55 US gal/h)

2. **IDG Oil Replenishment for CFM56 Series Engine** (See FIGURE 5---9-99--002-A):
   One pressure filling connection per engine.

<table>
<thead>
<tr>
<th>ACCESS</th>
<th>AFT OF NOSE m (ft)</th>
<th>POSITION FROM AIRCRAFT CENTERLINE</th>
<th>MEAN HEIGHT FROM GROUND m (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDG Oil Pressure Filling Connection: Access door: 438DR (LH), 448DR (RH)</td>
<td>11.4 (37.4)</td>
<td>6.9 (22.64)</td>
<td>5.52 (18.11)</td>
</tr>
</tbody>
</table>

   **NOTE:** Distances are approximate
   
   A. IDG oil tank capacity: 5 l (1.32 US gal)
B. Maximum servicing pressure: 5 to 40 psi (0.34 to 2.76 bar) at the IDG inlet.

3. Starter Oil Replenishment for CFM56 Series Engine (See FIGURE 5---9-99--003-A):
   One gravity filling cap per engine.

<table>
<thead>
<tr>
<th>ACCESS</th>
<th>AFT OF NOSE m (ft)</th>
<th>POSITION FROM AIRCRAFT CENTERLINE</th>
<th>MEAN HEIGHT FROM GROUND m (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starter Oil Filling</td>
<td>10.4 (34.12)</td>
<td></td>
<td>5.3 (17.39)</td>
</tr>
<tr>
<td>Connection:</td>
<td></td>
<td>ENGINE 1 (LH) m (ft)</td>
<td>ENGINE 2 (RH) m (ft)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.3 (17.39)</td>
<td>6.2 (20.34)</td>
</tr>
</tbody>
</table>

**NOTE**: Distances are approximate

A. Tank capacity: 0.8 l (0.206 US gal)

4. Engine Oil Replenishment for PW 6000 Series Engine (See FIGURE 5---9-99--004-A):
   One gravity filling cap per engine.

<table>
<thead>
<tr>
<th>ACCESS</th>
<th>AFT OF NOSE m (ft)</th>
<th>POSITION FROM AIRCRAFT CENTERLINE</th>
<th>MEAN HEIGHT FROM GROUND m (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine Oil Gravity</td>
<td>10.16 (33.33)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Filling Cap:</td>
<td></td>
<td>ENGINE 1 (LH) m (ft)</td>
<td>ENGINE 2 (RH) m (ft)</td>
</tr>
<tr>
<td>Access door: 438BR (LH),</td>
<td></td>
<td>4.8 (15.75)</td>
<td>6.63 (21.75)</td>
</tr>
<tr>
<td>448BR (RH)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE**: Distances are approximate

A. Tank capacity:
   - Full level: 18.36 l (4.85 US gal)
   - Usable: 23.50 l (6.21 US gal)
   - Engine oil tank capacity: 18.36 l (4.85 US gal)

1. IDG Oil Replenishment for PW 6000 Series Engine:
   One pressure filling connection per engine.
### IDG Oil Pressure Filling Connection:
Access door 438DR (LH), 448DR (RH)

<table>
<thead>
<tr>
<th>ACCESS</th>
<th>AFT OF NOSE m (ft)</th>
<th>POSITION FROM AIRCRAFT CENTERLINE</th>
<th>MEAN HEIGHT FROM GROUND m (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>ENGINE 1 (LH) m (ft)</td>
<td>ENGINE 2 (RH) m (ft)</td>
</tr>
<tr>
<td>10</td>
<td>5.33</td>
<td>6.17</td>
<td>1.02</td>
</tr>
<tr>
<td>(32.81)</td>
<td>(17.49)</td>
<td>(20.24)</td>
<td>(3.35)</td>
</tr>
</tbody>
</table>

**NOTE:** Distances are approximate

A. Tank capacity: 6.28 l (1.66 US gal)
B. Maximum servicing pressure: 35 psi (2.41 bar)

5. **Starter Oil Replenishment for PW 6000 Series Engine (See FIGURE 5---9-99--006-A):**
   One gravity filling cap per engine.

<table>
<thead>
<tr>
<th>ACCESS</th>
<th>AFT OF NOSE m (ft)</th>
<th>POSITION FROM AIRCRAFT CENTERLINE</th>
<th>MEAN HEIGHT FROM GROUND m (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>ENGINE 1 (LH) m (ft)</td>
<td>ENGINE 2 (RH) m (ft)</td>
</tr>
<tr>
<td>10.16</td>
<td>5.84</td>
<td>5.59</td>
<td>1.02</td>
</tr>
<tr>
<td>(33.33)</td>
<td>(19.16)</td>
<td>(18.34)</td>
<td>(3.35)</td>
</tr>
</tbody>
</table>

**NOTE:** Distances are approximate

A. Tank capacity: 0.35 l (0.09 US gal)

6. **APU Oil System (See FIGURE 5---9-99--007-A):**
   APU oil gravity filling cap.

<table>
<thead>
<tr>
<th></th>
<th>AFT OF NOSE m (ft)</th>
<th>FROM AIRPLANE CENTERLINE (LEFT HAND) m (ft)</th>
<th>MEAN HEIGHT FROM GROUND m (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GTCP 36-300</td>
<td>29.37 (96.36)</td>
<td>0.3 (0.98)</td>
<td>4.83 (15.85)</td>
</tr>
<tr>
<td>APS 3200</td>
<td>29.37 (96.36)</td>
<td>0.3 (0.98)</td>
<td>4.78 (15.68)</td>
</tr>
<tr>
<td>131-9</td>
<td>29.27 (96.03)</td>
<td>0.35 (1.15)</td>
<td>4.32 (14.17)</td>
</tr>
</tbody>
</table>
NOTE: Distances are approximate

A. Tank capacity (usable):
   - APU type GTCP 36-300: 6.20 l (1.64 US gal)
   - APU type APS 3200: 5.40 l (1.43 US gal)
   - APU type 131-9: 6.25 l (1.65 US gal)
ACCESS PANEL: 437BL (LEFT)  
447BL (RIGHT)
**ON A/C A318-100

1 - PRESSURE FILL VALVE
2 - CASE DRAIN PLUG
3 - DUST CAP
4 - DUST CAP
5 - OVERFLOW DRAIN VALVE
6 - OIL LEVEL INDICATOR (SIGHT GLASS)

NOTE:
A IF THE OIL LEVEL IS ABOVE THE YELLOW BAND, OIL SERVICING IS REQUIRED.
B IF THE OIL LEVEL IS WITHIN THE GREEN AND YELLOW BANDS, OIL SERVICING IS NOT REQUIRED.
C IF THE OIL LEVEL IS BELOW THE GREEN BAND, OIL SERVICING IS REQUIRED.
**ON A/C A318-100**

Ground Service Connections
Starter Oil Tank – CFM56 Series Engine
FIGURE-5-4-9-991-003-A01
**ON A/C A318-100**

Ground Service Connections
Engine Oil Tank – PW 6000 Series Engine
FIGURE-5-4-9-991-004-A01
Ground Service Connections
IDG Oil Tank – PW 6000 Series Engine
FIGURE-5-4-9-991-005-A01
**ON A/C A318-100**

Ground Service Connections
Starter Oil Tank – PW 6000 Series Engine
FIGURE-5-4-9-991-006-A01
Ground Service Connections
APU Oil Tank
FIGURE-5-4-9-991-007-A01
5-4-10 Vacuum Toilet System

**ON A/C A318-100

Vacuum Toilet System

1. Vacuum Toilet System.

<table>
<thead>
<tr>
<th>ACCESS</th>
<th>AFT OF NOSE m (ft)</th>
<th>POSITION FROM AIRCRAFT CENTERLINE</th>
<th>MEAN HEIGHT FROM GROUND m (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>R SIDE m (ft)</td>
<td>L SIDE m (ft)</td>
</tr>
<tr>
<td>Waste Water Ground Service Panel: Access door 172AR</td>
<td>25.2 (82.67)</td>
<td>0.8 (2.62)</td>
<td>2.8 (9.18)</td>
</tr>
</tbody>
</table>

**NOTE**: Distances are approximate

2. Technical Specifications

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

B. Usable waste tank capacity:
   - Standard configuration - on tank: 177 l (30.91 US gal).

C. Waste tank - Rinsing:
   - Operating pressure: 3.45 bar (50 psi).

D. Waste tank - Precharge:
   - 10 l (2.64 US gal).
**ON A/C A318-100

Ground Service Connections
Waste Water Ground Service Panel
FIGURE-5-4-10-991-001-A01
**ON A/C A318-100**

Engine Starting Pneumatic Requirements

1. Engine Starting Pneumatic Requirements.
   
   To determinate the airflow required at ground connection, refer to the example given in FIGURE 5-0-99-001-A.

