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# **Type Acceptance Report**

**96/10 – Revision 4**

**TEXTRON AVIATION 208 Series**



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## Executive Summary

New Zealand Type Acceptance has been granted to the Textron Aviation 208 Caravan Series based on validation of FAA Type Certificate number A37CE. There are no special requirements for import.

Applicability is currently limited to the Models and/or serial numbers detailed in Appendix 1, which are now eligible for the issue of an Airworthiness Certificate in the Standard Category in accordance with NZCAR §21.177, subject to any outstanding New Zealand operational requirements being met. (See Section 5 of this report for a review of compliance of the basic type design with the operating Rules.) Additional variants or serial numbers approved under the foreign type certificate can become type accepted after supply of the applicable documentation, in accordance with the provisions of NZCAR §21.43(b).

NOTE: The information in this report was correct as at the date of issue. The report is generally only updated when an application is received to revise the Type Acceptance Certificate. For details on the current type certificate holder and any specific technical data, refer to the latest revision of the State-of-Design Type Certificate Data Sheet referenced herein.

## 1. Introduction

This report details the basis on which Type Acceptance Certificate No. 96/10 was granted in the Standard Category in accordance with NZCAR Part 21 Subpart B.

Specifically the report aims to:

- (a) Specify the foreign type certificate and associated airworthiness design standard used for type acceptance of the model(s) in New Zealand; and
- (b) Identify any special conditions for import applicable to any model(s) covered by the Type Acceptance Certificate; and
- (c) Identify any additional requirements which must be complied with prior to the issue of a NZ Airworthiness Certificate or for any subsequent operations.

The report also notes the status of all models included under the foreign type certificate which have been granted type acceptance in New Zealand. Models covered by the type acceptance certificate issued under Part 21B are listed in Section 2 of this report. Models which were accepted prior to that under NZCAR Section B.9 are listed in Appendix 1.

## 2. Aircraft Certification Details

### (a) State-of-Design Type and Production Certificates:

Manufacturer: Textron Aviation Inc. (s/n 20800573 and on)  
(s/n 208B5209, 208B5224 and on)  
Cessna Aircraft Company (up to July 29, 2015)

Type Certificate: A37CE  
Issued by: Federal Aviation Administration

Production Approval: FAA Production Certificate 4  
(Delegation Option Manufacturer No.CE-1 (2080001 through 20800246, 208B0001 through 208B0501) and CE-3 (20800247 and on, 208B0502 and on)

### (b) Models Covered by the Part 21B Type Acceptance Certificate:

#### (i) Model: 208B

MCTOW: 8807 lb. (3994 kg) [With PT6A-140 engine installed]  
8750 lb. (3969 kg) [PT6A-114/A – Reduces for Flight Into Known Icing]

#### (ii) Model: 208

MCTOW: 8000 lb. (3628 kg) [s/n 20800061 and up or aircraft modified by SK208-12 or SK208-85]  
7600 lb. (3447 kg) [amphibian s/n 20800014 and up]  
7300 lb. (3311 kg) [s/n 2080001 through 20800060]

Details common to both models:

Max. Seats: 10 (FAA TCDS) – 14 (International Supplement)

Noise Standard: FAR Part 36

**Engine:** PT6A-114 (600 shp) [s/n 20800001 thru 20800276]  
[s/n 208B0001 thru 208B0229, except 208B0179, and as modified by SK208-84]

PT6A-114A (675 shp) [s/n 20800277 on]  
[s/n 208B0179, 208B0230 and on, and as modified by SK208-80]

Type Certificate: E-15  
Issued by: Transport Canada

PT6A-140 (867 shp) [s/n 208B2197, 208B5000 and on]  
Type Certificate: E-15  
Issued by: Transport Canada

**Propeller:** Hartzell HC-B3MN3/M10083 [PT6A-114/A]  
Type Certificate: P9NE  
Issued by: Federal Aviation Administration

McCauley 3GFR34C703/106GA-0 [PT6A-114/A]  
Type Certificate: P60GL  
Issued by: Federal Aviation Administration

Hartzell HC-B3TN-3AF/T10890CN-2 [PT6A-140]  
Type Certificate: P15EA  
Issued by: Federal Aviation Administration

### 3. Application Details and Background Information

There have been examples of the Cessna 208 in New Zealand prior to 1995 when Part 21 was introduced, and those particular model years or serial number ranges were therefore deemed to have a type acceptance certificate under the transitional arrangements of Part 21 Appendix A(c). This first application for New Zealand type acceptance under Part 21B was for the Model 208B from Island Air Ltd dated 1 October 1996. Island Air is the company formed by Parakai Aviation to operate the Caravan on the Great Barrier Island route. (A previous application had been made by the manufacturer for NZ validation of the 208B in a letter dated 24 July 1991, but this was not followed up by registration of a First-of-Type example and thus was not completed under NZCAR B.9.) The Model 208 was originally certificated in New Zealand on 14 November 1985. The first examples were ZK-SFA and SFB, serial numbers 051 and 059 respectively, operated by Cook Strait Skyferry. The Cessna 208 Series is a high wing unpressurised all metal single-engine turbine powered aircraft with fixed undercarriage and seating for up to fourteen occupants.

