UNITED KINGDOM
CIVIL AVIATION AUTHORITY

FR 26
Issue 1
February 2003
Bell 427

TYPE CERTIFICATE DATA SHEET NO. FR26

This data sheet which is part of CAA Type Certificate No.FR 26, 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:	Bell Helicopter Textron Canada Limited Mirabel, Quebec Canada
MANUFACTURER:	Bell Helicopter Textron Canada Limited Mirabel, Quebec Canada
AIRCRAFT TYPE DESIGNATION:	Bell 427
VARIANT DESIGNATIONS:	**-**

The CAA Type Certification has been granted on the basis of a recommendation from the Joint Aviation Authorities (JAA) following an investigation carried out in accordance with the JAA Joint Certification Procedures. Accordingly, the attached JAA Data Sheet No. JAA/27/02-004 Issue 2, dated 25 November 2002 has been accepted by the CAA for the Bell 427.

- END -

Data Sheet No. : **JAA/27/02-004**

Type : **Bell Helicopter Textron Canada Limited**
Model 427

I. General

1. Data Sheet No.: JAA/27/02-004 Issue: 2 Date: 25 November 2002

2. Type / Variant or Model:

2.1 Type 427

3. Airworthiness Category: Small Rotorcraft

4. Type Certificate Holder: Bell Helicopter Textron Canada Limited
Mirabel, Quebec, Canada

5. Manufacturer: *As above*

6. National Certification Date: 19 November 1999

7. JAA Validation Application Date: 6 September 1996

8. JAA Validation Recommendation Date: ..

II. Certification Basis

1. Reference Date for determining the applicable requirements: 31May 1996

2. Transport Canada Certification Date: 19 November 1999

Transport Canada Type Certificate Data Sheet No H103

3. Certification Basis: As defined in CRI A-01 Issue 8.

JAR 27 issued 6 September 1993; plus
amendment 27/98/1 dated 16 February 1998; plus
paragraphs 27.1 and 27.2 of amendment 2 dated 1 May 2001; plus

The following paragraphs of JAR 29 issue 1 as listed in JAR 27 appendix C:

29.861(a), 29.901(c), 29.903(b)(c) &(e), 29.908(a), 29.917(b) &(c)(1), 29.927(c)(1), 29.953(a), 29.1027(a), 29.1045, 29.1047(a), 29.1181(a), 29.1189(c), 29.1191(a)(1), 29.1193(e), 29.1195(a) & (d), 29.1197, 29.1199, 29.1201, 29.1305(a)(6) & (b), 29.1309(b)(2)(i) & (d), 29.1331(b).

4. JAA Airworthiness Requirements:
JAR-27, Issued 6 September 1993

5. JAA Special Conditions:
Special Condition for HIRF as detailed in CRI F-01;
Special Condition for Engine Limit Override as detailed in CRI E-05/TCCA Special Condition SCA 99-02;
Note: TCCA Special Condition on lightning indirect effects has been considered as equivalent to JAR 27.1309(d) as complemented by JAA INT/POL/25/4 (See CRI F-04);

6. JAA Exemptions:
None

7. JAA Equivalent Safety Findings:
JAR 27.175(c) – Static Longitudinal Stability in Autorotation (See TCCA Issue Paper 427/FT-4 dated 28 July 1999)
JAR 27.307(b)(5) – Proof of Structure, JAR 27.723, 27.725, 27.727 Landing Gear: Shock Absorption Tests, Limit Drop Test and Reserve Energy Absorption Drop Test (See TCCA Issue Paper 427/S-6 dated 18 January 1999)
JAR 27.963(g) – Fuel Tanks: General (see CRI E-03).
JAR 29.1181(a)(6) – Designated Fire Zones: Regions included – for engine isolation only (See TCCA Issue Paper 427/P-01 dated September 16, 1999 and CRI E-01).

The above Equivalent Safety Findings are substantiated in the referenced TCCA Issue Papers and JAA CRIs.

8. JAA Environmental Standards including Noise:
ICAO Annex 16, Chapter 8 (and associated Appendix 2), Volume 1 (Aircraft Noise), 3rd Edition
ICAO Annex 16, Volume 2, 2nd Part (Fuel discharge).

III. Technical Characteristics and Operational Limitations

1. Type Design Definition:
The Model 427 is defined by Bell Helicopter Textron top drawing number:

427-100-001 Revision CY, or later approved revision, for serial numbers 56001 and subsequent, 427-100-002 Revision AE, or later approved revision, for serial numbers 58001 and subsequent and 427-099-122 Revision A Model 427 Joint Aviation Authorities (JAA) approved configuration definition.

2. Description:
The model 427 is a twin engined, normal category, 4 bladed main rotor helicopter.

3. Equipment: *(refer. to Equipment list in RFM)*

4. Dimensions:

Fuselage	Length	....12.994 m	(511.576 ins)
	Width	....2.687 m	(105.80 ins)
	Height	....3.229 m	(127.10 ins)

Main Rotor 4 blades – Diameter 11.278 m (444 ins)

Tail Rotor 2 bladed teetering type Diameter 1.727 m (68 ins)

5. Engines: Pratt and Whitney Canada
PW207D
Transport Canada Engine TCDS No: E-23
National Certification Date: 13 November 1998
JAA Engine TCDS No: JAA/E/95-010

for turbine engines:

5.1 Installed Engine Limits:

	Torque lb-ft (%)	Turbine Temp □C	Gas. Gen Speed %	(RPM)
Twin Engine Operation				
Take-off (5 min.)	481 (68.6)	900	99.8	(57900
Max. Continuous	481 (68.6)	850	97.2	(56400)
One Engine Inoperative (OEI)				
30 sec. OEI	569 (81.2)	990	104.3	(60500)
2 min. OEI	569 (81.2)	950	102.2	(59300)
30 min. OEI	481 (68.7)	925	101.2	(58700)
Continuous OEI	481 (68.7)	900	99.8	(57900)

