AIRPORT PLANNING MANUAL

SERIES 100

PSM 1–81–13

BOMBARDIER INC.
BOMBARDIER AEROSPACE REGIONAL AIRCRAFT
AIRLINE SERVICES
123 GARRATT BLVD., DOWNSVIEW, ONTARIO
CANADA M3K 1Y5

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PREFACE

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1.1 Introduction
1.2 A Brief Description of the Dash 8 Series 100A Aircraft
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1.4 Guide to Series/Model Designations
SECTION 1

PREFACE

1.0 SCOPE

This document provides, in a standardized format, the recommended minimum aircraft characteristics data for the de Havilland Dash 8 Series 100A (Model 102) (Detail Specification No. DS8-100A), as needed for general airport planning. Since operational practices vary among airlines and operators, specific data should be coordinated with the appropriate airlines prior to facility design. Bombardier Regional Aircraft Division (BRAD) should be contacted for any additional information required. The relevant Flight Manual and Detail Specification take precedence over this document.

1.1 INTRODUCTION

This document conforms to NAS 3601 Revision 5 (31 Oct. 1986) as regards to content. NAS 3601 reflects the results of a coordinated effort by representatives from the following organizations:

- Aerospace Industries Association
- Airport Operators Council International
- Air Transport Association of America
- International Air Transport Association

Provided in this report, are characteristics of the de Havilland Dash 8 Series 100A airplane for airport planners and operators, airlines, architectural and engineering consultant organizations, and other interested industry agencies. Airplane changes and available options may alter model characteristics; the data presented herein reflect the typical de Havilland Dash 8 Series 100A airplane.

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DEHAV TOR
1.2 A BRIEF DESCRIPTION OF THE DE HAVILLAND DASH 8 SERIES 100 AIRCRAFT

The de Havilland Dash 8 Series 100A is a commercial transport airplane, pressurized and designed to accommodate up to 37 passengers in wide body comfort and to set new standards in fuel efficiency, speed and comfort. The aircraft is powered by two Pratt and Whitney PW120A turboprop engines. Large diameter, slow turning Hamilton Standard 14SF propellers provide high thrust efficiency and low noise levels. The Dash 8 offers excellent short take-off and landing performance and outstanding capabilities under “hot and high” conditions.

The Dash 8 is capable of economic operations over a broad range of applications. These include scheduled airline operations, resource and regional development work carrying both passenger and cargo, and corporate and military transport roles.

The available options provide a wide range of configurations; from all passenger to a mixed cargo/passenger aircraft.

The aircraft is capable of operation in ambient temperatures between −54°C (−65°F) and 48.9°C (120°F), unless otherwise specified. Transfer from one climate to another is accomplished without penalties or extensive modification or adjustments.

Significant features of interest to the airport planner include the following:

- Engines are located high and on the wing.
- The horizontal stabilizer is mounted on top of the fin, which places it higher than conventional locations.
- The aircraft has a self-contained airstair entry door at the forward end of the cabin.
- Servicing connections are provided for single station pressure refueling or overwing gravity refueling.
- All servicing of the Dash 8 is accomplished with standard ground equipment.
- High engine exhaust outlets that generate modest pressure and temperature profiles are another feature of the Dash 8.

1.3 ENGINES

The PW120A installed in the Dash 8 Series 100A (Model 102) is a fuel efficient, turboprop engine with a maximum takeoff rating of 2000 SHP. It has a two stage centrifugal compressor with an overall pressure ratio of approximately 15:1 and airflow of approximately 15 lb./sec. Each compressor stage is driven by an independent single-stage turbine. A two-stage coaxial free power turbine drives the propeller through a reduction gear box with a maximum output speed of 1200 rpm.
# Guide to Series / Model Designations

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AIRCRAFT DESCRIPTION

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2.0 INTRODUCTION

General characteristics, arrangements and dimensions of the de Havilland Dash 8 Series 100A (Model 102) are provided in this section.

The Dash 8 Series 100A (Model 102) has a maximum design take-off weight of 34,500 pounds (15,649 kg). Other weight parameters such as ramp weight, landing weight and zero fuel weight are set accordingly.

Definitions refer to Figure 2–1 and are used throughout this document:

**MAXIMUM DESIGN TAXI WEIGHT (MTW):** Maximum weight for ground maneuvers as limited by aircraft strength and airworthiness requirements. (It includes weight of taxi and run–up fuel).

**MAXIMUM DESIGN LANDING WEIGHT (MLW):** Maximum weight for landing as limited by aircraft strength and airworthiness requirements.

**MAXIMUM DESIGN TAKE–OFF WEIGHT (MTOW):** Maximum weight for take–off as limited by aircraft strength and airworthiness requirements. (This is the maximum weight at start of the take–off run).

**OPERATING WEIGHT EMPTY (OWE):** Weight of structure, power plant, furnishings, systems, unusable fuel and other items of equipment that are considered an integral part of a particular airplane configuration. Also included are certain standard items, personnel, equipment and supplies necessary for full operations, excluding usable fuel and payload.

**MAXIMUM DESIGN ZERO FUEL WEIGHT (MZFW):** Maximum weight allowed before usable fuel and other specified usable agents must be loaded in defined sections of the aircraft, as limited by strength and airworthiness requirements.

**MAXIMUM PAYLOAD:** Maximum design zero fuel weight minus operational weight empty.

**MAXIMUM SEATING CAPACITY:** The maximum number of passengers specifically certified or anticipated for certification.

**MAXIMUM CARGO VOLUME:** The maximum space available for cargo.

**USABLE FUEL:** Fuel available for aircraft propulsion and optional A.RU.
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Figure 2–1 General Airplane Characteristics
de Havilland Inc.
DASH 8 SERIES 100
AIRPORT PLANNING

Figure 2–2 General Airplane Dimensions
### de Havilland Inc.

**DASH 8 SERIES 100**

**AIRPORT PLANNING**

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**NOTES:**

1. Dimensions quoted are for standard tires. Nose wheel tires are 18 x 5.50–8, inflated to 80 psi (552 kPa). Main wheel tires are 26.5 x 8.00–13, inflated to 131 psi (903 kPa).
2. Optional low pressure tires add approximately 0.17 ft. (0.05 m) to dimensions. Optional nose wheel tires are 22 x 6.50–10, inflated to 48 psi (331 kPa). Optional main wheel tires are 31 x 9.75–13, inflated to 77 psi (531 kPa).

