



# CESSNA CORVALIS TT

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MODEL 400



Initial \_\_\_\_\_

January 2011  
Beginning With Serial #411187

## Specification & Description

Exhibit "A"

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# **SPECIFICATION AND DESCRIPTION**

## **EXHIBIT “A”**

**JANUARY 2011**

**BEGINNING WITH SERIAL #411187**

January 2011

## INTRODUCTION

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This document is published for the purpose of providing general information for the evaluation of design, performance and equipment of the Corvalis TT Model 400. Should more information be required, please contact:

Cessna Aircraft Company  
Single Engine Piston Aircraft  
2625 S. Hoover Rd.  
Wichita, Kansas 67215  
1-800-4-CESSNA  
[www.se.cessna.com](http://www.se.cessna.com)

This document supersedes all previous Specification and Description documents and describes only the Corvalis TT Model 400, its powerplant and equipment. Also included are the warranties applicable to the Corvalis TT Model 400 aircraft, the Teledyne Continental TSIO-550-C engine and the installed Garmin avionics. In the event of any conflict or discrepancy between this

document and the basic purchase agreement, the basic purchase agreement language shall 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" whenever occasioned by product improvements, government regulations or other good cause.

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## 1. GENERAL DESCRIPTION

All information herein applies to the Corvalis TT Model 400. The Corvalis TT Model 400 is a pre-molded, composite built, semi-monocoque, four seat, single engine, low wing, tricycle design airplane. Suitable allowance for luggage is provided.

### 1.1 Certification

The Corvalis TT Model 400 is certified to the requirements of U.S. Federal Aviation Regulation Part 23 through amendment 23-46, including day, night, VFR and IFR.

### 1.2 Approximate Dimensions

Overall Height	9 ft 0 in (2.74m)
Overall Length	25 ft 4 in (7.74m)

#### Wing

Span (overall)	35 ft 10 in (10.92 m)
Area	141.2 sq ft (13.1sq m)

#### Cabin

Height (max)	49 in (124.5 cm)
Width (max)	49 in (124.5 cm)
Length (firewall to aft limit of baggage compartment)	140 in (354.6 cm)

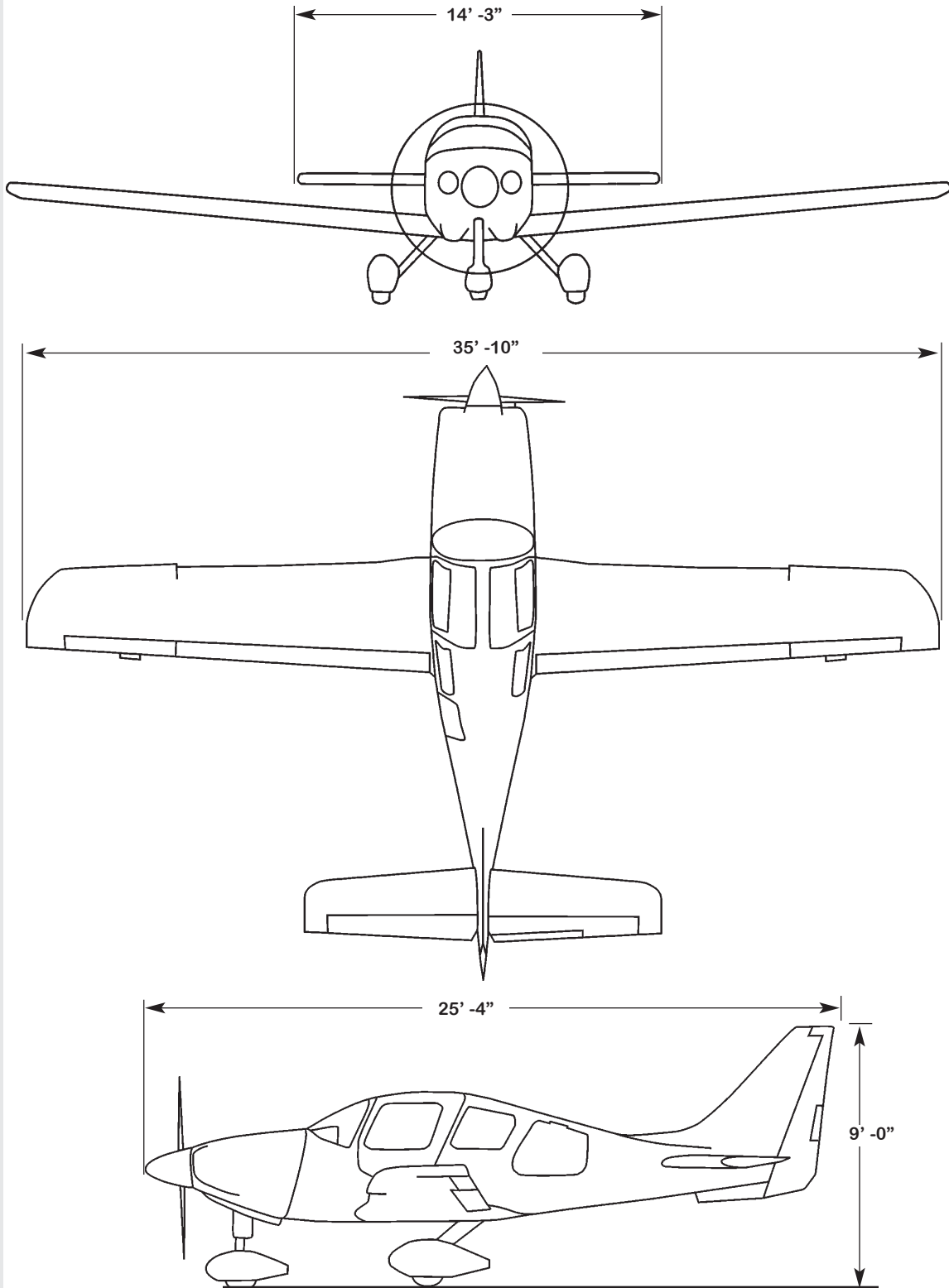
#### Cabin Door

Minimum Entry Width	33 in (83.8 cm)
Minimum Entry Height	33 in (83.8 cm)
Maximum Entry Clearance	46 in (116.8 cm)