Type Acceptance Certificate No. 96/10 was granted on 21 October 1996 to the Cessna 208B based on validation of FAA Type Certificate A37CE. Specific applicability is limited to the coverage provided by the operating documentation supplied. There are no special requirements for import into New Zealand.

This Report was raised to Revision 1 under Work Request number 7/21B/7 to include the Model 208 fitted with the 675 shp PT6A-114A engine, which uses a different Flight Manual. The opportunity was also taken to update the report to the latest format. The first-of-type example was serial number 20800360 registered ZK-TZR.

Revision 2 was issued to cover the Models 208/208B equipped with the Garmin G1000 Integrated Cockpit System (ICS), which require a new Flight Manual. The first-of-type example was serial no. 20800524, registered ZK-SKA. This is now the standard production configuration (PT6A-114/A powered) from serial numbers 20800500 and 208B-02000 on.

This report was raised to Revision 3 to add the latest Model 208B Caravan “EX” version. The application dated April 16, 2015, was from the manufacturer. The first-of-type example was serial number 208B5285, registered ZK-SRX. Type Acceptance of the 208B with the PT6A-140 engine was granted on 11 October 2016.

Revision 4 was issued to note the approval of the Garmin G1000NXi avionics upgrade to the Caravan series and update the New Zealand Rules compliance table. The first-of-type example was serial number 20800605, registered ZK-SKY. The design changes were incorporated in two phases known as G1000 NXi Phase 1 and 2. The change only required revisions to the Model 208/208B manuals, as shown on the TCDS.

Phase 1 incorporated:

- LRUs update for Flight Display, Attitude and Heading Reference System (AHRS), Air Data Computer (ADC), XM Datalink and transponder
- G1000 software upgrade

Phase 2 incorporated:

- Garmin LRUs update, fuel flow sensor, GSR 56 Satellite radio and Garmin Flight Stream 510
- G1000 software improvements and software functionality



The Cessna 208 Caravan was the first all-new single engine turbine utility aircraft. First flown in December 1982 it was designed to retain Cessna's traditional handling qualities and good field performance. The Model 208A was developed as a cargo configuration version of the short fuselage 208. It was built with a cargo pod, no fuselage windows or RHS passenger door and special avionics for Federal Express. These features are now available as options on the Model 208 and production of the 208A has ceased. (All 208As have been converted to the Model 208 by service Kit SK208-85, and the model 208A has been deleted from the type certificate.) From s/n 0061 the MTOW was increased to 8000 lb. This operating weight increase can also be achieved retrospectively through SK208-12.

The 208B is a stretched version of the original 208/208A Caravan I, and was initially certified by the FAA on October 9, 1986 as a 2-place cargo only airplane. In 1989 FAA approval was obtained for a passenger configuration. The 208B fuselage is 48" longer than the 208 with plugs forward and aft of the wing. The wings are the same except for the addition of vortex generators and a revised flap trailing edge angle on the 208B to reduce stall speed and improve flaps down lateral stability. Heavier landing gear springs are used and the brakes have been updated. The first 229 aircraft were powered by the 600 shp PT6A-114 but in May 1990 the use of the 675 hp PT6-114A engine was approved. (This approval also introduced the McCauley 3-blade all-metal propeller, as an option to the previous Hartzell 3-blade composite fully-feathering reversible propeller.) Service Kit SK208-80 is available to allow interchange of the engines on both 208/208B versions, or operation of the -114A engine to 600 shp limits.

Caravan EX is the marketing name for the Model 208B block point change AD09-17, which primarily involves installation of the 867 shp PT6A-140 engine, along with a small maximum takeoff weight increase. (Limited by the 61 knot landing configuration stall speed limitation of FAR §23.49(c)) Some other minor changes were required in the engine bay (different exhaust system, strengthened engine mounting truss) and some systems; flap position selection and elevator travel; while the aircraft now uses LED lighting as standard. The basic 208B-EX aircraft configuration includes the cargo pod and TKS (anti-ice) installations. Cargo pod without TKS, TKS with TKS Fairing (no cargo pod) and 'clean' (no TKS and no cargo pod) are alternative approved configurations.