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**Figure 2–3 Ground Clearance**

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20 MAY, 1993
Figure 2-4 Interior Arrangement – 37 Passenger Standard Aircraft
(Sheet 1 of 3)
Figure 2-4 Interior Arrangement – Optional 39 Passenger Configuration  
(Sheet 2 of 3)
Figure 2-4 Interior Arrangement – Optional Cargo/Passenger 29 Seats
(Sheet 3 of 3)
Figure 2–5 Cabin Cross-Section
Figure 2-6 Standard Floor Loading Diagram
Figure 2-7  Cabin Cross Section – Cargo Aircraft
Figure 2—8 Floor Loading Diagram – Optional Configuration
Figure 2–9 Baggage Compartment Dimensions and Loading Diagram
Figure 2–10 Baggage Compartment Nets and Tiedowns

20 MAY, 1993
NOTE
1. GRAPH REPRESENTS MAX SIZE OF SINGLE ITEM ALLOWABLE WITH .5 IN CLEARANCE GAP.
2. FOR MAX SIZE OF SINGLE ITEM WITH BULKHEAD IN AFT POSITION SEE BAGGAGE COMPARTMENT LOADING DIAGRAM.

3. GRAPH DOES NOT MAKE ALLOWANCES FOR FIRE ACCESS ROUTE (SEE NOTE IN PARA. 2.1).
   ▲ MAX SINGLE ITEM WITH BULK'HD IN MID POSITION
   □ MAX SINGLE ITEM WITH BULK'HD IN FWD POSITION

WIDTH OF ITEM - m.

LENGTH OF ITEM - in

LENGTH OF ITEM - m

WIDTH OF ITEM - in

NOTES:
1. Load may be between 70” (1.78m) & 80” (2.03m) wide if low enough to allow quick crew access to all parts of cabin.
2. If upper baggage restraint is installed, maximum single item height is limited to approximately 56” (1.42m).

KEY
- Max single item 53½” (1.36 m) high anywhere in extended baggage area (height is limited by baggage door envelope; width is limited to 67” /1.70 m so item will clear baggage door track).
- Max single item 59” (1.50 m) high anywhere in extended baggage area (height is limited by baggage door; width is limited by baggage door envelope & baggage door track).
- Max cargo area for smaller items that can be stacked (this area is increased due to baggage door envelope & track not interfering with loading of smaller items).

Figure 2-11 Cargo Loading
Note:
Ground clearance dimensions are approximate only and may vary depending on aircraft configuration and loading conditions.  S230018008 Optional Low Pressure Tires will add approx. 2 in. (6.1 cm) to ground clearance dimensions.

Figure 2–12 Airstair Door Clearance
Note: Baggage door is not operable from inside.

Note:
Ground clearance dimensions are approximate only and may vary depending on aircraft configuration and loading conditions. 832SO0B009 Optional Low Pressure Tires will add approx. 2 in. (5.1 cm) to ground clearance dimensions.

Figure 2-13 Baggage Compartment Door Clearance
Figure 2–14 Exterior Handles
SECTION 3

AIRCRAFT PERFORMANCE

3.0 Introduction

3.1 Use of Charts

ILLUSTRATIONS

3–1 Payload Range at Maximum Cruise Rating and Long Range Cruise

3–2 Maximum Permissible Take–Off Weight Flap 0° & 10°

3–3 Maximum Permissible Take–Off Weight Flap 5° & 15°

3–4 Take–Off Field Length – Flap 0°

3–5 Take–Off Field Length – Flap 5°

3–6 Take–Off Field Length – Flap 10°

3–7 Take–Off Field Length – Flap 15°

3–8 Maximum Permissible Landing Weight – Landing Flap 15° & 35°

3–9 Landing Field Length
3.0 INTRODUCTION

This section contains the performance data for the de Havilland Dash 8 Series 100A (Model 102), as required for operations and Airport Planning purposes. The data is taken from the Advanced Issue of Dash 8 Performance Data Report Aeroc 8.2 (102). AC. 20.

Maximum Structural Weights

The maximum structural take-off and landing weights are as follows:

Maximum Take-off Weight: 15,650 kg (34,500 lb)
Maximum Landing Weight: 15,380 kg (33,900 lb)

WAT Limits

The maximum permissible take-off weight (figures 3–2 and 3–3) and landing weight (figure 3–8) are based on the limiting one engine inoperative climb requirements of FAR 25.

Take-Off Field Length

The take-off field length shown in figures 3–4 through 3–7 is the longest of:

(i) Accelerate stop distance.
(ii) Take-off distance to 35 ft. with an engine inoperative at V\text{\textsubscript{1}}.
(iii) 1.15 x all engine operating take-off distance to 35 ft.

Landing Field Length

The landing field length in figure 3–9 is based on an approach speed of 1.3 V\text{\textsubscript{s}} and a screen height of 50 ft. The landing field length factors, which are those required by FAR 121 are:

a) Destination Airport
   Landing Field Length = Actual Landing Distance \times \frac{1}{0.6}

b) Alternate Airport
   Landing Field Length = Actual Landing Distance \times \frac{1}{0.7}

Retardation Devices

The following retardation devices are used:

a) Accelerate Stop –
   (i) Main wheel anti-skid brakes
   (ii) Ground and flight spoilers extended
   (iii) Both propellers in discing

b) Landing –
   (i) Main wheel anti-skid brakes
   (ii) Ground and flight spoilers extended
   (iii) Both propellers at flight idle

3.1 USE OF CHARTS (Illustrative Examples)

The use of the charts is illustrated by "examples", which are depicted as arrowed broken lines.
Example 1

Given:  
Outside Air Temperature = 26°C  
Airfield Altitude = 6,000 ft

Find:  
Maximum Permissible Take-Off Weight Take-Off Flap 5°.

From Figure 3–3:  
The maximum permissible take-off weight is 14,720 kg. (32,450 lb).

Example 2

Given:  
Outside Air Temperature = 26°C  
Airfield Altitude = 6,000 ft  
Weight = 14,700 kg (32,400 lb)

Find:  
The Take-Off Field Length Flap 5°.

From Figure 3–5:  
The take-off field length is 1530 m (5020 ft).