#### Baggage Compartment

Maximum Baggage Compartment Width	39 in (97.8 cm)
Maximum Baggage Compartment Length	52 in (132 cm) (Including Shelf)
Maximum Baggage Compartment Height	35 in (87.6 cm)
Maximum Baggage Entry Width	28 in (71.1 cm) (Diagonal Measurement)

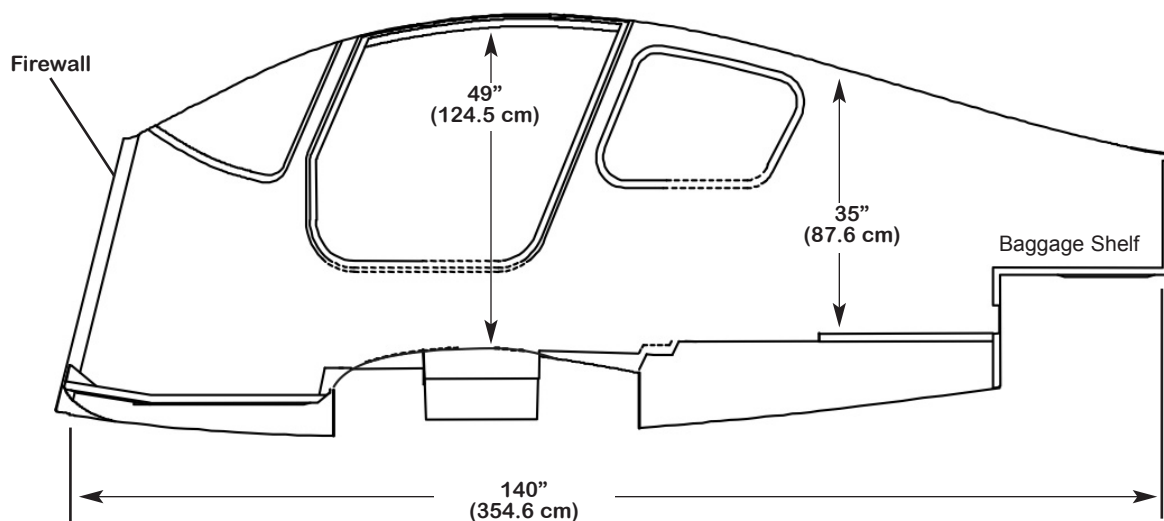
**1. GENERAL DESCRIPTION (Continued)**



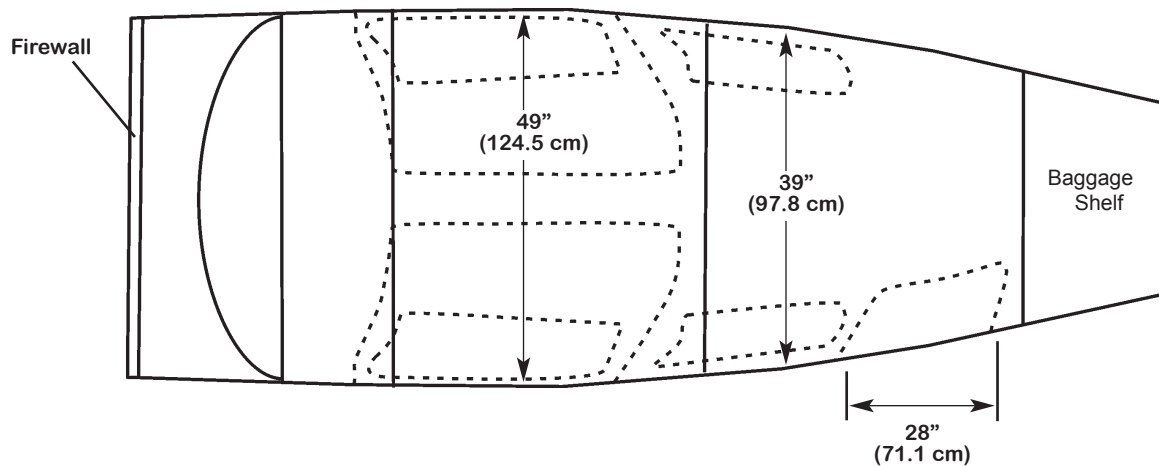
**FIGURE I — CORVALIS EXTERIOR DIMENSIONS**

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1. GENERAL DESCRIPTION (Continued)



