

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

R00003RD
Revision 5
Bell
429
June 11, 2021

TYPE CERTIFICATE DATA SHEET NO. R00003RD

This data sheet, which is part of type certificate No. R00003RD prescribes conditions and limitations under which the product for which type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder Bell Textron Canada Limited
12800 rue de l'Avenir
Mirabel, Quebec
J7J 1R4 Canada

Type Certificate Holder Record: Bell Helicopter Textron Canada Limited was the previous name of TC holder.
The company name history is presented below.

Type Certificate Holder	Period
Bell Helicopter Textron Canada Limited Mirabel Quebec	Prior to 16 December 2019
Bell Textron Canada Limited Mirabel Quebec	16 December 2019 Present

I. Model 429 (Normal Category; Category A), Approved June 30, 2009.

Engine 2 Pratt and Whitney Canada PW207D1 or D2 engines (See NOTE 4)
FAA Engine Type Certificate Data Sheet E42NE

Fuel ASTM-D-1655, Type Jet A, Jet A-1, and Jet B; MIL-DTL-5624 Grade JP-4 and Grade JP-5; and
MIL-DTL-83133 Grade JP-8.

See Rotorcraft Flight Manual for fuel mixture and fuel temperature limitations.

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.

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-01.

Installed Engine Limits

	Torque (%) Lb-ft	Turbine Temperature °C (°F)	Gas Generator Speed % (RPM)
<u>Twin Engine Operation</u>			
Take-Off (5 Min)	(54.3) 523	900 (1652)	99.8 (57900)
Max. Continuous	(53.3) 513	850 (1562)	97.2 (56400)
<u>One Engine Inoperative</u>			
30 sec. OEI	(66.3) 638	990 (1814)	104.3 (60500)
2 min. OEI	(63.8) 614	950 (1742)	102.2 (59300)
30 min OEI	(60.2) 580	925 (1697)	101.2 (58700)
Continuous OEI	(59.5) 573	900 (1652)	99.8 (57900)

See Rotorcraft Flight Manual for transient limits
Output shaft speed limit is 104.5% (6271 RPM)

Rotor Limits

<u>Power Off</u>	<u>Power On</u>
Maximum 423 RPM	Maximum 411 RPM
107%	104%
Minimum 336 RPM 85%	Minimum 391 RPM 99%

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Transmission Torque
Limits

<u>Both Engines Operation</u>	<u>Torque Limits %</u>
Take Off	100
Maximum Continuous	100
Transient	105