   For engine starting pneumatic requirements for:
   - Low ambient temperatures, refer to 5-5-1,
   - Medium ambient temperatures, refer to 5-5-2,
   - High ambient temperatures, refer to 5-5-3.
**ON A/C A318-100**

**AIR SUPPLY PRESSURE AT GROUND CONNECTION**

<table>
<thead>
<tr>
<th>PSIA ABSOLUTE BARS</th>
<th>AIR SUPPLY TEMPERATURE AT FUSELAGE CONNECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>220°C</td>
</tr>
<tr>
<td>5</td>
<td>200°C</td>
</tr>
<tr>
<td>4</td>
<td>150°C</td>
</tr>
<tr>
<td>3</td>
<td>100°C</td>
</tr>
<tr>
<td>2</td>
<td>50°C</td>
</tr>
<tr>
<td>1</td>
<td>0°C</td>
</tr>
</tbody>
</table>

**AIR SUPPLY TEMPERATURE AT FUSELAGE CONNECTION**

- MAXIMUM DUCT PRESSURE: 60 PSIG
- RECOMMENDED PRESSURE: 38 PSIG AT GROUND CONNECTION
- MIN. PRESSURE AT GROUND CONNECTION: 33 PSIG
- SEA LEVEL
- Z = 8000 ft

**Engine Starting Pneumatic Requirements**

**FIGURE-5-5-0-991-001-A01**

1. DRAW AN HORIZONTAL LINE FROM THE SUPPLIED AIR PRESSURE (60 PSIA (4.14 BARS)) AT THE FUSELAGE CONNECTOR.
2. FROM THE INTERSECTION WITH THE AIR SUPPLY TEMPERATURE AT FUSELAGE CONNECTION (220°C (428°F)), DRAW A VERTICAL LINE.
3. THE INTERSECTION WITH THE HORIZONTAL AXIS GIVES THE REQUIRED AIRFLOW AT GROUND CONNECTION (78 kg/min (1.3 kg/s)).
5-5-1 Low Ambient Temperatures

**ON A/C A318-100

1. This section provides the engine starting pneumatic requirements for a temperature of -40°C (-40°F).
**ON A/C A318-100**

Engine Starting Pneumatic Requirements
Low Ambient Temperature -40°C (-40°F) – CFM56 series engine
FIGURE-5-5-1-991-001-A01
Engine Starting Pneumatic Requirements
Low Ambient Temperature -40 °C (-40 °F) – PW 6000 series engine
FIGURE-5-5-1-991-002-A01
5-5-2 Medium Ambient Temperatures

**ON A/C A318-100

1. This section provides the engine starting pneumatic requirements for a temperature of +15°C (+59°F).
**ON A/C A318-100

Air Supply Temperature
At FUSELAGE Connection

Air Supply Pressure
At GROUND Connection

PSIA  ABSOLUTE BARS

Max. Temperature Limit

Max. Duct Pressure: 60 PSIG

Estimated Starting Times Up to Idle

Recommended Pressure: 33 PSIG at GROUND Connection

Min. Pressure at GROUND Connection: 22 PSIG

Air Flow Required at GROUND Connection

Engine Starting Pneumatic Requirements
Medium Ambient Temperature +15°C (+59°F) – CFM56 series engine

FIGURE-5-5-2-991-001-A01
Engine Starting Pneumatic Requirements
Medium Ambient Temperature +15 °C (+59 °F) – PW 6000 series engine
FIGURE-5-5-2-991-002-A01
5-5-3 High Ambient Temperatures

**ON A/C A318-100

High Ambient Temperatures

1. This section provides the engine starting pneumatic requirements for a temperature upper:
   - +38°C (+100°F) – PW 6000
   - +50°C (+122°F) – CFM56
**ON A/C A318-100**

Engine Starting Pneumatic Requirements
High Ambient Temperature +50°C (+122°F) – CFM56 series engine

FIGURE-5-5-3-991-001-A01
**ON A/C A318-100

Engine Starting Pneumatic Requirements

High Ambient Temperature +38°C (+100°F) – PW 6000 series engine

FIGURE-5-5-3-991-002-A01
5-6-0 Ground Pneumatic Power Requirements

**ON A/C A318-100

Ground Pneumatic Power Requirements

1. Ground Pneumatic Power Requirements

**NOTE**: The air flow rates and temperature requirements given in sections 5.6 and 5.7 are given at aircraft connection.
5-6-1 Heating

**ON A/C A318-100

Heating

1. This section provides the ground pneumatic power requirements heating.
**ON A/C A318-100**

Ground Pneumatic Power Requirements

Heating

FIGURE-5-6-1-991-001-A01
5-6-2 Cooling

**ON A/C A318-100

Cooling

1. This section provides the ground pneumatic power requirements cooling.
**ON A/C A318-100**

Ground Pneumatic Power Requirements
Cooling

FIGURE-5-6-2-991-001-A01
5-7-0 Preconditioned Airflow Requirements

**ON A/C A318-100

Preconditioned Airflow Requirements

1. This section gives the preconditioned airflow requirements for cabin air conditioning.
**ON A/C A318-100

Preconditioned Airflow Requirements
FIGURE-5-7-0-991-001-A01
5-8-0 Ground Towing Requirements

**ON A/C A318-100

Ground Towing Requirements

1. General
   This section provides information on aircraft towing.
   This aircraft is designed with means for conventional or towbarless towing.
   Information/procedures can be found for both in chapter 9 of the Aircraft Maintenance Manual.
   Status on towbarless towing equipment qualification can be found in SIL 09-002.
   It is possible to tow or push the aircraft, at maximum ramp weight with engines at zero or up to idle thrust, using a tow bar attached to the nose gear leg (refer to AMM chap 9 for conditions and limitations).
   One tow bar fitting is installed at the front of the leg.
   The main landing gears have attachment points for towing or debogging (for details, refer to chapter 07 of the Aircraft Recovery Manual).

A. The first part of this section shows the chart to determine the draw bar pull and tow tractor mass requirements as function of the following physical characteristics:
   - Aircraft weight.
   - Number of engines at idle.
   - Slope.
   The chart is based on the engine type with the highest idle thrust level.

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

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

The aircraft tow bar shall respect the following norms:
- SAE AS1614 C, "Main Line Aircraft Tow Bar Attach Fitting Interface".
- SAE ARP1915 D, "Aircraft Tow Bar".
- ISO 8267-1, "Aircraft - Tow bar attachment fitting - Interface requirements - Part 1: Main line aircraft".
- ISO 9667, "Aircraft ground support equipment - Tow bars".
- IATA Airport Handling Manual AHM 958, "Functional Specification for an Aircraft Tow bar".

A conventional type tow bar is required which should be equipped with a damping system to protect the nose gear against jerks and with towing shear pins:
- A traction shear pin calibrated at 9425 daN (21188 lbf).
- A torsion pin calibrated at 826 m.daN (7311 lbf.in).

The towing head is designed according to SAE AS1614 C (Aircraft Weight Category I).
EXAMPLE HOW TO DETERMINE THE MASS REQUIREMENT TO TOW A A318 AT 60 t, AT 1.5% SLOPE, 1 ENGINE AT IDLE AND FOR WET TARMAC CONDITIONS:

- ON THE RIGHT HAND SIDE OF THE GRAPH, CHOOSE THE RELEVANT AIRCRAFT WEIGHT (60 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 = 2
- FROM THIS POINT DRAW A PARALLEL LINE TO THE REQUESTED NUMBER OF ENGINES (1)
- FROM THIS POINT DRAW A STRAIGHT HORIZONTAL LINE TO THE DRAWBAR PULL AXIS
- THE Y–COORDINATE OBTAINED IS THE NECESSARY DRAWBAR PULL FOR THE TRACTOR (5.1 t)
- SEARCH THE INTERSECTION WITH THE "WET CONCRETE" LINE. THE OBTAINED X–COORDINATE IS THE RECOMMENDED MINIMUM TRACTOR WEIGHT (9 t)
**ON A/C A318-100**

### 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 13 m (42.65 ft).

### De-Icing

<table>
<thead>
<tr>
<th>AIRCRAFT TYPE</th>
<th>Wing Top Surface (Both Sides)</th>
<th>Wingtip Devices (Both Inside and Outside Surfaces) (Both Sides)</th>
<th>HTP Top Surface (Both Sides)</th>
<th>VTP (Both Sides)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>m²</td>
<td>m²</td>
<td>m²</td>
<td>m²</td>
</tr>
<tr>
<td>A318</td>
<td>99.7</td>
<td>1073.16</td>
<td>1.8</td>
<td>19.38</td>
</tr>
<tr>
<td>A318 Sharklet</td>
<td>99.7</td>
<td>1073.16</td>
<td>9.6</td>
<td>103.33</td>
</tr>
</tbody>
</table>

### External Cleaning

<table>
<thead>
<tr>
<th>AIRCRAFT TYPE</th>
<th>Fuselage Top Surface (Top Third - 120° Arc)</th>
<th>Nacelle and Pylon (Top Third - 120° Arc) (All Engines)</th>
<th>Total De-Iced Area</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>m²</td>
<td>m²</td>
<td>m²</td>
</tr>
<tr>
<td>A318</td>
<td>111.9</td>
<td>23.6</td>
<td>254.03</td>
</tr>
<tr>
<td>A318 Sharklet</td>
<td>111.9</td>
<td>23.6</td>
<td>254.03</td>
</tr>
</tbody>
</table>

**NOTE:** Dimensions are approximate

### 3. External Cleaning

<table>
<thead>
<tr>
<th>AIRCRAFT TYPE</th>
<th>Wing Top Surface (Both Sides)</th>
<th>Wing Lower Surface (Including Flap Track Fairing) (Both Sides)</th>
<th>Wingtip Devices (Both Inside and Outside Surfaces) (Both Sides)</th>
<th>HTP Top Surface (Both Sides)</th>
<th>HTP Lower Surface (Both Sides)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>m²</td>
<td>m²</td>
<td>m²</td>
<td>m²</td>
<td>m²</td>
</tr>
<tr>
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<td>99.7</td>
<td>1073.16</td>
<td>103.4</td>
<td>1112.99</td>
<td>1.8</td>
</tr>
<tr>
<td>A318 Sharklet</td>
<td>99.7</td>
<td>1073.16</td>
<td>103.4</td>
<td>1112.99</td>
<td>9.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AIRCRAFT TYPE</th>
<th>VTP (Both Sides)</th>
<th>Fuselage and Belly Fairing</th>
<th>Nacelle and Pylon (All Engines)</th>
<th>Total Cleaned Area</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>m²</td>
<td>m²</td>
<td>m²</td>
<td>m²</td>
</tr>
<tr>
<td>A318</td>
<td>46.2</td>
<td>497.29</td>
<td>343.2</td>
<td>3694.17</td>
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</table>

