

# CARAVAN



## Specification & Description

February 2013, Revision B  
Units 208-0546 and on

# SPECIFICATION AND DESCRIPTION

EFFECTIVE SERIAL NUMBER 208-0546 AND ON

FEBRUARY 2013

REVISION B

February 2013, Revision B

## INTRODUCTION

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This “Specification and Description” is published for the purpose of providing general information for the evaluation of the design, performance and equipment of the Cessna Caravan aircraft. Should more detailed data be required, it can be obtained by contacting:

Cessna Aircraft Company  
P.O. Box 7704  
Wichita, Kansas 67277  
Telephone: 316-517-6081  
Fax: 316-517-7850

This document describes only the Cessna Model 208 Caravan aircraft, Unit Serial Number 546 and on, and its powerplant and equipment.

Also included is the Cessna warranty applicable to the Cessna Model 208 Caravan aircraft and the Caravan Crew Training Agreement. In the event of any conflict or discrepancy between this document and the basic purchase agreement to which it may be appended, terms specified in the basic purchase agreement govern.

Due to the time span between the date of this Specification and Description and the scheduled delivery date of the aircraft, Cessna reserves the right to revise the “Specification and Description” whenever occasioned.

**WARNING:** This product contains Halon 1211 and Halon 1301. Furthermore, the product is manufactured with 1-1-1 Trichloroethane, substances which harm public health and environment by destroying ozone in the upper atmosphere.

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**MANUFACTURER** \_\_\_\_\_ **CESSNA AIRCRAFT COMPANY**  
**MODEL** \_\_\_\_\_ **208**

**1. GENERAL DESCRIPTION**

The Cessna Caravan is an unpressurized single-engine high wing turboprop aircraft with fixed landing gear. The aircraft can accommodate up to fourteen persons including a minimum crew of one. (Operations with more than nine passengers must be approved by the registering country's aviation authority.) Suitable allowance for luggage and optional equipment is also provided.

The powerplant is a Pratt and Whitney of Canada PT6A-114A turboprop engine mounted in the nose of the aircraft fuselage.

Certification basis is to U.S. FAA FAR Part 23 Requirements—day, night, VFR and IFR when equipped with the appropriate options. Export certification requirements may require additional equipment and charges.

**POWERPLANT** ..... Pratt & Whitney PT6A-114A 675 shp @ 1900 rpm

**PROPELLER** ..... McCauley, Anti - Ice ,Constant Speed, Full Feathering, Reversible Pitch, 3 Blades, 106 in. Diameter

**LOADING**

Wing ..... 28.6 lb/ft<sup>2</sup>  
 Power ..... 11.85 lb/shp

**APPROXIMATE DIMENSIONS**

**Overall Height** ..... 14 ft 10 in  
**Overall Length** ..... 37 ft 7 in

**Wing**

Span (overall) ..... 52 ft 1 in  
 Area ..... 279.40 ft<sup>2</sup>  
 Sweepback (at 50% chord) ..... 0 degrees  
 Dihedral ..... +3 degrees  
 Taper Ratio ..... 0.586  
 Aspect Ratio ..... 9.555  
 Mean Aerodynamic Chord..... 66.474 in

**Horizontal Tail**

Span (overall) ..... 20 ft 6 in  
 Area ..... 70.04 ft<sup>2</sup>  
 Sweepback ..... 0° at elevator hinge line  
 Dihedral ..... 0 degrees  
 Aspect Ratio ..... 6.0  
 Mean Aerodynamic Chord ..... 41.984 in

**Vertical Tail**

Height (overall) ..... 8 ft 2 in  
 Area (including dorsal fin) ..... 39.92 ft<sup>2</sup>  
 Sweepback ..... +9.437° at rudder hinge line

**Cabin Interior**

Height (floorboard to headliner)..... 4 ft 3 in  
 Length - Firewall to Aft Bulkhead (nominal) ..... 17 ft 4 in  
 Width (max.) ..... 5 ft 2 in

**Landing Gear**

Tread ..... 11.66 ft  
 Wheelbase ..... 11.62 ft  
 Tire Size - Main ..... 8.50 x 10, 8 ply  
 Tire Size - Nose ..... 22 x 8.00 x 8, 6 ply

**NOTES:**

1. Dimensions shown are based on standard empty weight and proper inflation of nose and main gear tires.

2. Wing span dimension includes strobe lights.

3. Maximum height shown with nose gear depressed as far as possible.

4. Wheel base length is 11'-71/2".

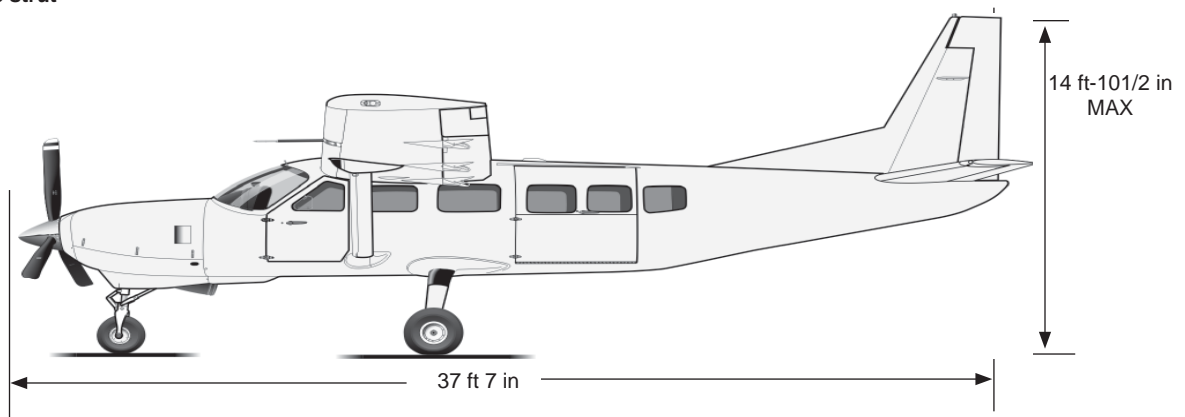
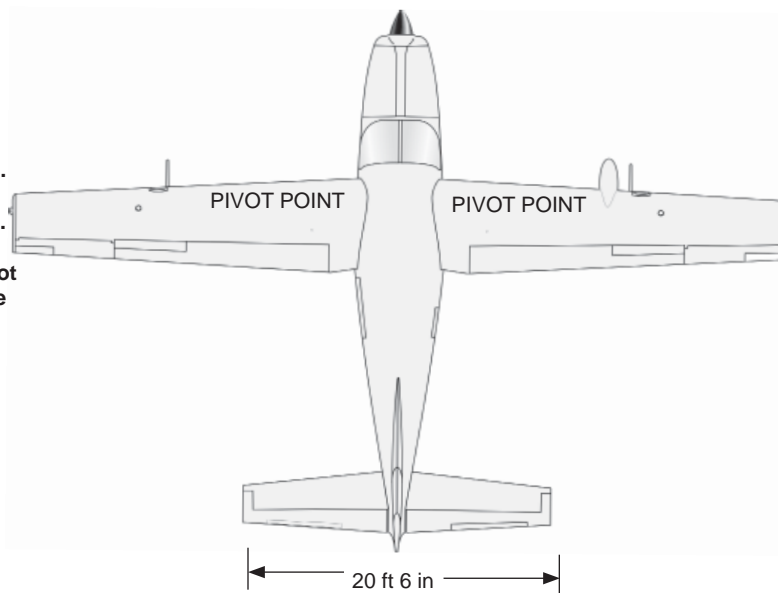
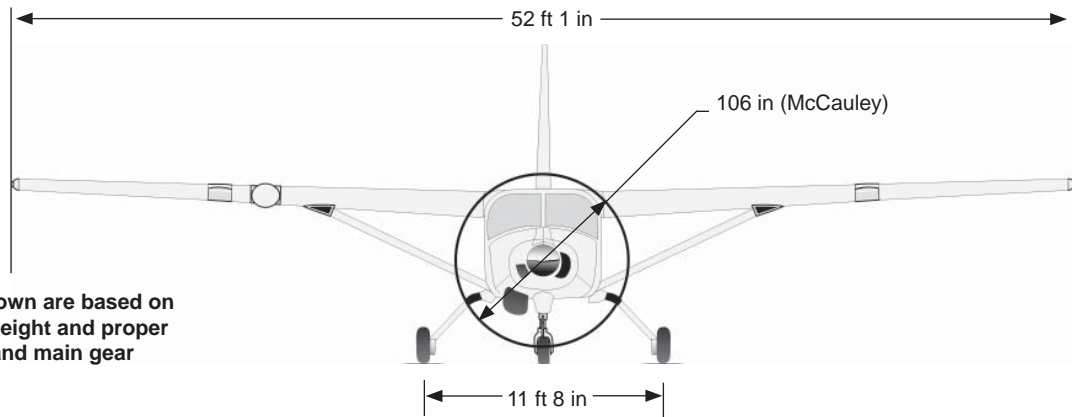
5. Wing area is 279.4 square feet.