One Engine Inoperative OEI

30 Seconds OEI	66.3
2 Minute OEI	59.1
Continuous OEI	50.0

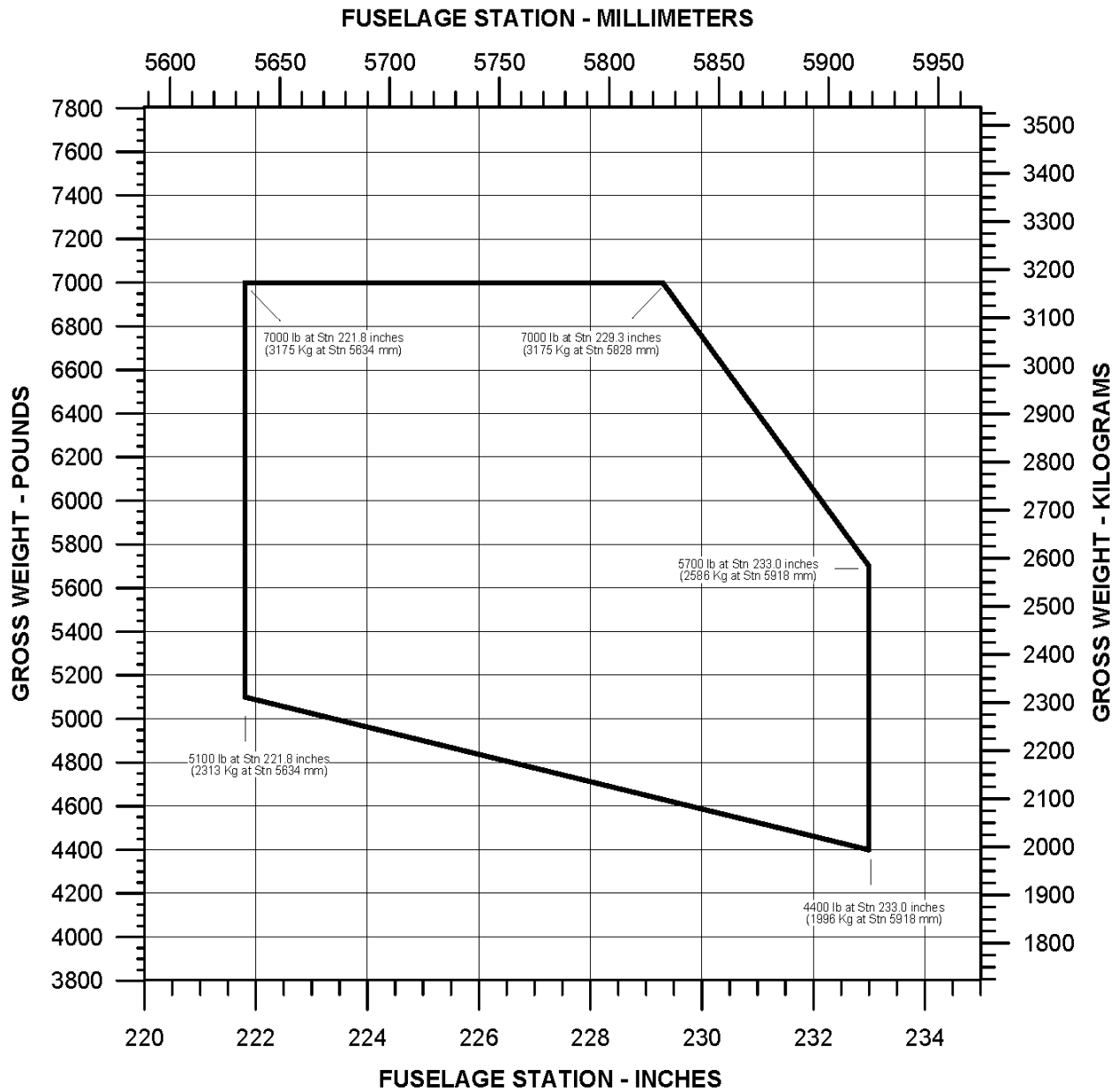
Airspeed Limits	Basic V_{NE} (never exceed) is 155 KIAS. Decrease V_{NE} for ambient conditions in accordance with the Airspeed Limitations placard in the Rotorcraft Flight Manual.
C.G. Limits	Refer to approved Rotorcraft Flight Manual (See NOTE 3).
Empty Weight CG Range	See Maintenance Manual.
Datum	Station 0 datum is 183.6 cm (72.3 in.) forward of the nose of the helicopter.
Leveling Means	Protractor or level placed on the crew or passenger floor or seat rails, both longitudinally and laterally.
Maximum Weight (Mass)	3175 kg (7000 lb.) Internal Loading 3629 kg (8000 lb.) External Loading
Altitude limits	Maximum altitude to 6096 m (20000 ft.) pressure altitude.
OAT Limits	Minimum -40°C (-40°F) Maximum 51.7°C (125°F), decreasing with pressure altitude at a standard lapse rate of 2°C (3.6°F) per 1,000 feet.
Minimum crew	1 pilot (right seat).
Maximum occupants	8 (includes crew).
Maximum Baggage	Refer to approved Rotorcraft Flight Manual for loading schedule.
Fuel capacity	Refer to 429 Maintenance Manual for Fuel Capacity.
Oil capacity	Refer to 429 Maintenance Manual for Oil Capacity.
Rotor blade and Control movement	For rigging information refer to the 429 Maintenance Manual.
Serial numbers eligible	57001 and subsequent.
Import Requirements	<p>“Refer to the applicable bilateral agreement to verify eligibility for import into the United States of both new and used aircraft based on the scope of the agreement, to identify any required statements by the exporting authority on the export certificate of airworthiness (or equivalent document), and for procedures for coordinating exceptions to conformity statements on these documents. Refer to FAA Order 8130.2, <i>Airworthiness Certification of Aircraft</i>, for requirements for issuance of an <i>airworthiness certificate</i> for imported aircraft.”</p> <p>To be considered eligible for operation in the United States, each aircraft manufactured under this Type Certificate must have a U.S. Airworthiness Certificate that may be issued on the basis of the Canadian Department of Transport Certificate of Airworthiness for Export signed by the Minister of Transport containing the following statement:</p> <p>“The rotorcraft covered by this certificate has been examined, tested and found to comply with the type design approved under Type Certificate R00003RD and to be in condition for safe operation.”</p> <p>The approved type design for the model 429 consists of data listed on Bell top drawing 429-100-001, Revision CG, or later approved revision for serial numbers 57001 and subsequent.</p>