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5-9-0

Page 1

Jun 01/12
<table>
<thead>
<tr>
<th>AIRCRAFT TYPE</th>
<th>VTP (Both Sides) m²</th>
<th>VTP (Both Sides) ft²</th>
<th>Fuselage and Belly Fairing m²</th>
<th>Fuselage and Belly Fairing ft²</th>
<th>Nacelle and Pylon (All Engines) m²</th>
<th>Nacelle and Pylon (All Engines) ft²</th>
<th>Total Cleaned Area m²</th>
<th>Total Cleaned Area ft²</th>
</tr>
</thead>
<tbody>
<tr>
<td>A318 Sharklet</td>
<td>46.2</td>
<td>497.29</td>
<td>343.2</td>
<td>3694.17</td>
<td>73.2</td>
<td>787.92</td>
<td>731</td>
<td>7868</td>
</tr>
</tbody>
</table>

**NOTE**: Dimensions are approximate
OPERATING CONDITIONS

6-1-0 Engine Exhaust Velocities and Temperatures

**ON A/C A318-100

Engine Exhaust Velocities and Temperatures

1. General
   This section shows the estimated engine exhaust efflux velocities and temperatures contours for Ground Idle, Breakaway, Maximum Takeoff conditions.
**ON A/C A318-100**

**Engine Exhaust Velocities Contours – Ground Idle Power**

1. This section gives engine exhaust velocities contours at ground idle power.
Engine Exhaust Velocities
Ground Idle Power – CFM56 series engine
FIGURE-6-1-1-991-001-A01
**ON A/C A318-100

Engine Exhaust Velocities
Ground Idle Power – PW 6000 series engine
FIGURE-6-1-1-991-002-A01
6-1-2 Engine Exhaust Temperatures Contours - Ground Idle Power

**ON A/C A318-100

Engine Exhaust Temperatures Contours - Ground Idle Power

1. This section gives engine exhaust temperatures contours at ground idle power.
Engine Exhaust Temperatures
Ground Idle Power – CFM56 series engine
FIGURE-6-1-2-991-001-A01
**ON A/C A318-100

Engine Exhaust Temperatures
Ground Idle Power – PW 6000 series engine
FIGURE-6-1-2-991-002-A01
6-1-3 Engine Exhaust Velocities Contours - Breakaway Power

**ON A/C A318-100

1. This section gives engine exhaust velocities contours at breakaway power.
Engine Exhaust Velocities
Breakaway Power – CFM56 series engine
FIGURE-6-1-3-991-001-A01
**ON A/C A318-100**

Engine Exhaust Velocities
Breakaway Power – PW 6000 series engine
FIGURE-6-1-3-991-002-A01
6-1-4 Engine Exhaust Temperatures Contours - Breakaway Power

**ON A/C A318-100

Engine Exhaust Temperatures Contours - Breakaway Power

1. This section gives engine exhaust temperatures contours at breakaway power.
**ON A/C A318-100

Engine Exhaust Temperatures
Breakaway Power – CFM56 series engine
FIGURE-6-1-4-991-001-A01
**ON A/C A318-100**

Engine Exhaust Temperatures
Breakaway Power – PW 6000 series engine
FIGURE-6-1-4-991-002-A01
6-1-5 Engine Exhaust Velocities Contours - Takeoff Power

**ON A/C A318-100

Engine Exhaust Velocities Contours – Takeoff Power

1. This section gives engine exhaust velocities contours at takeoff power.
Engine Exhaust Velocities
Takeoff Power – CFM56 series engine
FIGURE-6-1-5-991-001-A01
**ON A/C A318-100

Engine Exhaust Velocities
Takeoff Power – PW 6000 series engine
FIGURE-6-1-5-991-002-A01
6-1-6 Engine Exhaust Temperatures Contours - Takeoff Power

**ON A/C A318-100

Engine Exhaust Temperatures Contours – Takeoff Power

1. This section gives engine exhaust temperatures contours at takeoff power.
**ON A/C A318-100

Engine Exhaust Temperatures
Takeoff Power – CFM56 series engine
FIGURE-6-1-6-991-001-A01
Engine Exhaust Temperatures
Takeoff Power – PW 6000 series engine
FIGURE-6-1-6-991-002-A01
6-2-0  Airport and Community Noise

**ON A/C A318-100

Airport and Community Noise

1. Airport and Community Noise Data

This section gives data concerning engine maintenance run-up noise to permit evaluation of possible attenuation requirements.
6-2-1 Noise Data

**ON A/C A318-100

Noise Data

1. Noise Data for CFM56-5A series engine
   A. Description of test conditions:

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

   B. Engine parameters: 2 engines running

   C. Meteorological data:

      The meteorological parameters measured 1.6 m (5.25 ft) from the ground on the day of test were as follows:
      - Temperature: 3˚C (37˚F)
      - Relative humidity: 66%
      - Atmospheric pressure: 1016 hPa
      - Wind speed: Negligible
      - No rain

2. Noise Data for CFM56-5B series engine
   A. Description of test conditions:

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

   B. Engine parameters: 2 engines running

   C. Meteorological data:

      The meteorological parameters measured 1.6 m (5.25 ft) from the ground on the day of test were as follows:
      - Temperature: 22˚C (72˚F)
      - Relative humidity: 42%
      - Atmospheric pressure: 1003 hPa
      - Wind speed: Negligible
      - No rain

3. Noise Data for PW 6000 series engine
   A. Description of test conditions:
The arc of circle (radius = 60 m (196.85 ft)), with microphones 1.2 m (3.94 ft) high, is centered on the position of the noise reference point.

B. Engine parameters: 2 engines running

C. Meteorological data:

The meteorological parameters measured 1.6 m (5.25 ft) from the ground on the day of test were as follows:
- Temperature: 28 °C (82 °F)
- Relative humidity: 47%
- Atmospheric pressure: 1004 hPa
- Wind speed: Negligible
- No rain
**ON A/C A318-100**

<table>
<thead>
<tr>
<th>GROUND IDLE</th>
<th>MAX THRUST POSSIBLE ON BRAKES</th>
</tr>
</thead>
<tbody>
<tr>
<td>N1</td>
<td>20.8%</td>
</tr>
<tr>
<td>CURVE</td>
<td>90%</td>
</tr>
</tbody>
</table>

Airport and Community Noise
CFM56-5A series engine
FIGURE-6-2-1-991-001-A01
**ON A/C A318-100**

**GROUND IDLE VS MAX THRUST POSSIBLE ON BRAKES**

<table>
<thead>
<tr>
<th>N1</th>
<th>18.9%</th>
<th>87%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CURVE</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Noise Reference Point**

Airport and Community Noise
CFM56-5B series engine
FIGURE-6-2-1-991-002-A01
**ON A/C A318-100

<table>
<thead>
<tr>
<th>GROUND IDLE</th>
<th>MAX THRUST POSSIBLE ON BRAKES</th>
</tr>
</thead>
<tbody>
<tr>
<td>N1</td>
<td>23.4%</td>
</tr>
<tr>
<td>CURVE</td>
<td>92.7%</td>
</tr>
</tbody>
</table>

Airport and Community Noise
PW 6000 series engine
FIGURE-6-2-1-991-003-A01
6-3-0 Danger Areas of Engines

**ON A/C A318-100**

Danger Areas of Engines

1. Danger Areas of the Engines.
6-3-1  Ground Idle Power

**ON A/C A318-100

Ground Idle Power

1. This section gives danger areas of the engines at ground idle power conditions.
**ON A/C A318-100

Danger Areas of Engines

CFM56 series engine

FIGURE-6-3-1-991-001-A01
**ON A/C A318-100**

**INTAKE SUCTION DANGER AREA**

**ENTRY CORRIDOR**

**EXHAUST DANGER AREA (AFT OF EXHAUST NOZZLE):**

200 ft (61 m) – GROUND IDLE (20 kt HEADWIND)

Danger Areas of Engines

PW 6000 series engine

FIGURE-6-3-1-991-002-A01
6-3-2 Takeoff Power

**ON A/C A318-100

Takeoff Power

1. This section gives danger areas of the engines at max takeoff conditions.
**ON A/C A318-100

Danger Areas of Engines
CFM56 series engine
FIGURE-6-3-2-991-001-A01

N_AC_060302_1_0010101_01_01
**ON A/C A318-100

Danger Areas of Engines
PW 6000 series engine
FIGURE-6-3-2-991-002-A01
6-4-0 APU Exhaust Velocities and Temperatures

**ON A/C A318-100

APU Exhaust Velocities and Temperatures

1. APU Exhaust Velocities and Temperatures.
6-4-1 APU

**ON A/C A318-100

APU - APIC & GARRETT

1. This section gives APU exhaust velocities and temperatures.
Exhaust Velocities and Temperatures
APU – APIC & GARRETT
FIGURE-6-4-1-991-001-A01
PAVEMENT DATA

7-1-0  General Information

**ON A/C A318-100

General Information

1. General Information

This brief description of the pavement charts that follow will help in their use for airport planning.

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

All curves on the charts represent data at a constant specified tire pressure with:
- The airplane loaded to the maximum ramp weight.
- The Center of Gravity (CG) at its maximum permissible aft position.

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

The A/C codes are used for configuration management of chapter 07 only. There is no relation between these A/C codes and the ICAO A/C codes used for determining the airplane wing span and outer main gear wheel span as described in ICAO-Annex 14 Volume 1, Aerodrome Design and Operation Chapter 1.4, Table 1-1.

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

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

Section 7-4-1 contain charts to find these loads throughout the stability limits of the airplane at rest on the pavement.

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

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

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

The procedure that follows is used to develop flexible pavement design curves such as shown in Section 7-5-1.
- With the scale for pavement thickness at the bottom and the scale for CBR at the top, an arbitrary line is drawn representing 10,000 coverages.
- Incremental values of the weight on the main landing gear are then plotted.
- Annual departure lines are drawn based on the load lines of the weight on the main landing gear that is shown on the graph.

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

The procedure that follows is used to develop rigid pavement design curves such as shown in Section 7-7-1.
- With the scale for pavement thickness to the left and the scale for allowable working stress to the right, an arbitrary load line is drawn. This represents the maximum weight to be shown for the main landing gear.
- All values of the subgrade modulus (k values) are then plotted
- Additional load lines for the incremental values of weight on the main landing gear are drawn on the basis of the curve for k = 300 already shown on the graph.

