FAA & TCCA

FAA Paragraph	Content	TCCA Paragraph	Content	FAA Interpretation	TCCA Interpretation
	Subpart A—General		**SUBCHAPTER A GENERAL**		
29.1	**§29.1 Applicability.**	529.1	**529.1 Applicability**		
29.1(g)	(g) Each person who applies under Part 21 for a certificate or change described in paragraphs (a) through (f) of this section must show compliance with the applicable requirements of this part.	529.1(g)	(g) Reserved		**TCCA does not have this regulatory sub-paragraph.**
	Subpart C—Strength Requirements		**SUBCHAPTER C STRENGTH REQUIREMENTS**		
	Emergency Landing Conditions		**Emergency Landing Conditions**		
29.561	**§29.561 General.**	529.561	**529.561 General**		
29.561(b)(3)	(3) Each occupant and each item of mass inside the cabin that could injure an occupant is restrained when subjected to the following ultimate inertial load factors relative to the surrounding structure:	529.561(b)(3)	(3) each occupant and each item of mass inside the cabin that could injure an occupant is restrained when subjected to the following ultimate inertial load factors relative to the surrounding structure:		**TCCA has accepted summation of vectors, i.e. forward plus downward, instead of as separate design conditions.**
29.563	**§29.563 Structural ditching provisions.**	529.563	**529.563 Structural ditching provisions**		
29.563	If certification with ditching provisions is requested, structural strength for ditching must meet the requirements of this section and §29.801(e).	529.563	If certification with ditching provisions is requested, structural strength for ditching shall meet the requirements of this section and section 529.801 (e).		**TCCA, according to Bell Canada, does not require test.**
	Subpart D—Design and Construction		**Subchapter D - Design And Construction**		
29.801	**§29.801 Ditching.**	529.801	**529.801 Ditching**		
29.801(c)	(c) The probable behavior of the rotorcraft in a water landing must be investigated by model tests or by comparison with rotorcraft of similar configuration for which the ditching characteristics are known. Scoops, flaps, projections, and any other factors likely to affect the hydrodynamic characteristics of the rotorcraft must be considered.	529.801(c)	(c) The probable behaviour of the rotorcraft in a water landing shall be investigated by model tests or by comparison with rotorcraft of similar configuration for which the ditching characteristics are known. Scoops, flaps, projections and any other factors likely to affect the hydrodynamic characteristics of the rotorcraft shall be considered.	**FAA requires model testing or comparison with rotorcraft of similar configuration for which characteristics have been shown by tests.**	**Does TCCA require model test or comparative analysis to exsting test data.**
29.813	**§29.813 Emergency exit access.**	529.813	**529.813 Emergency Exit Access**		
		529.813(d)	(d) It shall be demonstrated through the design of the rotorcraft that there is easy access to each usable emergency exit when the rotorcraft is resting on its side.	**No CFR Equivalent**	
	Subpart E—Powerplant		**SUBCHAPTER E POWERPLANT**		
29.901	**§29.901 Installation.**	529.901	**529.901 Installation**		
29.901(d)	(d) Each auxiliary power unit installation must meet the applicable provisions of this subpart.	529.901(d)	(d) Each auxiliary power unit installation shall meet the applicable provisions of this subchapter.	**FAA and TCCA need to agree on harmonized Essential APU requirements for rotorcraft.**	
29.917	**§29.917 Design.**	529.917	**529.917 Design**		
29.917(a)	(a) *General.* The rotor drive system includes any part necessary to transmit power from the engines to the rotor hubs. This includes gear boxes, shafting, universal joints, couplings, rotor brake assemblies, clutches, supporting bearings for shafting, any attendant accessory pads or drives, and any cooling fans that are a part of, attached to, or mounted on the rotor drive system.	529.917(a)	(a) General. The rotor drive system includes any part necessary to transmit power from the engines to the rotor hubs. This includes gear boxes, shafting, universal joints, couplings, rotor brake assemblies, clutches, supporting bearings for shafting, any attendant accessory pads or drives, and any cooling fans that are a part of, attached to, or mounted on the rotor drive system.	**Will be harmonized. FAA & TCCA have working group adding gearbox lubrication system to the drive system design assessment.**	