Example 3

Given:  
Outside Air Temperature = 18°C  
Airfield Altitude = 10,000 ft

Find:  
The Maximum Permissible Landing Weight with Landing Flap 15°.

From Figure 3–8:  
The maximum permissible landing weight is 13,550 kg (29,870 lb).

Example 4

Given:  
Airfield Altitude = 4,000 ft  
Weight = 14,750 kg (32,520 lb)

Find:  
The Landing Field Length with Flap 15°.

From Figure 3–9:  
The landing field length at the destination airport is 1080m (3540 ft).  
The landing field length at the alternate airport is 920m (3020 ft).
Figure 3–1 Payload Range at Maximum Cruise Rating and Long Range Cruise
Figure 3-2 Maximum Permissible Take-Off Weight Flap 0° & 10°
Figure 3–3 Maximum Permissible Take-Off Weight Flap 5° & 15°
Figure 3-4 Take-Off Field Length – Flap 0°
Figure 3-5 Take-Off Field Length – Flap 5°
Figure 3-6 Take-Off Field Length — Flap 10°
Figure 3-7 Take-Off Field Length – Flap 15°
Figure 3–8 Maximum Permissible Landing Weight – Landing Flap 15° & 35°
Figure 3-9 Landing Field Length
de Havilland Inc.
DASH 8 SERIES 100
AIRPORT PLANNING

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SECTION 4

GROUND MANEUVERING

4.0 Introduction

ILLUSTRATIONS

4–1 Turning Radii, No Slip Angle
4–2 Turning Radius at Minimum Power
4–3 Visibility from Cockpit in Static Position
4–4 Ground Line Visibility from Cockpit, Static Position
4–5 Greater than 90° Turn – Runway to Taxiway with Nose Gear and Cockpit Tracks
4–6 90° Turn – Runway to Taxiway with Nose Gear and Cockpit Tracks
4–7 90° Turn – Taxiway to Taxiway with Nose Gear and Cockpit Tracks
4–8 Runway Holding Bay (Apron)
4–9 Parking and Mooring
4–10 Nose Lift Dolly (for Hangar Storage Only)
4.0 INTRODUCTION

This section provides airplane turning capability, visibility, maneuvering characteristics, nose lifting precautions and mooring data.

For ease of presentation, this data has been determined from the theoretical limits imposed by the geometry of the airplane, and where noted, provides normal allowance for tire slippage. As such, it reflects the turning capability of the aircraft in favorable operating circumstances without the use of reverse thrust or differential braking. This data should only be used as a guideline for the method of determination of such parameters and for the maneuvering characteristics of the Dash 8 airplane.

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 and techniques may be necessary to satisfy physical constraints within the maneuvering area, such as: adverse grades, limited area or high risk of jet engine exhaust or propeller slipstream damage. For these reasons, ground maneuvering requirements should be coordinated with the using airlines prior to layout planning.

The use of a nose lift dolly as detailed in Figure 4-9 is not a procedure recommended by de Havilland. It should only be used when absolutely necessary for operational purposes. The use of a nose lift dolly is at the sole risk of the operator of the aircraft.
Note: Nose radius (R5) will be increased by 4ft. 6in. (1.37 m) for DND CT142 version with nose radar installation.

- LINE OF TURN CENTRES ON MAIN GEAR AXLE PROJECTION
- TURNING CENTRE (TYPICAL) FOR NOSE GEAR TURNING ANGLE AS SHOWN

(see DIMENSION "C" for distance from aircraft centreline)

Note:
Actual operating data will be greater than values shown since tire slippage is not considered in these calculations. Consult Airline for operating procedures.

| STEERING ANGLE | R1 FM | R1 FT | R2 FM | R2 FT | R3 FM | R3 FT | R4 FM | R4 FT | R5 FM | R5 FT | R6 FM | R6 FT | DIMENSION "C"
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*Figure 4–1 Turning Radii, No Slip Angle*
MINIMUM TURNING CENTRE ON MAIN AXLE GEAR PROJECTION
STN X428.51

STN X111.63

APPROX 2° DUE TO TIRE SLIP

STN Y155.20
STN Y193.51 STD. TIRE
STN Y193.66 HF TIRE CENTRE FOR MINIMUM TURN

RUNWAY WIDTH

ITEM | RADIUS (STANDARD & HIGH FLOTATION TIRES)
---|---
A - OUTER WING TIP | 59 FT 4 IN (18.06 m)
B - ELEVATOR TIP | 49 FT 4 IN (15.02 m)
C - PROPELLER TIP | 37 FT 4 IN (11.38 m)
D - NOSE WHEEL (OUTER TIRE) | 31 FT 10 IN (9.70 m)
E - MAIN WHEEL (OUTER TIRE) | 30 FT 3 IN (9.22 m)
F - RUNWAY WIDTH MINIMUM FOR 180° TURN | 62 FT 0 IN (18.90 m)

NOTES:
1. DIMENSIONS QUOTED ARE GIVEN FOR DRY, HARD, LEVEL SURFACE AT RECOMMENDED TIRE PRESSURES FOR STANDARD AIRCRAFT
2. NOSE WHEEL STEERING LIMIT IS APPROXIMATELY 60° LEFT & RIGHT
3. SLIP ANGLE OF 2° IS APPROXIMATE ONLY AND MAY VARY DEPENDING ON AIRCRAFT CONFIGURATION, LOADING & TIRE WEAR
4. DIMENSIONS GIVEN FOR MANEUVERING CLEARANCE & TURNING RADII ARE MINIMUM RECOMMENDED LIMITS

**Figure 4–2 Turning Radius at Minimum Power**

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4–3
Figure 4–3 Visibility from Cockpit in Static Position

Note:
Pilot's/Copilot's ref. eye position at fuselage STA X157.00
56" (1.42 m) above fuselage datum
19½" (0.50 m) from A/C centreline

Pilot's Field of View Along Plane A
(facilitated by additional 5" or 0.13 m head movement)

Pilot's Eye Position:
Static
19½" (0.50 m)
5" (0.13 m) Outboard
24½" (0.62 m)

STA X157.00

Fuselage Datum

6 FT (1.83 m)
18 FT 10" (5.74 m)
9 FT 6" (2.90 m)

6 FT 10" (2.03 m)

Static Ground Line

16°
Figure 4—4 Ground Line Visibility from Cockpit, Static Position
Figure 4-5 Greater Than 90° Turn – Runway to Taxiway with Nose Gear and Cockpit Tracks
Figure 4-6 90° Turn—Runway to Taxiway with Nose Gear and Cockpit Tracks