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

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

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

Section 7-9-0 gives ACN data prepared in accordance with the ACN/PCN system as referenced in ICAO Annex 14, "Aerodromes", Volume 1 Fourth Edition July 2004, incorporating Amendments 1 to 6.

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

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

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

<table>
<thead>
<tr>
<th>PCN</th>
<th>PAVEMENT TYPE</th>
<th>SUBGRADE CATEGORY</th>
<th>TIRE PRESSURE CATEGORY</th>
<th>EVALUATION METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>Rigid</td>
<td>A - High</td>
<td>W - No Limit</td>
<td>T - Technical</td>
</tr>
<tr>
<td>F</td>
<td>Flexible</td>
<td>B - Medium</td>
<td>X - To 1.5 Mpa (217 psi)</td>
<td>U - Using Aircraft</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C - Low</td>
<td>Y - To 1 Mpa (145 psi)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>D - Ultra Low</td>
<td>Z - To 0.5 Mpa (73 psi)</td>
<td></td>
</tr>
</tbody>
</table>

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

The four subgrade categories are:
- A. High Strength CBR 15
- B. Medium Strength CBR 10
- C. Low Strength CBR 6
- D. Ultra Low Strength CBR 3

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

The four subgrade categories are:
- A. High Strength Subgrade $k = 150 \text{ MN/m}^3$ (550 pci)
- B. Medium Strength Subgrade $k = 80 \text{ MN/m}^3$ (300 pci)
- C. Low Strength Subgrade $k = 40 \text{ MN/m}^3$ (150 pci)
- D. Ultra Low Strength Subgrade $k = 20 \text{ MN/m}^3$ (75 pci)
**ON A/C A318-100

<table>
<thead>
<tr>
<th>MODEL</th>
<th>WV</th>
<th>AIRCRAFT CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A318–100</td>
<td>06</td>
<td>C</td>
</tr>
<tr>
<td>A318–100</td>
<td>00</td>
<td>D</td>
</tr>
<tr>
<td>A318–100</td>
<td>07</td>
<td>E</td>
</tr>
<tr>
<td>A318–100</td>
<td>01</td>
<td>F</td>
</tr>
<tr>
<td>A318–100</td>
<td>02</td>
<td>G</td>
</tr>
<tr>
<td>A318–100</td>
<td>08</td>
<td>H</td>
</tr>
<tr>
<td>A318–100</td>
<td>03</td>
<td>I</td>
</tr>
<tr>
<td>A318–100</td>
<td>04</td>
<td>J</td>
</tr>
<tr>
<td>A318–100</td>
<td>05</td>
<td>K</td>
</tr>
</tbody>
</table>

**NOTE:** FOR WEIGHT VARIANT DEFINITION, REFER TO CHAPTER 02–01–01.

**NOTE:** THE A/C CODES ARE USED FOR CONFIGURATION MANAGEMENT OF CHAPTER 07 ONLY. THERE IS NO RELATION BETWEEN THESE A/C CODES AND THE ICAO A/C CODES USED FOR DETERMINING THE AIRPLANE WING SPAN AND OUTER MAIN GEAR WHEEL SPAN AS DESCRIBED IN ICAO–ANNEX 14 VOLUME 1, AERODROME DESIGN AND OPERATION CHAPTER 1.4, TABLE 1–1.
7-2-0 Landing Gear Footprint

**ON A/C A318-100

Landing Gear Footprint

1. This section gives Landing Gear Footprint.

   NOTE: For A/C Code definition, refer to chapter 7-1-0.
**ON A/C A318-100

<table>
<thead>
<tr>
<th>A/C CODE</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP</td>
<td>SEE SECTION 7–4–1</td>
</tr>
<tr>
<td>NOSE GEAR TIRE SIZE</td>
<td>30 x 8.8 R15 (30 x 8.8 − 15)</td>
</tr>
<tr>
<td>NOSE GEAR TIRE PRESSURE</td>
<td>12.3 bar (178 psi)</td>
</tr>
<tr>
<td>MAIN GEAR TIRE SIZE</td>
<td>46 x 17 R20 (46 x 16 − 20)</td>
</tr>
<tr>
<td>MAIN GEAR TIRE PRESSURE</td>
<td>10.2 bar (148 psi)</td>
</tr>
</tbody>
</table>

![Landing Gear Footprint](N_AC_070200_1_001001_01_01)

Landing Gear Footprint
Landing Gear Footprint
FIGURE-7-2-0-991-001-A01

7-2-0
Page 2
Jun 01/12
**AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING**

**ON A/C A318-100**

<table>
<thead>
<tr>
<th>A/C CODE</th>
<th>D – E – F – G</th>
</tr>
</thead>
<tbody>
<tr>
<td>PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP</td>
<td>SEE SECTION 7–4–1</td>
</tr>
<tr>
<td>NOSE GEAR TIRE SIZE</td>
<td>30 x 8.8 R15  (30 x 8.8 – 15)</td>
</tr>
<tr>
<td>NOSE GEAR TIRE PRESSURE</td>
<td>12.8 bar (186 psi)</td>
</tr>
<tr>
<td>MAIN GEAR TIRE SIZE</td>
<td>46 x 17 R20  (46 x 16 – 20)</td>
</tr>
<tr>
<td>MAIN GEAR TIRE PRESSURE</td>
<td>11.4 bar (165 psi)</td>
</tr>
</tbody>
</table>

Landing Gear Footprint
Landing Gear Footprint
FIGURE-7-2-0-991-002-A01

N_AC_070200_1_0020101_01_01
**ON A/C A318-100**

<table>
<thead>
<tr>
<th>A/C CODE</th>
<th>H – I – J – K</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PERCENTAGE OF WEIGHT ON MAIN GEAR GROUP</strong></td>
<td>SEE SECTION 7–4–1</td>
</tr>
<tr>
<td><strong>NOSE GEAR TIRE SIZE</strong></td>
<td>30 x 8.8 R15 (30 x 8.8 – 15)</td>
</tr>
<tr>
<td><strong>NOSE GEAR TIRE PRESSURE</strong></td>
<td>13.5 bar (196 psi)</td>
</tr>
<tr>
<td><strong>MAIN GEAR TIRE SIZE</strong></td>
<td>46 x 17 R20 (46 x 16 – 20)</td>
</tr>
<tr>
<td><strong>MAIN GEAR TIRE PRESSURE</strong></td>
<td>12.4 bar (180 psi)</td>
</tr>
</tbody>
</table>

Landing Gear Footprint

**ON A/C A318-100**
7-3-0 Maximum Pavement Loads

**ON A/C A318-100

Maximum Pavement Loads

1. This section gives Maximum Pavement Loads.

   NOTE: For A/C Code definition, refer to chapter 7-1-0.
### Maximum Pavement Loads

Maximum Pavement Loads

**FIGURE-7-3-0-991-020-A01**

<table>
<thead>
<tr>
<th>A/C CODE</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MRW</strong> = 56,400 kg</td>
<td>124,350 lb</td>
<td>56,400 kg</td>
<td>23,250 lb</td>
</tr>
<tr>
<td><strong>MRW</strong> = 59,400 kg</td>
<td>130,950 lb</td>
<td>59,400 kg</td>
<td>23,900 lb</td>
</tr>
<tr>
<td><strong>MRW</strong> = 61,400 kg</td>
<td>135,375 lb</td>
<td>61,400 kg</td>
<td>24,700 lb</td>
</tr>
</tbody>
</table>

| V(NG) MAXIMUM VERTICAL NOSE GEAR GROUND LOAD AT MOST FORWARD CG | 56,400 kg | 23,250 lb |
| V(MG) MAXIMUM VERTICAL MAIN GEAR GROUND LOAD AT MOST AFT CG | 56,400 kg | 23,250 lb |
| H(NG) MAXIMUM HORIZONTAL GROUND LOAD FROM BRAKING | 56,400 kg | 23,250 lb |

**NOTE:** ALL LOADS CALCULATED USING AIRPLANE MAXIMUM RAMP WEIGHT
**ON A/C A318-100**

### Maximum Pavement Loads

<table>
<thead>
<tr>
<th>A/C Code</th>
<th>V(NG)</th>
<th>V(MG)</th>
<th>Maximum Vertical Ground Load at Most Forward CG</th>
<th>Maximum Vertical Main Gear Ground Load at Most Aft CG</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>138,475</td>
<td>61,900</td>
<td>24,900</td>
<td>11,290</td>
</tr>
<tr>
<td>G</td>
<td>139,775</td>
<td>63,400</td>
<td>25,475</td>
<td>11,560</td>
</tr>
<tr>
<td>H</td>
<td>141,975</td>
<td>64,400</td>
<td>25,400</td>
<td>11,520</td>
</tr>
</tbody>
</table>

### Maximum Horizontal Ground Load from Braking

- MRW = 61,900 kg
- FWD CG = 15% MAC at A/C weight = 61,900 kg
- AFT CG = 32% MAC at A/C weight = 61,900 kg

### Commentary

- All loads calculated using airplane maximum ramp weight.
- MRW = 64,400 kg
- FWD CG = 15.8% MAC at A/C weight = 64,400 kg
- AFT CG = 32% MAC at A/C weight = 64,400 kg

Maximum Pavement Loads

Maximum Pavement Loads

FIGURE-7-3-0-991-021-A01
### Aircraft Characteristics - Airport and Maintenance Planning