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29.917(b)	(b) *Design assessment.* A design assessment must be performed to ensure that the rotor drive system functions safely over the full range of conditions for which certification is sought. The design assessment must include a detailed failure analysis to identify all failures that will prevent continued safe flight or safe landing and must identify the means to minimize the likelihood of their occurrence.	529.917(b)	(b) Design Assessment. A design assessment shall be performed to ensure that the rotor drive system functions safely over the full range of conditions for which certification is sought. The design assessment shall include a detailed failure analysis to identify all failures that will prevent continued safe flight or safe landing and shall identify the means to minimize the likelihood of their occurrence.	**See comment to Part 29.917(a) above.**	
29.927	**§29.927 Additional tests.**	529.927	**529.927 Additional Tests**		
29.927(c)(1)	(1) *Category A* . Unless such failures are extremely remote, it must be shown by test that any failure which results in loss of lubricant in any normal use lubrication system will not prevent continued safe operation, although not necessarily without damage, at a torque and rotational speed prescribed by the applicant for continued flight, for at least 30 minutes after perception by the flightcrew of the lubrication system failure or loss of lubricant.	529.927(c)(1)	(1) Category A. Unless such failures are extremely remote, it shall be demonstrated by test that any failure which results in loss of lubricant in any normal use lubrication system will not prevent continued safe operation, although not necessarily without damage, at a torque and rotational speed prescribed by the applicant for continued flight, for at least 30 minutes after perception by the flight crew of the lubrication system failure or loss of lubricant;	**Will be harmonized. FAA & TCCA have working group to standardize loss of lubrication testing and RFM credit.**	
29.1093	**§29.1093 Induction system icing protection.**	529.1093	**529.1093 Induction System Icing Protection**		
29.1093(b)	(b) Turbine engines.	529.1093(b)	(b) Turbine engines.	**FAA and TCCA need to agree on inlet icing accretion stabilization for full icing approval. Recommend support through SAE AC9C committee.**	**FAA and TCCA need to agree on inlet icing accretion stabilization for full icing approval. Recommend support through SAE AC9C committee.**
29.1093(b)(1)	(1) It must be shown that each turbine engine and its air inlet system can operate throughout the flight power range of the engine (including idling)—	529.1093(b)(1)	(1) it shall be demonstrated that each turbine engine and its air inlet system can operate throughout the flight power range of the engine (including idling):	**FAA and TCCA need to agree on inlet icing accretion stabilization for full icing approval. Recommend support through SAE AC9C committee.**	**FAA and TCCA need to agree on inlet icing accretion stabilization for full icing approval. Recommend support through SAE AC9C committee.**
29.1093(b)(1)(i)	(i) Without accumulating ice on engine or inlet system components that would adversely affect engine operation or cause a serious loss of power under the icing conditions specified in appendix C of this Part; and	529.1093(b)(1)(i)	(i) without accumulating ice on engine or inlet system components that would adversely affect engine operation or cause a serious loss of power under the icing conditions specified in Appendix C of this Chapter, and	**FAA and TCCA need to agree on inlet icing accretion stabilization for full icing approval. Recommend support through SAE AC9C committee.**	**FAA and TCCA need to agree on inlet icing accretion stabilization for full icing approval. Recommend support through SAE AC9C committee.**
29.1093(b)(1)(ii)	(ii) In snow, both falling and blowing, without adverse effect on engine operation, within the limitations established for the rotorcraft.	529.1093(b)(1)(ii)	(ii) in falling, blowing, and recirculating snow without adverse effect on engine operation, or	**FAA and TCCA need to agree on inlet icing accretion stabilization for full icing approval. Recommend support through SAE AC9C committee.**	**FAA and TCCA need to agree on inlet icing accretion stabilization for full icing approval. Recommend support through SAE AC9C committee.**
		529.1093(b)(1)(iii)	(iii) if certification for flight in snow has not been requested, the engine tolerance to snow shall be demonstrated.	**FAA does not have this regulatory requirement.**	