6. Minimum turning radius (\* pivot point to outboard wing tip strobe light) is 33' - 8".

7. McCauley propeller ground clearance with standard tires and extended nose gear fork:

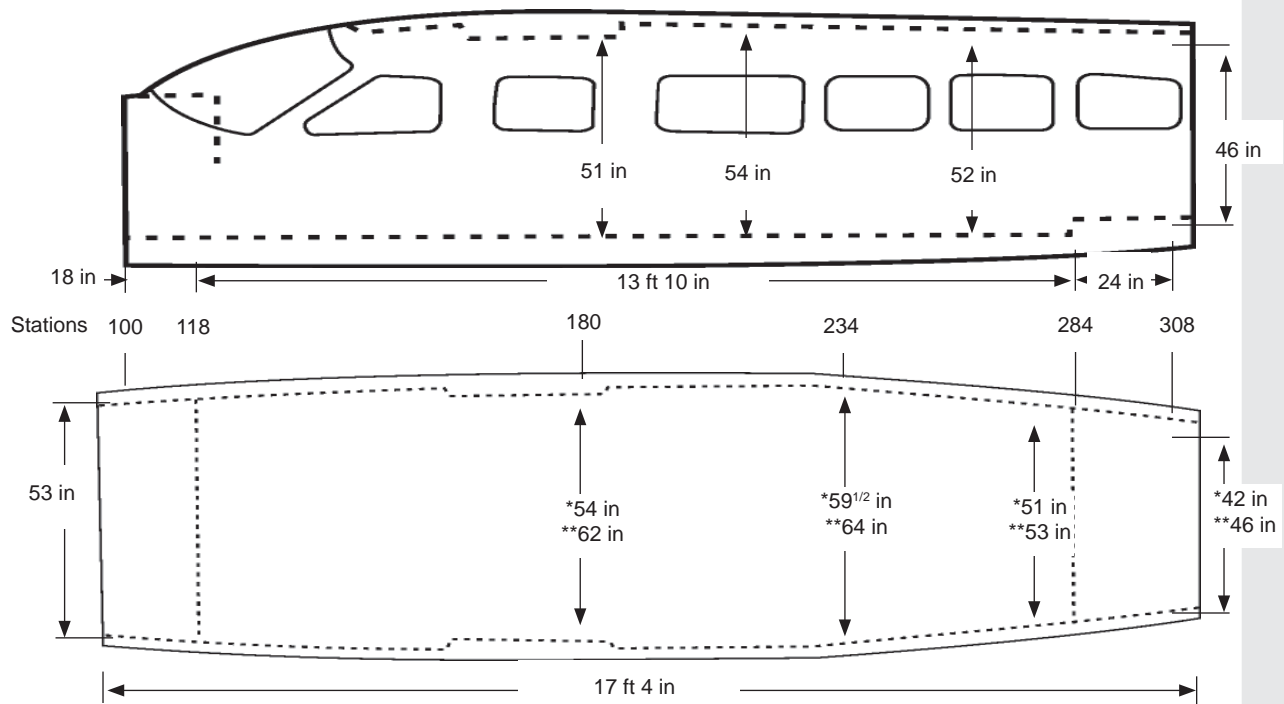
Nose tire inflated and nose gear barrel extended 41/2":19".

Nose tire deflated and nose strut fully compressed: 12".



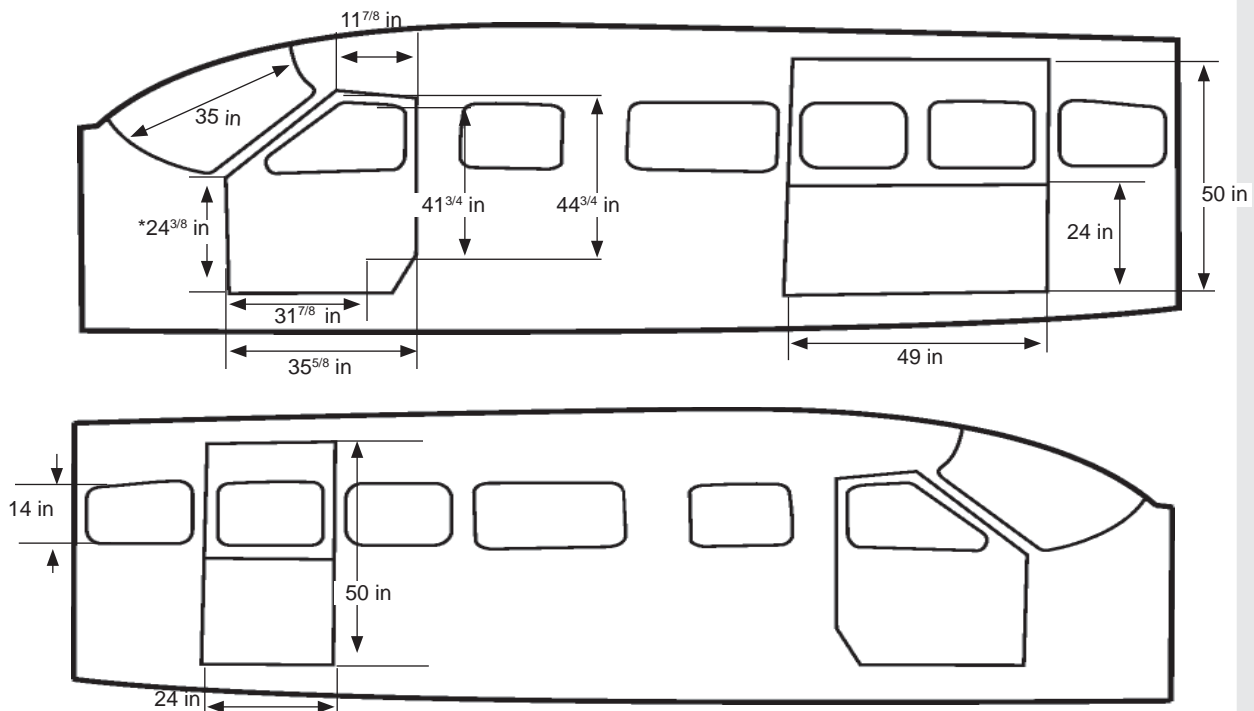
**FIGURE I — CARAVAN EXTERIOR DIMENSIONS**

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**CARAVAN CABIN DIMENSIONS**

**\*Dimensions at cabin floor \*\*Dimensions at lower window line**



**FIGURE II — CARAVAN DOORS AND WINDOWS DIMENSIONS**

## 1. GENERAL DESCRIPTION

### Design Weights and Capacities

Maximum Ramp Weight .....	8035 lb
Maximum Takeoff Weight .....	8000 lb
Maximum Landing Weight .....	7800 lb
Standard Empty Weight* .....	4239 Est. lb
Maximum Useful Load .....	3796 Est. lb
Fuel Capacity (usable) at 6.7 lb/gal .....	332 gal/2224 lb
Oil .....	14 qt

\* Approximate standard empty weight includes unusable fuel, full operating fluids and full engine oil.

## 2. PERFORMANCE

All performance data is based on a standard aircraft configuration in International Standard Atmosphere conditions. Takeoff and landing field lengths are based on level, hard surface, dry runways with zero wind. Actual performance will vary with individual airplanes and other factors such as environmental conditions and aircraft configuration.

Speed (Based on weight 8,000 lbs) .....	Without cargo pod
Max Cruise at 10,000 ft .....	186 kts
Max Cruise at 20,000 ft .....	174 kts
Range (with 2224 pounds usable fuel and fuel allowance for engine start, taxi, takeoff, climb, descent and 45 minutes reserve)	
Maximum Cruise Power at 10,000 ft .....	932 nm
Endurance .....	5.1 hr
Maximum Cruise Power at 20,000 ft .....	1220 nm
Endurance .....	7.13 hr
Maximum Range Power at 10,000 ft .....	1085 nm
Endurance .....	7 hr
Maximum Range Power at 20,000 ft .....	1295 nm
Endurance .....	8.3 hr
Rate of Climb at Sea Level .....	1234 fpm
Maximum Certified Altitude .....	25,000 ft
Takeoff Performance (sea level, 8000 lb)	
Ground Roll.....	
Total Distance Over 50 ft Obstacle .....	1160 ft
	2055 ft
Landing Performance (sea level, 7800 lb, no reverse)	
Ground Roll .....	715 ft
Total Distance Over 50 ft. Obstacle .....	1625 ft
Stall Speed, CAS	
Flaps Up, Idle Power .....	75 kts
Flaps Down, Idle Power .....	61 kts



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### 3. STRUCTURAL DESIGN CRITERIA

The Caravan certification basis is to FAR Part 23 normal category aircraft.

Design limit load factors are +3.8G, -1.52G at a maxi-

mum takeoff weight of 8,000 pounds. Ultimate loads are defined as 1.5 times the limit loads.

#### DESIGN SPEEDS

(All speeds are at maximum gross weight.)