#### On A/C A318-100

**Static Load at Most Fwd CG**

<table>
<thead>
<tr>
<th>A/C Code</th>
<th>Maximum Ramp Weight</th>
<th>Static Load at Most Fwd CG</th>
<th>Static Braking @ 10 ft/s² Deceleration</th>
<th>Static Load at Max Aft CG</th>
<th>Steady Braking @ 10 ft/s² Deceleration</th>
<th>At Instantaneous Braking Coefficient = 0.8</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>143 075 lb</td>
<td>25 350 lb</td>
<td>39 775 lb</td>
<td>63 650 lb</td>
<td>22 225 lb</td>
<td>50 925 lb</td>
</tr>
<tr>
<td></td>
<td>64 900 kg</td>
<td>11 500 kg</td>
<td>18 040 kg</td>
<td>28 870 kg</td>
<td>10 090 kg</td>
<td>23 090 kg</td>
</tr>
<tr>
<td>J</td>
<td>146 375 lb</td>
<td>25 325 lb</td>
<td>39 275 lb</td>
<td>65 125 lb</td>
<td>22 750 lb</td>
<td>52 100 lb</td>
</tr>
<tr>
<td></td>
<td>66 400 kg</td>
<td>11 490 kg</td>
<td>17 820 kg</td>
<td>29 540 kg</td>
<td>10 320 kg</td>
<td>23 630 kg</td>
</tr>
<tr>
<td>K</td>
<td>150 800 lb</td>
<td>25 325 lb</td>
<td>39 250 lb</td>
<td>67 100 lb</td>
<td>23 425 lb</td>
<td>53 675 lb</td>
</tr>
<tr>
<td></td>
<td>68 400 kg</td>
<td>11 490 kg</td>
<td>17 810 kg</td>
<td>30 430 kg</td>
<td>10 630 kg</td>
<td>24 340 kg</td>
</tr>
</tbody>
</table>

**Maximum Pavement Loads**

<table>
<thead>
<tr>
<th>A/C Code</th>
<th>Maximum Vertical Nose Gear Ground Load at Most Forward CG</th>
<th>Maximum Vertical Main Gear Ground Load at Most Aft CG</th>
<th>Maximum Horizontal Ground Load from Braking</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>MRW = 64 900 kg</td>
<td>FWD CG = 16.2 % MAC AT A/C WEIGHT = 64 900 kg</td>
<td></td>
</tr>
<tr>
<td>J</td>
<td>MRW = 66 400 kg</td>
<td>FWD CG = 15 % MAC AT A/C WEIGHT = 63 000 kg</td>
<td></td>
</tr>
<tr>
<td>K</td>
<td>MRW = 68 400 kg</td>
<td>FWD CG = 15 % MAC AT A/C WEIGHT = 63 000 kg</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A/C Code</th>
<th>Maximum Vertical Main Gear Ground Load at Most Aft CG</th>
<th>Maximum Horizontal Ground Load from Braking</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>MRW = 64 900 kg</td>
<td>FWD CG = 32 % MAC AT A/C WEIGHT = 64 900 kg</td>
</tr>
<tr>
<td>J</td>
<td>MRW = 66 400 kg</td>
<td>FWD CG = 32 % MAC AT A/C WEIGHT = 66 400 kg</td>
</tr>
<tr>
<td>K</td>
<td>MRW = 68 400 kg</td>
<td>FWD CG = 32 % MAC AT A/C WEIGHT = 68 400 kg</td>
</tr>
</tbody>
</table>

**NOTE:** All loads calculated using aircraft maximum ramp weight.
7-4-0 Landing Gear Loading on Pavement

**ON A/C A318-100

Landing Gear Loading on Pavement

1. General

   In the example shown in Section 7-4-1 Landing Gear Loading on Pavement, A/C Code C, the Gross Aircraft Weight is 48 000 kg (105 825 lb) and the percentage of weight on the Main Landing Gear is 90.2%.

   For these conditions, the total weight on the Main Landing Gear is 43 280 kg (95 425 lb).
7-4-1 Landing Gear Loading on Pavement

**ON A/C A318-100

Landing Gear Loading on Pavement

1. This section gives Landing Gear Loading on Pavement.

   **NOTE**: For A/C Code definition, refer to chapter 7-1-0.
Landing Gear Loading on Pavement

FIGURE-7-4-1-991-029-A01
**ON A/C A318-100

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

Landing Gear Loading on Pavement
FIGURE-7-4-1-991-030-A01

N_AC_070401_1_0300101_01_00

Page 3
Jun 01/12
**ON A/C A318-100**

Landing Gear Loading on Pavement
FIGURE-7-4-1-991-031-A01
**ON A/C A318-100

Landing Gear Loading on Pavement
FIGURE-7-4-1-991-032-A01
**ON A/C A318-100

Landing Gear Loading on Pavement
FIGURE-7-4-1-991-033-A01
**ON A/C A318-100

Landing Gear Loading on Pavement

FIGURE-7-4-1-991-034-A01
**ON A/C A318-100

Landing Gear Loading on Pavement

FIGURE-7-4-1-991-035-A01
**ON A/C A318-100

Landing Gear Loading on Pavement
FIGURE-7-4-1-991-036-A01
**ON A/C A318-100

Landing Gear Loading on Pavement
FIGURE-7-4-1-991-037-A01
7-5-0 Flexible Pavement Requirements - U.S. Army Corps of Engineers Design Method

**ON A/C A318-100**

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

1. General

   In order to determine a particular Flexible Pavement Thickness, the Subgrade Strength (CBR), the Annual Departure Level and the weight on one Main Landing Gear must be known.

   In the example shown in Section 7-5-1 Flexible Pavement Requirements, A/C Code C for:
   - a CBR value of 10
   - an Annual Departure Level of 25 000
   - the Load on one MLG of 20 000 kg (44 100 lb).

   For these conditions, the Flexible Pavement Thickness is 40.9 cm (16.1 in).

   The line showing 10 000 Coverages is used to calculate the Aircraft Classification Number (ACN).
Flexible Pavement Requirements - U.S. Army Corps of Engineers Design Method

**ON A/C A318-100

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

1. This section gives Flexible Pavement Requirements.

   NOTE: For A/C Code definition, refer to chapter 7-1-0.
**ON A/C A318-100

Flexible Pavement Requirements

FIGURE-7-5-1-991-029-A01
**ON A/C A318-100

Flexible Pavement Requirements

FIGURE-7-5-1-991-030-A01

FLEXIBLE PAVEMENT THICKNESS

46 x 17 R20 (46 x 16–20) TIRES

TIRE PRESSURE CONSTANT AT 11.4 bar (165 psi)
Flexible Pavement Requirements

FIGURE-7-5-1-991-031-A01
**ON A/C A318-100**

Flexible Pavement Requirements

FIGURE-7-5-1-991-032-A01
Flexible Pavement Requirements
FIGURE-7-5-1-991-033-A01
Flexible Pavement Requirements

FIGURE-7-5-1-991-034-A01
Flexible Pavement Requirements
Flexible Pavement Requirements
FIGURE-7-5-1-991-035-A01
Flexible Pavement Requirements

FIGURE-7-5-1-991-036-A01
**ON A/C A318-100**

**Flexible Pavement Requirements**

**FIGURE-7-5-1-991-037-A01**
Flexible Pavement Requirements - LCN Conversion

**ON A/C A318-100

Flexible Pavement Requirements - LCN Conversion

1. General

In order to determine the airplane weight that can be accommodated on a particular Flexible Pavement, both the LCN of the pavement and the thickness (h) must be known.

In the example shown in Section 7-6-1 Flexible Pavement Requirements - LCN Conversion, A/C Code C for:
The thickness (h) is shown at 20 inches with an LCN of 47.7.
For these conditions, the weight on one Main Landing Gear is 25 000 kg (55 125 lb).
7-6-1 Flexible Pavement Requirements - LCN Conversion

**ON A/C A318-100

Flexible Pavement Requirements - LCN Conversion

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

   **NOTE**: For A/C Code definition, refer to chapter 7-1-0.
Flexible Pavement Requirements - LCN Conversion

FIGURE-7-6-1-991-032-A01
Flexible Pavement Requirements - LCN Conversion

FIGURE-7-6-1-991-033-A01

NOTE: EQUIVALENT SINGLE WHEEL LOADS ARE DERIVED BY METHODS SHOWN IN ICAO AERODROME MANUAL PART 2 PAR 4, 1.3 Second Edition 1965
Flexible Pavement Requirements - LCN Conversion
FIGURE-7-6-1-991-034-A01
**NOTE:** EQUIVALENT SINGLE WHEEL LOADS ARE DERIVED BY METHODS SHOWN IN
ICAO AERODROME MANUAL PART 2 PAR 4.1.3 Second Edition 1965
**ON A/C A318-100

NOTE:

ICAO AERODROME MANUAL PART 2 PAR 4.1.3 Second Edition 1965

EQUIVALENT SINGLE WHEEL LOADS ARE DERIVED BY METHODS SHOWN IN

LOAD CLASSIFICATION NUMBER (LCN)

TIRE PRESSURE CONSTANT AT 11.4 bar (165 psi)

46 x 17 R20 (46 x 16−20) TIRES

WEIGHT ON ONE MAIN LANDING GEAR

28 000 kg   (62 175 lb)
25 000 kg   (55 125 lb)
22 000 kg   (48 500 lb)
19 000 kg   (41 875 lb)
16 000 kg   (35 275 lb)
10 000 kg   (22 050 lb)

LANDING GEAR

MAXIMUM RAMP WEIGHT AND AFT CG

MAXIMUM POSSIBLE MAIN GEAR LOAD AT

N_AC_070601_1_0360101_01_00

Flexible Pavement Requirements - LCN Conversion

FIGURE-7-6-1-991-036-A01
**ON A/C A318-100**

- **TIRE PRESSURE CONSTANT AT 12.4 bar (180 psi)**

- **WEIGHT ON ONE MAIN LANDING GEAR**
  - 28 640 kg (63 150 lb)
  - 25 000 kg (55 125 lb)
  - 20 000 kg (44 100 lb)
  - 15 000 kg (33 075 lb)

- **MAXIMUM POSSIBLE MAIN GEAR LOAD AT MAXIMUM RAMP WEIGHT AND AFT CG**
  - 10 000 kg (22 050 lb)

- **FLEXIBLE PAVEMENT THICKNESS (INCHES)**
- **FLEXIBLE PAVEMENT THICKNESS (mm)**

Flexible Pavement Requirements - LCN Conversion

FIGURE-7-6-1-991-037-A01
EQUIVALENT SINGLE WHEEL LOADS ARE DERIVED BY METHODS SHOWN IN
ICAO AERODROME MANUAL PART 2 PAR 4.1.3 Second Edition 1965

Flexible Pavement Requirements - LCN Conversion
FIGURE-7-6-1-991-038-A01
**ON A/C A318-100**

Flexible Pavement Requirements - LCN Conversion

FIGURE-7-6-1-991-039-A01
NOTE: EQUIVALENT SINGLE WHEEL LOADS ARE DERIVED BY METHODS SHOWN IN ICAO AERODROME MANUAL PART 2 PAR 4.1.3 Second Edition 1965

Flexible Pavement Requirements - LCN Conversion

FIGURE-7-6-1-991-040-A01
7-7-0 Rigid Pavement Requirements - Portland Cement Association Design Method

**ON A/C A318-100

Rigid Pavement Requirements - Portland Cement Association Design Method

1. General

   In order to determine a particular Rigid Pavement Thickness, the Subgrade Modulus \( k \), the allowable working stress and the weight on one Main Landing Gear must be known.