**Cabin Height Dimensions**



**Cabin Width Dimensions**

**FIGURE II — CORVALIS INTERIOR DIMENSIONS**

## 1. GENERAL DESCRIPTION (Continued) \_\_\_\_\_

### 1.3 Design Weights and Capacities

Maximum Ramp Weight .....	3,600 lbs (1,633 kg)
Maximum Takeoff Weight .....	3,600 lbs (1,633 kg)
Maximum Landing Weight .....	3,420 lbs (1,551 kg)
Standard Empty Weight .....	2,575 lbs (1,168 kg)
Maximum Useful Load .....	1,025 lbs (465 kg)
Baggage Allowance .....	120 lbs (54.4kg)
Fuel Capacity	
Total Capacity .....	106 gal (401 L)
Total Useable .....	102 gal (386 L)
Total Capacity each Tank .....	.53 gal (201 L)
Oil Capacity	
Sump .....	.8 qts (7.6 L)
Total Capacity .....	10 qts (9.5 L)

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## 2. PERFORMANCE

All estimated performance data are based on airplane weights at 3,600 pounds; standard atmospheric conditions; level, hard surface, dry runways; and no wind. They are calculated values derived from flight tests

under carefully documented conditions and will vary with individual airplanes, pilots, and numerous other factors affecting flight performance.

Certified Ceiling .....	25,000 ft
Takeoff Distance Ground Roll (S.L.) .....	1,300 ft
Takeoff Distance To Clear 50 ft Obstacle (S.L.) .....	1,900 ft
Max Climb Rate (S.L., ISA, MTOW) .....	1,400 fpm
Max Cruise Speed (85% at 25,000 ft) .....	.235 kts / 270 mph
Economy Cruise Speed (55% at 25,000 ft) .....	.208 kts / 239 mph
Range at Max Cruise Speed (85% at 25,000 ft) .....	.825 nm
Range at Economy Cruise Speed (55% at 25,000 ft) .....	1,250 nm
Landing Distance Ground Roll (S.L., at Max Landing Weight 3,420 lbs) .....	1,250 ft
Landing Distance To Clear 50 ft Obstacle (S.L., at Max Landing Weight 3,420 lbs) .....	2,600 ft

## 3. POWERPLANT & ACCESSORIES

- Teledyne Continental TSIO-550-C Engine
- 310 HP @2600 RPM
- Twin Turbo-Charged / Twin Intercoolers
- Certified for 100LL & 100 Fuel
- Fuel Injection System
- High-Pressure Wet-Sump Oil System
- Oil Cooler
- Dual Intercoolers
- Bleed Air Heat
- Induction Air Filter
- Full Flow Oil Filter
- Throttle Control - Vernier
- Mixture Control - Vernier
- Propeller Control - Vernier
- Dual Ignition System
- Constant Speed, 3 Blade Metal Propeller with Blade Heaters
- Propeller Governor
- Propeller Spinner, Polished
- Electric Starter

## 4. CORVALIS TT MODEL 400 EQUIPMENT LIST

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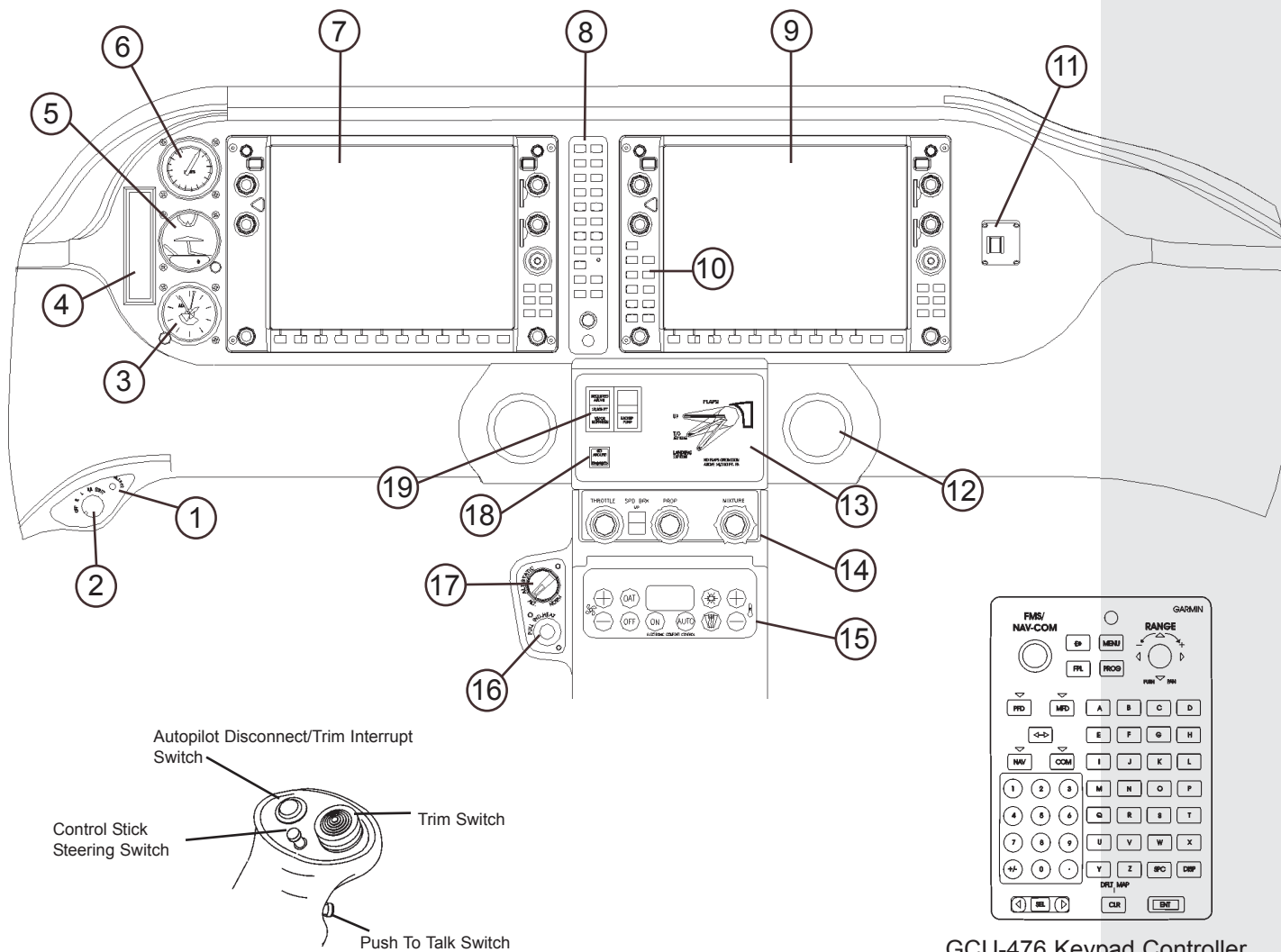
The following list of equipment is included on the standard aircraft and it does not reflect optional equipment.