Cruising Maximum Operating Limit ( $V_{MO}$ ).....	175 KCAS
Flap Extension Speeds	
0° to 10° .....	175 KCAS
10° to 20° .....	150 KCAS
20° to 30° .....	125 KCAS
Maneuvering Speed ( $V_A$ )	
8000 pounds .....	150 KCAS
6300 pounds.....	133 KCAS
4600 pounds.....	114 KCAS

### 4. FUSELAGE GROUP

Construction of the fuselage is of conventional formed sheet metal bulkhead, stringer and skin design. Major elements of the structure are the front carry-through spar and bulkhead, the rear carry-through spar and landing gear bulkhead, and the forward doorpost. The front carry-through spar and bulkhead is an integral fail-safe structure with forgings at the top for attaching the front wing spar and forgings at the bottom for attaching the wing strut. The rear carry-through and landing gear bulkhead is an integral fail-safe structure with forgings at the top for attaching the rear wing spar and forgings at the bottom for attaching the main landing gear trunnions. The forward doorpost provides the load path for transferring the loads from the engine mount directly to the primary structure.

pilot and front passenger seat location and through a two piece airstair-type door on the right side of the airplane just aft of the wing. A large cargo door is also provided on the left side of the airplane directly across from the airstair door. All doors can be opened with the flaps up or down.

The large cabin area provides comfortable space for a pilot and up to thirteen passengers. (Operations with more than nine passengers are limited to countries that issue approval.) Inside cabin dimensions are 51" high and 62" wide at the front and rear spar bulkhead locations. The cabin narrows slightly toward the tailcone to 52" high and 53" wide just aft of the cargo door. Total length of the cabin from the firewall to the aft bulkhead is 17 ft. 4 in. The cabin floor is flat with the exception of two feet in the aft cabin which is five inches above the main floor and makes up the aft cabin baggage area.

The left crew entry door incorporates a conventional door handle, key-operated Medco door lock, conventional interior door handle and window with a small triangular foul weather window. The foul weather window may be opened for additional ground ventilation. The right crew entry door incorporates a conventional outside and inside door handle and a manually operated inside door lock. A 4 inch deep x 5 1/2 inch Kydex storage area is incorporated into the interior width of both the left and right crew doors. Both doors have a maximum width of 35.65 inches and a maximum height of 44.75 inches and will open 180 degrees forward to latch against the side of the fuselage.

Cabin volume, including the pilot and aft cabin baggage area is 341.4 cubic feet. Total volume aft of the pilot and front passenger seat locations is approximately 254 cubic feet.

The passenger entry door consists of an upper and lower section. When opened, the upper section swings upward and the lower section drops down providing integral steps to aid in boarding or exiting the airplane. The door opening is approximately 24 inches wide and 50 inches high.

Entry to, and exit from the airplane is accomplished through an entry door on each side of the cabin at the

The primary opening is the two-piece cargo door installed on the left side of the airplane aft of the wing trailing edge. The cargo door is divided into an upper and lower section. When opened, the upper section swings upward and the lower section opens 180 degrees forward providing a large 49 inch wide by 50 inch high opening in the side of the fuselage which facilitates the loading of bulky cargo into the cabin. The door opening is flush with the

## 4. FUSELAGE GROUP (Continued)

floor and has square corners for maximum cargo loading capability.

The airplane is equipped with a two-piece plexiglass windshield reinforced with a metal center strip. Twelve side windows of the fixed type are installed in the cabin

sides including one each in the two crew entry doors, two windows in the upper section of the cargo door and one window in the upper section of the passenger entry door. The windshield and forward crew door windows are 5/16 inch and 1/4 inch thick respectively. All other windows are 3/16 inch thick tinted plexiglass.

## 5. WING GROUP

The Caravan utilizes conventional wings with NACA 23000 Series Airfoils. The externally braced, fail-safe wings are constructed of front and rear spars with formed sheet metal ribs, doublers and stringers. The entire structure is covered with aluminum skin.

The primary wing spars, wing carry-through spars in the fuselage and attaching structure are of fail-safe construction for limit flight loads. Fail-safe construction assures that the structure is designed and built in such a way that should any single structural component fail, the remaining structure is capable of carrying certified limit flight loads.

## 6. EMPENNAGE GROUP

The empennage consists of a conventional vertical stabilizer, rudder, horizontal stabilizer and elevator, all of which are constructed of a forward and aft spar with formed sheet metal ribs and aluminum skin panels. The horizontal stabilizer contains dual jack screw type actu-

tors for operating the elevator trim tabs. An elevator trim tab is attached to each elevator by full length piano-type hinges. Stabilizer abrasion boots are installed along the leading edge of the horizontal stabilizer.

## 7. LANDING GEAR

The landing gear is of the non-retracting, tricycle type with a steerable nose wheel and two main wheels. Shock absorption is provided by the tubular spring steel main landing gear struts with an inter-tube connecting the two outer tubes. The tires are tube-type; standard nose tire is 22 x 8.00 x 8, 6 ply and main gear tires are 8.50 x 10, 8 ply. The nose gear tire is mounted on an extended nose gear strut providing additional ground clearance. The nose gear shock absorption is provided by the oil snubber combined with a drag link spring providing vertical

and aft displacement restraint. Each main gear wheel is equipped with a hydraulically actuated four piston brake.

Nose gear steering is accomplished by using the rudder pedals which turns the nose wheel through an arc of approximately 15° each side of center. By applying either left or right brake, the degree of turn may be increased up to 51.5° each side of center. The minimum turning radius of the airplane, using differential braking and nose wheel steering during taxiing, is 33 feet 8 inches.

## 8. PROPULSION

### 8.1 Powerplant

The propulsion system consists of a single fuselage mounted Pratt and Whitney PT6A-114A turboprop engine. The PT6A-114A is flat rated to 675 shp at 1900 rpm. Time between overhaul for this engine is 3600 hours.

Conventional turboprop controls are used to operate the engine and propeller. They consist of a power lever, emergency power lever, propeller control lever and a fuel condition lever. The power and fuel condition levers are engine controls while the propeller control lever controls propeller speed. An emergency power lever is provided to manually control fuel supply to the engine should a malfunction occur in the fuel control unit.

Engine operation is monitored by the engine indication

system (EIS) which shows numeric readouts of critical engine, fuel and electrical indications for the following: torque, propeller speed, interstage temperature (ITT), gas generator % RPM (Ng), fuel flow, oil pressure, and oil temperature. A wet type standby engine torque gauge is also installed.

An inertial separator system is built into the engine air inlet duct to prevent moisture particles from entering the engine inlet plenum. The inertial separator system is mechanically controlled by a push-pull handle located on the left side of the instrument panel.

Engine ignition is provided by two igniters that are energized by the ignition exciter mounted on the right side of the engine compartment. Mounting provisions are provided for a standby ignition exciter unit.

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## 8. PROPULSION (Continued)

An Altair Digital ADAS Engine Trend Monitor is an engine trend recording device and an engine parameter exceedance monitor which will allow operators to monitor the health of the engine through periodic sampling of engine parameters. The engine trend monitor contains logic to determine when the aircraft is in a stable cruise flight regime before automatically taking a trend sample.

This is an advisory system only. The airplane's engine indication system is still the primary source of detecting and correcting conditions where engine limitations are exceeded. There are no additional aircraft limitations and no performance change with the Altair Engine Trend Monitor installed.

## 9. SYSTEMS

### 9.1 Flight Controls

The Caravan's flight control system consists of conventional aileron, elevator and rudder control surfaces. In addition, a pair of slot lip spoilers are mounted above the outboard ends of the flaps. The control surfaces are manually operated through mechanical linkage using a control wheel for the ailerons, spoilers and elevator and rudder/brake pedals for the rudder.

The rudder control utilizes a rudder pedal cable system driving the rudder. The floor mounted rudder bars are gear interconnected to maintain cable tension. Conventional design of inner torque tubes serve to allow co-pilot operation of the left-hand mounted brake cylinders. The brake cylinders have a remote reservoir mounted on the forward side of the engine firewall for convenient access.

Rudder trim system consists of a trim wheel driving a flex shaft which, in turn, adjusts rudder pressure.

The elevator control system features a conventional cable drive system. The elevator is connected to the cables by a bellcrank and push-pull rod.

Elevator trim is accomplished through two elevator trim tabs by utilizing the vertically mounted trim control wheel on the control pedestal. An electric elevator trim system is available with an autopilot installation.

The aileron control system is a combination of cables, quadrants, bellcranks and push-pull rods. A push-pull rod drives the ailerons.

An aileron trim system consists of a pedestal mounted control knob, cables, fail-safe actuator, pushrods and trim tabs. The left aileron incorporates a servo tab while the right aileron incorporates a trimmable servo tab.

A pair of slot lip spoilers mounted above the outboard ends

### 8.2 Propeller

The Caravan is equipped with a 106 inch diameter metal propeller. The three-blade, anti-ice, constant speed, full feathering, single acting, reversible pitch propeller is manufactured by McCauley, model 3GFR34C703. The propeller is controlled by a propeller governor and an overspeed governor mounted on and driven by the reduction gear-box. The overspeed governor acts as a safeguard against propeller overspeed should the primary propeller governor fail.

of the flaps are incorporated to improve low speed roll control. The spoilers are interconnected with the aileron system through a pushrod mounted to an arm on the aileron bellcrank. Spoiler travel is proportional to aileron up travel.

The single slotted, semi-fowler flaps are electrically driven and incorporate a trailing edge angle with leading edge vortex generators to reduce stall speed and provide enhanced lateral stability. A selector and mechanical type follow-up indicator is provided in the control pedestal. The flap system consists of an electrically driven screwjack actuator, a primary and standby motor, and a system of cables, bellcranks and pushrods connected to the flaps. The standby electric drive motor provides a back-up flap actuation system in the event of failure of the primary motor.