   In the example shown in Section 7-7-1 Rigid Pavement Requirements (PCA), A/C Code C for:
   - a \( "k" \) value of 150 MN/m\(^3\) (550 lbf/in\(^3\))
   - an allowable working stress of 31.6 kgf/cm\(^2\) (450 lbf/in\(^2\))
   - the load on one MLG of 20 000 kg (44 100 lb).

   For these conditions, the Rigid Pavement Thickness is 18.4 cm (7.2 in).
7-7-1  Rigid Pavement Requirements - Portland Cement Association Design Method

**ON A/C A318-100

Rigid Pavement Requirements - Portland Cement Association Design Method

1. This section gives Rigid Pavement Requirements.

   **NOTE**: For A/C Code definition, refer to chapter 7-1-0.
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.

Rigid Pavement Requirements (PCA)
FIGURE-7-7-1-991-029-A01
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/m² 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.

Rigid Pavement Requirements (PCA)
FIGURE-7-7-1-991-030-A01
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 Airports Pavements" and "Computer Program for Airport Pavement Design - Program PDILB, Portland Cement Association".
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

Rigid Pavement Requirements (PCA)
FIGURE-7-7-1-991-032-A01
**ON A/C A318-100**

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

Rigid Pavement Requirements (PCA)
FIGURE-7-7-1-991-033-A01

46 x 17 R20 (46 x 16–20) TIRES
TIRE PRESSURE CONSTANT AT 11.4 bar (165 psi)
**ON A/C A318-100**

46 x 17 R20 (46 x 16–20) TIRES
TIRE PRESSURE CONSTANT AT 12.4 bar (180 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

Rigid Pavement Requirements (PCA)
FIGURE-7-7-1-991-034-A01
**ON A/C A318-100**

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

Rigid Pavement Requirements (PCA)
FIGURE-7-7-1-991-035-A01
**ON A/C A318-100**

46 x 17 R20 (46 x 16–20) TIRES
TIRE PRESSURE CONSTANT AT 12.4 bar (180 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

Rigid Pavement Requirements (PCA)
FIGURE-7-7-1-991-036-A01
**ON A/C A318-100**

46 x 17 R20 (46 x 16–20) TIRES
TIRE PRESSURE CONSTANT AT 12.4 bar (180 psi)

MAXIMUM POSSIBLE MAIN GEAR LOAD AT MAXIMUM RAMP WEIGHT AND AFT CG
WEIGHT ON ONE MAIN LANDING GEAR

- 30 430 kg (67 100 lb)
- 25 000 kg (55 125 lb)
- 20 000 kg (44 100 lb)
- 15 000 kg (33 075 lb)
- 10 000 kg (22 050 lb)

**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

Rigid Pavement Requirements (PCA)
FIGURE-7-7-1-991-037-A01

N_AC_070701_1_0370101_01_00
7-8-1  Radius of Relative Stiffness

**ON A/C A318-100

Radius of Relative Stiffness

1. This section gives Radius of Relative Stiffness.
**ON A/C A318-100**

RADIUS OF RELATIVE STIFFNESS (L)  
VALUES IN INCHES

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

WHERE  
E = YOUNG’S MODULUS = $4 \times 10^6$ psi  
k = SUBGRADE MODULUS, lb/in$^3$  
d = RIGID PAVEMENT THICKNESS, (in)  
$\mu$ = POISSON’S RATIO = 0.15

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Radius of Relative Stiffness  
(Reference: Portland Cement Association)  
FIGURE-7-8-1-991-001-A01
7-8-2 Rigid Pavement Requirements - LCN Conversion

**ON A/C A318-100**

Rigid Pavement Requirements - LCN Conversion

1. General
   In order to determine the airplane weight that can be accommodated on a particular Rigid Pavement, both the LCN of the pavement and the Radius of Relative Stiffness (L) must be known.

   In the example shown in this section Rigid Pavement Requirements - LCN Conversion, A/C Code C for:
   - The Radius of Relative Stiffness is shown at 762 mm (30 in) with an LCN of 51.1.

   For these conditions, the weight on one Main Landing Gear is 25 000 kg (55 125 lb).

   **NOTE:** For A/C Code definition, refer to chapter 7-1-0.
Rigid Pavement Requirements - LCN Conversion
FIGURE-7-8-2-991-032-A01
**ON A/C A318-100**

EQUIVALENT SINGLE WHEEL LOAD [1 000 lb]

EQUIVALENT SINGLE WHEEL LOAD [1 000 kg]

RADIUS OF RELATIVE STIFFNESS (mm)

MAXIMUM POSSIBLE MAIN GEAR LOAD AT MAXIMUM RAMP WEIGHT AND AFT CG.

WEIGHT ON ONE MAIN LANDING GEAR

26 655 kg    (58 750 lb)

25 000 kg    (55 125 lb)

20 000 kg    (44 100 lb)

15 000 kg    (33 075 lb)

10 000 kg    (22 050 lb)

MAXIMUM RAMP WEIGHT AND AFT CG.

Rigid Pavement Requirements - LCN Conversion

FIGURE-7-8-2-991-033-A01

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

WEIGHT ON ONE MAIN LANDING GEAR

46 x 17 R20 (46 x 16-20) TIRES

TIRE PRESSURE CONSTANT AT 11.4 bar (165 psi)

EQUIVALENT SINGLE WHEEL LOAD [1 000 lb]
**ON A/C A318-100**

Rigid Pavement Requirements - LCN Conversion

FIGURE-7-8-2-991-034-A01
**ON A/C A318-100

Rigid Pavement Requirements - LCN Conversion

FIGURE-7-8-2-991-035-A01
**ON A/C A318-100**

Rigid Pavement Requirements - LCN Conversion

FIGURE-7-8-2-991-036-A01
**ON A/C A318-100**

Rigid Pavement Requirements - LCN Conversion
FIGURE-7-8-2-991-037-A01

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**ON A/C A318-100**

Rigid Pavement Requirements - LCN Conversion

**FIGURE-7.8-2-931-038-A01**

- **A/C CODE I**
- **WEIGHT ON ONE MAIN LANDING GEAR**
  - 28 865 kg (63 850 lb)
  - 25 000 kg (55 125 lb)
  - 20 000 kg (44 100 lb)
  - 15 000 kg (33 075 lb)
  - 10 000 kg (22 050 lb)

**NOTE:** EQUIVALENT SINGLE WHEEL LOADS ARE DERIVED BY METHODS SHOWN IN ICAO AERODROME MANUAL PART 2 PAR 4.1.3 Second Edition 1965
Rigid Pavement Requirements - LCN Conversion

FIGURE-7-8-2-991-039-A01
**ON A/C A318-100**

Rigid Pavement Requirements - LCN Conversion

FIGURE-7-8-2-991-040-A01

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N_AC_070802_1_0400101_01_00
**ON A/C A318-100**

Radius of Relative Stiffness (Other values of \( E \) and \( \mu \))

1. General

   The table of Section 7-8-1, Radius of Relative Stiffness, presents \( L \) values based on Young’s Modulus (E) of 4 000 000 psi and Poisson’s Ratio (\( \mu \)) of 0.15.

   To find \( L \) values based on other values of \( E \) and \( \mu \), see Section 7-8-4.

   For example, to find an \( L \) value based on an \( E \) of 3 000 000 psi, the \( E \) factor of 0.931 is multiplied by the \( L \) value found in the table of Section 7-8-1.

   The effect of variations of \( \mu \) on the \( L \) value is treated in a similar manner.
Radius of Relative Stiffness

**ON A/C A318-100

Radius of Relative Stiffness

1. This section gives Radius of Relative Stiffness.
**ON A/C A318-100

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

Radius of Relative Stiffness
(Effect E and \(\mu\) on "L" values)
FIGURE-7-8-4-991-001-A01

EFFECT OF \(E\) ON L VALUES

EFFECT OF \(\mu\) ON L VALUES
7-9-0 ACN/PCN Reporting System

**ON A/C A318-100

ACN/PCN Reporting System

1. General

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

In the example shown in Section 7-9-1 Aircraft Classification Number – Flexible Pavement, A/C Code C, for an aircraft gross weight of 50 000 kg (110 225 lb) and low subgrade strength (code C), the ACN for the flexible pavement is 25.5.

In the example shown in Section 7-9-2 Aircraft Classification Number – Rigid Pavement, A/C Code C, for an aircraft gross weight of 50 000 kg (110 225 lb) and medium subgrade strength (code B), the ACN for the rigid pavement is 25.5.