### GARMIN G1000 Avionics Package

- GMA-1347 Digital Audio Panel w/Marker Beacon/Intercom
- GCU-476 Keypad Controller
- GTX-33 Transponder-Mode S w-TIS
- GIA-63W NAV/COM/GPS/WAAS w/GS #1
- GIA-63W NAV/COM/GPS/WAAS w/GS #2
- GDU-1040 Primary Flight Display (PFD)
- GDU-1044 Multi-Function Display (MFD)
- GEA-71 Engine/Airframe Computer
- GRS-77 AHRS
- GDC-74A Air Data Computer w/OAT Probe
- GMU-44 Magnetometer
- GDL-69A Flight Information System (FIS) w/XM Radio
- Terrain Awareness System (TAWS-B)
- Electronic Checklist
- GFC-700 Autopilot
  - Go-Around Switch
  - Electric Trim
  - A/P Disconnect
  - Control Stick Steering Button
- Garmin SafeTaxi & FliteCharts (FliteCharts do not provide Geosynchronous Positioning)
- Traffic Advisory System (TCAD 9900BX / TAS 620)
- Backup Airspeed, Altimeter and Attitude (Electric) Indicator
- Control Stick Push-To-Talk Switch-Pilot/Copilot
- Mic & Phone Jacks-Pilot/Copilot/Passengers (Bose and Standard)
- Antennas:
  - Marker Beacon Antenna
  - Transponder Antenna
  - WAAS (1)
  - GPS / XM Antenna (1)
  - COMM Antenna (2)
  - NAV Antenna
- Artex ELT-ME406 Emergency Locator Transmitter
- Pitot System - Heated
- Static System
- Alternate Static Source
- Synthetic Vision Technologies (SVT) - Garmin - Synthetic Vision utilizes GPS-based graphic technology providing virtual depiction of terrain and water features, complete with obstacles and, in the case of aircraft equipped with Traffic Alert and Collision Avoidance (TCAS) systems, airborne traffic, in 3-D perspective that allows pilots enhanced visual cues and improved situational awareness regardless of meteorological or lighting conditions.

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## 5. INSTRUMENT PANEL



GCU-476 Keypad Controller

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>1. Primer Switch</li> <li>2. Ignition Switch</li> <li>3. Backup Altimeter</li> <li>4. Pitot Heat, Door Seals, and Optional Switches</li> <li>5. Backup Attitude Indicator</li> <li>6. Backup Airspeed Indicator</li> <li>7. Primary Flight Display (PFD)</li> <li>8. Audio Panel</li> <li>9. Multi-Function Display (MFD)</li> <li>10. Autopilot Controls</li> </ul> | <ul style="list-style-type: none"> <li>11. ELT Remote Switch</li> <li>12. Air Vents (2)</li> <li>13. Flap Panel – Flap Switch and Annunciator</li> <li>14. Engine Controls</li> <li>15. Automatic Climate Control System (ACCS) Panel</li> <li>16. Heated Induction Air</li> <li>17. Alternate Static Air</li> <li>18. Go Around Switch</li> <li>19. Rocker Switches: Backup Fuel Pump and Vapor Suppression</li> </ul> |
|---|---|

FIGURE III — CORVALIS INSTRUMENT PANEL

## 6. ELECTRICAL POWER

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- Belt Driven Alternator, 28 Volts, 70 amps rated
- Gear Driven Alternator, 28 Volts, 70 amps rated
- Dual 28 Volt, 8.5 AH Batteries
- Dual Voltage Regulators, 28 Volt
- Cross-Tie ability during alternator failure
- Cold Weather starting ability with either Battery or both Batteries
- Battery Charging Circuit
- Digital Ammeter displaying either Both Batteries or Alternator Conditions on MFD
- Overhead Master Switch Panel
- Dual 12 Volt, 2 amp Auxiliary Power Outlets
- External Ground Power Plug

## 7. ENGINE INDICATING SYSTEM

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- Ammeter
- Voltmeter
- Manifold Pressure
- Oil Pressure and Temperature
- Tachometer - Hour Recorder
- Fuel Flow (GPH)
- LH/RH Fuel Quantity
- CHT - Cylinder Head Temperature (6)
- EGT - Exhaust Gas Temperature (6)
- TIT - Turbo Inlet Temperature (2)
- Annunciation – Caution and Warning Alerts (PFD)