Note: Consult using airline for specific operating procedure.
Figure 4-7 90° Turn—Taxiway to Runway with Nose Gear and Cockpit Tracks

Note: Consult using airline for specific operating procedure.
Figure 4-8 Runway Holding Bay (Apron)

Note:
Consult using airline for specific operating procedure.
PARKING & MOORING PROCEDURE

1. Park airplane heading into wind with flaps up and nose wheel centered.
2. Engage parking brake, check brake accumulator gauge and pump up as required.
3. Lock control surfaces.
4. Engage nose gear ground lock.
5. Install main gear ground lock pins (see illustration).
6. Install protective covers.
7. Install propeller restraints.
8. Close all doors and windows.
9. Statically ground airplane on undercarriage drag strut crossbeam (both sides).
10. Chock nose and main wheels.
11. Moor airplane (see illustrations).

Figure 4—9 Parking and Mooring
Figure 4—10 Nose Lift Dolly (For Hangar Storage Only)

Associated Conditions:
1. Limit use in lift mode for hangar storage only.
2. Aircraft at basic weight with one brake operator.
3. Maximum tilt angle to be avoided if aircraft has appreciable fuel load.
4. Nose landing gear and main landing gear locked and MLS Pins installed.
5. Hard level surface.
6. Use of ramps over steps (i.e. hangar door tracks).
7. Zero to 5 mph wind velocity.
8. Limit turns to ±10° to -10°.
9. Maximum tractor speed 5 mph (8 km).
10. Nose wheel steering switch "off".
11. Check aircraft brake system.
12. During towing use brakes only in emergency.
SECTION 5

TERMINAL SERVICING

ILLUSTRATIONS

5–1  Airplane Servicing Arrangement (Typical – No APU)

5–2  Terminal Operations, Turnaround Station (100% Passenger Exchange)

5–3  Terminal Operations, Enroute Station (50% Passenger Exchange)

5–4  Ground Service Connections

5–5  Ground Service Connection Data (3 sheets)

5–6  Engine Starting Electrical Requirements

5–7  Ground Pneumatic Power Requirements – Heating and Cooling

5–8  Ground Air Conditioning Requirements – Preconditioned Airplane

5–9  Ground Towing Requirements
Figure 5–1  Airplane Servicing Arrangement
(TYPICAL – NO APU)
1. SHUTDOWN ENGINES
2. PROVIDE GROUND ELECTRICAL POWER
3. POSITION SERVICE EQUIPMENT
4. UNLOAD BAGGAGE
5. LOWER AIRSTAIR DOOR
6. DEPLANE 37 PASSENGERS
7. CHECK AIRPLANE LOG BOOK
8. SERVICE TOILET
9. SERVICE GALLEY (see 'A')
10. SERVICE AIRPLANE INTERIOR (see 'A')
11. PERFORM MAINTENANCE CHECK
12. REFUEL AIRPLANE (see 'B')
13. LOAD BAGGAGE
14. ENPLANE 37 PASSENGERS
15. CHECK AIRPLANE LOG BOOK
16. RAISE AIRSTAIR DOOR
17. START ENGINES
18. MONITOR ENGINE STARTS
19. CLEAR AIRPLANE FOR DEPARTURE

'A' - Galley and cabin serviced through airstair door.

'B' - Pumping time only, at a rate of 75 U.S. gpm (283.9 l/min).

Note:
This data is provided to illustrate the general scope and types of tasks involved in terminal operations. Varying airline practices and operating circumstances will result in different sequences and time intervals to accomplish the tasks shown. Because of this, ground operations requirements should be coordinated with the using airline prior to ramp planning.

Figure 5–2 Terminal Operations, Turnaround Station (100% Passenger Exchange)
NO REFUELLING OR SERVICING
1. SHUTDOWN ENGINES
2. PROVIDE GROUND ELECTRICAL POWER
3. POSITION BAGGAGE HANDLING EQUIPMENT
4. UNLOAD BAGGAGE
5. LOWER AIRSTAIR DOOR
6. DEPlane 18 PASSENGERS
7. CHECK AIRPLANE LOG BOOK
8. LOAD BAGGAGE
9. ENPlane 18 PASSENGERS
10. CHECK AIRPLANE LOG BOOK
11. RAISE AIRSTAIR DOOR
12. START ENGINES
13. MONITOR ENGINE STARTS
14. CLEAR AIRPLANE FOR DEPARTURE

WITH REFUELLING & SERVICING
1. SHUTDOWN ENGINES
2. PROVIDE GROUND ELECTRICAL POWER
3. POSITION SERVICE EQUIPMENT
4. UNLOAD BAGGAGE
5. LOWER AIRSTAIR DOOR
6. DEPlane 18 PASSENGERS
7. CHECK AIRPLANE LOG BOOK
8. SERVICE TOILET
9. SERVICE GALLEY (see 'A')
10. REFUEL AIRPLANE (see 'B')
11. LOAD BAGGAGE
12. ENPlane 18 PASSENGERS
13. CHECK AIRPLANE LOG BOOK
14. RAISE AIRSTAIR DOOR
15. START ENGINES
16. MONITOR ENGINE STARTS
17. CLEAR AIRPLANE FOR DEPARTURE

'A' - Galley serviced through airstair door.
'B' - Pumping time only, at a rate of 75 U.S. gpm (283.9 l/min).

Note: This data is provided to illustrate the general scope and types of tasks involved in terminal operations. Varying airline practices and operating circumstances will result in different sequences and time intervals to accomplish the tasks shown. Because of this, ground operations requirements should be coordinated with the using airline prior to ramp planning.