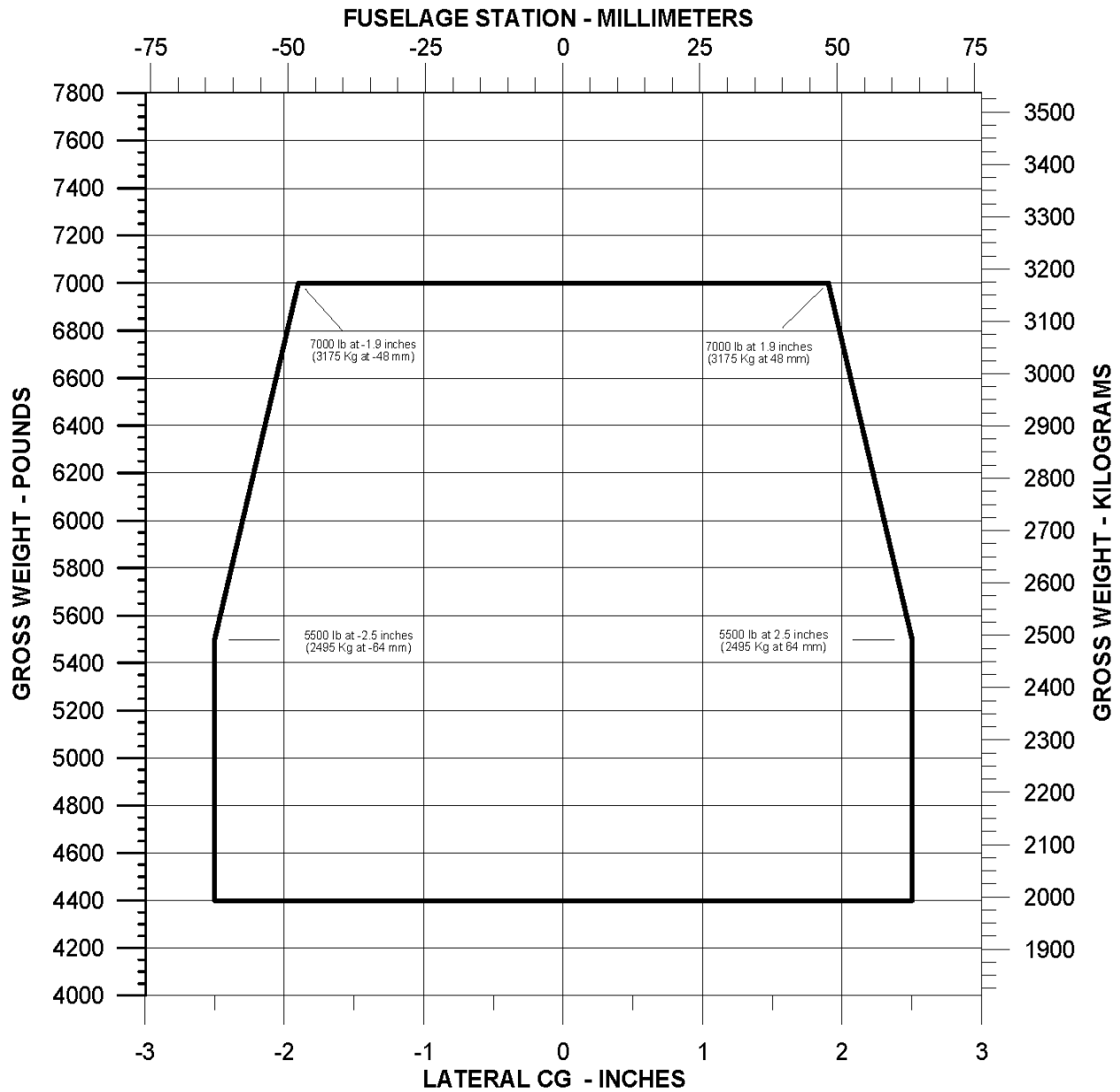
The U.S. airworthiness certification basis for aircraft certificated under 14 CFR 21.29 and exported by the country of manufacture is 14 CFR 21.183(c) or 21.185(c).

Production Basis

None. See Import Requirements.