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## 8. ENVIRONMENTAL

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- Automatic Climate Control System (ACCS)
- Built in Oxygen (4 Places)
- Individual Eyeball Vents
- Floor Vent System
- Defrosting System
- Insulation / Soundproofing

## 9. EXTERIOR

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- Fiberglass and Honeycomb Structure
- LH and RH Gull Wing Style Doors w/Lock and Key
- Remote Keyless Entry with Automatic Light System
- Pneumatic Door Seal System
- LH Cargo Door, w/Lock and Key
- Fixed Landing Gear w/castering Nose Wheel
- Lighted Entrance Step
- Entry Assist and Exit Handles
- Main Gear Fairings
- Nose Gear and Strut Fairings
- Tie Down Rings, LH/RH Wing & Tail
- Tube Type Tires
  - Nose – 5.00 X 5
  - Mains - 15x6.00 X 6
- Static Wicks (9)
- Emergency Exterior Door Release
- Rear Tinted Passenger Windows
- Winterization Kit - includes oil cooler door and ground adjustable flap over oil cooler to assist in obtaining optimal temperatures

## 10. EXTERIOR LIGHTS

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- Position, LH/RH Wing Tip
- Wing Tip Strobe, LH/RH
- Taxi Lights, LH Wing - HID
- Landing Light - HID

## 11. FLIGHT CONTROLS

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- Dual Hydraulic Brakes, Toe-Operated
- Parking Brake
- Dual Flight Controls - Aileron/Elevator/Rudder
- Speedbrake
- LH/RH Control Sticks, All Purpose Pilot/Copilot
- Pilot Control Stick
  - Pitch Trim
  - AP Disconnect
  - Control Stick Steering Button
- Go-Around Switch
- Electric Elevator/Aileron Trim
- Rudder Hold System

## 12. FUEL SYSTEM

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- Electric Auxiliary Fuel Pump
- Engine Driven Fuel Pump
- Integral Wet Wing Fuel Tanks, 102 Gal. Usable
- Fuel Selector Valve, Left//Right/Off
- Fuel Strainer, Incorporated with Fuselage Quick Drain
- Fuel Sampler Cup
- Fuel Vapor Suppression System

## 13. INTERIOR

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- Pilot and Copilot Control Sticks (2)
- Front Seat Eyeball Fresh Air Vents (2)
- Rear Seat Eyeball Fresh Air Vents (2)
- Air Conditioned, Controllable Air Vents (6)
- Reclining Front Sport Seats
- Rear Seat and Seatback Cushion
- Pilot's and Copilot's Three Point Restraint System
- Rear Seat Passengers Three Point Restraint System
- Baggage Tie Downs and Restraining Net
- Fire Extinguisher and Mounting Bracket
- Pilot's Check List
- Pilot's Operating Handbook
- Instrument Panel Glareshield
- Rosen Sun Visors
- Center Console Storage Area
- Radio Call Plate
- Console Headset Hanger and Flashlight Holder
- Rear Passenger Entry/Exit Assist Strap
- Pilot and Copilot Cupholders

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## 14. INTERIOR LIGHTING

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- Pilot/Copilot Cabin Overhead Flip Lights
- Overhead Reading Lights (4)
- Interior Lights Dimming Control
- LED Instrument Flood Bar
- Sub-Panel/Switch Panel Lighting (Backlighting)
  - GCU-476 Keypad Controller
  - Pitot Heat
  - Door Seals
  - Optional Equipment Switches
  - Flap Panel
  - Position Bar
  - Slide Dimmer Labels
  - Master Switches
  - Circuit Breaker panel
- LCD Lighted Glass Panel Displays:
  - Electronic Flight Instruments
  - Electronic Avionics Instruments
  - Electronic Engine Instruments
- Backup Attitude, Altimeter, Airspeed Internally Lighted

## 15. EXTERIOR STRIPING OPTIONS

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- Switchback Paint Styling
- Deschutes Paint Styling

## 16. OPTIONAL EQUIPMENT

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- Inadvertent Icing System - TKS  
*(Domestic availability on Serial Number 411138 and On.  
Delivery of the TKS system for EASA certified aircraft  
dependant upon EASA approval of the TKS STC)*
- ADF *(Available from 411142 and On)*
- DME *(Available from 411142 and On)*
- Custom Fit Aircraft Cover
- Remove Air-Conditioning  
*(If elected, Air Conditioning will be removed from the order  
and a credit to Standard Aircraft Price will be made)*

## 17. TRAINING

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- Cessna will offer one G1000 training course at no additional charge and one G1000 ground school course for a second person at no additional charge, with purchase of a new aircraft. This offer is valid for 12 months after aircraft delivery.

## 18. LIMITED WARRANTY

### 18.1 Cessna's Limited Warranty - Single Engine Piston Aircraft

Cessna warrants the aircraft and all parts included therein to be free from defects in material and workmanship under normal use and service for a period of twenty-four (24) months after delivery to the original retail purchaser or first user, except as hereafter noted. Engines, engine part accessories, avionics, batteries and propellers are specifically excluded from this limited warranty. Spare parts sold by Cessna, excluding engine part accessories, avionics and batteries are warranted for six (6) months after installation, except as hereafter noted. Paint is covered by a separate one (1) year warranty as defined in 18.2.

Cessna's obligation under this warranty is limited to repairing or replacing, at its option, with exchange, overhauled, or new parts, items found defective by Cessna's examination which are returned at the owner's expense within the applicable twenty-four (24) or six (6) month period (for spare parts only) to any authorized Cessna Service Station. A new warranty period is not established for replacement parts. Replacement parts are warranted only for the remainder of the applicable twenty-four (24) or six (6) month original warranty period.

