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## **TYPE-CERTIFICATE DATA SHEET**

**UK.TC.R.00017**

for  
Bell 429

**Type Certificate Holder**

Bell Textron Canada Ltd.

12800 rue de l'Avenir

Mirabel

Québec

J7J 1R4

Canada

Model(s): 429  
Issue: 1  
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**I General**

**1. Type / Variant / Model**

**1.1. Type**

429

**1.2. Variant**

429

**1.3. Variant**

–

**2. Airworthiness Category**

Small Rotorcraft

**3. Manufacturer**

Bell Textron Canada Ltd.  
12800 rue de l'Avenir  
Mirabel  
Québec  
J7J 1R4  
Canada

**4. Type Certification Application Date**

to TCCA: 27 October 2006  
to EASA: 4 August 2008

**5. State of Design Authority**

Transport Canada

**6. Type Certificate Date by TCCA**

19 June 2009

**7. Type Certificate Number by TCCA**

H-107

**8. Type Certificate Data Sheet Number by TCCA**

H-107

**9. EASA Type Certification Date**

23 September 2009

## **II Certification Basis**

### **1. Reference Date for determining the applicable requirements**

27 October 2006

### **2. Airworthiness Requirements**

As defined in CRI A-1, Issue 3.

CS-27 Amdt. 1, dated 30 November 2007, including:

- Appendix B - Airworthiness Criteria for Helicopter Instrument Flight.
- Appendix C - Criteria for Category A.
- Appendix C specifies certain sections of CS-29. For these sections CS-29 Amdt. 1, dated 30 November 2007 is applicable.
- CS-ACNS Issue 2 (see Note 9).

### **3. Special Conditions**

- TCCA SCA 2005-06 High Intensity Radiated Field (HIRF).
- TCCA SCA 2005-07 30-Second OEI Power Limits – Limit Override Feature.
- TCCA SCA 2016-01 Rechargeable Lithium Batteries and Battery Systems (see Note 10).

### **4. Exemptions**

None.

### **5. Deviations**

None.

### **6. Equivalent Safety Findings**

- CS 29.903 Engine Isolation.
- CS 27.307 (b)(5), CS 27.723, CS 27.725, CS 27.727 Landing Gear Limit Drop Test.
- CS 27/29.1545 (b)(2) Airspeed Indicator Markings of  $V_{NE}$  (Autorotation).

### **7. Requirements elected to comply**

None.

### **8. Environmental Protection Requirements**

#### **8.1. Noise Requirements**

See TCDSN UK.TC.R.00017.

#### **8.2. Emission Requirements**

Not applicable.

### **9. Operational Suitability Data (OSD)**

#### **9.1. OSD Certification Basis**

##### **9.1.1. Reference Date for determining the applicable OSD requirements**

Grandfathering date: 17 February 2014.

##### **9.1.2. MMEL - Certification Basis**

JAR-MMEL/MEL Section 1 Subpart A & B Amendment 1.

##### **9.1.3. Flight Crew Data - Certification Basis**

CS-FCD, Initial Issue, dated 31 January 2014.

#### 9.1.4. SIM Data - Certification Basis

Reserved.

#### 9.1.5. Maintenance Certifying Staff Data - Certification Basis

Reserved.

### III Technical Characteristic and Operating Limitations

#### 1. Type Design Definition

Bell Drawing 429-100-001 revision CA, or later approved revision.

#### 2. Description

Main rotor: four MR blades.

Tail rotor: four TR blades.

Fuselage: carbon composite and aluminium.

Landing gear: skid type, and optional retractable wheeled type (see Note 7).

Powerplant: two free turbine engines.

#### 3. Equipment

Refer to approved RFM for equipment list.

#### 4. Dimensions

##### 4.1. Fuselage

Length: 11.68 m

Width hull: 1.63 m

Height: 3.23 m

##### 4.2. Main Rotor

Diameter: 10.97 m

##### 4.3. Tail Rotor

Diameter: 1.65 m

#### 5. Engine

##### 5.1. Model

Pratt & Whitney Canada

Two (2) Model PW207D1, or,

Two (2) Model PW207D2

(see Note 3)

##### 5.2. Type Certificate

TCCA TC/TCDS No.: E-23

EASA TC/TCDS No.: EASA.IM.E.017 (see Note 11).