## 4. NZCAR §21.43 Data Requirements

The type data requirements of NZCAR Part 21B Para §21.43 have been satisfied by supply of the following documents, or were already held by the CAA:

(1) State-of-Design Type certificate:

FAA Type Certificate Number A37CE

FAA Type Certificate Data Sheet no. A37CE at Revision 21 dated July 29, 2015

- Model 208 approved October 23, 1984
- Model 208B (cargo) approved October 9, 1986
- Model 208B (passenger) approved December 13, 1989
- Model 208B (PT6A-140) approved December 21, 2012

(2) Airworthiness design requirements:

(i) *Airworthiness Design Standards:*

The certification basis of the Cessna Models 208 and 208B is FAR Part 23 dated February 1, 1965, as amended by 23-1 through 23-28, and SFAR 27 as amended by 27-1 through 27-4. One Special Condition was applied, and one Equivalent Level of Safety finding was made. These have been reviewed and accepted by the CAA.

The certification basis for aircraft with the G1000 ICS installation, and for the later PT6A-140 engine installation, was updated with individual FAR Part 23 paragraphs for affected areas at a later Amendment status up to 23-57, as detailed on the TCDS. Three Equivalent Level of Safety Findings were made.

This is an acceptable certification basis in accordance with NZCAR Part 21B Para 21.41, because FAR 23 is the design standard for Normal Category Airplanes called up under Appendix C. There are no non-compliances and no additional special conditions have been prescribed by the Director under CAR §21.23.

(ii) *Special Conditions:*

23-ACE-3 Cessna Model 208/208B – Additional Dynamic Evaluation – This calls up investigation of whirl mode stability and engine-propeller mount stiffness and damping variations. (Single-turbine installations were not envisioned when FAR §23.629(e) was first introduced.)

(iii) *Equivalent Level of Safety Findings:*

All Aircraft not fitted with G1000 ICS:

FAR §23.955(f)(2) – The 208 Series have individual selectors for each wing fuel tank. This allows them to be selected off, which did not comply with the requirement for an uninterruptible fuel supply. A fuel selector warning system was accepted which warns (by horn and light) if both selectors are turned to OFF, or if the fuel remaining in the selected tank falls below 25 gallons. (This warning system was incorporated into the G1000 EICAS.)

Aircraft Fitted with the Optional TKS Ice Protection System (IPS):

ELOS Memo ACE-09-16 – FAR 23.207(c) and 23.1419(b) Stall Warning – With the TKS IPS fitted the required 5 knot calibrated airspeed (KCAS) stall warning margin cannot be achieved with thin rough ice accretions utilising the standard production system. Cessna was granted an ELOS to use a Low Airspeed Awareness (LAA) System for operations in icing conditions.

**Aircraft Equipped with the Garmin G1000 ICS:**

Issue Paper P-1 – FAR §23.1305(c)(2) and FAR §23.1549 Digital Only Displays for Propeller RPM and Engine Fuel Flow – The FAA accepted the use of a digital only propeller RPM indicator because torque is the primary parameter when setting engine power, and propeller rate-of-change or trend information is not needed for safe operation. Overspeed conditions do need to be monitored but the control system has redundant safety features to prevent an exceedence. Similarly a digital fuel flow gauge was accepted on the grounds the engine has no maximum or minimum limits or even a defined cautionary range, and fuel flow is used for confirmation of engine operation and maintenance troubleshooting. Both indication locations are such that rate-of-change information is readily discernible and they meet AC guidance requirements for visibility, including lighting conditions and vibration.

**Aircraft Equipped with the PT6A-140 Engine:**

FAR §23.145(b)(3) Longitudinal Control – Development flight tests revealed under certain conditions that control wheel forces can exceed rule requirements. Cessna introduced compensating design features in the form of a simplified flap selection range, distinct flap lever locking detent and associated AFM procedures that require the aircraft to be re-trimmed between flap selections.

*(iv) Airworthiness Limitations:*

See Maintenance Manual Chapter 4 – Airworthiness Limitations

**(3) Aircraft Noise and Engine Emission Standards:***(i) Environmental Standard:*

The Model 208/208B was originally certificated under SFAR 27 (Fuel Venting and Exhaust Emission Requirements for Turbine Engine Powered Airplanes), including Amendments 27-1 through 27-4, which was superseded by FAR Part 34 for the Caravan EX; and for noise under FAR Part 36, including Amendments 36-1 up to 36-28, depending on whether it is the 600 shp, 675 shp or 867 shp engine.