The repair or replacement of defective parts under this limited warranty will be made without charge to the owner for parts and labor for removal, installation and/or actual repair, except that the owner shall pay all import duties, and sales and use taxes on replacements and repairs.

This limited warranty does not apply to parts subjected to misuse, negligence, improper installation, accident, alteration; repairs not authorized by Cessna; normal maintenance services (cleaning, control rigging, brake and other mechanical adjustments, maintenance inspections, etc.); replacement of service items (light bulbs, brake linings, filters, hoses, tires, cowl mounts, etc.); or to normal deterioration of soft trim or appearance items (upholstery, rubber-like items, etc.) due to corrosion, delamination, wear and exposure.

**TO THE EXTENT ALLOWED BY APPLICABLE LAW, THIS LIMITED 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 PARTICULAR PURPOSE. THE REMEDIES OF REPAIR OR REPLACEMENT, AS ABOVE SET FORTH, ARE THE ONLY REMEDIES UNDER THIS LIMITED WARRANTY. CESSNA 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 OF CESSNA OF ANY NATURE WHATSOEVER BY REASON OF THE MANUFACTURE, SALE OR LEASE OF SUCH AIRCRAFT PRODUCTS AND CESSNA NEITHER ASSUMES NOR AUTHORIZES ANYONE TO ASSUME FOR IT ANY OTHER OBLIGATION OR LIABILITY IN CONNECTION WITH SUCH AIRCRAFT PRODUCTS. COMPLIANCE AND/OR TIMELY COMPLIANCE WITH THIS LIMITED WARRANTY MAY BE AFFECTED IF EXPORT LICENSES ARE REQUIRED TO BE REQUESTED AND APPROVED BEFORE SPARE PARTS CAN BE SHIPPED TO CERTAIN FOREIGN COUNTRIES.**

### 18.2 Aircraft Paint And Graphics - Single Engine Piston Aircraft

Cessna endeavors to select and use high quality polyurethane paints from the leading manufacturers. Polyurethane paints and graphics are used because of their high gloss characteristics and ability to withstand dramatic temperature and pressure changes. The paint on your new aircraft will maintain its high gloss characteristics for an extended period of time provided it is cared for properly.

The painted exterior surfaces require an initial curing period which may be as long as ninety (90) days after the finish is applied. During this curing period, some precautions should be taken to avoid damaging the finish or interfering with the curing process. The finish should be cleaned only by washing with clean water and mild soap, followed by a water rinse and drying with a cloth or chamois. Do not use polish or wax, which would exclude air from the surface, during this ninety (90) day curing period. Once the finish has cured completely, it may be waxed with a good automotive wax, but power buffing should be avoided to prevent damage to the paint surface.

Normal paint maintenance will include but is not limited to; touchup of abrasion and wear of the paint on screws heads, around access panels, the radome, wing leading edges, vertical and horizontal stabilizer leading edges, windshield retainers and other leading edge surfaces including parts on the landing gear subject to damage or erosion from airborne particles. Proper maintenance includes keeping surfaces clean, polished, and touching up chipped or eroded areas to prevent further damage and corrosion.

Paint and graphics warranty applies only to defects in material and workmanship for a period of one (1) year from the Warranty Start Date. Deterioration of paint and graphics due to normal wear, exposure, or improper care is not covered by the warranty. If proper paint maintenance procedures have been followed and paint peeling, blistering or cracking is evident in areas other than

## 18. LIMITED WARRANTY (Continued)

immediate leading edge surfaces, warranty consideration may be requested through a Cessna Service Station.

Generally speaking, warranty repair of paint is confined to a limited surface area. Workmanship or material defects can usually be identified to localized surface areas that were improperly prepared prior to paint application, or to areas where the paint or subsurface primer has been improperly applied.

Complete strip and repaint of an entire airplane can ONLY be authorized if there is evidence of paint defects on several major surface areas of the aircraft. Contact your Cessna Field Service Engineer concerning paint defects on any major surface of an aircraft.

### 18.3 Teledyne Continental Motors - Platinum Engine Warranty

Each Platinum aircraft engine shipped from Teledyne Continental Motors' plant on or after August 1, 1999 is warranted as follows:

1. (a) For a period of twenty-four (24) months or until expiration of the recommended Time Between Overhaul (TBO) of the engine covered by this warranty, whichever occurs first, after the warranty activation date Teledyne Continental Motors (TCM) will at its option repair or replace on an exchange basis any engine, component or part manufactured or supplied by it which within the applicable twentyfour (24) month or TBO period is returned to a TCM representative authorized to handle the engine covered by this warranty and which upon examination is found to the satisfaction of TCM to be defective in material or workmanship. The warranty activation date is the date the engine is first operated for any use or the 180th day after TCM's invoice date, whichever occurs first.

(b) TCM will pay for reasonable labor costs associated with repairs or replacements under paragraph 1(a) under this warranty and for "troubleshooting" costs associated with identifying the need for such repairs or replacements when coordinated through an authorized TCM representative. The amount of repair and replacement labor costs allowed will be in accordance with the latest revision of the warranty labor allowance schedule, Form X30552, published by TCM. The amount of "troubleshooting" costs allowed will be the reasonable costs under the circumstances of identifying the need for such repairs or replacements, but in no event will the "troubleshooting" costs allowed exceed fifteen percent (15%) of the labor costs associated with such repairs or replacements allowed by TCM. No "troubleshooting" cost allowance will be made where the need for repairs or replacements is identified in the course of overhaul, routine maintenance or on the basis of an obvious defect.

