# UNITED KINGDOM
# CIVIL AVIATION AUTHORITY

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| **FA74** |
| **Issue 2** |
| **APRIL 2002** |
| **DHC-8 SERIES 400** |

## TYPE CERTIFICATE DATA SHEET NO. FA 74

This data sheet which is part of CAA Type Certificate No. FA74, prescribes conditions and limitations under which the product, for which the type certificate was issued, meets the airworthiness requirements of the Civil Aviation Authority.

| | |
|---|---|
| **TYPE CERTIFICATE HOLDER:** | **BOMBARDIER Inc**<br>**123 GARRATT BOULEVARD**<br>**DOWNSVIEW**<br>**ONTARIO, M3K 1Y5**<br>**CANADA** |
| **MANUFACTURER:** | **BOMBARDIER Inc** |
| **AIRCRAFT TYPE/**<br>**MODEL NUMBER(S):** | **DHC-8 SERIES 400** |

In this case, the CAA Type Certification has been granted on the basis of a recommendation from the Joint Airworthiness Authorities (JAA) following an investigation carried out in accordance with the JAA Joint Certification Procedures. Accordingly, the attached JAA Data Sheet No. JAA/25/99-022 Issue 4 dated 9 November 2001 has been accepted by the CAA for the Bombardier DHC-8 Series 400. Series.

- END -

Joint
Aviation
Authorities

# JAA AEROPLANE DATA SHEET

## JAA/25/99-022 Issue 4

## DHC-8 Series 400

### Variants

**DHC-8-401**
**DHC-8-402**

### Manufacturer:

**Bombardier Inc.**
**123 Garratt Boulevard**
**Downsview, Ontario M3K 1Y5**

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## I General

| | | |
|---|---|---|
| 1 | Data Sheet No.:<br>Issue:<br>Date: | JAA/25/99-022<br>4<br>09 November 2001 |
| 2. | Type: | DHC-8 Series 400 |
| 3. | Variants: | DHC-8-401<br>DHC-8-402 |
| 4. | Airworthiness Category: | Transport Category |
| 5. | Performance Category: | JAR OPS Performance Group A Category |
| 6. | Transport Canada<br>Type Certificate Holder: | Bombardier Inc.<br>123 Garratt Boulevard<br>Downsview, Ontario M3K 1Y5 |
| 7. | Manufacturer: | Bombardier Inc.<br>123 Garratt Boulevard<br>Downsview, Ontario M3K 1Y5 |
| 8. | JAA Validation<br>Application Date: | 31 January 1995 |
| 9. | JAA Validation<br>Recommendation Date: | 26 November 1999 |

## II Certification Basis

1. Reference Application Date for Transport Canada Certification: 31 January 1995

2. Transport Canada Certification Date:

| | |
|---|---|
| DHC-8-401 | 03 August 1999 |
| DHC-8-402 | 04 August 1999 |
| Transport Canada Type Certificate Data Sheet No. DHC-8-401/ DHC-8-402 | A-142 Issue 20 or later revision |

3. Transport Canada Certification Basis: as defined in Transport Canada Type Certificate Data Sheet No. A-142

4. JAA Airworthiness Requirements:

| | | |
|---|---|---|
| (a) | JAR 25 | Change 14 |
| (b) | JAR 25 | Amendment 25/96/1 |
| (c) | JAR AWO | Change 2 |

5. Elect to comply with

| | | | |
|---|---|---|---|
| Procedural Codes: | (a) JAR 1 Definitions | | Change 4 |
| | (b) JAR 21 | | Change 1 |
| 6. JAA Special Conditions: | (a) CRI C-01 | Yawing Maneuvering Conditions<br>INT/POL/25/8 Issue 1 | |
| | (b) CRI D-01 | Worn Brakes<br>INT/POL/25/6 Issue 1 | |
| | (c) CRI F-01 | Protection from the Effects of HIRF<br>INT/POL/25/2 Issue 1 | |
| | (d) CRI F-02 | Protection from the Effects of Lightning Strike-Direct Effects<br>INT/POL/25/3 Issue 1 | |
| | (e) CRI F-03 | Protection from the Effects of Lightning Strike-Indirect Effects<br>INT/POL/25/4 Issue 2 | |
| | (f) CRI G-07 | Steep Approach Landing Capability (SAL) | |
| 7. JAA Exemptions: | None | | |
| 8. JAA Equivalent Safety Findings: | (a) CRI B-04 | Stall Warning and Stall Warning Speeds and Maneuver Capability<br>(JAR 25.103,107,119,125,143 and 207) | |
| | (b) CRI C-04 | Flutter, Deformation and Failsafe Criteria<br>(JAR 25.629) | |
| | (c) CRI D-10 | Nose-Wheel Steering System Protection<br>{JAR 25X745(d)} | |
| | (d) CRI D-02 | Hydraulic System Proof Testing<br>{JAR 25.1435(b)(1)} | |
| | (e) CRI G-04 | Accelerate Stop Distance<br>INT/POL/25/5 Issue 1 (JAR 25.109) | |
| 9. JAA Environmental Standards: (for details refer to CRI A-03) | Noise: | ICAO Annex 16, 3rd Edition, Volume 1, Chapter 3, Amendment 5 | |