### 9.2 Fuel System

The Caravan fuel system consists of two vented integral fuel tanks (one in each wing formed by the front and rear spars), a fuel reservoir, engine fuel system, quantity and flow instrumentation, and the necessary lines, controls, valves and pumps to complete the system. Fuel system capacity is 335.6 U.S. gallons (332 gallons usable). Filling the fuel tanks is accomplished through filler caps in each wing.

Normal operation is with both tanks on. The pilot can mechanically select fuel from either left or right fuel tanks or both at the same time.

Fuel quantity is measured by four fuel level probes (two in each wing tank) and indicated on the engine indication system (EIS). The fuel quantity system is calibrated in gallons based on 6.7 pounds per gallon. Fuel quantity indications are displayed in pounds. Wing fuel level caution advisories, one for each wing tank, are provided through the crew advisory system (CAS). The appropriate FUEL LOW (CAS) message will illuminate when the fuel in the respective tank is approximately 25 gallons or less. A warning advisory is also provided to indicate low fuel level in the fuel reservoir tank.

## 9. SYSTEMS (Continued)

### 9.3 Electrical System

The Caravan is equipped with a 28-volt, direct-current electrical system. The system uses a 24-volt, 38ampere-hour sealed lead acid as a source of electrical energy and a 200-amp engine-driven starter generator. (An optional 300-amp engine-driven starter generator is available.) Power is supplied to most general electrical and all avionics circuits through two general buses, two avionics buses and a battery bus. The battery bus is energized continuously for ELT reset, clock, cabin/courtesy light functions and engine trend monitor processor.

A generator control unit provides the electrical control function necessary for the operation of the starter-generator.

Electrical system operation can be monitored on the Engine Indication System (EIS) display on the MFD (in normal mode). Battery Amps and Battery Volts can be viewed on either EIS page (Engine or System). Generator and (Standby) Alternator Amps can be viewed on the EIS System page. The Crew Alerting System (CAS) Annunciation Window is located on each Primary Flight Display (PFD) and can present appropriate messages (i.e. warning, caution and advisory) pertaining to various engine and aircraft systems as may be applicable.

A standard ground service plug receptacle permits the use of an external power source for cold weather starting or during maintenance work. Ground service circuitry is provided to prevent the external power and the battery from being connected together during starting, and incorporates polarity reversal and overvoltage protection. The external power receptacle is installed on the left side of the engine compartment near the firewall.

A standby electrical system is installed for use as a standby power source in the event the main generator system malfunctions in flight. The system includes a belt-driven alternator operated at a 75-amp capacity rating.

One automotive-style 12-volt power outlet is located in the cockpit. Two cabin power outlets in the passenger area are available as an option.

### 9.4 Lighting System

Exterior lighting consists of three navigation lights, two landing lights, two taxi/recognition lights, two strobe lights, a flashing beacon and two underwing courtesy lights. All exterior lights are controlled by toggle switches located on the lighting control panel on the left side of the instrument panel.

The G1000 instrument panel incorporates LED backlighting controlled manually through the instrument panel dimmer bus. When the dimmer bus is not used, photocell technol-

ogy automatically controls backlight adjustments to optimize display appearance through a broad range of cockpit lighting conditions. Other miscellaneous lighting provided include pilot and co-pilot control wheel map lights, cabin/courtesy lights, passenger reading lights and a no smoking/seat belt advisory sign.

### 9.5 Environmental System

The temperature and volume of airflow to the cabin is regulated by the cabin heating, ventilating and defrosting system. In the heating system, hot engine compressor outlet air is routed through system components to obtain the correct air temperature before air is routed to the cabin air distribution system. Controls are provided to direct the heated air to the forward and/or aft portions of the cabin for heating and to the windshield for defrosting.

Outside ventilating air is obtained from an inlet on each side of the forward fuselage and through two ram air inlets, one on each wing at the upper end of the wing struts. The wing ventilating air is routed through the wing into a plenum chamber located in the center of the cabin top. The plenum distributes the ventilating air to individual overhead outlets at each seat position. The forward fuselage ram air inlets provide ventilation through panel outlets to the flight deck.

A fan driven ventilation system provides supplemental cabin ventilation through two overhead mounted ventilators. An optional air conditioning system is available that provides comfortable cabin temperatures during hot weather operations, both on the ground or in flight.

### 9.6 Pitot-Static System

The left hand pitot-static system supplies ram air and static pressure to the number one AHRS (Attitude Heading Reference System), and also to the standby altimeter. The system is composed of a heated pitot-static tube mounted on the leading edge of the left wing, a static pressure alternate source valve, a drain valve located behind the instrument panel and the associated plumbing necessary to connect the instruments and sources.

The right hand pitot-static system supplies ram air and static pressure to the number two AHRS. The system is composed of a heated pitot-static tube mounted on the leading edge of the right wing, a drain valve located behind the instrument panel, and associated plumbing.

### 9.7 Vacuum System

A vacuum system provides the suction necessary to operate the standby attitude indication. Vacuum is obtained by passing regulated compressor bleed air through a vacuum ejector. The vacuum system consists of the bleed air pres-

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## 9. SYSTEMS (Continued)

sure regulator, a vacuum ejector, a vacuum relief valve, and a vacuum system air filter. The system is monitored via a warning flag on the standby attitude indicator.

### 9.8 Garmin G1000 Avionics System

The integrated avionics system incorporates 3 ten-inch displays; the pilot's primary flight display (PFD), the multi-function display (MFD) and the co-pilot's PFD. The system includes a single audio system control panel and a separate autopilot controller.

The fully integrated Garmin G1000 system will provide the following communication/navigation/surveillance (CNS) functions: Dual VHF NAV/Glideslope/Localizer receivers, dual VHF com transceivers, dual WAAS GPS receivers and Mode

S transponder. The KN-63 DME is an integrated display and offers Nav1/Nav2 switching. Crew alerts are displayed on the PFD.

The automatic flight control system (AFCS) incorporates a GFC-700 three-axis autopilot with pitch trim and GFC-710 autopilot controller.

Avionics cooling is provided by two cowl deck fans and three display fans. The cowl deck fans are powered from the electrical bus. The display fans provide cooling air to each of the three display units and are powered from the display power circuits.

Avionic circuit breakers are located on an exclusive panel located on the lower left-hand instrument panel..

## 10. CORROSION PROOFING

The Caravan includes corrosion proofing as standard equipment. Detail parts receive a chemical film conversion coating and are epoxy primed.

Interior surfaces of integral wing fuel bays are primed with a fuel resistant epoxy primer for corrosion protection.

Steel parts in contact with aluminum structure, in general, are cadmium-plated with a chromate dip. Fasteners

utilized in the joining process of the steel to aluminum assemblies are installed wet primed for improved corrosion protection.

The engine mount structure receives a heat resistant enamel finish providing protection in thermal environments up to 400° F.

Polyurethane paint is included as standard exterior paint.

## 11. FLOATPLANE

The The Caravan floatplane provisions consist of hoisting rings, inboard fuel filling ports, extended chord rudder, short airstair door cables (loose equipment), and microphone relocation.

The hoisting rings include four rings which attach to the left and right sides of both the front and rear spar wing-to-fuselage attach fittings. To gain access to the hoisting rings, it is necessary to remove the wing-to-fuselage fairing strips. Inboard fuel ports with anti-siphon doors provide an easily accessible fuel filler location when refueling on floats. Due to wing dihedral, use of inboard filler ports for refueling will reduce maximum usable fuel to 240 gallons. The extended chord rudder increases the surface area of the rudder to provide greater control when floats are installed on the aircraft. The hand microphone is located on the center pedestal to allow clearance for the emergency lever that is used to manually lower the wheels on the floats.

### Wipline 8000 Float Installation

The Caravan can be converted to a floatplane or an amphibian when equipped with Wipline 8000 Series Floats manufactured, installed and warranted by Wipaire, Inc. (The optional 300-amp starter/generator is not compatible with this installation.)

The floats are part of a Wipaire, Inc. STC and are installed by Wipaire, Inc. after aircraft acceptance and delivery from Cessna Aircraft Company. Wipline floats are FAA certified and TSO approved, and meet Federal CAR-3.372 buoyancy regulations for flooded compartments.

For additional information contact:

Wipaire, Inc.  
1700 Henry Avenue, Fleming Field,  
South St. Paul, MN 55075  
(651) 451-1205  
(651) 457-7875 fax  
sales@wipaire.com  
<http://www.wipaire.com>.

## 11. FLOATPLANE

The Following Performance Figures Are Provided By Wipaire, Inc. And Have Not Been Tested By Cessna Aircraft Company.

### Specifications For The 8000 Float

#### Dimensions (external)

Length - including extended nose gear & extended water rudder .....	30'-4"
Length - nose to stop .....	14'
Height - hull .....	3'-2"
Width - hull .....	3'-4"

#### Weight

Amphibious 8000 on the Cessna 208 Caravan .....	1446 lbs/976 lbs*
Seaplane 8000 on the Cessna 208 Caravan .....	1154 lbs/676 lbs*

\*Exchange = Float installation weight minus aircraft landing gear weight.