**NOTE**: An aircraft with an ACN equal to or less than the reported PCN can operate on that pavement, subject to any limitation on the tire pressure.
7-9-1 Aircraft Classification Number - Flexible Pavement

**ON A/C A318-100
Aircraft Classification Number - Flexible Pavement

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

   **NOTE**: For A/C Code definition, refer to chapter 7-1-0.
**ON A/C A318-100**

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

AIRCRAFT GROSS WEIGHT (x 1,000 kg)

AIRCRAFT CLASSIFICATION NUMBER (ACN)

TIRE PRESSURE CONSTANT AT 10.2 bar (148 psi)

ACN WAS DETERMINED AS REFERENCED IN ICAO AERODROME DESIGN MANUAL, PART 3, CHAPTER 1, SECOND EDITION, 1983.

ACN WAS USED FOR A/C CALCULATIONS, 35% MAC, CG USED FOR ACN CALCULATIONS.

ON PAVEMENT - A/C CODE C

See Section 7−4−1 Landing Gear Loading

Aircraft Classification Number – Flexible Pavement

FIGURE-7-9-1-991-042-A01
AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

**ON A/C A318-100

AIRCRAFT GROSS WEIGHT (x 1000 kg)

AIRCRAFT CLASSIFICATION NUMBER (ACN)

ACN WAS DETERMINED AS REFERENCED IN ICAO AERODROME DESIGN MANUAL PART 3 CHAPTER 1 SECOND EDITION 1983.

CG USED FOR ACN CALCULATIONS: 33.93 % MAC.

ON PAVEMENT - A/C CODE D

Aircraft Classification Number -- Flexible Pavement

FIGURE-7-9-1-991-043-A01
**ON A/C A318-100

ACN WAS DETERMINED AS REFERENCED IN ICAO AERODROME DESIGN MANUAL, PART 3, CHAPTER 1, SECOND EDITION, 1983. SEE SECTION 7−4−1 LANDING GEAR LOADING ON PAVEMENT – ACN CODE E.

Aircraft Classification Number – Flexible Pavement
FIGURE-7-9-1-991-044-A01
AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

**ON A/C A318-100

AIRCRAFT GROSS WEIGHT (x 1,000 kg)

AIRCRAFT CLASSIFICATION NUMBER (ACN)

46 x 17 P20 (46 x 16-20) TIRES
TIRE PRESSURE CONSTANT AT 11.4 bar (165 psi)

ACN WAS DETERMINED AS REFERENCED IN ICAO AERODROME DESIGN MANUAL, PART 3, CHAPTER 1, SECOND EDITION 1983. CG USED FOR ACN CALCULATIONS: 32.7% MAC.

ACN WAS DETERMINED AS REFERENCED IN ICAO AERODROME DESIGN MANUAL, PART 3, CHAPTER 1, SECOND EDITION 1983. CG USED FOR ACN CALCULATIONS: 32.7% MAC.

SUBGRADE STRENGTH

ALPHA FACTOR = 0.9

Aircraft Classification Number – Flexible Pavement
FIGURE-7-9-1-991-045-A01

A/C CODE F

ALPHA FACTOR = 0.9

SUBGRADE STRENGTH

D – CBR 3 (ULTRA LOW)
C – CBR 6 (LOW)
B – CBR 10 (MEDIUM)
A – CBR 15 (HIGH)

46 x 17 P20 (46 x 16-20) TIRES
TIRE PRESSURE CONSTANT AT 11.4 bar (165 psi)

ACN WAS DETERMINED AS REFERENCED IN ICAO AERODROME DESIGN MANUAL, PART 3, CHAPTER 1, SECOND EDITION 1983. CG USED FOR ACN CALCULATIONS: 32.7% MAC.

Aircraft Classification Number – Flexible Pavement
FIGURE-7-9-1-991-045-A01
ACN WAS DETERMINED AS REFERENCED IN ICAO AERODROME DESIGN MANUAL PART 3 CHAPTER 1 SECOND EDITION 1983. CG USED FOR ACN CALCULATIONS: 32% MAC.

ACN WAS DETERMINED AS REFERENCED IN ICAO AERODROME DESIGN MANUAL PART 3 CHAPTER 1 SECOND EDITION 1983.

CG USED FOR ACN CALCULATIONS: 32% MAC.

AIRCRAFT GROSS WEIGHT

AIRCRAFT CLASSIFICATION NUMBER (ACN)

TIRE PRESSURE CONSTANT AT 11.4 bar (165 psi)

ACN WAS DETERMINED AS REFERENCED IN ICAO AERODROME DESIGN MANUAL PART 3 CHAPTER 1 SECOND EDITION 1983.

CG USED FOR ACN CALCULATIONS: 32% MAC.

ACN WAS DETERMINED AS REFERENCED IN ICAO AERODROME DESIGN MANUAL PART 3 CHAPTER 1 SECOND EDITION 1983.

CG USED FOR ACN CALCULATIONS: 32% MAC.

ACN WAS DETERMINED AS REFERENCED IN ICAO AERODROME DESIGN MANUAL PART 3 CHAPTER 1 SECOND EDITION 1983.

CG USED FOR ACN CALCULATIONS: 32% MAC.
**ON A/C A318-100**

Aircraft Classification Number – Flexible Pavement

FIGURE-7-9-1-991-047-A01
ACN WAS DETERMINED AS REFERENCED IN ICAO AERODROME DESIGN MANUAL, PART 3, CHAPTER 1, SECOND EDITION 1983.

CG USED FOR ACN CALCULATIONS: 32% MAC.

SEE SECTION 7-4-1 LANDING GEAR LOADING.

ON PAVEMENT - A/C CODE I

FIGURE-7-9-1-991-048-A01
**ON A/C A318-100

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

AIRCRAFT GROSS WEIGHT (x 1000 kg)

AIRCRAFT CLASSIFICATION NUMBER (ACN)

46 x 17 P20 (46 x 16-20) TIRES

TIRE PRESSURE CONSTANT AT 12.4 bar (180 psi)

ACN WAS DETERMINED AS REFERENCED IN ICAO AERODROME DESIGN MANUAL, PART 3, CHAPTER 1, SECOND EDITION 1983.

CG USED FOR ACN CALCULATIONS: 32% MAC.

ACN WAS DETERMINED AS REFERENCED IN ICAO AERODROME DESIGN MANUAL, PART 3, CHAPTER 1, SECOND EDITION 1983.

CG WAS DETERMINED AS REFERENCED IN ICAO AERODROME DESIGN MANUAL, PART 3, CHAPTER 1, SECOND EDITION 1983.

ACN WAS DETERMINED AS REFERENCED IN ICAO AERODROME DESIGN MANUAL, PART 3, CHAPTER 1, SECOND EDITION 1983.

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ACN WAS DETERMINED AS REFERENCED IN ICAO AERODROME DESIGN MANUAL, PART 3, CHAPTER 1, SECOND EDITION 1983.
**ON A/C A318-100**

Aircraft Classification Number -- Flexible Pavement

FIGURE-7-9-1-991-050-A01
7-9-2 Aircraft Classification Number - Rigid Pavement

**ON A/C A318-100

Aircraft Classification Number - Rigid Pavement

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

   **NOTE**: For A/C Code definition, refer to chapter 7-1-0.
ACN was determined as referenced in ICAO Aerodrome Design Manual Part 3 Chapter 1 Second Edition 1983. See Section 7-4.1 Landing Gear Loading.

ACN aircraft classification number.

Aircraft Classification Number – Rigid Pavement

FIGURE-7-9-2-991-041-A01
ACN WAS DETERMINED AS REFERENCED IN ICAO AERODROME DESIGN MANUAL PART 3, CHAPTER 1 SECOND EDITION 1983.

CG USED FOR ACN CALCULATIONS: 33.93% MAC.

SEE SECTION 7-4-1 LANDING GEAR LOADING ON PAVEMENT – A/C CODE D

AIRCRAFT GROSS WEIGHT

46 x 17 R20 (46 x 16-20) TIRES

TIRE PRESSURE CONSTANT AT 11.4 bar (165 psi)

AIRCRAFT CLASSIFICATION NUMBER (ACN)

**ON A/C A318-100

Aircraft Classification Number – Rigid Pavement

FIGURE-7-9-2-991-042-A01

7-9-2

Page 3
Jun 01/12
ON A/C A318-100

ACN was determined as referenced in ICAO Aerodrome Design Manual Part 3 Chapter 1, Second Edition 1983. See Section 7-4-1, LANDING GEAR LOADING ON PAVEMENT – A/C CODE E.

Aircraft Classification Number -- Rigid Pavement

FIGURE-7-9-2-991-043-A01

N_AC_070902_1_0430101_01_00

Aircraft Classification Number – Rigid Pavement
ACN WAS DETERMINED AS REFERENCED IN ICAO AERODROME DESIGN MANUAL PART 3 CHAPTER 1 SECOND EDITION 1983. 

SEE SECTION 7−4−1 LANDING GEAR LOADING 
CG USED FOR ACN CALCULATIONS: 32.7 % MAC.

46 x 17 R20 (46 x 16−20) TIRES 
TIRE PRESSURE CONSTANT AT 11.4 bar (165 psi)

AIRCRAFT GROSS WEIGHT

AIRCRAFT CLASSIFICATION NUMBER (ACN)

SUBGRADE STRENGTH

D−K = 20 MN/m³ (ULTRA LOW)
C−K = 40 MN/m³ (LOW)
B−K = 80 MN/m³ (MEDIUM)
A−K = 150 MN/m³ (HIGH)

A/C CODE F

Aircraft Classification Number – Rigid Pavement
FIGURE-7-9-2-991-044-A01
ACN WAS DETERMINED AS REFERENCED IN ICAO AERODROME DESIGN MANUAL PART 3 CHAPTER 1 SECOND EDITION 1983. SEE SECTION 7-4-1 LANDING GEAR LOADING ON PAVEMENT – A/C CODE G.