5.2 Transmission Torque Limits:

	Torque Limits %
Both Engines Operating	
Take-off	100
Maximum Continuous	100
One Engine Inoperative OEI	
30 Seconds OEI	81.2
2 minutes OEI	75.6
Continuous OEI	57.5

6. Fluids (Fuel/Oil/Additives):

6.1 Fuel

Type	SPECIFICATION	
Kerosene Jet A, A-1 JP8	Canada CGSB 3.23 3-GP-23	USA ASTM D1655 MIL-T-83133
Wide Cut Jet B JP4	 CGSB 3.22 CGSB 3.22	 ASTM D1655 MIL-T-5624
High Flash JP5	 3-GP-24	 MIL-T-5624

6.2 Oil

For approved engine oil types, prohibition against mixing brands and for approved transmission and gearbox oil types refer to Maintenance Manual BHT-427-MM-01

7. Fluid capacities:

7.1 Fuel
770.3 litres (203.5 US Gal.) usable,
12.5 litres (3.3 US Gal.) unusable.

7.2 Oil
Each engine: 5.1 litres (4.5 Imp. Quarts);
usable oil 1.1 litres (1 Imp. quart) included in capacity.
Undrainable oil, 1.6 lbs.

Transmission: 8.5 litres (7.5 Imp quarts)
Tail Rotor Gearbox: 0.31 litres (0.27 Imp. Quarts)

8. Airspeed limits:
V_{NE} (never exceed) 140 KIAS
For further information, see Rotorcraft Flight Manual as listed in Approved Publications

9. Rotor Speed Limits:

Power Off	Power On
Maximum 423 R.P.M. 107%	Maximum 411 R.P.M. 104%
Minimum 356 R.P.M. 90%	Minimum 391 R.P.M. 99%

10. Maximum Operating Altitude: 10,000 ft. pressure altitude.

11. Operating Limitations

11.1 General: Day/Night VFR

12. Maximum Weights:
Take-off . 2880 kg (6350 lb.) Internal loading

2948 kg (6500 lb.) External loading

13. Centre of Gravity Range:

a) Internal Loading

Longitudinal C.G. Limits cm (in.)

Forward Limit
561.3 cm (221.0 in.) at 1724 kg (3800 lb.) changing linearly to 548.6 cm (216.0 in.) at 2087 kg (4600 lb.), 548.6 cm (216.0 in.) from 2087 kg (4600 lb.) up to 2495 kg (5500 lb.), changing linearly to 553.0 cm (217.7 in.) at 2880 kg (6350 lb.).

Aft Limit
576.6 cm (227.0 in.) at 1724 kg (3800 lb.) up to 2495 kg (5500 lb.), changing linearly to 574.4 cm (226.15 in.) at 2880 kg (6350 lb.).

Lateral C.G. Limits

Left -2.8 cm (-1.1 in.) at 1724 kg. (3800 lb.), changing linearly to -5.3 cm (-2.1 in.) at 1814 kg (4000 lb.), changing linearly to -3.4 cm (-1.3 in.) at 2880 kg (6350 lb.).

Right 4.6 cm (1.8 in.) at 1724 kg (3800 lb.) changing
linearly to 7.1 cm (2.8 in.) at 1814 kg (4000 lb.), changing linearly to 4.5 cm (1.8 in.) at 2880 kg (6350 lb.).

b) External Loading

Longitudinal C.G. Limits cm (in.)

Forward Limit
561.3 cm (221.0 in.) at 1724 kg (3800 lb.) changing linearly to 548.6 cm (216.0 in.) at 2087 kg (4600 lb.), 548.6 cm (216.0 in.) from 2087 kg (4600 lb.) up to 2495 kg (5500 lb.), changing linearly to 550.2 cm (216.6 in.) at 2948 kg (6500 lb.)

Aft Limit
576.6 cm (227.0 in.) at 1724 kg (3800 lb.) up to 2495 kg (5500 lb.), changing linearly to 574.0 cm (226.0 in.) at 2948 kg (6500 lb.)

Lateral C.G. Limits

Left -2.8 cm (-1.1 in.) at 1724 kg. (3800 lb.), changing linearly to
-5.3 cm (-2.1 in.) at 1814 kg (4000 lb.) , changing linearly to -3.3 cm (-1.3 in.) at 2948 kg (6500 lb.)

Right 4.6 cm (1.8 in.) at 1724 kg (3800 lb.) changing linearly to

7.1 cm (2.8 in.) at 1814 kg (4000 lb.), changing linearly to 4.3 cm (1.7 in.) at 2948 kg (6500 lb.)

14. Datum:
Model 427 Station 0 datum is 203.2 cm (80 in.) forward of the nose of the helicopter.

15. Levelling Means:
Plumb line from underside of the engine pan through the access panel in the baggage compartment roof to an index plate on the floor of the baggage compartment.

16. Minimum Flight Crew: 1

17. Maximum Passenger Seating Capacity: 7

18. Passenger Emergency Exit: Cabin Side Doors

19. Maximum Baggage/Cargo Loads:

Refer to Flight Manual for loading schedule.

20. Rotor blade and control movement: Main
Tail

22. Life-limited parts: See maintenance manual BHT-427-MM-01 chapter 4

IV. Operating and Service Instructions

1. Rotorcraft Flight Manual, Document No. BHT-427-FM-02 rev 5 or later approved revision

2. Maintenance Manual, Document No. BHT-427-MM-01 rev 2 or later approved revision

3. Service Letters and Service Bulletins

V. Notes

1. Eligible serial numbers: 56001 and subsequent
58001 and subsequent