(c) TCM will pay transportation costs in connection with the repair or replacement of any engine, component or part found to the satisfaction of TCM to be defective in material or workmanship under paragraph 1(a) of this warranty. The engine, component or part must be shipped prepaid to the repair facility designated by TCM. Transportation cost reimbursements for engines will be the actual surface freight charge or \$500.00, whichever is less. Engines must be described on the bill of lading as follows: "Internal combustion engine, other than Radial Cyl RVNX \$5.00". Transportation cost reimbursement for components or parts will be the actual surface freight charge for shipment of the component or part or the currently published UPS surface rate schedule, whichever is less.

2. (a) After the expiration of the applicable twenty-four (24) month period described above and before the expiration of an additional thirty-six (36) month period or expiration of the applicable recommended TBO for the engine covered by this warranty, whichever occurs first, TCM will, except as excluded below, at its option repair or replace on an exchange basis any component or part manufactured or supplied by it which is found to the satisfaction of TCM to be defective in material or workmanship. During this period TCM reserves the right at its option to replace the defective component or part with either a new or rebuilt engine or part. During this period TCM will not assume any responsibility for the repair or replacement of engine accessories, i.e. parts which have been purchased by TCM from a manufacturer as a complete and finished unit and included in the assembly of an engine without altering the unit, including, but not limited to Unison<sup>®</sup> magnetos and harnesses, Precision Airmotive Corporation<sup>®</sup> carburetors and fuel controls, Electrosystems<sup>®</sup> starters and alternators and Alliedsignal<sup>®</sup> and Consolidated Fuel Systems<sup>®</sup> turbochargers. During this period such engine accessories will be subject to such warranty coverage as may be provided by their manufacturer.

(b) In the event that TCM elects to repair in the field, rather than replace, any component or part under paragraph 2(a) of this warranty, TCM will pay labor costs for the repair of the component or part only. The amount of repair labor costs allowed will be in accordance with the latest revision of the warranty labor allowance schedule, Form X30552, published by TCM. TCM will not assume any responsibility for labor costs for the removal and/or re-installation of the engine or part, costs associated with "troubleshooting" or any other labor costs associated with repairs or replacements under paragraph 2(a) of this warranty.

(c) TCM will not assume any responsibility for transportation costs associated with repairs or replacements under paragraph 2(a) of this warranty.

3. The coverage under this warranty applicable to cylin-

## 18. LIMITED WARRANTY (Continued)

der assemblies and related parts shall be subject to the terms, conditions and limitations set forth in the applicable TCM TopCare<sup>SM</sup> Cylinder Warranty.

4. Repair or replacement of any engine or part under this warranty will not extend the period of warranty coverage set forth above.

5. This warranty applies only to engines in which parts manufactured or supplied by TCM or parts manufactured pursuant to an FAA Parts Manufacturer Approval have been used and nothing contained herein should be construed as a warranty by TCM of any engine or part not manufactured or supplied by TCM. TCM accepts no responsibility for the failure of any engine or part which it does not manufacture or supply or damage resulting from such damage.

6. This warranty applies only to engines which have been installed, inspected and maintained in accordance with the instructions for continued airworthiness, including compliance with all applicable service bulletins, issued by TCM, the aircraft manufacturer or any accessory or component manufacturer. Performance of recommended inspections and maintenance must be documented by appropriate logbook entries and the logbook must accompany any engine being returned for warranty consideration.

7. This warranty does not apply to any engine, component or part manufactured or supplied by TCM which (1) has been subject to misuse, neglect or accident; (2) has been installed, repaired, maintained or altered in any way that in the judgment of TCM has adversely affected the condition of the engine; (3) has been operated inconsistent with TCM and aircraft manufacturer recommendations and limitations (such as, but not limited to engine RPM, temperature, manifold pressure, fuel flow and proper system adjustment) or (4) has been changed from its original FAA certificated configuration.

8. TCM will not be responsible for repair or replacement of any engine, component or part damaged or worn as a result of corrosion, pre-ignition/detonation, operation with non-calibrated engine gauges, improper fuel system adjustment, non-TCM approved fuel and oil grades or additives or installation of parts, components or accessories that alter the engine's original type design.

9. The provisions of this warranty do not apply to normal maintenance service (such as engine tune-ups, adjustments, inspections, engine or component overhaul resulting from time between overhaul (TBO) recommendations, etc.) or to the replacement of normal service items (such as spark plugs, filters, hoses, belts, etc.).

10. TCM reserves the right to change any engine or part specifications or prices without incurring any responsibility with regard to engines or parts previously sold or replaced.

**11. THIS WARRANTY IS A WARRANTY TO REPAIR OR REPLACE AND NOT A WARRANTY OF THE CONDITION OR FUTURE PERFORMANCE OF THE PRODUCTS WHICH IT COVERS. THERE ARE NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, SPECIFICALLY, BUT WITHOUT LIMITATION, THERE ARE NO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT WILL TCM BE RESPONSIBLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF ANY DEFECT IN ANY ENGINE OR PART, ARISING OUT OF THE FAILURE OF ANY ENGINE OR PART TO OPERATE PROPERLY, OR ARISING OUT OF ANY BREACH OF THE WARRANTY MADE HEREIN. No person is authorized to give any other warranty or to assume any additional obligation or liability on behalf of TCM.**

### 18.4 McCauley Propeller Systems - Standard Limited Warranty

McCauley Propeller Systems, a Division of Cessna Aircraft Company, Wichita, Kansas, U.S.A., expressly warrants new and remanufactured products produced and 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 or until the expiration of the maximum hours of use or calendar limits for overhaul published by McCauley for the subject product, whichever occurs first.