ACN GROSS WEIGHT

46 x 17 R20 (46 x 16-20) TIRES

TIRE PRESSURE CONSTANT AT 11.4 bar (165 psi)

AIRCRAFT CLASSIFICATION NUMBER (ACN)

15 20 25 30 35

SUBGRADE STRENGTH

D - K = 20 MN/m² (ULTRA LOW)
C - K = 40 MN/m² (LOW)
B - K = 80 MN/m² (MEDIUM)
A - K = 160 MN/m² (HIGH)

A/C CODE G

FIGURE-7-9-2-991-045-A01

Aircraft Classification Number – Rigid Pavement
ACN was determined as referenced in ICAO Aerodrome Design Manual Part 3 Chapter 1 Second Edition 1983. See Section 7-4-1 Landing Gear Loading.

Aircraft Classification Number (ACN) for A/C A318-100:

- ACN was determined as referenced in ICAO Aerodrome Design Manual Part 3 Chapter 1 Second Edition 1983.
- See Section 7-4-1 Landing Gear Loading.

**ACN**

(Aircraft Classification Number)
**ON A/C A318-100

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

ACN WAS DETERMINED AS REFERENCED IN ICAO AERODROME DESIGN MANUAL PART 3 CHAPTER 1 SECOND EDITION 1983.

CG USED FOR ACN CALCULATIONS: 32% MAC.

SEE SECTION 7-4-1 LANDING GEAR LOADING ON PAVEMENT – A/C CODE I

ACR GROSS WEIGHT (x 1 000 lb)

TIRE PRESSURE CONSTANT AT 12.4 bar (180 psi)

AIRCRAFT CLASSIFICATION NUMBER (ACN)

SUBGRADE STRENGTH

D = K = 20 MN/m² (ULTRA LOW)

C = K = 40 MN/m² (LOW)

B = K = 80 MN/m² (MEDIUM)

A = K = 120 MN/m² (HIGH)

Aircraft Classification Number – Rigid Pavement

FIGURE-7-9-2-991-047-A01
**ON A/C A318-100**

ACN was determined as referenced in ICAO Aerodrome Design Manual Part 3 Chapter 1 Second Edition 1983.

See Section 7-4-1 landing gear loading CG used for ACN calculations: 32% MAC.

On pavement – A/C code J

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*Figure 7-9-2-991-048-A01*

Aircraft Classification Number – Rigid Pavement

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Aircraft Gross Weight

Aircraft Classification Number (ACN)

Subgrade Strength

D - K = 20 MN/m² (Ultra Low)
C - K = 40 MN/m² (Low)
B - K = 80 MN/m² (Medium)
A - K = 150 MN/m² (High)

46 x 17 R20 (46 x 16-20) Tires

Tire pressure constant at 12.4 bar (180 psi)

Page 9

Jun 01/12
ACN WAS DETERMINED AS REFERENCED IN ICAO AERODROME DESIGN MANUAL PART 3 CHAPTER 1 SECOND EDITION 1983.

SEE SECTION 7−4−1 LANDING GEAR LOADING ON PAVEMENT − A/C CODE K.

AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING

**ON A/C A318-100

AIRCRAFT GROSS WEIGHT

46 x 17 R20 (46 x 16−20) TIRES
TIRE PRESSURE CONSTANT AT 12.4 bar (180 psi)

AIRCRAFT CLASSIFICATION NUMBER (ACN)

15

20

25

30

35

77

88

99

110

121

132

143

154

(x 1 000 lb)

Aircraft Classification Number – Rigid Pavement

FIGURE-7-9-2-991-049-A01

Aircraft Classification Number (ACN)

(A/C CODE K)

A/C CODE K

7-9-2

Page 10

Jun 01/12
**ON A/C A318-100

Scaled Drawings

1. This section provides the scaled drawings.

**NOTE**: When printing this drawing, make sure to adjust for proper scaling.
**ON A/C A318-100**

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

Scaled Drawing
FIGURE-8-0-0-991-001-A01
AIRCRAFT RESCUE AND FIRE FIGHTING

10-0-0 AIRCRAFT RESCUE AND FIRE FIGHTING

**ON A/C A318-100

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 for download on AIRBUSWorld and the Airbus website.
Highly Flammable and Hazardous Materials and Components

FIGURE-10-0-0-991-002-A01
Wheel Safety Area
(Sheet 1 of 2)
FIGURE-10-0-0-991-003-A01
BRAKE OVERHEAT AND LANDING GEAR FIRE

WARNING: BE VERY CAREFUL WHEN THERE IS A BRAKE OVERHEAT AND/OR LANDING GEAR FIRE. THERE IS A RISK OF TIRE EXPLOSION AND/OR WHEEL RIM BURST THAT CAN CAUSE DEATH OR INJURY. MAKE SURE THAT YOU OBEY THE SAFETY PRECAUTIONS THAT FOLLOW.

THE PROCEDURES THAT FOLLOW GIVE RECOMMENDATIONS AND SAFETY PRECAUTIONS FOR THE COOLING OF VERY HOT BRAKES AFTER ABNORMAL OPERATIONS SUCH AS A REJECTED TAKE-OFF OR OVERWEIGHT LANDING. FOR THE COOLING OF BRAKES AFTER NORMAL TAXI-IN, REFER TO YOUR COMPANY PROCEDURES.

BRAKE OVERHEAT:

1 - GET THE BRAKE TEMPERATURE FROM THE COCKPIT OR USE A REMOTE MEASUREMENT TECHNIQUE. THE REAL TEMPERATURE OF THE BRAKES CAN BE MUCH HIGHER THAN THE TEMPERATURE SHOWN ON THE ECAM. NOTE: AT HIGH TEMPERATURES (>800°C), THERE IS A RISK OF WARPING OF THE LANDING GEAR STRUTS AND AXLES.

2 - APPROACH THE LANDING GEAR WITH EXTREME CAUTION AND FROM AN OBLIQUE ANGLE IN THE DIRECTION OF THE TIRE SHOULDER. DO NOT GO INTO THE RIM HAZARD AREA AND ONLY GO IN THE TIRE HAZARD AREA WITH CAUTION. (REF FIG. WHEEL/BRAKE OVERHEAT HAZARD AREAS). IF POSSIBLE, STAY IN A VEHICLE.

3 - LOOK AT THE CONDITION OF THE TIRES:
   IF THE TIRES ARE STILL INFLATED (FUSE PLUGS NOT MELTED), THERE IS A RISK OF TIRE EXPLOSION AND RIM BURST. DO NOT USE COOLING FANS BECAUSE THEY CAN PREVENT OPERATION OF THE FUSE PLUGS.

4 - USE WATER MIST TO DECREASE THE TEMPERATURE OF THE COMPLETE WHEEL AND BRAKE ASSEMBLY. USE A TECHNIQUE THAT PREVENTS SUDDEN COOLING. SUDDEN COOLING CAN CAUSE WHEEL CRACKS OR RIM BURST. DO NOT APPLY WATER, FOAM OR CO2. THESE COOLING AGENTS (AND ESPECIALLY CO2, WHICH HAS A VERY STRONG COOLING EFFECT) CAN CAUSE THERMAL SHOCKS AND BURST OF HOT PARTS.

LANDING GEAR FIRE:

CAUTION: AIRBUS RECOMMENDS THAT YOU DO NOT USE DRY POWDERS OR DRY CHEMICALS ON HOT BRAKES OR LANDING GEAR FIRES. THESE AGENTS CAN CHANGE INTO SOLID OR ENAMELED DEPOSITS. THEY CAN DECREASE THE SPEED OF HEAT DISSIPATION WITH A POSSIBLE RISK OF PERMANENT STRUCTURAL DAMAGE TO THE BRAKES, WHEELS OR WHEEL AXLES.

1 - IMMEDIATELY STOP THE FIRE:

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

B) USE LARGE AMOUNTS OF WATER, WATER MIST; IF THE FUEL TANKS ARE AT RISK, USE FOAM. USE A TECHNIQUE THAT PREVENTS SUDDEN COOLING. SUDDEN COOLING CAN CAUSE WHEEL CRACKS OR RIM BURST.

C) DO NOT USE FANS OR BLOWERS.
Composite Materials
FIGURE-10-0-0-991-004-A01
LG Ground Lock Safety Devices
FIGURE-10-0-0-991-005-A01
Evacuation/Escape Slide/Raft
FIGURE-10-0-0-991-006-A01
**ON A/C A318-100**

Pax/Crew Doors

FIGURE-10-0-0-991-007-A01

1. Make sure that residual pressure warning light is off.
2. Push flap to hold handle.
3. Lift handle fully up to horizontal green line.
4. Pull the door out and move it forward.

**AIRCRAFT CHARACTERISTICS - AIRPORT AND MAINTENANCE PLANNING**

Page 9

Jun 01/12
Emergency Exit Hatch

**ON A/C A318-100**

**OPERATION:**
1. PUSH RED MARKED FLUSH PANEL IN.
2. PUSH HATCH IN AND REMOVE IT.

FIGURE-10-0-0-991-008-A01
**ON A/C A318-100**

FWD and AFT Cargo Compartment Door Controls

**NORMAL OPERATION:**
1. Ensure that all personnel and equipment are clear of the cargo door area.
2. Pull the door handle flaps in to release the door.
3. See the red and amber lights.
4. Use lever to operate the cargo door.
5. Hold the hand pump lever on the hand pump and operate it until the cargo door is fully opened.

**WARNING:**
- Pull the door handle flaps only when the door is fully open.
- DO NOT pull the door handle flaps when the door is not fully open.

**NOTE:**
- Two operators are required for this operation.
- Push the green selector lever to 3 as for normal operation.
- Do the operations in 3 and hold the green selector lever on the hand pump.
- Open, close the door, and hold the green selector lever on the hand pump.
- See the red and amber lights.
- Release the selector lever.

FWD and AFT Lower Deck Cargo Doors

FIGURE-10-0-0-991-009-A01

**Page 11**
Jun 01/12
Control Panels
FIGURE-10-0-0-991-012-A01
**ON A/C A318-100

APU Access Door

FIGURE-10-0-0-991-013-A01
**ON A/C A318-100

Aircraft Ground Clearances

FIGURE-10-0-0-991-014-A01
Structural Break-in Points

FIGURE-10-0-991-015-A01