*(ii) Compliance Listing:*

Report D-208-31 – Rev. B – Model 208 Noise Certification (all models) Nov, 1985

Report D-208B-231 – Nov 2012 – Model 208B Noise Certification Test Results

Model:	MCTOW:	Propeller:	Engine Power:	Noise Level:
208	8000 lb.	Hartzell	600 shp	73.5 dB(A) *
208	8000 lb.	McCauley	600 shp	81.6 dB(A)
208B	8750 lb.	Hartzell	675 shp	80.1 dB(A)
208B	8750 lb.	McCauley	675 shp	82.7 dB(A)
208B	8807 lb.	Hartzell	867 shp	84.1 dB(A)

\*The difference is because the way the noise was measured had been changed, from a flyover at 1000-foot method to a simulated takeoff profile.

**(4) Certification compliance listing:**

Report DM-208-0 – Original Certification of the Caravan I (Model 208) – 15/9/84

Structures Report S-208-21-2 – Cabin Accommodations Test Results (high density)

Structures Report S-208-35 – Model 208 Fatigue Analysis – 29 August 1985

Report 208-86-018 (Rev.E) – 208B Compliance Checklist S/N 208B-0001 and Up

Report DM 208B-0 – Original Certification of the Model 208B – 26 September 1986 with Statement of Conformity and Ground Type Inspection Report

Report DM 208B-0 – Addendum 2 – Model 208B Super Cargomaster – 7 Dec 1987

Report DM 208B-0 – Addendum 4 – Certification of the Passenger Option on the Model 208B – with Statement of Conformity and Ground TIR – 8 December 1989

Report S-208B-33 – Rev. H – 208 Structures Report – Substantiation, Critical Loads and Structural Materials Summary

Report S-208B-33 – Rev. E – 208B Substantiation and Critical Loads Summary

Report DM-208B-6 – Installation of the P&WC PT6A-114A (675 SHP) Engine – with attached Statement of Conformity and Ground TIR dated 15 January, 1990

Report DM-208-3 – Installation of the McCauley 3-Blade Propeller – with attached Statement of Conformity and Ground TIR dated 5 April 1990

Report DM-208B-3 – Installation of McCauley 3-Blade Propeller – 5 April 1990

Report DM-208B-21 Addendum 3 – Approval of PT6A-114A Engine for Flight into Known Icing Conditions – with Statement of Conformity/GTIR – 6 April 1990

Report DM-208-21 Addendum 4 – Cessna 208 – Approval of the McCauley 3 Blade Propeller for Flight into Icing– with SoC and GTIR – 5 April 1990

DM-208B-21 Addendum 4 – Approval of McCauley Propeller for Flight into Icing

CAB90-20 McCauley Propeller Installation – (To provide for the installation of the McCauley propeller on in-service airplanes equipped with Hartzell propellers)

SNL90-7 PT6A-114/-114A – Engine Inter-Changeability

SK208-80 – 675 shp engine change option for models prior to production incorporation of SK208-84, 600 shp engine option for models with 675 shp engine

Cessna Certification Plan – Short Form: CP-059456 Model 208 Garmin G1000

Cessna Certification Plan – Short Form: CP-059453 Model 208B Garmin G1000

There are a total of 5 Cessna certification plans (Form 2156) that comprise the Caravan PT6A-140 Engine block point program (AD09-17):

- Cert Plan No. CP-070500 – PT6A-140 Engine Cert – PAM (208B) – Rev.C
- Cert Plan No. CP-070511 – AD09-17 Gross Weight Increase and Other Changes – Rev.B
- Cert Plan No. CP-070515 – Avionics And Electrical Aspects Of Caravan PT6A-140 Engine & Other AES Enhancements (AD09-17) – Rev.A
- Cert Plan No. CP-070516 – LED Lighting Update (Model 208B) – Rev.A
- Cert Plan No. CP-070517 – Caravan G1000 System Software Update – Phase 13 – Rev.C

Textron Report No: CP-CPN014965-001 Rev A – Caravan G1000 NXi Phase 1  
Certification Plan (Includes Section 7 – Compliance Checklist)

Textron Report No: CP-CPN016858-001 – Caravan G1000 NXi Phase 2  
Certification Plan (Includes Section 7 – Compliance Checklist)

(5) Flight Manual:

FAA Approved AFM/POH Model 208 – Part No. D1307-13PH – S/N 20800001 through 20800060 modified by SK208-12 or SK208-85, and S/N 20800061 through 20800276 – CAA Approved as AIR 2263

FAA Approved AFM/POH Model 208B (with PT6A-114A [675 shp] Engine) Part No. D1329-13PH – S/N 208B0179, and 208B0230 and on, and earlier aircraft modified by SK208-80 – CAA Accepted as AIR 2567

FAA Approved AFM/POH Model 208 (with PT6A-114A [675 shp] Engine) – Part No. D1352-13PH – S/N 20800277 and On – CAA Accepted as AIR 2956

FAA Approved AFM/POH Model 208B Grand Caravan (with PT6A-114A [675 shp] Engine) – Part No. 208BPHBUS-02 – S/N 208B01190, 01216 and 02000 and On – CAA Accepted as AIR 3268 (*G1000 equipped aircraft*)

FAA Approved AFM/POH Model 208 Caravan (with PT6A-114A [675 shp] Engine) – Part No. 208PHBUS-02 – S/N 20800416 and 00500 and On – CAA Accepted as AIR 3269 (*G1000 equipped aircraft*)

FAA Approved AFM/POH Model 208B Grand Caravan (with PT6A-114A [600 shp]) – Part No. D1309-13PH – S/N 208B0001 through 208B0178 and 208B0180 through 208B0229 Not modified by SK208-80, and 208B1079 and 208B0230 and On modified by SK208-84 – CAA Accepted as AIR 3333

FAA Approved AFM/POH Model 208B Grand Caravan EX (867 shp – Garmin 1000) – Part No. 208PHBCUS-01 – Serials 208B2197 and 208B5000 and On – CAA Accepted as AIR 3334

FAA Approved AFM/POH Model 208B Grand Caravan EX (867 shp – Garmin 1000 with Fairing) – Part No. 208PHBDUS-01 – Serials 208B2197 and 208B5000 and On – CAA Accepted as AIR 3336

(6) Operating Data for Aircraft, Engine and Propeller:

(i) *Maintenance Manual:*

D2078-13 – Cessna 208 (1985 & On) Maintenance Manual

D2079-13 – Cessna 208 (1985 & On) Wiring Diagram Manual

D5134-13 – Cessna 208 (1985 and on) Progressive Care Schedules

D5132-13 – Cessna 208 Series Structural Repair Manual

(ii) *Current service Information:*  
Service Bulletins

(iii) *Illustrated Parts Catalogue:*  
P688-12 – Cessna 208 (1985 & On) Parts Catalog

(7) Agreement from manufacturer to supply updates of data in (5) and (6):

All publications are now available directly to the CAA through the Cessna website:  
<http://techpubs.cessna.com/>

(8) Other information:

Report M-208-109 – Model 208 Electrical Load Analysis – 12 July 1984  
Report M-208-109 Add.1 – Model 208 ELA with Nickel Cadmium Battery

Report AEA-208-111 – Electrical Load Analysis Compliance Report – PT6A-140

Electrical Load Analysis for 208B New Zealand (spreadsheet)

Grand Caravan EX – Specification & Description – March 2013, Revision A –  
Units 208B-5000 and on

Grand Caravan – Optional Equipment Selection Guide – Effective for Aircraft to be  
Delivered in 2012 – Printed August 2011

## 5. Certification Issues

### Seating Capacity

In New Zealand the Model 208 Caravan has been approved for operation in the fourteen seat configuration in accordance with the provisions of the Fourteen Place Seating Supplement to the Model 208 Pilot's Operating handbook. (A similar Supplement is included in the Flight Manual for the 208B.) The 208 aircraft was "accepted on the basis of compliance with FAR23 excluding the wording of FAR 23.1(a); 'that have a passenger seating configuration, excluding pilot seats, of nine seats or less'." (See the letter on file 61/26/1 dated 4 July 1985 from the Chief Airworthiness Engineer Mr Ernie Labett.)

During the deliberation process at the time the CAA noted that the limitation to nine passenger seats introduced to FAR 23 by Amendment 23-10 was specifically stated as not applicable to Australian aircraft under their ANO Airworthiness Design Rules at the time, and file notes indicate a similar amendment to NZCAR C.1 was being proposed. Cessna also provided a letter which stated that Australia, UK, South Africa, Norway, Sweden, Kenya and Columbia had all accepted the Cessna 208 with more than nine passenger seats.