### Performance For The 8000 Float - Cessna 208 Caravan PT6A-114A (675 HP)

Cruise Speed (75%) .....	162 KTAS	
Take off run (land) .....	1,101 ft	
Take off over 50 ft. obstacle (land) .....	2,102 ft	
Take off run (water) .....	1,919 ft	
Take off over 50 ft. obstacle (water) .....	3,015 ft	
Rate of climb .....	1,110 ft/min	
Service ceiling .....	20,000 ft	
Gross weight (land & water) Requires Wipaire Gross Weight Kit STC .....	8,360 lbs	
Landing weight (land) Requires Wipaire Gross Weight Kit STC .....	7,800 lbs	
Landing weight (water) Requires Wipaire Gross Weight Kit STC .....	8,360 lbs	
Maximum ramp weight .....	8,035 lbs	
Maximum take off weight .....	8,000 lbs	
Maximum range* (cruise speed, 10,000 ft) .....	790 nmt	
Stall speed (landing configuration) .....	59 kts	
	Floatplane	Amphibian
Standard Empty Weight (Estimated) .....	5,393 lbs	5,685 lbs
Maximum Useful Load (Estimated) .....	2,967 lbs	2,675 lbs

\*Range based on 332 gal. usable fuel and includes takeoff, climb, descent and 30 minute reserve.

All performance data is estimated and will vary with individual airplanes and numerous factors affecting flight performance.

### Standard Garmin G1000 Avionics Package (Options also pictured)



FIGURE III — CARAVAN FLIGHT DECK

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## 12. STANDARD CARAVAN EQUIPMENT

### 12.1 AVIONICS

Standard Avionics Kit (includes Two Headsets)  
 Garmin G1000 System includes:  
 GDU 1040A Pilot & Co-Pilot Primary Flight Display (PFD)  
 GDU 1040A Multi Function Display (MFD)  
 GDC 74A Dual Air Data Computer (ADC)  
 GEA 71 Engine/Airframe Unit  
 GRS 77 Dual Attitude and Heading Reference System (AHRS)  
 GMA 1347 Single Audio System with Integrated Marker Beacon Receiver  
 GTX 33 Mode S Transponder  
 Garmin Relative Terrain/Obstacles  
 Garmin Flight Charts Capable  
 Garmin Safe Taxi Capable  
 KN-63 DME  
 Switch, Avionics Power (Two) (On-Off)  
 Artex ME-406 2-Frequency (Non-Nav Interfaced) ELT with Remote Switch and Monitor Light (Dorsal Fin Installation)  
 Avionics Cooling, (2) cowl deck fans and (3) display fans  
 PA System with Aft Cabin Speakers

### 12.2 ENGINE INDICATION SYSTEM (EIS)

**Displayed on MFD During Normal Operations:**

**Engine and Systems Displays - Show numeric read-outs of critical engine, fuel and electrical indications and calculations for the following:**

Torque  
 Interstage Turbine Temperature  
 Gas Generator Speed  
 Propeller Speed  
 Oil Pressure  
 Oil Temperature  
 Fuel Quantity  
 Fuel Flow  
 Ammeter/Voltmeter  
 Standby Engine Instrument:  
 Engine Torque Gauge, Wet Type  
 Altair Digital ADAS Engine Trend Monitoring System

### 12.3 FLIGHT INSTRUMENTS

**Indications Displayed on each PFD:**

Airspeed  
 Attitude with Slip/Skid Indication  
 Altitude  
 Vertical Deviation, Glideslope and Glidepath

Vertical Speed  
 Horizontal Situation Indication  
 Outside Air Temperature  
 System Time  
 Generic Timer  
 Wind Data  
 Standby Instruments  
 Airspeed Indicator  
 Attitude Gyro  
 Altimeter  
 Magnetic Compass  
 Heated Pitot System, Pilot & Co-Pilot  
 Alternate Static Source  
 Static Source Drains  
 Instrument Static System  
 Second Independent Pitot-Static System

### 12.4 FLIGHT CONTROLS

Brake, Parking  
 Brakes, Hydraulic, Toe-Operated  
 Control Cables — Corrosion Resistant Steel  
 Control Lock, Ailerons and Elevator  
 Flight Control System, Pilot & Co-Pilot (Includes All-Purpose Control Wheel, Pedals and Toe Brakes)  
 Friction Lock, Engine Controls  
 Powerplant, Quadrant Type Controls:  
 Condition Lever  
 Primary Engine Power  
 Back-Up Engine Power (Emergency Fuel Control)  
 Propeller, Speed and Feather  
 Rudder, Extended Chord  
 Rudder Gust Lock  
 Trim System (Aileron/Rudder (Manual), Elevator (Manual & Electric Pilot & Co-Pilot))  
 Wing Flaps, Electric Pre-Select with Standby Motor

### 12.5 ENVIRONMENTAL

Defroster, Windshield (Pilot and Copilot)  
 Heating System, Cabin (Bleed Air Type)  
 Soundproofing  
 Ventilation System, Cockpit (Ram Air)  
 Ventilator, Adjustable, Cabin Air  
 Ventilation System, Fan Driven

### 12.6 ELECTRICAL POWER

Battery, 24 Volt, 38 Amp/Hr, Sealed Lead-Acid  
 Battery Switch (On-Off)  
 Circuit Breakers, Electrical  
 Generator Control Unit  
 Generator Switch (Trip-On-Reset)  
 Ground Service Plug Receptacle

## 12. STANDARD CARAVAN EQUIPMENT (Continued)

Starter/Generator, 200 Amp  
 Generator Control Unit Mounting (Provisions for Mounting Standby Unit)  
 Power Outlet, 12V Cockpit  
 Standby Electrical System, 75 amp

### 12.7 EXTERIOR LIGHTS

Beacon – Omni Flash (Red)  
 Courtesy, Under Wing  
 Ice Detection  
 Landing, L.H. and R.H. (Wing Leading Edge-Outboard)  
 Navigation (3)  
 Strobe (2) Wing Tip Mounted  
 Taxi, L.H. and R.H. (Wing Leading Edge-Inboard)

### 12.8 INTERIOR LIGHTS

LED Backlit Instrument Panel Lighting  
 Map Light Control Wheel Mounted, Pilot & Co-Pilot (Variable Intensity)  
 Overhead Courtesy (3) (Aisle, Aft Cargo Area and Passenger Door)  
 Overhead Flood (Pilot and Copilot) (3)  
 Passenger Reading Lights (8)  
 Dimming Controls, Switch Panel, Avionics Circuit Breaker Panel, Left Hand Panel & Environmental Panel

### 12.9 POWERPLANT

Chip Detector Installation  
 Cowling, Rigid-Mounted (Quick Removable) Lower and Easily Openable Upper Sides  
 Cowl Locks, Medco  
 Engine Inlet Cover (2) & Propeller Tie-Down Sleeve  
 Engine, Turboprop PT6A-114A, 675 SHP, 3600 TBO  
 Engine Wash Ring (Integral)  
 Engine Support, Vibration Isolation  
 Filter, Integral, Full Flow Oil  
 Fire Detection System, Engine Compartment  
 Ignition System Excitor Unit Mounting (Provisions for Mounting Standby Unit)  
 Ignition System (Dual Ignitors)  
 Intake Inertial Separator (Manual)  
 Oil Cooler, High Capacity  
 Overspeed Governor  
 Propeller, 3 Blade Aluminum, Anti-Ice, Constant Speed, Full Feathering, Reversible – McCauley  
 Propeller Governor  
 Propeller Spinner (Polished)  
 Shielding, Engine Ignition  
 Shutdown Fuel Collector, Engine  
 Valve, Oil Quick Drain

### 12.10 FUEL SYSTEM

Fuel Boost Switch, Auxiliary  
 Fuel Caps with Anti-Siphon Doors  
 Fuel Control Heater, Engine  
 Fuel Filling Ports, (4)  
 Fuel Filter with Quick Drain  
 Fuel Low Level Warning System  
 Fuel Pump, Auxiliary (Electric)  
 Fuel Pump, Engine  
 Fuel Reservoir with Quick Drain  
 Fuel Selector Valves  
 Fuel Shutoff Valve  
 Fuel Tanks, 332 Gallons Usable  
 Fuel Valves, Quick Drain (8)  
 Fuel Vents, Non-Icing  
 Fuel Sampler Cup

### 12.11 INTERIOR

Aircraft Keys  
 Approach Plate Holder, L.H. & R.H.  
 Baggage Area Partition Net  
 Baggage Tie-Down Straps (4)  
 Beverage Cup Holders (Pilot and Copilot)  
 Cargo Tie-Down Fittings Provisions  
 Cargo Tie-Down Fittings (Baggage Area)  
 Checklist, Pilot's (Laminated)  
 Corrosion Proofing, Internal  
 Crew Door Storage Area LH, RH  
 De-Ice Partial Plumbing (Wing & Stabilizers) (Consists of Difficult to Install Plumbing)  
 Fire Extinguisher Cabin – Hand Type  
 Floor Covering, Lightweight Vinyl  
 Glareshield, Padded  
 Handbook, Customer Care, Includes Engine/Flight Logs, Warranty, Etc.  
 Handbook, Pilot's Operating  
 Headliner – Vinyl  
 Hooks, Clothes Hanger  
 Instrument Panel – Metal  
 Map/Glove Compartment  
 Oxygen System, Partial Installation (Consists of Difficult to Install Plumbing)  
 Passenger Door Cables, 2 Sets  
 Pilot and Co-pilot Restraint – Integral 5 Point Lap and Shoulder Harness with Inertial Reel  
 Pilot's LH Pre-Flight Assist Handle  
 Plotter, Weight & Balance (Cargo & Passengers)  
 Pockets, Map and Storage  
 Recorder, Flight Hour  
 Relocated Microphone Installation