29.1093(b)(2)	(2) Each turbine engine must idle for 30 minutes on the ground, with the air bleed available for engine icing protection at its critical condition, without adverse effect, in an atmosphere that is at a temperature between 15° and 30 °F (between −9° and −1 °C) and has a liquid water content not less than 0.3 grams per cubic meter in the form of drops having a mean effective diameter not less than 20 microns, followed by momentary operation at takeoff power or thrust. During the 30 minutes of idle operation, the engine may be run up periodically to a moderate power or thrust setting in a manner acceptable to the Administrator.	529.1093(b)(2)	(2) each turbine engine shall idle for 30 minutes on the ground, with the air bleed available for engine icing protection at its critical condition, without adverse effect, in an atmosphere that is at a temperature between 15° and 30°F (between -9° and -1°C) and has a liquid water content not less than 0.3 grams per cubic metre in the form of drops having a mean effective diameter not less than 20 microns, followed by a momentary operation at take-off power or thrust. During the 30 minutes of idle operation, the engine may be run up periodically to a moderate power or thrust setting in a manner acceptable to the Minister.	**FAA and TCCA need to agree on inlet icing accretion stabilization for full icing approval. Recommend support through SAE AC9C committee.**	**FAA and TCCA need to agree on inlet icing accretion stabilization for full icing approval. Recommend support through SAE AC9C committee.**
29.1093(c)	(c) Supercharged reciprocating engines. For each engine having a supercharger to pressurize the air before it enters the carburetor, the heat rise in the air caused by that supercharging at any altitude may be utilized in determining compliance with paragraph (a) of this section if the heat rise utilized is that which will be available, automatically, for the applicable altitude and operation condition because of supercharging.	529.1093(c)	(c) Supercharged reciprocating engines. For each engine having a supercharger to pressurize the air before it enters the carburetor, the heat rise in the air caused by that supercharging at any altitude may be utilized in determining compliance with (a) of this section if the heat rise utilized is that which will be available, automatically, for the applicable altitude and operation condition because of supercharging.	**FAA and TCCA need to agree on inlet icing accretion stabilization for full icing approval. Recommend support through SAE AC9C committee.**	**FAA and TCCA need to agree on inlet icing accretion stabilization for full icing approval. Recommend support through SAE AC9C committee.**
29.1197	**§29.1197 Fire extinguishing agents.**	529.1197	**529.1197 Fire Extinguishing Agents**		

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29.1197(a)	(a) Fire extinguishing agents must—	529.1197(a)	(a) Fire extinguishing agents shall:	**FAA and TCCA need to agree on acceptable HALON 1301 replacement with support from the FAA Technical Center.**	**FAA and TCCA need to agree on acceptable HALON 1301 replacement with support from the FAA Technical Center.**
29.1197(a)(1)	(1) Be capable of extinguishing flames emanating from any burning of fluids or other combustible materials in the area protected by the fire extinguishing system; and	529.1197(a)(1)	(1) be capable of extinguishing flames emanating from any burning of fluids or other combustible materials in the area protected by the fire extinguishing system; and	**FAA and TCCA need to agree on acceptable HALON 1301 replacement with support from the FAA Technical Center.**	**FAA and TCCA need to agree on acceptable HALON 1301 replacement with support from the FAA Technical Center.**
29.1197(a)(2)	(2) Have thermal stability over the temperature range likely to be experienced in the compartment in which they are stored.	529.1197(a)(2)	(2) have thermal stability over the temperature range likely to be experienced in the compartment in which they are stored.	**FAA and TCCA need to agree on acceptable HALON 1301 replacement with support from the FAA Technical Center.**	**FAA and TCCA need to agree on acceptable HALON 1301 replacement with support from the FAA Technical Center.**
29.1197(b)	(b) If any toxic extinguishing agent is used, it must be shown by test that entry of harmful concentrations of fluid or fluid vapors into any personnel compartment (due to leakage during normal operation of the rotorcraft, or discharge on the ground or in flight) is prevented, even though a defect may exist in the extinguishing system.	529.1197(b)	(b) If any toxic extinguishing agent is used it shall be demonstrated by test that entry of harmful concentrations of fluid or fluid vapours into any personnel compartment (due to leakage during normal operation of the rotorcraft, or discharge on the ground or in flight) is prevented, even though a defect may exist in the extinguishing system.	**FAA and TCCA need to agree on acceptable HALON 1301 replacement with support from the FAA Technical Center.**	**FAA and TCCA need to agree on acceptable HALON 1301 replacement with support from the FAA Technical Center.**