| Maximum Noise Levels | | | *) |
|---|---|---|---|
| Take-off | 78,3 | EPNdB | (flap 5°) |
| Sideline | 84,1 | EPNdB | (flap 5°) |
| Approach | 94,3 | EPNdB | (flap 35°) |
| | 94,9 | EPNdB | (flap 15°) |

*) for specific noise levels for maximum weights as listed in Section III/13 refer to AFM – PSM 1-84-1A.

Engine Emissions: ICAO Annex 16, 2nd Edition, Volume 2

10. For Additional National Design Requirements (ANDRs) as specified in JAA Administrative and Guidance Material, Section 3/ Part 4: Registers or as otherwise defined by National Aviation Authorities refer to CRI A-02.

## III Technical Characteristics and Operational Limitations

1. Design Standard: Current Issue of AEROC 8.1.AC.1 - Definition of Certified Airplanes

2. Description: Detail Specification No. DS8-400B

3. Equipment: Equipment register

4. Dimensions:

| | | |
|---|---|---|
| Wingspan: | 28,4 m | (93 ft 3 in) |
| Length: | 32,8 m | (107 ft 9 in) |
| Height: | 8,3 m | (27 ft 5 in) |
| Wing area: | 63,1 m² | (679 ft²) |

5. Engines: 2 Pratt & Whitney Canada Engines
Model PW 150 A
JAA Data Sheet No. JAA / E / 98- 019

   5.1 Engine Limits: for details refer to AFM - PSM 1-84-1A

6. Auxiliary Power Unit (APU): 1 Hamilton Sundstrand Power Systems
APS 1000 T-62T-46C12
TSO authorization, dated 23 July 1999
Note: Option only

   6.1 APU Limits: for details refer to AFM - PSM 1-84-1A

7. Propellers: 2 Dowty Aerospace Propellers
Model R408/6-123-F/17
JAA Data Sheet No. JAA / P / 99-001

   7.1 Propeller Limits: Blade Diameter 4,11 m (13,5 ft)

Pitch settings at 0,70 radius:

| | |
|---|---|
| Feather | 84,5° |
| Flight fine (Electronic) | 16,5° |
| Flight fine (Hydraulic) | 16,0° |
| Ground fine | -3,5° |
| Full reverse | -19,0° |

| | |
|---|---|
| Propeller ($N_P$) – Take-off | 1.020 rpm |
| – Max. continuous | 1.020 rpm |

8. Fuel:

   8.1 Eligible Fuels:

| | |
|---|---|
| Kerosene | Jet A, A-1, JP-5, JP-8 |
| Wide Cut | Jet B, JP-4 |

   8.2 Fuel Capacity:

| | kg | lbs | Liters | Imp. Gals |
|---|---|---|---|---|
| Usable | 5.318 | 11.724 | 6.526 | 1.436 |
| Unusable | 73 | 160 | 89 | 20 |

| | | | | | |
|---|---|---|---|---|---|
| | Total | 5.391 | 11.884 | 6.615 | 1.456 |

9. Oil:

9.1 Eligible Oils: Oils conforming to specification MIL-L-23699 (for details refer to AFM - PSM 1-84-1A)

9.2 Oil Capacity per Engine:

| | Liters | Imp. Gals |
|---|---|---|
| Usable | 5,6 | 1,23 |
| Total | 24,9 | 5,48 |

10. Air Speeds: (IAS)

| | | | Knots |
|---|---|---|---|
| $V_{MO}$ *) | (Maximum Operating) | 0 to 8.000 ft | 245 |
| | | 10.000 ft | 282 |
| | | 18.000 ft | 286 |
| | | 20.000 ft | 275 |
| | | 25.000 ft | 248 |

*) $V_{MO}$ various linearly between given altitudes

| | | | |
|---|---|---|---|
| $V_{FE}$ | (Flaps extended) | Flap 5 ° | 200 |
| | | Flap 10 ° | 181 |
| | | Flap 15 ° | 172 |
| | | Flap 35 ° | 158 |
| $V_{VA}$ | (Maneuvering) | | 204 |
| $V_{RA}$ | (Rough Air) | | 210 |
| $V_{LO}$ | (Landing Gear Operation) | | 200 |
| $V_{LE}$ | (Landing Gear extended) | | 215 |