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## 12. STANDARD CARAVAN EQUIPMENT (Continued)

Seats, Pilot & Copilot, Adjustable Fore, Aft and Vertical with Articulating Recline and Arm Rest  
Sign, Fasten Seat Belts & No Smoking  
Step, Cabin Entrance, Retractable (LH & RH Crew Entry Doors)  
Sunvisors, Rosen  
Window, Foul Weather, Pilot Door  
Windows Tinted All-Around

### 12.12 EXTERIOR

Anti-Precipitation Static Kit  
Bonding Straps, Control Surface (Aileron, Elevator and Rudder)  
Cargo Pod Provisions with Straight Stack  
Corrosion Proofing, External  
Door, Cargo, Two-Piece (Left Side of Aircraft, with Upper Door Unlocked Annunciator Light)  
Door, Copilot (Full Opening)  
Door, Pilot (Full Opening)  
Door, Passenger with Airstair Feature (Right Side of Aircraft with Upper Door Unlocked Annunciator Light)

Hoisting Rings  
Jack Points (Fuselage and Main Landing Gear)  
Landing Gear, Fixed, Nose, Steerable  
Landing Gear, Fixed, Main  
Lock, Key-Operated (One Key Fits All Doors)  
Paint, All Over (Modified Polyurethane)  
Stabilizer Abrasion Boots  
Stall Warning System, Heated  
Tires, 8.50 x 10, 8 Ply Main, 22 x 8.00, 6 ply Nose With Extended Nose Gear Fork  
Tie-Down Provisions, Aircraft  
Tow Bar  
Sunvisors, Rosen  
Window, Foul Weather, Pilot Door  
Windows Tinted All-Around  
Stall Warning System, Heated  
Tailstand  
Tires, Tube Type, with Extended Nose Gear Fork, Main 8.50 x 10, 8 ply  
Tie-Down Rings, Aircraft  
Tow Bar

## 13. DOCUMENTATION AND TECHNICAL PUBLICATIONS

U.S. Standard Airworthiness Certificate, FAA8100-2; Export Certificate of Airworthiness, FAA8130-4 or Special Airworthiness Certificate FAA8130-7 as appropriate;

- Equipment List
- Weight and Balance Report
- Garmin Cockpit Resource Guide
- Pilot's Operating Manual
- Abbreviated Procedures Checklist
- Log Books (Aircraft and Engines)

Additional Miscellaneous Information Concerning Engine and Airframe Support

- Passenger Briefing Cards
- Cessna CESCO Instruction Manual

### CESSNA TECHNICAL INFORMATION

Cessna makes available a complete system of manuals and catalogs for the operation and maintenance of the Caravan. All Cessna and related technical information is listed in the Cessna Customer Care Supplies and Publications Catalog.

Cessna manuals are kept current through periodic revisions. Aircraft operators and designated maintenance facilities can receive these revisions by mail through a subscription service. The subscription is free for the first year to owners of new aircraft. A subscription fee is charged thereafter.

The following manuals are provided on CD-ROM with the purchase of a new Caravan:

- Service Maintenance Manual
- Illustrated Parts Catalog
- Wiring Diagram Manual
- Structural Repair Manual
- Service Bulletins
- Avionics Wiring Diagram (custom diagram of the actual avionics installation)

The following materials are provided by Pratt & Whitney Canada:

- Combined Engine Maintenance Manual & Illustrated Parts Catalog CD
- One set Engine Service Bulletins Including Spare Parts Bulletins and Service Information Letters (Paper)
- Free revision coverage for one year
- Service Bulletins are also available by on-line or e-mail subscription at [www.pwc.ca](http://www.pwc.ca) or through the Pratt and Whitney Help Desk at (800) 268-8000.

### CESSNA REVISION STATUS CHECKLIST

The Revision Status Checklist is used to verify that only the most current Cessna maintenance and aircraft operation publications are in use. The checklist is available by subscription and is revised every 90 days.

## 13. DOCUMENTATION AND TECHNICAL PUBLICATIONS (Continued)

### CESSNA OWNER ADVISORY

Cessna Owner Advisories provide owners of Cessna aircraft up-to-the-minute information about mandatory and beneficial service requirements and the latest in product improvements. Owner Advisories summarize new Service Bulletins or Service Newsletters and indicate any action required by the owner, the time required for the owner to comply, and the existence of any associated "credit allowances."

Cessna Owner Advisories are mailed automatically to owners of U.S. registered Cessna aircraft using the

latest name and address provided to the FAA. Owner Advisories can be mailed to a different address by request, provided the subject aircraft is still covered by Cessna warranty. International owners of Cessna aircraft covered by Cessna warranty receive Owner Advisories through a complimentary subscription. After warranty expiration, international subscriptions are available, although a subscription fee will be charged. Revisions for the Pilot's Operating Handbook and Pilot's Abbreviated Checklist and/or Log of Approved Supplements are included with the Owner Advisory when applicable.

## 14. MAINTENANCE PROGRAMS

### CESCOM

Cessna will provide a computerized maintenance record service for one (1) full year from the date of delivery of a Cessna Caravan to the purchaser.

This service will provide owners and operators with the reports necessary for the efficient control of maintenance activities. It will provide an accurate and simple method of keeping up with aircraft components, inspections, service bulletins and airworthiness directives while providing permanent aircraft records of maintenance performed.

Reports will be available which reflect the aircraft status, upcoming scheduled maintenance and a recap of the previous month's reported maintenance activity. Semi-annual reports concerning projected annual maintenance requirements, component removal history and fleet-wide component reliability will also be available.

The on-line system is the standard service, however, a paper service is available at an additional charge. The on-line system is accessible using a local computer with Internet capability. Data is electronically transferred through Internet connections between the customer and Cessna on a regular basis to keep information up-to-date at both locations. In addition to the standard CESCOM reports, customer specific reports and maintenance records can be generated at the local computer whenever the customer wishes.

### CARAVAN PHASE CARD INSPECTION PROGRAM

The Caravan Phase Card Inspection Program is designed specifically for operators engaged in CFR 14, Part 135 and other high-use operations (minimum of 400 hours per year). Actual field experience demonstrates an average 30 percent reduction in scheduled maintenance labor hours over "progressive" or "periodic" inspection programs.

The Phase Card Program is accomplished using "work cards" which list specific tasks to achieve during each inspection. The work cards provide the mechanic with step-by-step, easy-to-follow instructions, service manual chapter references, special diagrams and applicable notes, cautions and warnings. The program is completed through twelve phases scheduled every 200 hours. A "mini-check" is performed at 100-hour intervals. This carefully scheduled and specifically planned program ensures a safer and more reliable aircraft through inspections conducted in a thorough, systematic, and deliberate manner.

### ALTAIR DATA ACQUISITION SYSTEM & TURBINE TRACKER

Cessna has chosen the Altair ADAS system as standard equipment on the Caravan to allow operators to easily monitor and maintain the aircraft engine.

The ADAS system records engine parameters, indicated airspeed, pressure altitude, outside air temperature, flight hour meter, battery voltage, and the positions of the particle separator, emergency power lever and bleed air cabin heat switch.

Data retrieval is handled using a special software program installed on a laptop or handheld computer. Data delivery is handled using the computer to transfer the aircraft data to the Turbine Tracker (tm) website. The Turbine Tracker (tm) website formats the data into customized reports for use as analysis tools.

### ENGINE CONDITION TREND MONITORING

Pratt & Whitney Canada developed this program for use with the PT6A-114 engines installed in Caravan aircraft. This is a system of calculating and graphically presenting recorded engine instruction indications. The recorded

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## 14. MAINTENANCE PROGRAMS (Continued)

indications are then mathematically adjusted for comparison of actual engine performance to typical engine performance characteristics.

Two important features are available to owners and operators using engine trend monitoring:

1. It allows for early detection of compressor and/or turbine deterioration, thereby minimizing secondary problems and overall repair costs.
2. It allows for hot section inspections to be accomplished on an "on condition" basis instead of at a scheduled recommended 1800-hour interval provided the following requirements are met:

\*Monitoring is implemented within the first 100 hours in service or after completion of the hot section inspection

\*Certain other requirements are met as stipulated by Pratt & Whitney

"On condition" hot sections are hot sections accomplished only when necessary, which results in significantly reduced operating costs.

### Open Account Information

With an active open account, Caravan owners are able to purchase spare parts at the current published list price directly from Cessna Parts Distribution. The open account can also be used to purchase Cessna publications and other items.

## PRATT & WHITNEY ENGINE MAINTENANCE PROGRAMS

### Fleet Services

The Fleet Services business unit offers "pay-by-the-hour" programs for both the airline and corporate markets. The airline program is entitled Fleet Management Program (FMP®) while the corporate program is entitled Eagle Service Plan (ESP®). The objective of these programs is to establish a stable, simplified engine management and financial planning tool, which will guarantee operating costs tailored to suit individual requirements.

These programs provide predictability of costs associated with engine maintenance and minimize the effort required for the operator to effectively manage its engines. These plans eliminate the risk of high cost surprises.