Figure 5–3 Terminal Operations, Enroute Station (50% Passenger Exchange)
1. Airstair Door
2. Cargo Door
3. Type II Emergency Exit
4. Type III Emergency Exit
5. Flight Compartment Emergency Exit
6. Interphone Connectors (fore & aft)
7. Avionics Bay
8. Wardrobe
9. Lavatory
10. Galley
11. Optional APU
12. Optional Air Conditioning Ground Connection - on RH side if no APU
13. Electrical DC Power Receptacle
14. Electrical AC Power Receptacle
15. Pressure Refueling Panel & Grounding Point
16. Grounding Point (overwing)
17. Grounding Point (on u/c drag strut crossbeam - both sides)
18. Gravity Fuel Filler (overwing)
19. Aux. Tank Gravity Fuel Filler (optional)
20. Magnastick (fuel contents - underwing)
21. Aux. Tank Magnastick
22. Engine Oil Filler Panel
23. No. 1 Hydraulic System
24. No. 2 Hydraulic System
25. Brake Accumulator & Hydraulic Handpump
26. Emergency Landing Gear Hydraulic Reservoir & Handpump
27. Nose Gear Shock Strut Air Charging Points
28. Main Gear Shock Strut Air Charging Points (under nacelle)
29. Nose Jacking Point
30. Wing Jacking Point
31. Nose Gear Jacking Point
32. Main Gear Jacking Point
33. Crew oxygen supply

Figure 5-4 Ground Service Connections

20 MAY, 1993
## Distances and Heights

<table>
<thead>
<tr>
<th>System</th>
<th>Distance Aft of Nose</th>
<th>Distance from Airplane Center-Line</th>
<th>Height from Ground*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HYDRAULIC SYSTEM</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. 1 System — 2.68 U.S. Quarts (2.5 L) Capacity Reservoir</td>
<td>34'1&quot; 10.39</td>
<td>12'1&quot; 3.68</td>
<td>6'11&quot; 2.11</td>
</tr>
<tr>
<td>No. 2 System — 5.19 U.S. Quarts (4.9 L) Capacity Reservoir</td>
<td>34'1&quot; 10.39</td>
<td></td>
<td>6'11&quot; 2.11</td>
</tr>
<tr>
<td>Alternative Extension System Reservoir</td>
<td>5'4&quot;  1.63</td>
<td></td>
<td>3'11&quot; 1.19</td>
</tr>
<tr>
<td>Main Gear Shock Strut Valves</td>
<td>32'4&quot; 9.86</td>
<td>12'11&quot; 3.94</td>
<td>4'1&quot; 1.25</td>
</tr>
<tr>
<td>Nose Gear Shock Strut Valve</td>
<td>5'7&quot;  1.70</td>
<td>0 0</td>
<td>2'4&quot; 0.71</td>
</tr>
<tr>
<td>Parking Brake Accumulator</td>
<td>34'5&quot; 10.49</td>
<td></td>
<td>6'11&quot; 2.11</td>
</tr>
<tr>
<td><strong>ELECTRICAL SYSTEM</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28v DC External Connection</td>
<td>5'3&quot;  1.60</td>
<td>2'8&quot; 0.81</td>
<td>4'0&quot; 1.22</td>
</tr>
<tr>
<td>115/200v AC External Connection</td>
<td>33'4&quot; 10.16</td>
<td></td>
<td>7'3&quot; 2.21</td>
</tr>
<tr>
<td><strong>OXYGEN SYSTEM</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crew Oxygen Supply in Nose Compartment — 39.4 CU FT (1100 L) Capacity</td>
<td>4'3&quot; 1.30</td>
<td></td>
<td>4'0&quot; 1.22</td>
</tr>
<tr>
<td>Portable Cylinder in - Flight Compartment — 11.3 CU FT (320 L) Capacity</td>
<td>11'4&quot; 3.45</td>
<td></td>
<td>5'0&quot; 1.52</td>
</tr>
<tr>
<td>2 Portable Cylinders in Buffet Unit For Passengers — 4.3 CU FT (122 L) Each</td>
<td>15'11&quot; 4.85</td>
<td></td>
<td>4'7&quot; 1.40</td>
</tr>
</tbody>
</table>

*Dimensions are approximate and vary depending on airplane configuration and loading conditions. CR832SO008009 Optional Low Pressure Tires will add approximately 2" (5.1 cm) to dimensions quoted above.

Figure 5-5 Ground Service Connection Data (Sheet 1 of 3)
# de Havilland Inc.
**DASH 8 SERIES 100**
**AIRPORT PLANNING**

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>DISTANCE AFT OF NOSE</th>
<th>DISTANCE FROM AIRPLANE CENTER-LINE</th>
<th>HEIGHT FROM GROUND*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FT</td>
<td>m</td>
<td>FT</td>
</tr>
<tr>
<td></td>
<td>LEFT SIDE</td>
<td>RIGHT SIDE</td>
<td>LEFT SIDE</td>
</tr>
<tr>
<td><strong>FUEL SYSTEM</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 STANDARD TANK PER WING</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– 423 U.S. GAL. (1601 L) EACH,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTALLING 846 U.S. GAL. (3202 L)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 AUX. LONG RANGE TANK PER WING</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(OPTIONAL)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– 354 U.S. GAL. (1341 L) EACH,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INCREASING TOTAL CAPACITY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TO 1554 U.S. GAL. (5884 L)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>REFUELING AT MAX PRESSURE OF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50 PSI (345 kPa) AT RATE OF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>75 U.S. GAL./MIN. (284L/MIN.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>STANDARD CONNECTIONS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 REFUEL/DEFUEL ADAPTER</td>
<td>39'5&quot;</td>
<td>12.01</td>
<td>–</td>
</tr>
<tr>
<td>2 OVERWING GRAVITY FILLERS</td>
<td>30'10&quot;</td>
<td>9.40</td>
<td>31'5&quot;</td>
</tr>
<tr>
<td>FUEL VENTS</td>
<td>30'11&quot;</td>
<td>9.42</td>
<td>33'4&quot;</td>
</tr>
<tr>
<td><strong>AUXILIARY TANK CONNECTIONS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(OPTIONAL)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 OVERWING FILLERS</td>
<td>30'3&quot;</td>
<td>9.22</td>
<td>7'2&quot;</td>
</tr>
<tr>
<td><strong>PNEUMATIC SYSTEM</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOSE LANDING GEAR – UPPER SHOCK</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STRUT VALVE (NITROGEN)</td>
<td>5'7&quot;</td>
<td>1.70</td>
<td>0</td>
</tr>
<tr>
<td>– 290 psi (2000 kPa)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAIN LANDING GEAR – UPPER SHOCK</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STRUT VALVES (NITROGEN)</td>
<td>32'4&quot;</td>
<td>9.86</td>
<td>12'11&quot;</td>
</tr>
<tr>
<td>– 287 psi (1979 kPa)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Dimensions are approximate and vary depending on airplane configuration and loading conditions.
CR832SO8009 Optional Low Pressure Tires will add approximately 2" (5.1 cm) to dimensions quoted above.