##### 5.3. Limitations

###### 5.3.1. Installed Engine Limitations and Transmission Torque Limits

Refer to engine TCDS EASA.IM.E.017 (see Note 11).

###### 5.3.2. Other Engine and Transmission Torque Limits

Refer to engine TCDS EASA.IM.E.017 (see Note 11).

## 6. Fluids (Fuel/Oil/Additives)

### 6.1. Fuel

Jet A, Jet B, Jet A-1, JP-4, JP-5, JP-8

### 6.2. Oil

Engine: MIL-PRF-23699

Transmission and Tail Rotor Gearbox: DOD-PRF-85734

For approved engine oil types, prohibition against mixing brands and for approved transmission and gearbox oil types refer to Maintenance Manual BHT-429-MM (see Note 8).

### 6.3. Additives

Anti-icing fuel additive is required for operations at fuel temperatures below 4 °C (39.2 °F). The maximum allowed concentration of fuel additives is 0.15% by volume.

Anti-icing fuel additive is not required with PW207D2 engine, which incorporates fuel heater kit.

Refer to approved RFM.

## 7. Fluid Capacities

### 7.1. Fuel

Refer to 429 Flight Manual for fuel capacity

### 7.2. Oil

Refer to 429 Maintenance Manual for oil capacity

### 7.3. Coolant System Capacity

Not applicable.

## 8. Air Speed Limitations

V<sub>NE PWR ON</sub>: 155 KIAS

V<sub>NE PWR OFF</sub>: 100 KIAS

## 9. Rotor Speed Limitations

Power on:	Maximum	100 %
	Maximum Cat A	104 %
	Minimum	99 %
Power off:	Maximum	107 %
	Minimum	85 %

## 10. Maximum Operating Altitude and Temperature

### 10.1. Altitude (en route)

20,000 ft (6,096 m) PA

### 10.2. Temperature

Maximum sea level ambient air temperature for operation is 51.7 °C (125 °F) and decreases with HP at a standard lapse rate of 2 °C (3.6 °F) per 1,000 ft.

Minimum ambient air temperature is -40 °C (-40 °F).

Refer to approved RFM.



## **11. Operating Limitations**

VFR day and night  
IFR (single and dual pilot)  
Cat A and B

## **12. Maximum Mass**

3,175 kg (7,000 lb) internal loading  
3,629 kg (8,000 lb) external loading

## **13. Centre of Gravity Range**

Refer to approved RFM

## **14. Datum**

Longitudinal: the datum plane (STA 0) is located at 1,836 mm (72.3 in) forward of the helicopter nose.  
Lateral: Fuselage median plane (buttock line BL 0.0).

## **15. Levelling Means**

Protractor or level placed on the crew or passenger floor or seat rails, both longitudinally and laterally

## **16. Minimum Flight Crew**

One (1) pilot.

## **17. Maximum Passenger Seating Capacity**

Seven (7).

## **18. Passenger Emergency Exit**

Two (2), one (1) on each side of the cabin.

## **19. Maximum Baggage/ Cargo Loads**

Refer to approved RFM for loading schedule.

## **20. Rotor Blade Control Movement**

For rigging information refer to Maintenance Manual.

## **21. Auxiliary Power Unit (APU)**

Not applicable.

## **22. Life-limited Parts**

For ALS see Chapter 04 of BHT-429-MPI, dated 10 January 2019, or later approved issue (see Note 8).

## **IV Operating and Service Instructions**

### **1. Flight Manual**

Bell Rotorcraft Flight Manual, BHT-429-FM-1, dated 19 June 2009 (Transport Canada approved), or later approved revision

### **2. Maintenance Manual**

- BHT-429-MM, dated 10 January 2019, or later issue (see Note 8).
- Life-limited components and approved retirement times (ALS) are listed in Chapter 4 of BHT-429-MPI, dated 10 January 2019, or later approved issue (see Note 8).

### **3. Structural Repair Manual**

BHT-ALL-SRM - Structural Repair Manual.

#### 4. **Weight and Balance Manual**

Refer to approved RFM, Section 5.