The programs currently offered include:

### Term Cost Plan (TCP®)

Under the TCP® the operator pays a guaranteed hourly rate on a monthly basis per engine flying hour. The rate is based on support services selected from a comprehensive menu of options.

### Event Cost Plan (ECP®)

As with the TCP®, the operator pays a guaranteed hourly rate per engine flying hour. The payment occurs for each individual engine at the time of its shop visit, where the charge is based upon the total engine hours flown by the engine since its last shop visit.

### Maintenance Cost Guarantee Plan (MCG®) - Airline

The MCG® is a not to exceed cost guarantee. No monthly payments are due. The operator covers the maintenance expenses as they occur and account reconciliation takes place at agreed intervals. If the agreed hourly rate is exceeded, the over run costs are settled in accordance with the terms of the agreement. The operator retains the full benefit of any cost under runs.

### Eagle Service Plan (ESP®)

Four plans are available for the corporate operator depending on the level of coverage selected. P&WC provides the operator with coverage of specified engine maintenance expenses in return for a monthly payment based on an established rate per engine operating hour.

Once signed on, you will benefit from having a P&WC representative dedicated to providing the essential coordination and support you expect.

Telephone Number: (450) 468-7681

Fax Number (450) 468-3772

## 15. LIMITED WARRANTIES

The standard Cessna Caravan Aircraft Limited Warranty which covers the aircraft, other than the Pratt & Whitney Canada (P&WC) engine and associated engine accessories, the Honeywell avionics, and the McCauley propeller which are warranted separately, is set forth below. Cessna specifically excludes vendor subscription services and the availability of vendor service providers for Optional and Customer Requested Equipment (CRQ) from Cessna's Limited Aircraft Warranty. Following Cessna's Limited Warranty, the engine and engine accessory warranty of P&WC, the avionics warranty of Honeywell, and the propeller warranty of McCauley are set forth. All warranties are incorporated by reference and made part of the Purchase Agreement. All warranties are administered by Cessna's Warranty Department.

### 15.1 Cessna Caravan Limited Warranty (Limited Warranty)

Cessna Aircraft Company ("Cessna") expressly warrants each new Cessna Caravan Aircraft (exclusive of engine and engine accessories supplied by P&WC, avionics supplied by Honeywell, and the propeller supplied by which are covered by their separate warranties), including other factory-installed avionics and other factory-installed optional equipment to be free from defects in material and workmanship under normal use and service for the following periods after delivery:

- (a) One (1) year unlimited hours OR two (2) years /1,000 hour limit on all aircraft components manufactured by Cessna;
- (b) Five years or 5,000 operating hours, whichever occurs first, for Garmin avionics;
- (c) One year for all Optional Avionics;
- (d) One year for Actuators, Brakes, GCUs, Starter Generators, Valves, Windshields, and Vendor items including engine accessories supplied by Cessna unless otherwise stated in the Optional Equipment and Selection Guide;
- (e) One year for CRQs, Interior Components, Interior Furnishings, and Paint.

Any remaining term of this Limited Warranty is automatically transferred to subsequent purchasers of the aircraft.

Cessna's obligation under this Limited Warranty is limited to repairing or replacing, in Cessna's sole discretion, with exchange, overhauled, or new parts, any part or parts which: (1) fail within the applicable warranty period, (2) are returned at the warranty recipient's expense to the

facility where the replacement part is procured, whether through Cessna Service Parts & Programs or a service facility authorized by Cessna to perform service on the aircraft (collectively "Support Facility"), (3) are accompanied by a properly executed claim form, and (4) are found by Cessna or its designee to be defective.

Replacement parts must be procured through a Support Facility and are only warranted for the remainder of the applicable original aircraft warranty period. A new warranty period is not established for replacement parts. The repair or replacement of defective parts under this Limited Warranty will be made by a service facility authorized by Cessna to perform service on the aircraft ("Authorized Service Facility") without charge to the warranty recipient for parts and/or labor for removal, installation, and/or actual repair of such defective parts. All expedited freight, transportation expenses, import duties, customs brokerage fees, sales taxes, and use taxes, if any, on such warranty repairs or replacement parts are the warranty recipient's sole responsibility. (Location of Authorized Service Facilities will be furnished by Cessna on request.)

This Limited Warranty applies to only items detailed herein which have been used, maintained, and operated in accordance with Cessna and other applicable manuals, bulletins, and other written instructions. However, this Limited Warranty does not apply to items that have been subjected to misuse, abuse, negligence, accident, or neglect; to items that have been installed, repaired, or altered by repair facilities not authorized by Cessna; or to items that, in the sole judgment of Cessna, have been installed, repaired, or altered by other than Authorized Service Facilities contrary to applicable manuals, bulletins, and/or other written instructions provided by Cessna so that the performance, stability, or reliability of such items are adversely affected. This Limited Warranty does not apply to normal maintenance services (such as engine adjustments, cleaning, control rigging, brake and other mechanical adjustments, and maintenance inspections); or to the replacement of service items (such as brake linings, lights, filters, de-ice boots, hoses, belts, tires, and rubber-like items); or to normal deterioration of appurtenances (such as paint, cabinetry, and upholstery), corrosion or structural components due to wear, exposure, and neglect.

**WITH THE EXCEPTION OF THE WARRANTY OF TITLE AND TO THE EXTENT ALLOWED BY APPLICABLE LAW, THIS LIMITED WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESSED**

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## 15. LIMITED WARRANTIES (Continued)

OR IMPLIED, IN FACT OR BY LAW, APPLICABLE TO THE AIRCRAFT. CESSNA SPECIFICALLY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THE AFOREMENTIONED REMEDIES OF REPAIR OR REPLACEMENT ARE THE ONLY REMEDIES UNDER THIS LIMITED WARRANTY. CESSNA EXPRESSLY AND SPECIFICALLY DISCLAIMS ALL OTHER REMEDIES, OBLIGATIONS, AND LIABILITIES, INCLUDING, BUT NOT LIMITED TO, LOSS OF AIRCRAFT USE, LOSS OF TIME, INCONVENIENCE, COMMERCIAL LOSS, LOSS OF PROFITS, LOSS OF GOODWILL, AND ANY AND ALL OTHER CONSEQUENTIAL AND INCIDENTAL DAMAGES. CESSNA NEITHER ASSUMES NOR AUTHORIZES ANYONE ELSE TO ASSUME ON ITS BEHALF ANY FURTHER OBLIGATIONS OR LIABILITIES PERTAINING TO THE AIRCRAFT NOT CONTAINED IN THIS LIMITED WARRANTY. THIS LIMITED WARRANTY SHALL BE CONSTRUED UNDER THE LAWS OF THE STATE OF KANSAS AND ANY DISPUTES AND/OR CLAIMS ARISING THEREFROM SHALL BE EXCLUSIVELY RESOLVED IN THE STATE AND/OR FEDERAL COURTS LOCATED IN WICHITA, KANSAS. THE PARTIES HERETO CONSENT TO PERSONAL JURISDICTION IN THE FORUM CHOSEN.

### 15.2 PRATT & WHITNEY CANADA INC. (Abbreviated New Engine Warranty)

Pratt & Whitney Canada Inc. (P&WC) warrants that each new PT6A-114A engine complete with installed accessories at time of delivery will be free from defects in material and manufacture. P&WC's liability and purchaser's remedy under this warranty are limited to the repair or replacement at P&WC's option of goods returned to P&WC or to a location designated by P&WC which are shown to P&WC's reasonable satisfaction to have been defective, provided that written notice of defect shall have been given by Purchaser to P&WC or its designee within one thousand (1,000) flying hours after delivery of the engine to the first user. The repair or replacement of defective goods under the Warranty will be made by P&WC or its designee without charge for parts or reasonable labor for removal, installation and/or actual repair of such defective goods, and reasonable transportation charges, except import duties, sales or use taxes, if any, on replacement. Transportation charges for the return of defective goods to P&WC or its designee and their reshipment to Purchaser and the risk of loss thereof will be borne by P&WC.

THE FOREGOING WARRANTIES ARE EXCLUSIVE AND ARE GIVEN AND ACCEPTED IN LIEU OF ANY AND ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTY OF MERCHANTABILITY AND ANY OBLIGATION, LIABILITY, RIGHT, CLAIM OR REMEDY IN CONTRACT OR TORT WHETHER OR NOT ARISING FROM P&WC'S NEGLIGENCE, ACTUAL OR IMPUTED. THE REMEDIES OF THE PURCHASER FOR ANY BREACH OF WARRANTY SHALL BE LIMITED TO THOSE PROVIDED HEREIN TO THE EXCLUSION OF ANY AND ALL OTHER REMEDIES INCLUDING, WITHOUT LIMITATION, INCIDENTAL OR CONSEQUENTIAL DAMAGES. NO VARIATION OR EXTENSION OF THE FOREGOING WARRANTIES, REMEDIES OR THIS LIMITATION WILL BE BINDING UPON P&WC UNLESS APPROVED IN WRITING BY A DULY AUTHORIZED OFFICER OF P&WC.

The above abbreviated warranty is for the purposes of the Specification and Description. For complete details of the PT6A-114A engine warranty, please refer to P&WC's full PT6A-114A warranty policy.