The situation was reviewed again in 2002 when another example was imported for a new operator. (The acceptance of 14 seats had been continued under the new Rules under the grandfathering provisions of Part 21 Appendix A.) Because the Cessna 208/208B had UK Type Certification for 14 occupants, this could have been the basis for type acceptance under CAR Part 21B in accordance with policy in effect at that time. Therefore no change was recommended to the accepted certification basis for the Cessna 208 Series in New Zealand. The UK TC has now been superseded by EASA Type Certificate IM.A.226. The 14 seat configuration has been approved by EASA, but only for the Model 208B.

Note that current CAA policy is to validate the State-of-Design type certificate as the basis of type acceptance under Part 21B. If type acceptance was applied for the Cessna 208 Series today the FAA limitation of a maximum of nine passengers would apply.

### Design Requirements

Because the aircraft is approved to carry up to 14 occupants in New Zealand, then by definition this must be the type certificated seating capacity of the aircraft. Therefore the provisions of CAR Part 26 Appendix C apply to the Cessna 208 Series aircraft.

### Maintenance Requirements

For the same reason under the provisions of CAR §43.54(a)(1) all Cessna 208 Series aircraft in New Zealand operating under a Part 119 or Part 115 certificate should be maintained by a Part 145 Maintenance Organisation. (See CAA Memo DW1271406-0.)

## 6. New Zealand Operational Rule Compliance

Compliance with the retrospective airworthiness requirements of NZCAR Part 26 is a prerequisite for the grant of a type acceptance certificate.

### Civil Aviation Rules Part 26

#### Subpart B – Additional Airworthiness Requirements

##### Appendix B – All Aircraft

PARA:	REQUIREMENT:	MEANS OF COMPLIANCE:
B.1	Marking of Doors and Emergency Exits	<i>To be determined on an individual aircraft basis</i>
B.2	Crew Protection Requirements – CAM 8 Appdx. B # .35	Not Applicable – Agricultural Aircraft only

##### Appendix C – Air Transport Aircraft – More than 9 Passengers

PARA:	REQUIREMENT:	MEANS OF COMPLIANCE:
C.1	Doors and Exits	Complies by inspection
C.2.1	Additional Emergency Exits – FAR §23.807(b) @ 10.5.93	208 Series has dual front pilot's exits plus a rear pax exit
C.2.2	Emergency Exit Evacuation Equipment – Descent means	N/A – Exits less than 2m or more from the ground
C.2.3	Emergency Exit Interior Marking – Size/self-illuminating	<b>NON-COMPLIANCE – Not fitted as standard</b>
C.3.1	Landing Gear Aural Warning – Automatic Flap Linking	FAR §23.729(f)(2)

Compliance with the following additional NZ operating requirements has been reviewed and were found to be covered by either the original certification requirements or the basic build standard of the aircraft, except as noted:

### Civil Aviation Rules Part 91

#### Subpart F – Instrument and Equipment Requirements

PARA:	REQUIREMENT:	MEANS OF COMPLIANCE:
91.505	Seating and Restraints – Safety belt/Shoulder Harness	FAR §23.785
91.507	Pax Information Signs – Smoking, safety belts fastened	<i>Refer to Cessna Drawing 2605082 Sheet 20002-1 of 3, Zone 14d, 15d. The S4438-1 placards are located above the windows in the cabin. [The placards on Drawing 2605082 have been production standard since Serial Numbers 208-570 and 208B-5194. The lighted sign has been standard fit since Serial Numbers 208-353 and 208B-929 (passenger aircraft only).]</i>
91.509 Min. VFR	(1) ASI (2) Machmeter (3) Altimeter (4) Magnetic Compass (5) Fuel Contents (6) Engine RPM (7) Oil Pressure	FAR §23.1303(a) 6 N/A – No mach limitations FAR §23.1303(b) FAR §23.1303(c) FAR §23.1305(a) FAR §23.1305(e) FAR §23.1305(b)
91.511 Night	(1) Turn and Slip (2) Position Lights	Fitted as std – See AFM/POH FAR §23.1385
91.513	VFR Communication Equipment	208 series is fitted as Standard with full IFR capability
91.517 IFR	(1) Gyroscopic AH (2) Gyroscopic DI (3) Gyro Power Supply (4) Sensitive Altimeter	208 series is fitted as Standard with full IFR capability – See AFM/POH section 7
91.519	IFR Communication and Navigation Equipment	208 series is fitted as Standard with full IFR capability
91.523	Emergency Equipment: (a) More than 9 pax – First Aid Kits per Table 7 – Fire Extinguishers per Table 8 (b) More than 20 pax – Axe readily accessible to crew (c) More than 61 pax – Portable Megaphones per Table 9	<i>To be determined on an individual aircraft basis</i> <i>To be determined on an individual aircraft basis</i> <i>Not Applicable – Less than 19 passengers</i> <i>Not Applicable – Less than 61 passengers</i>
91.529	ELT – TSO C91a or C126 after 1/4/97 (or replacement)	<i>To be determined on an individual aircraft basis</i>
91.531	Oxygen Indicators – Volume/Pressure/Delivery	<i>Operational Requirement – compliance as applicable</i>
91.533	Oxygen for Non-pressurised Aircraft: >30 min above FL100 – Supplemental for crew, 10% Pax – Therapeutic for 3% of Pax Above FL100 – Supplemental for all Crew, Pax;	<i>Operational Requirement – compliance as applicable</i> [The 208 Series is fitted with provisions for standard 10-port Cessna oxygen system – Available as an option – See AFM/POH Supplements 8 and 9]
91.541	SSR Transponder and Altitude Reporting Equipment	<i>Operational Requirement – compliance as applicable</i>
91.543	Altitude Alerting Device – Turbojet or Turbofan	Not Applicable – Not turbojet or turbofan powered
91.545	Assigned Altitude Indicator	<i>Operational Requirement – compliance as applicable</i>
A.15	ELT Installation Requirements	<i>To be determined on an individual aircraft basis</i>