#### 5. **Illustrated Parts Catalogue**

BHT-429-IPB Illustrated Parts Breakdown.

#### 6. **Miscellaneous Manuals**

- BHT-ALL-SPM Standard Practices Manual.
- BHT-ELEC-SPM Electrical Standard Practices Manual.
- BHT-SPECTOOL-IPB Special Tools Illustrated Parts Breakdown.
- CSSD-PSE-87-001 Corrosion Control Guide.
- CSSD-PSE-90-001 Chafing Control Guide.

#### 7. **Service Letters and Service Bulletins**

As published by Bell Helicopter Textron Canada, or Bell Textron Canada.

#### 8. **Required Equipment**

Refer to approved RFM and related supplements for other approved mandatory and optional equipment and MMEL.

For Ditching equipment see Note 6.

### V **OPERATIONAL SUITABILITY DATA (OSD)**

The OSD elements listed below were approved by the European Union Aviation Safety Agency (EASA) as per Commission Regulation (EU) 748/2012, as amended by Commission Regulation (EU) No 69/2014.

Future revisions will be approved by the UK CAA in accordance with Regulation (EU) No. 748/2012 as retained (and amended in UK domestic law) under the European Union (Withdrawal) Act 2018 and amended by the Aviation Safety (Amendment etc.) (EU Exit) Regulations 2019.

#### 1. **Master Minimum Equipment List**

EASA Master Minimum Equipment List (MMEL) Bell 429, BHT-429-EASA-MMEL Revision: Original, dated 29 September 2015, or later CAA-approved revision.

#### 2. **Flight Crew Data**

Operational Suitability Data (OSD) Flight Crew Data Bell 429 BHT-429-EASA-FCD Revision: OSD FC Original, 09 September 2015, or later CAA-approved revision.

#### 3. **SIM Data**

Reserved.

#### 4. **Maintenance Certifying Staff Data**

Reserved.

### VI **Notes**

1. Manufacturer's eligible serial numbers: S/N 57001, and subsequent.
2. Certification noise levels are detailed in the approved RFM.
3. PW207D1 is a derivative of the PW207D with increased mechanical power and without a fuel heater.  
The PW207D2 is identical to the PW207D1 but has a fuel heater installed.
4. The following placard must be displayed in front of and in clear view of the pilot:  
"THIS HELICOPTER MUST BE OPERATED IN COMPLIANCE WITH OPERATING LIMITATIONS SPECIFIED IN THE APPROVED FLIGHT MANUAL".
5. The current weight and balance report, including list of equipment included in approved empty weight and loading instructions, when necessary, must be in each rotorcraft at the time of original certification

6. The Emergency Flotation Kit (429-706-069) is approved for emergency water landing only and not for ditching per CS 27.801.

For Ditching approval per CS 27.801 the following kits must be installed:

Ditching equipment meeting the requirements of CS 27.1411 and CS 27.1415;

Ditching Kit 429-706-048;

If the Airline Passenger seating configuration is installed, the Bell Helicopter Kit 429-706-068 (Push-out window mounted in the hinged passenger doors).

7. The 429 Retractable Landing Gear Kit (429-705-001) converts the basic skid gear to a retractable wheeled landing gear (EASA approval 10058322)
8. The Instructions for Continuing Airworthiness (ICA) and Airworthiness Limitations Section (ALS) are detailed in the following legacy documents:
  - BHT-429-MM-01, revision 31, dated 16 November 2018.
  - Life-limited components and approved retirement times are listed in Chapter 4, Airworthiness Limitations Section of Maintenance Manual BHT-429-MM-01, revision 29, dated 25 July 2018.The ICA and ALS were converted by Bell into a digital format on 10 January 2019 into BHT-429-MM. Revisions to ICA and ALS after this date will only be in this format.
9. CS-ACNS Section D 1, 2, 3 and 4 is only applicable to aircraft modified with Garmin GTX-345R transponder (TCCA approval reference No. C113975; UK CAA approval reference No. UK.MAJ.00040).
10. TCCA SCA 2016-01 Rechargeable Lithium Batteries and Battery Systems special condition is only applicable to aircraft modified with a Mid-Continent MD302 standby attitude module (TCCA approval reference No. C112454; UK CAA approval reference No. UK.MAJ.00039).
11. References to the engine TC/TCDS in this document are those that were approved or accepted by EASA before 01 January 2021, and are therefore accepted by the UK under Article 15 of Annex 30 of the UK-EU Trade and Cooperation Agreement. Any amendments to the TCDS for those engines after 01 January 2021 will be incorporated into a UK CAA TCDS.