### 15.3 HONEYWELL

#### Honeywell/Bendix/King Warranty

A. General Aviation Avionic products manufactured by Honeywell/Bendix/King, General Aviation Division (collectively referred to herein as "Honeywell/Bendix/King") are warranted against defects in design, material or workmanship caused by Honeywell/Bendix/King or its authorized agent(s) for the Warranty Period as defined in Paragraph (B) of this statement which occur under normal and intended use and service, subject to all of the qualifications and conditions hereinafter stated.

1. Warranty coverage is only offered to purchasers who make warranty registrations within eighteen (18) months of the product's factory shipping date. Demonstration or stock aircraft usage is restricted to 100 hours service prior to warranty registration. Warranty coverage, therefore, may be unavailable or limited, depending upon the usage or time the product in question may have remained unsold in the custody of the O.E.M. (Original Equipment Manufacturer), his agent, or the retail dealer, a matter as to which the seller is expected to maintain accurate records and provide same, upon demand, to any purchaser or Honeywell/Bendix/King.

## 15. LIMITED WARRANTIES (Continued)

2. Warranty coverage for products otherwise not eligible by reason of expiration of the eighteen (18) month period specified above may again become eligible for warranty protection, provided (a) that warranty registration occurs within thirty (30) months of the product's factory shipping date and (b) that the products are submitted to Honeywell/Bendix/King for inspection and certification and then the promulgated Honeywell/Bendix/King certification fee is paid.

B. The Warranty Period for products shall begin upon the date of delivery of the product to the purchaser and shall end two years thereafter.

C. Any product Honeywell/Bendix/King finds to be in violation of the warranty as set out in Paragraph (A) hereof, at the option of Honeywell/Bendix/King, shall be repaired, replaced, or exchanged, in accordance with the following procedures:

1. Products shall be returned to an authorized Honeywell/Bendix/King Service Center or Honeywell/Bendix/King Regional Product Support Repair/Overhaul Facility, with transportation charges prepaid.

2. After correction, the products shall be returned to the purchaser with surface transportation charges prepaid, except for returns to purchasers in foreign countries.

3. The risk of loss or damage to all products in transit shall be borne by the party initiating the transportation of such products unless the purchaser makes a request for a specific mode of transportation. In such case, the risk of loss and the cost of shipment shall be borne by the purchaser.

All items repaired or replaced hereunder shall be warranted for the unexpired portion of the original Warranty Period.

D. This warranty specifically excludes defects which Honeywell/Bendix/King determines to be the result of:

1. Abuse, accident, or misuse;
2. Contamination, negligence, tampering, or improper storage or maintenance;
3. Repair or attempted repair by unauthorized per-

sons or use of non- Honeywell/Bendix/King or unauthorized repair or replacement parts; or

4. Products not installed by an authorized Honeywell/Bendix/King Installation Facility in accordance with the appropriate installation manual.

E. The Warranty as set out in paragraph (A) is the only warranty for Honeywell/Bendix/King General Aviation Avionics Products and is in lieu of all other warranties express or implied, including the implied warranties of merchantability and fitness for a particular purpose which are herewith expressly excluded and disclaimed.

F. The remedies as set out in Paragraph (C) hereof state the entire liability of Honeywell/Bendix/King and constitute the sole and exclusive remedy of the purchaser. Honeywell/Bendix/King shall not be liable for any other claim, loss, or damage, including, but not limited to incidental, consequential, or other kinds of damages whether based on contract, tort, negligence, or other theory of product liability.

G. Honeywell/Bendix/King reserves the right to make design changes, additions to, and improvements in its products without the obligation to install same in products previously manufactured.

### 15.4 McCAULEY LIMITED WARRANTY

Cessna Aircraft Company, McCauley Accessory Division, Wichita, Kansas, U.S.A. "McCAULEY," expressly warrants its new or remanufactured products therefore sold by McCauley to be free from defects in material and workmanship under normal use and service for a period of thirty six (36) months after delivery to the original retail purchaser.

McCauley's obligation under this warranty is limited to repairing or replacing, at its option, any part or parts which, within the thirty six (36) month period as above set forth shall be returned transportation charges pre-paid to McCauley at Wichita, Kansas or to any McCauley appointed Service Facility authorized by such appointment to service the McCauley product of the type involved and which upon examination shall disclose to McCauley's satisfaction to have been thus defective. Any remaining term of this Limited Warranty is transferable to subsequent purchasers.

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## 15. LIMITED WARRANTIES (Continued)

The repair or replacement of defective parts under this warranty will be made by McCauley or its authorized Service Facilities without charge for parts or labor for the actual repair of such defective parts, except import duties, sales or use taxes, if any, on replacements.

The provisions of this warranty do not apply to any McCauley products or service parts therefor which have been subject to misuse, negligence or accident or which shall have been repaired or altered outside of McCauley's factory in any way so as in the judgment of McCauley to affect adversely its performance, stability or reliability nor to normal maintenance service.

To the extent allowed by applicable law, THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED IN FACT OR BY LAW, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICU-

LAR PURPOSE. THE REMEDIES OF REPAIR OR REPLACEMENT AS ABOVE SET FORTH ARE THE ONLY REMEDIES UNDER THIS WARRANTY. McCAULEY DISCLAIMS ANY OBLIGATION OR LIABILITY WHETHER IN CONTRACT OR IN TORT (AND WHETHER FOR NEGLIGENCE, STRICT LIABILITY, PRODUCT LIABILITY OR OTHERWISE), INCLUDING LOSS OF USE OF THE PRODUCT WARRANTED, LOSS OF TIME, INCONVENIENCE, COMMERCIAL LOSS OR ANY OTHER DIRECT, CONSEQUENTIAL, SPECIAL OR INCIDENTAL DAMAGES. THIS WARRANTY IS IN LIEU OF ANY OTHER OBLIGATION OR LIABILITY ON THE PART OF McCAULEY TO ANYONE OF ANY NATURE WHATSOEVER by reason of the manufacture, sale, lease or use of the warranted products and McCauley neither assumes nor authorizes anyone to assume for it any other obligation or liability in connection with such warranted products.

## 16. CARAVAN CREW TRAINING AGREEMENT

Training for one (1) Caravan Crew will be furnished to First Retail Purchaser (hereinafter called the "Purchaser"), subject to the following:

1. A crew shall consist of up to two (2) licensed pilots with current experience for the training sought and one (1) mechanic with A&P licenses or equivalent experience.

2. Training shall be conducted by Cessna or by its designated training organization.

a. A simulator shall be utilized which is FAA certified to provide training to proficiency in accordance with trainer's standards.

b. In lieu of a model specific simulator, training will be provided in the most appropriate type simulator available.

c. Location of training to be Wichita, Kansas, unless mutually agreed otherwise. The organization conducting the training is hereinafter called the "Trainer."

3. Training furnished shall consist of the following:

a. Flight simulation training to simulator proficiency in accordance with Trainer's standards but not to exceed seven and one half (7.5) total hours for each pilot.

b. Ground School training for each pilot and classroom instruction for each mechanic in accordance with Trainer's standards.

c. Flight training to flight proficiency in accordance with Trainer's standards not to exceed five (5) total hours per pilot, shall be conducted in the customer's aircraft.

4. Purchaser shall be responsible for:

a. Transportation of crew to and from training site and for living expenses during training.

b. Providing an interpreter during the course of training for any of Purchaser's crew not conversant with the English language.

c. Payment to Trainer for additional simulator or flight training beyond that required to attain proficiency in accordance with Trainer's standards for the course in which the pilot is enrolled.

d. All aircraft for flight training as well as all landing fees, fuel costs, aircraft maintenance and insurance and all other direct costs of operation, including applicable taxes required in connection with the operation of said aircraft during such flight training.

e. Extra charges, if any, for scheduling pilots in separate training classes.

f. Reimbursing to Cessna the retail rate for training in the event of training before actual sale/delivery, if sale/delivery is cancelled.

## 16. CARAVAN CREW TRAINING AGREEMENT (Continued) \_\_\_\_\_

5. Seller or Trainer shall schedule all training, furnish Purchaser schedules of training and endeavor to schedule training at a convenient time for Purchaser. A cancellation fee of Two Hundred Dollars (\$200) will be paid by Purchaser if crew fails to appear for scheduled training, except for reasons beyond its reasonable control, unless Purchaser gives Seller written notice of cancellation received at Wichita, Kansas, at least seven (7) days prior to scheduled training. In the event of such cancellation Seller shall reschedule training for the next available class.

6. Neither Seller nor Trainer shall be responsible for the competency of Purchaser's crew during and after training. Trainer will make the same efforts to qualify Purchaser's crew as it makes in training of other Caravan crews; however, Seller and Trainer cannot guarantee Purchaser's crew shall qualify for any license, certificate or rating.

7. Neither Seller nor Trainer shall be responsible for any delay in providing training due to causes beyond its or their reasonable control.

8. All Training furnished to Purchaser under the Agreement will be scheduled to commence no earlier than three (3) months prior to delivery and will be completed within twelve (12) months after delivery of the aircraft unless mutually agreed otherwise.

Signature of the Purchaser to the Purchase Agreement to which this Training Agreement is attached as a part of the Specification and Description shall constitute acceptance by Purchaser of the foregoing terms and conditions relative to training to be furnished by Seller.

Purchaser agrees that Cessna may provide names, addresses and contact information to Trainer for the purpose of class enrollment.