## Civil Aviation Rules Part 125

## Subpart F – Instrument and Equipment Requirements

PARA:	REQUIREMENT:	MEANS OF COMPLIANCE:
125.53	(b) Aeroplane Airworthiness: (1) SEIFR – Turbine powered, IFR certified, Meets FAR 23 at Amendment 28, or equivalent (2) Engine/propeller combination must have 100,000 hours time-in-service and IFSD rate less than $1 \times 10^{-5}$	208 Series certification basis under FAA Type Certificate A37CE is FAR Part 23 including Amendment 23-28. Cessna 208B/PWC PT6A-140 accumulated fleet hours are 175,300 as of 2 February 2016, with 1 IFSD. (See PWC Letter dated Feb 2, 2016) Cessna 208/PWC PT6A-114/A accumulated fleet hours are 17,650,000 as of 2 February 2016, with IFSD rate of .003. (See PWC Letter)
125.355	Seating & Restraints – Shoulder harness (crew, SEIFR pax) For SE IFR dynamically tested and certificated to comply with standards equivalent to FAR 23 Amendment 36 (Introduced FAR §23.562 Emergency Landing Dynamic Conditions.)	FAR §23.785 <i>P/N 2619034 LH/RH Single-Place Pax fore/aft facing Seat and P/N 2619035 Two-Place Bench forward facing Seat have been tested to meet FAR §23.562. (except HIC) – See Cessna Report No: C-208-24-4 – Seat And Restraint System Dynamic Test Results – Date: November 17, 2014. (These seats are fitted as standard on s/n 208-0570 and on, and 208B-5194 and on, but may be retrofitted on earlier s/n.)</i>
125.357	Additional Instruments (powerplant/propeller reverse pitch)	FAR §23.1305 (All seat positions are equipped with seat belts and shoulder harnesses – See AFM section 7.)
125.359	Night Flight   Landing light, Pax compartment	<b>Operational Requirement – compliance as applicable</b>
125.361	(a) IFR – Additional independent ASI with heated pitot (or attitude) and sensitive altimeter; Spare bulbs and fuses (c) SEIFR Emergency electrical supply system of sufficient capacity for the following in event all engine-powered generating systems fail: (1) extension of landing gear, if appropriate (2) extension of flaps (3) operation of essential IFR systems (4) the higher electrical load of emergency descent from maximum operating altitude to sea level or minimum of one hour further flight. (d) SEIFR Equipment – (1) Additional independent engine-powered electrical generating system (2) Additional independent attitude indicator (3) IFR-Certified Area Navigation System+ (4) Radio/Radar Altimeter+ (5) Landing Light+ (+powered by emergency bus) (6) Sufficient oxygen for emergency descent (7) Powerplant certificated to FAR Part 33 Amendment 28, and fitted with: (i) Ignition system (automatic or manual) (ii) Magnetic particle detector system, with indicator (iii) Engine control system with FCU fail/malfunction (iv) Engine fire warning system	Second independent ASI and Altimeter fitted as standard. N/A – Spare bulbs and fuses not required. (1) Not applicable. Fixed landing gear. (2) Complies, even under battery power alone. * (3) Complies, even under battery power alone. * (4) While strictly not meeting the Rule, to manage this risk any operation involving a Caravan is under strict route restrictions. These ensure that reserve battery power would be adequate to return to the ground safely, despite not being able to make the one hour requirement, pending a Rule revision. (See Issue Assessment Paper 14/ISS/24, Regulatory Impact Statement 16/CAR/10, and NPRM 17-02) (1) Standby Alternator Optional (fitted as standard.)* (2) Additional attitude indicator fitted as standard. * (3) PFD1 and GIA1 can continue on battery power alone * (4) <i>KRA40B Radio Altimeter available as an option.*</i> (5) Fitted as standard * (6) Not applicable. Not pressurised. (7) PT6A-140 certification basis under Transport Canada Type Certificate E- 15 is FAR Part 33 at Amendment 33-5. Exemption 16/EXE/39 issued to accept an alternative engine certification basis that provides an equivalent level of safety. Magnetic chip detectors in AGB/RGB with CAS lights; Emergency power lever is directly connected to the FCU; * Fitted as standard – See AFM Section 7
	* See email from Textron Aviation dated 12 October 2015 – Applicable to G1000 aircraft	
125.363	Emergency Equipment (Part 91.523 (a) and (b))	<b>Operational Requirement – compliance as applicable</b>
125.365	Public Address and Crew Member Intercom System	<i>PA and Crew Intercom function is available through the GMA1347 audio panel with the G1000 installation, and the GMA1360D audio panel with the G1000NXi installation.</i>
125.367	Cockpit Voice Recorder – Appendix B.3: TSO C84/C123	Not Applicable – Flight Manual does not require 2 pilots
125.369	Flight Data Recorder – Appendix B.4 requires TSO C124	Not Applicable – Not multi-engine aircraft
125.371	Additional Attitude Indicator	Not Applicable – Not turbojet or turbofan powered
125.373	Weather Radar – Appendix B.6 requires TSO C63	Not Applicable – MCTOW less than 5700 kg.
125.375	Ground Proximity Warning System – App. B.7: TSO C92	Not Applicable – MCTOW less than 5700 kg.
125.377	AEDRS – Required for SE IFR – Meets Appendix B.8 (See 125.72 and 125.93 for operational requirements.)	Flight-Data Acquisition, Storage and Transmission (FAST) System meets Appendix B.8 (See PWC Doc. GN4-T-241) *
125.379	Terrain Awareness and Warning System (TAWS) Appendix B.9 requires TSO C151a or b	Not Applicable – MCTOW less than 5700 kg.
125.381	Airborne Collision Avoidance System (ACAS II) Appendix B.10 requires TSO C118/119a or C119b	Not Applicable – MCTOW less than 5700 kg. and less than 19 passenger seats