	Subpart F—Equipment		**SUBCHAPTER F EQUIPMENT**		
		529.1301-1	**529.1301-1 Rotorcraft Operations After Ground Cold Soak**	**FAA does not have this regulatory requirement.**	
		529.1301-1	Substantiation of satisfactory operation of the rotorcraft as a total system, by cold weather testing or by documented evidence of satisfactory operation at low temperature, is required after the rotorcraft has experienced a prolonged exposure to ground ambient temperatures equal to or less than -35°C unless an alternative minimum ground ambient temperature has been proposed by the applicant and accepted by the Minister.	**FAA does not have this regulatory requirement.**	
29.1419	**§29.1419 Ice protection.**	529.1419	**529.1419 Ice Protection**	**Revised AC 29.1419 is in work.**	**TBD if TCCA will interpret materal the same.**
29.1457	**§29.1457 Cockpit voice recorders.**	529.1457	**529.1457 Cockpit Voice Recorders**		
		529.1457(d)(1)	(1) It receives its electric power from the bus that provides the maximum reliability for operation of the cockpit voice recorder without jeopardizing service to essential or emergency loads. The cockpit voice recorder must remain powered for as long as possible without jeopardizing emergency operation of the rotorcraft;	**Administrative Difference in paragraph numbering.**	**Administrative Difference in paragraph numbering.**
29.1457(d)(1)(i)	(1)(i) It receives its electrical power from the bus that provides the maximum reliability for operation of the cockpit voice recorder without jeopardizing service to essential or emergency loads.			**Administrative Difference in paragraph numbering.**	**Administrative Difference in paragraph numbering.**
29.1457(d)(1)(ii)	(ii) It remains powered for as long as possible without jeopardizing emergency operation of the rotorcraft.			**Administrative Difference in paragraph numbering.**	**Administrative Difference in paragraph numbering.**
29.1459	**§29.1459 Flight data recorders.**	529.1459	**529.1459 Flight Data Recorders**		
		529.1459(a)(3)	(3) it receives its electrical power from the bus that provides the maximum reliability for operation of the flight data recorder without jeopardizing service to essential or emergency loads. The flight data recorder must remain powered for as long as possible without jeopardizing emergency operation of the rotorcraft;	**Administrative Difference in paragraph numbering.**	**Administrative Difference in paragraph numbering.**
29.1459(a)(3)(i)	(3)(i) It receives its electrical power from the bus that provides the maximum reliability for operation of the flight data recorder without jeopardizing service to essential or emergency loads.			**Administrative Difference in paragraph numbering.**	**Administrative Difference in paragraph numbering.**
29.1459(a)(3)(ii)	(ii) It remains powered for as long as possible without jeopardizing emergency operation of the rotorcraft.			**Administrative Difference in paragraph numbering.**	**Administrative Difference in paragraph numbering.**

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	Subpart G—Operating Limitations and Information		**SUBCHAPTER G OPERATING LIMITATIONS AND INFORMATION**		
29.1557	**§29.1557 Miscellaneous markings and placards.**	529.1557	**529.1557 Miscellaneous Markings and Placards**		
		529.1557(c)(3)	(3) if placards and markings at the fuel or oil opening include tank capacity, the capacity shall be specified in litres. Imperial or U.S. gallons may be included.	**FAA does not have this regulatory requirement.**	
	Appendix B to Part 29—Airworthiness Criteria for Helicopter Instrument Flight		**Appendix B Airworthiness Criteria for Helicopter Instrument Flight**		
VIII	VIII. *Equipment, systems, and installation* . The basic equipment and installation must comply with Subpart F of Part 29 through Amendment 29-14, with the following exceptions and additions:	VIII	**VIII. Equipment, Systems, and Installation** The basic equipment and installation shall comply with the Federal Aviation Regulation (U.S.) Subpart F of Part 29 through Amendment 29-14, with the following exceptions and additions:	**FAA requires literal compliance, ELOS, or exemption.**	**Literal non-compliancs of rules are mitigated by operational limitations and procedures in RFM or temporary deviations.**