Figure 5—5 Ground Service Connection Data (Sheet 2 of 3)
## de Havilland Inc.
### DASH 8 SERIES 100
#### AIRPORT PLANNING

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>DISTANCE AFT OF NOSE</th>
<th>DISTANCE FROM AIRPLANE CENTER-LINE</th>
<th>HEIGHT FROM GROUND*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FT</td>
<td>m</td>
<td>FT</td>
</tr>
<tr>
<td>PARKING BRAKE ACCUMULATOR — CHARGED WITH 900—1000 psi (6205—6895 kPa) NITROGEN</td>
<td>34'5&quot;</td>
<td>10.49</td>
<td>—</td>
</tr>
<tr>
<td>AIR CONDITIONING GROUND CONNECTION (OPTIONAL)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8&quot; (20.3 cm) RECEPTACLE (ON L.H. SIDE IF OPTIONAL APU INSTALLED)</td>
<td>54'1&quot;</td>
<td>16.49</td>
<td>2'10&quot;</td>
</tr>
<tr>
<td>PORTABLE WATER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OPTIONAL WATER—WASH INSTALLATION IN LAVATORY — 5.8 U.S. GAL. (22 L) CAPACITY</td>
<td>14'3&quot;</td>
<td>4.34</td>
<td>—</td>
</tr>
<tr>
<td>TOILET</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.5 U.S. GAL. (13 L) CAPACITY FLUSH SOLUTION RESERVOIR WITH DRAIN</td>
<td>13'9&quot;</td>
<td>4.19</td>
<td>—</td>
</tr>
<tr>
<td>OIL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.5 U.S. GAL. (21 L) PER ENGINE — ACCESS TO FILLER THROUGH DOOR ON L.H. SIDE OF EACH NACELLE</td>
<td>24'10&quot;</td>
<td>7.57</td>
<td>14'3&quot;</td>
</tr>
<tr>
<td>WINDSHIELD WASHER SYSTEM (OPTIONAL)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 U.S. GAL. (7.6 L) RESERVOIR THROUGH THE RIGHT UPPER NOSE COMPARTMENT ACCESS DOOR</td>
<td>4'1&quot;</td>
<td>1.25</td>
<td>—</td>
</tr>
</tbody>
</table>

* Dimensions are approximate and vary depending on airplane configuration and loading conditions. CR832SO8009 Optional Low Pressure Tires will add approximately 2" (5.1 cm) to dimensions quoted above.

Figure 5-5 Ground Service Connection Data (Sheet 3 of 3)
The 28 volt DC electrical system which supplies the external DC starting power is connected to the aircraft by means of a DC external power receptacle – (type MS 3506–1) located on the left side of the aircraft nose section approximately 52 inches (1.32 m) above the static ground line.

<table>
<thead>
<tr>
<th>NOMINAL VOLTAGE</th>
<th>STARTING CURRENT</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>1100 – 1300 AMPS</td>
<td>2 – 3 SECONDS</td>
</tr>
<tr>
<td>28</td>
<td>500 – 700 AMPS</td>
<td>5 SECONDS</td>
</tr>
<tr>
<td>28</td>
<td>300 AMPS</td>
<td>60 SECONDS</td>
</tr>
</tbody>
</table>

Figure 5–6 Engine Starting Electrical Requirements
Figure 5–7 Ground Pneumatic Power Requirements – Heating and Cooling
Figure 5-8 Ground Air Conditioning Requirements – Preconditioned Airplane
Drawbar pull and total traction wheel load may be determined for straight-line tow by considering aircraft weight, pavement slope, and coefficient of friction.

### Associated Conditions:
1. Unusual breakaway conditions not reflected.
2. Estimated for tow vehicle with rubber tires.
3. Coefficient of friction ($\mu$) approximate.

**MAX DESIGN TAKEDOFF WEIGHT**
- 34,500 LB (15,469 kg)

**AIRCRAFT GROSS WEIGHT**
- 34,500 LB (15,469 kg)
- 30,000 LB (13,608 kg)
- 25,000 LB (11,340 kg)
- 20,000 LB (9,072 kg)

### Example:

At an aircraft gross weight of 30,000 lb. (13,608 kg), an uphill slope of 2%, and with a wet concrete surface, the corresponding drawbar pull or push required is 1800 lb. (817 kg) and the total traction wheel load is 3200 lb. (1452 kg).

*Figure 5–9 Ground Towing Requirements*
SECTION 6

OPERATING CONDITIONS AND NOISE DATA

6.0 Introduction

ILLUSTRATIONS

6–1 Jet Engine Exhaust Temperature and Prop/Engine Slipstream Velocity Contours – Idle Power

6–2 Jet Engine Exhaust Temperature and Prop/Engine Slipstream Velocity Contours – Taxi Power

6–3 Jet Engine Exhaust Temperature and Prop/Engine Slipstream Velocity Contours – Take-Off Power

6–4 Take-Off and Landing Noise Footprint (A-Level Contours)

6–5 Optional APU – Exhaust Temperature and Distance Pattern

6–6 Optional APU – Exhaust A-Level Noise Contours
6.0 INTRODUCTION

Aircraft operating conditions and noise are of concern to the airport and community planner. The airport is a major element in the community's transportation system and, as such, is vital to its growth. However, the airport must also be a good neighbour, and this can be accomplished only with proper planning. Since aircraft noise extends beyond the boundaries of the airport, it is vital to consider the impact on surrounding communities.

To assist the airport planner in estimating the impact of the Dash 8 on airport operations, the following data is provided: Jet Engine Exhaust Temperature and Prop/Engine Slipstream Velocity Contours, 'A' Level Noise Contours for take-off and landing for 1 and 2 engine idle power with aircraft parked.

The Dash 8 commuter aircraft is designed with advanced quiet turboprop technology. Its noise impact is minimal compared to most aircraft, larger and smaller, currently being operated in a typical airport.

Assuming maximum take-off and landing weights, typical single event A—level noise contours are plotted on Figure 6—5 page 6—8 at the quoted standard conditions. Contours of 65, 70, 75 and 80 dBA are plotted. 65 dBA is equivalent to the average quiet suburban vehicular street traffic.