- NOTES: 1. A Design Rule reference in the Means of Compliance column indicates the Design Rule was exactly equivalent to the CAR requirement, and compliance is achieved for the basic aircraft type design by certification against the original Design Rule.
2. The CAR Compliance Tables above were correct at the time of issue of the Type Acceptance Report. The Rules may have changed since that date and should be checked individually.
3. Some means of compliance above are specific to a particular model/configuration. Compliance with Part 91/119 operating requirements should be checked in each case, particularly oxygen system capacity and emergency equipment. (Items in blue and italic above indicate conditional compliance subject to the specified equipment being installed, and must be checked on each individual aircraft.)
4. Non-Compliances highlighted in red above indicate the basic type design does not comply with the Rule, and some action will need to be taken before the aircraft can be accepted for that purpose.

## Attachments

The following documents form attachments to this report:

- Photographs of First-of-Type Cessna 208B serial number 0561 ZK-VAN
- Three-view drawing Cessna Model 208B Grand Caravan
- Copy of FAA Type Certificate Data Sheet Number A37CE

## Sign off

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David Gill  
Team Leader Airworthiness

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Checked – Greg Baum  
Acting Team Leader Product Certification

## Appendix 1

### List of Type Accepted Variants:

<i>Model:</i>	<i>Applicant:</i>	<i>CAA Work Request:</i>	<i>Date Granted:</i>
208 (600 shp)	AC 21-1.2/NZCAR Part 21 Appendix A(c)		
208B (675 shp)	Island Air Limited	97/21B/6	21 October 1996
208 (675 shp)	Izard Pacific Aviation Ltd	7/21B/7	4 September 2006
208, 208B (G1000)	Air Milford 2000 Ltd	14/21B/11	15 January 2014
208B (PT6A-140)	Cessna Aircraft Company	15/21B/21	11 October 2016
208/208B (G1000NXi)	Textron Aviation Inc.	20/21B/4	20 December 2019