## Section 2 Administration

### I. Acronyms and Abbreviations

Acronym / Abbreviation	Definition
°C	Degree Celsius
°F	Degree Fahrenheit
ACNS	Airborne Communication, Navigation and Surveillance
ALS	Airworthiness Limitations Section
Amdt.	Amendment
BL	Buttock Line
CAA	Civil Aviation Authority
Cat	Category
CRI	Certification Review Item
CS	Certification Specification
EASA	European Union Aviation Safety Agency
FCD	Flight Crew Data
ft	Feet
IFR	Instrumental Flight Rules
in	Inch(es)
HIRF	High intensity Radiated Field
KIAS	Knots Indicated Air Speed
lb	Pound(s)
m	Metre(s)
mm	Millimetre(s)
MMEL	Master Minimum Equipment List
MR	Main Rotor
OSD	Operational Suitability Data
PA	Pressure Altitude
PWR	Power
RFM	Rotorcraft Flight Manual
S/N	Serial Number
SCA	Special Condition – Airworthiness
STA	Station
TC	Type Certificate
TCCA	Transport for Canada
TCDS	Type Certificate Data Sheet
TCDSN	Type Certificate Data Sheet for Noise
TCH	Type Certificate Holder
TR	Tail Rotor
UK	United Kingdom
VFR	Visual Flight Rules

TCDS No.: UK.TC.R.00017

Date: 01 November 2021

AW-DAW-TP-004 Version 1 dated 12 March 2021

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Acronym / Abbreviation	Definition
V <sub>NE</sub>	Never Exceed Speed
V <sub>NE PWR OFF</sub>	Power-off Speed (Autorotation)
V <sub>NE PWR ON</sub>	Power-on speed

## II. Type Certificate Holder Record

TCH Record	Period
Bell Textron Canada Ltd. 12800, rue de l'Avenir Mirabel Québec J7J 1R4 Canada	Present. No changes.

## III. Amendment Record

TCDS Issue No.	TCDS Issue Date	Changes	TC Issue and Date
1	01 Nov 2021	<p>The content of the initial issue of UK CAA TCDS was taken from EASA TCDS No. EASA.IM.R.506 Issue 3 dated 16 December 2019 which was the current EASA version at 31 December 2020 and therefore the version of the TCDS for the Bell 429 accepted by the UK under Article 15 of Annex 30 of the UK-EU Trade and Cooperation Agreement.</p> <p>The following changes have been made:</p> <ul style="list-style-type: none"><li>▪ Section 1 II.2 Amended to add CS-ACNS Issue 2 resulting from validation of major change Garmin GTX-345R transponder (TCCA approval reference No. C113975). UK CAA approval reference No. UK.MAJ.00040 refers.</li><li>▪ Section 1 II.3 Amended to add special condition SCA 2016-01 resulting from validation of major change Bell 429 Mid-Continent MD302 Standby Attitude Module (TCCA approval reference No. C112454). CAA approval reference No. UK.MAJ.00039 refers.</li><li>▪ Section 1 II.9 Included OSD requirements (formerly in Section 2 of EASA TCDS).</li><li>▪ Section 1 III.1 Drawing title updated from BHTCL to Bell.</li><li>▪ Section 1 III. 5.2, 5.3.1, 5.3.2 Reference to Note 11 added.</li><li>▪ Section 1 III.22 Changed reference of ALS. Added reference to Note 8 where more details are provided.</li><li>▪ Section 1 IV.2 Changed references to AMM and ALS. Added reference to Note 8 where more details are provided.</li><li>▪ Section 1 V Included OSD documents (formerly in Section 2 of EASA TCDS).</li><li>▪ Section 1 VI. Note 8, 9, 10 and 11 added.</li></ul>	Issue 1 01 Nov 2021

– END –