The noise levels as measured and corrected to the requirements of FAR Part 36 demonstrate that the Dash 8 Series 100A (Model 102) complies with the noise level limits specified. A summary of the certified noise levels is as follows:

<table>
<thead>
<tr>
<th></th>
<th>FAR 36 Limit (EPNdB)</th>
<th>DHC—8 Noise Level (EPNdB)</th>
<th>Margin (EPNdB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take—off</td>
<td>89</td>
<td>80.8</td>
<td>8.2</td>
</tr>
<tr>
<td>Sideline</td>
<td>94</td>
<td>86.3</td>
<td>7.7</td>
</tr>
<tr>
<td>Approach</td>
<td>98</td>
<td>94.8</td>
<td>3.2</td>
</tr>
<tr>
<td>Approach Reduced R.P.M.</td>
<td>98</td>
<td>90.7</td>
<td>7.3</td>
</tr>
</tbody>
</table>
Temperature Conversion: °F = (°C x 1.8) + 32

Associated Conditions:
1. All temperatures in °C.
2. Sea level, zero wind, standard day.
4. PW120A engines.
5. Prop/engine thrust = 2 x 500 lb.st.

Note: Propeller discing on idle power would greatly reduce slipstream velocity shown.
Figure 6-2: Jet Engine Exhaust Temperature and Prop/Engine Slipstream Velocity Contours — Taxi Power

Temperature Conversion: °F = (°C x 1.8) + 32

Associated Conditions:
1. All temperatures in °C.
2. Sea level, zero wind, standard day.
4. PW106A engines.
5. Prop/engine thrust = 2 x 1200 lb.st.
Figure 6-3 Jet Engine Exhaust Temperature and Prop/Engine Slipstream Velocity Contours – Take-Off Power
Figure 6–4 Take-Off and Landing Noise Footprint (A-Level Contours)
Associated Conditions:
1. APU load: 100%.
2. Ambient temperature: 61°F (16°C)

Figure 6–5 Optional APU – Exhaust Temperature and Distance Pattern
Figure 6-6 Optional APU – Exhaust A-Level Noise Contours
SECTION 7
PAVEMENT DATA

7.0 Introduction

ILLUSTRATIONS

7–1 Landing Gear Footprint
7–2 Maximum Pavement Loads
7–3 Landing Gear Loading on Pavement

Standard Tires

7–4 Flexible Pavement Design Curves for Critical Areas (Dual Wheel Gear – Standard Tires)
7–5 Flexible Pavement Requirements – LCN Conversion (Standard Tires)
7–6 Rigid Pavement Requirements – LNC Conversion (Standard Tires)
7–7 Aircraft Classification Number – Flexible Pavement (Standard Tires)
7–8 Aircraft Classification Number – Rigid Pavement (Standard Tires)

Optional Tires

7–9 Flexible Pavement Design Curves for Critical Areas (Dual Wheel Gear – Optional Tires)
7–10 Flexible Pavement Requirements – LCN Conversion (Optional Tires)
7–11 Rigid Pavement Requirements – LCN Conversion (Optional Tires)
7–12 Aircraft Classification Number – Flexible Pavement (Optional Tires)
7.0 INTRODUCTION

The pavement requirements for commercial airplanes are customarily derived from the static analysis loads imposed on the main landing gear wheels and tires via the shock struts.

The minimum Aircraft Classification Number (ACN), or Load Classification Number (LCN), for rigid and flexible pavements, plus the California Bearing Ratio (CBR) for unlimited commercial use at all aircraft weights, are presented in figures 7–4 through 7–13. Ensure that all runways or pavements to be used meet these minimum ACN, LCN or CBR requirements.

The illustrations presented in this section are for the Dash 8 Series 100A aircraft fitted with standard tires and optional high flotation tires as shown.
## LANDING GEAR FOOTPRINT DATA

<table>
<thead>
<tr>
<th></th>
<th>STANDARD TIRES</th>
<th>OPTIONAL TIRES</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAXIMUM DESIGN TAXI WEIGHT</td>
<td>34,700 LB (15 740 kg)</td>
<td></td>
</tr>
<tr>
<td>PERCENT OF WEIGHT ON MAIN GEAR</td>
<td>(see Figure 7-3)</td>
<td></td>
</tr>
<tr>
<td>NOSE GEAR TIRE SIZE</td>
<td>18 x 5.5-8</td>
<td>22 x 6.5-10</td>
</tr>
<tr>
<td>NOSE GEAR TIRE PRESSURE</td>
<td>80 psi (552 kPa)</td>
<td>60 psi (414 kPa)</td>
</tr>
<tr>
<td>MAIN GEAR TIRE SIZE</td>
<td>26.5 x 8-13</td>
<td>31 x 9.75-13</td>
</tr>
<tr>
<td>MAIN GEAR TIRE PRESSURE</td>
<td>131 psi (903 kPa)</td>
<td>77 psi (531 kPa)</td>
</tr>
</tbody>
</table>

---

![Diagram](image)

16.5 IN (41.9 cm) 
STANDARD OR OPTIONAL TIRES

14.5 IN (36.8 cm) 

26 FT 1 IN (7.95 m) 

25 FT 10 IN (7.87 m)

STD: 27 FT 11.6 IN (8.52 m) 
OPT: 28 FT 1.4 IN (8.57 m)

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*Figure 7-1 Landing Gear Footprint*
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LEGEND:  
$V_{NG}$ = MAXIMUM VERTICAL NOSE GEAR GROUND LOAD AT MOST FORWARD CG.  
$V_{MG}$ = MAXIMUM VERTICAL MAIN GEAR GROUND LOAD AT MOST AFT CG.  
$H$ = MAXIMUM HORIZONTAL GROUND LOAD FROM BRAKING

Note: all loads calculated using airplane maximum gross weight.

<table>
<thead>
<tr>
<th>$V_{NG}$ AT FORWARD CG</th>
<th>$V_{MG}$ (PER STRUT)</th>
<th>$H$ (PER STRUT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAXIMUM DESIGN TAXI WEIGHT</td>
<td>STATIC + BRAKING @ 10 FT/SEC$^2$ (3.05 m/SEC$^2$) DECEL.(1)</td>
<td>MAXIMUM LOAD OCCURRING AT STATIC AFT CG</td>
</tr>
<tr>
<td>LB 34,700</td>
<td>3625</td>
<td>7023</td>
</tr>
<tr>
<td>kg 15,740</td>
<td>1644</td>
<td>3186</td>
</tr>
</tbody>
</table>

Notes:  
1. Upper CG limit approximately 8 ft. 3 in. (2.52 m) above ground line.  
3. Instantaneous braking applied during a steady braking run.