(for other airspeeds refer to AFM - PSM 1-84-1A)

11. Maximum Operating Altitude: 7.620 m (25.000 ft) (Pressure altitude)

12. All Weather Capability: CAT II

13. Maximum Weights:

| | | kg | lb |
|---|---|---|---|
| DHC-8-401& 402 (with MODSUM 4-201539 incorporated) | Taxi and Ramp | 28.077 | 61.900 |
| | Take-off | 27.987 | 61.700 |
| | Landing | 27.442 | 60.500 |
| | Zero Fuel | 25.174 | 55.500 |
| DHC-8-401& 402 (with MODSUM 4-308807 incorporated) | Taxi and Ramp | 29.089 | 64.130 |
| | Take-off | 28.998 | 63.930 |
| | Landing | 28.009 | 61.750 |
| | Zero Fuel | 25.855 | 57.000 |
| DHC-8-401& 402 (with MODSUM 4-308907 incorporated) | Taxi and Ramp | 29.347 | 64.700 |
| | Take-off | 29.257 | 64.500 |
| | Landing | 28.009 | 61.750 |
| | Zero Fuel | 25.855 | 57.000 |

14. Center of Gravity Range:

| | |
|---|---|
| 13,8 % to 36,0 % (MAC) | Landing Gear down |
| 10,8 % to 40,0 % (MAC) | In Flight: Landing Gear up |

15. Reference Datum: Plate located on centerline at "Station 428,0 in" (1087,1 cm) on underside of fuselage.

16. Mean Aerodynamic Cord (MAC): 2,400 m (7,876 ft)

17. Leveling Means: Plumb bob and target in RH emergency exit opening.

18. Minimum Flight Crew: 2 (Pilot and Copilot)

19. Maximum Passenger Seating Capacity: (refer to Note 1)

| | |
|---|---|
| DHC-8-401 | 70 passengers |
| DHC-8-402 | 78 passengers |

20. Exits:

| No. | Type | Size |
|---|---|---|
| 1 | II / III **) | 20 x 56 inches |
| 1 | I | 27 x 70 inches |
| 1 | I | 27 x 56 inches |
| 1 | I | 30 x 70 inches |

**) Type III exit for showing compliance with JAR § 25.801 only.

21. Baggage / Cargo Compartments: ***)

| | Class | Maximum Volume | Max. allowable Load |
|---|---|---|---|
| Front | C | 2,58 m³ (91 ft³) | 413 kg (910 lb) |
| Aft | C | 11,64 m³ (411 ft³) | 1.669 kg (3.680 lb) |

***) for individual aeroplane configurations refer to AFM – PSM 1-84-1A

22. Wheels and Tires: Tricycle landing gear, retractable, dual side by side wheel type. Main wheels sized to accept 32 x 8,8-16 or 34 x 8,8-16 tires. Nose gear sized to accept 22 x 6,5-10 tires.

## IV <u>Operating and Service Instructions</u> ****)

1. Operating Instructions:

| | | |
|---|---|---|
| 1.1 | Airplane Flight Manual | PSM 1-84-1A (DHC-8-401 or DHC-8-402) |
| 1.2 | Airplane Operating Manual | PSM 1-84-1 |
| 1.3 | Weight and Balance Manual | PSM 1-84-8 |
| 1.4 | Master Minimum Equipment List | PSM 1-84-16A |
| 1.5 | MMEL Procedures Manual | PSM 1-84-16 |

2. Service Instructions:

| | | | |
|---|---|---|---|
| 2.1 | Airplane Maintenance Manual | PSM 1-84-2 | |
| 2.2 | Maintenance Requirements Manual | PSM 1-84-7 | |
| | Part 1: MRB Report | | issued on 4 Nov. 1999 or later |
| | Part 2: Airworthiness Limitation Items (ALIs) | | issued on 4 Nov. 1999 or later |

a) Certification Maintenance Requirements (CMRs)
b) Structural Maintenance Program
c) System Safe life Components

| | | |
|---|---|---|
| 2.3 | Service Letters and Service Bulletins (refer to Publication Index) | |
| 2.4 | Structural Repair Manual | PSM 1-84-3 |

| | |
|---|---|
| 2.5 Cargo Loading | PSM 1-84-8A |
| 2.6 Illustrated Parts Manual | PSM 1-84-4 |
| 2.7 Task Cards Manual | PSM 1-84-7 TC |

****) With exemption of Airplane Flight Manual PSM 1-84-1A all instructions are applicable to the DHC-8 Series 400.

## V Notes

1. Cabin Interior and Seating Configurations must be approved and are listed in AEROC 8.1.AC.1.Sect. 400, current Issue.