Longitudinal Gross Weight / CG Envelope



Lateral Gross Weight / CG Envelope

Certification Basis	<p>For approved MGW configuration of 3175 kg (7000 lb.)</p> <ul style="list-style-type: none"> a) Title 14 part 27, dated October 2, 1964, amendment 27-1 through 27-40 including Appendix B criteria for instrument flight and Appendix C criteria for Category A performance, plus Compliance with the following additional requirements has been established: 14 CFR part 27, Amendment 27-44 b) Title 14 part 36 Amendment 36-1 through 36-28 c) Equivalent Safety Findings: <ul style="list-style-type: none"> Number TC2486RD-R/A-2 14 CFR part 27.307(b)(5) Proof of Structure Landing Gear Drop Test 14 CFR part 27.723 Landing Gear Shock Absorption Tests 14 CFR part 27.725 Landing Gear Limit Drop Test 14 CFR part 27.727 Landing Gear Reserve Energy Absorption Drop Test Number TC2486RD-R/S-2 14 CFR part 27 Appendix B VIII (b)(5)(i) Equipment, systems, and installations 14 CFR part 27 Appendix B VIII (b)(5)(ii) Equipment, systems, and installations Number TC2486RD-R/F-2 14 CFR part 27.1545(b)(2) Airspeed Indicator Number TC2486RD-R/P-1 14 CFR part 29.903(b) as required by 14 CFR part 27 Appendix C, Category A Engine Isolation d) Special Condition made in accordance with FAR part 21.16 is as follows: No. 27-017-SC Bell Helicopter Textron Canada Limited Model 429 Helicopters High Intensity Radiated Fields (HIRF), dated December 28, 2007. e) Special Condition made in accordance with FAR part 21.16 is as follows: SCA 2016-01; Rechargeable Lithium Batteries and Battery Systems, dated February 12, 2016.
Equipment	<p>The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the helicopter for certification.</p> <p>In addition, the following items of equipment are required:</p> <p>Transport Canada approved Rotorcraft Flight Manual BHT-429-FM-1 dated June 19, 2009 or later approved revision.</p> <p>Refer to approved Rotorcraft Flight Manual for other approved mandatory and optional equipment.</p>
Service Information	<p>Bell Canada Service bulletins, structural repair manuals, vendor manuals, aircraft flight manuals, and overhaul and maintenance manuals, which contain a statement that the document is (Transport Canada) approved, are accepted by the FAA and are considered FAA approved. These approvals pertain to the approved type design only.</p>
NOTE 1	<p>This type certificate is for a Day/Night VFR operation (Single or Dual Pilot); Instrument Flight Rules (IFR) Operations (Single or Dual) Pilot: Category A, Normal Category Rotorcraft with engine isolation.</p>
NOTE 2	<p>Certification Noise Levels are detailed in the approved Rotorcraft Flight Manual.</p>
NOTE 3	<p>Current weight and balance report including list of required equipment and list of equipment included in certificated empty weight, and loading instructions when necessary must be provided for each helicopter at the time of original certification.</p>
NOTE 4	<p>PW207D1 is a derivative of the PW207D with increased mechanical power and without fuel heater.</p>

The PW207D2 is identical to the PW207D1 but has a fuel heater installed.

NOTE 5 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”.

All placards listed in the approved flight manual must be installed in the specified locations.

NOTE 6 Information essential to the proper maintenance of the helicopter is contained in the Manufacturer’s Maintenance Manual provided with each helicopter. The approved service lives, mandatory inspections and other approved supplemental procedures of components are listed in approved Chapter 4, Airworthiness Limitations Section of the Maintenance Manual BHT-429-MM-01, dated June 19, 2009 or later approved revision.

NOTE 7 The Bell 429 rotorcraft employs electronic engine controls, commonly named Full Authority Digital Engine Controls (FADEC) that are recognized to be more susceptible to Electromagnetic Interference (EMI) than rotorcraft that have manual (non-electronic) controls. EMI may be the result of radiated or conducted interference. For this reason, modifications that add or change systems that have the potential for EMI, must either be qualified to a standard acceptable to the FAA or tested at the time of installation for interference to the FADEC. This type of testing must employ the particular FADEC diagnostic techniques and external diagnostic techniques. The test procedure must be approved.

NOTE 8 Deleted.

NOTE 9 The model 429 incorporates an emergency OEI limit override function. When this feature is selected, damage to the engine and transmission is experienced and continued flight is not permitted. Use of this emergency power invalidates the airworthiness of the aircraft. Maintenance in accordance with the model 429 Maintenance Manual is required to return the aircraft to an airworthy condition.

NOTE 10 Effective December 16, 2019 the name Bell Helicopter Textron Canada Limited was revised to Bell Textron Canada Limited.

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