Figure 7–2 Maximum Pavement Loads

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DASH 8 SERIES 100
AIRPORT PLANNING

MAXIMUM DESIGN TAXI WEIGHT
34,700 LB
(15 740 kg)

(Note: unshaded area represents operational limits.)

Figure 7–3 Landing Gear Loading on Pavement
Associated Conditions: 1. FAA design method.
2. 26.5 x 8-13 main gear tires inflated to 131 psi (903 kPa).
3. All calculations at max. aft CG of 94.2% main gear.

SUBGRADE STRENGTH CALIFORNIA BEARING RATIO (CBR)

GROSS WEIGHT
- 34,700 LB (15 740 kg)
- 30,000 LB (13 603 kg)
- 25,000 LB (11 340 kg)
- 22,000 LB (9979 kg)

ANNUAL DEPARTURES
- 1,200
- 3,000
- 6,000
- 15,000
- 25,000

FLEXIBLE PAVEMENT THICKNESS - INCHES

Figure 7–4 Flexible Pavement Design Curves for Critical Areas
(Dual Wheel Gear – Standard Tires)
Figure 7–5 Flexible Pavement Requirements – LCN Conversion (Standard Tires)
Figure 7-6 Rigid Pavement Requirements – LCN Conversion (Standard Tires)
Figure 7–7 Aircraft Classification Number – Flexible Pavement
(Standard Tires)
Figure 7–8 Aircraft Classification Number – Rigid Pavement
(Standard Tires)
Associated Conditions: 1. FAA design method.
2. 31 x 9.75-13 main gear tires inflated to 77 psi (531 kPa).
3. All calculations at max. aft CG of 94.2% main gear.

**Figure 7-9 Flexible Pavement Design Curves for Critical Areas**
(Dual Wheel Gear – Optional Tires)
Figure 7-10 Flexible Pavement Requirements – LCN Conversion (Optional Tires)
Figure 7–11 — Rigid Pavement Requirements — LCN Conversion (Optional Tires)
Figure 7–12 Aircraft Classification Number – Flexible Pavement
(Optional Tires)
Figure 7-13 Aircraft Classification Number – Rigid Pavement (Optional Tires)
SECTION 8

DERIVATIVE AIRCRAFT

8.0 Introduction

8.1 Dash 8 Series 100A (Model 103)

8.2 Dash 8 Series 100B (Model 106)
8.0 INTRODUCTION

Additional versions of the de Havilland Dash 8 airplane are currently available. All products are continually evaluated for possible modifications with the potential of leading to new derivative models tailored to meet specific new airline requirements.

8.1 DASH 8 SERIES 100A (MODEL 103)

The Dash 8 Series 100A (Model 103) is powered by two Pratt & Whitney PW121 engines. The PW121 is built to the same standard as the PW120A, used on the basic Dash 8 Series 100A (Model 102), but the MTOP rating is increased by 7.5% and is rated at 2150 SHP.

The maximum take-off and landing weights remain unchanged at 34,500 lb (15,650 kg) and 33,900 lb (15,380 kg) respectively.

For more information regarding the performance of this aircraft refer to AEROC 8.2 (103). AC. 20.

8.2 DASH 8 SERIES 100B (MODEL 106)

The de Havilland Dash 8 Series 100B (Model 106) is powered by two Pratt & Whitney PW121 engines as is the Dash 8 Series 100A (Model 103). However, the maximum take-off weight is increased to 36,300 lb (16,466 kg). The maximum landing weight remains unchanged at 33,900 lb (15,380 kg).
SECTION 9

SCALED DASH 8 DRAWINGS

ILLUSTRATIONS

9–1  Scaled Dash 8 Drawing 1” = 32’ (1:384)

9–2  Scaled Dash 8 Drawing 1” = 50’ (1:600)
     and 1” = 100’ (1:1200)

9–3  Scaled Dash 8 Drawing 1:500 and 1:1000
LEGEND

A1 AIR CONDITIONING
A2 GROUND AIR CONDITIONING CONNECTION
B BAGGAGE DOOR
E1 ELECTRICAL CONNECTION (DC)
E2 ELECTRICAL CONNECTION (AC)
F PRESSURE REFUELING POINT
G GALLEY
L LAVATORY
MLG MAIN LANDING GEAR
NG NOSE GEAR
V FUEL VENT (STD & LONG RANGE TANKS)
X1 AIRSTAIR DOOR
X2 EMERGENCY EXITS

Figure 9–1 Scaled Dash 8 Drawing 1" = 32' (1:384)
de Havilland Inc.
DASH 8 SERIES 100
AIRPORT PLANNING

LEGEND

A1 AIR CONDITIONING
A2 GROUND AIR CONDITIONING CONNECTION
B BAGGAGE DOOR
E1 ELECTRICAL CONNECTION (DC)
E2 ELECTRICAL CONNECTION (AC)
F PRESSURE REFUELING POINT
G GALLEY
L LAVATORY
MLG MAIN LANDING GEAR
NG NOSE GEAR
V FUEL VENT (STD & LONG RANGE TANKS)
X1 AIRSTAIR DOOR
X2 EMERGENCY EXITS

Figure 9–2 Scaled Dash 8 Drawing 1" = 50' (1:600)
and 1" = 100' (1:1200)
LEGEND

A1  AIR CONDITIONING
A2  GROUND AIR CONDITIONING CONNECTION
B   BAGGAGE DOOR
E1  ELECTRICAL CONNECTION (DC)
E2  ELECTRICAL CONNECTION (AC)
F   PRESSURE REFUELING POINT
G   GALLEY
L   LAVATORY
MLG MAIN LANDING GEAR
NG  NOSE GEAR
V   FUEL VENT (STD & LONG RANGE TANKS)
X1  AIRSTAIR DOOR
X2  EMERGENCY EXITS

Figure 9-3 Scaled Dash 8 Drawing 1:500 and 1:1000
de Havilland Inc.
DASH 8 SERIES 100
AIRPORT PLANNING

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