McCauley's obligation under this limited warranty is limited to repairing or replacing, at its sole option, any propeller, propeller parts, governor or governor parts determined by McCauley to have been defective and which are properly returned by the owner, with a written statement describing the alleged defect, to any McCauley Authorized Service Center authorized to service the individual McCauley product. The repair or replacement of defective parts will be made without charge to the owner for parts, or labor for removal and installation, except export/import duties, and/or sales or use taxes, if any which are solely the owner's responsibility. McCauley will warrant a part replaced pursuant to this limited warranty under the same terms as the original part for the remainder of the applicable warranty period of the original part. This limited warranty is not intended to and does not cover the costs of normal maintenance of overhaul.

In addition, McCauley will repair or replace, at its option, any propeller, propeller parts, governor, or governor parts requiring replacement due to manufacturing defect if found at or before the first recommended overhaul interval as described in McCauley published service information. This first overhaul coverage does not include labor, standard overhaul replacement parts, parts repairable via published service information (replating, painting, etc.), other costs associated with the

## 18. LIMITED WARRANTY (Continued)

propeller or governor overhaul, or export/import duties, and/or sales or use taxes, nor does it apply to defects found after McCauley published overhaul hour or calendar limits. The provisions of this limited warranty do not apply to: any McCauley parts which have been subject to misuse, negligence or accident or which have been repaired or altered in any way that, in the sole judgment of McCauley, adversely affects their performance, stability or reliability; to normal maintenance services (such as cleaning, mechanical adjustments and maintenance inspections); to the replacement of service items made in connection with normal maintenance; to normal deterioration of soft trim and appearance items (such as paint and rubber-like items) due to wear and exposure; to propellers, governors or parts found defective beyond the McCauley recommended overhaul period; or to parts which have been improperly installed by entities other than McCauley and/or McCauley Authorized Service Centers.

The McCauley limited warranty is void on any new or remanufactured product installed, without McCauley's prior written approval, on a non-type certificated engine, or on any engine which has received an overhaul or modification which is not approved by the engine manufacturer and that results in a change to the vibratory environment of the engine such as, but not limited to, an alteration of horsepower, operating RPM, crankshaft damper configuration, compression ratio, magneto timing, camshaft design, or any other overhaul or modification not expressly approved by the original engine manufacturer. The McCauley limited warranty is also void on any McCauley product shipped new from the factory or distributor in disassembled state, then later re-assembled by an unauthorized party. Parties authorized to re-assemble factory-new product must have specific written permission from McCauley to do so, otherwise all McCauley warranty on the affected unit is void. No McCauley warranty coverage is offered for leakage on product assembled outside McCauley, regardless of the assembling party.

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 PARTICULAR PURPOSE. THE REMEDIES OF REPAIR OR REPLACEMENT SET FORTH HEREIN ARE THE ONLY REMEDIES UNDER THIS LIMITED WARRANTY. McCAULEY DISCLAIMS ANY OBLIGATION OR LIABILITY, WHETHER IN CONTRACT OR IN TORT, INCLUDING LOSS OF USE OF THE PRODUCT WARRANTED, LOSS OF TIME, INCONVENIENCE, LOSS OF PROFITS, COMMERCIAL LOSS, OR ANY OTHER DIRECT, CONSEQUENTIAL, SPECIAL, OR INCIDENTAL DAMAGES. THIS WARRANTY IS IN LIEU OF ANY OBLIGATION OR LIABILITY ON THE PART OF McCAULEY TO ANYONE OF ANY NATURE WHAT-**

**SOEVER 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. THE UNITED NATIONS CONVENTION ON CONTRACTS FOR THE INTERNATIONAL SALE OF GOODS, 1980, AND ANY SUCCESSOR THERETO, IS EXPRESSLY EXCLUDED FROM THIS WARRANTY.**

### 18.5 Garmin Avionics - Limited Warranty

#### **Aircraft OEM-Installed Avionics 2-Year Limited Warranty Policy**

This GARMIN Product is warranted to be free from defects in materials or workmanship for two years from the date of warranty activation. Within this period, GARMIN International, Inc. will at its sole option, repair or replace any components which fail in normal use. Such repairs or replacement will be made at no charge to the customer for parts or labor, provided that the customer shall be responsible for any transportation cost. This warranty does not cover failures due to abuse, misuse, accident or unauthorized alteration or repairs.

**THE WARRANTIES AND REMEDIES CONTAINED HEREIN ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED OR STATUTORY, INCLUDING ANY LIABILITY ARISING UNDER ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, STATUTORY OR OTHERWISE. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, WHICH MAY VARY FROM STATE TO STATE.**

**IN NO EVENT SHALL GARMIN BE LIABLE FOR ANY INCIDENTAL, SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, WHETHER RESULTING FROM THE USE, MISUSE OR INABILITY TO USE THIS PRODUCT OR FROM DEFECTS IN THE PRODUCT.** Some states do not allow the exclusion of incidental or consequential damages, so the above limitations may not apply to you.

GARMIN retains the exclusive right to repair or replace the product or offer a full refund of the purchase price at its sole discretion. **SUCH REMEDY SHALL BE YOUR SOLE AND EXCLUSIVE REMEDY FOR ANY BREACH OF WARRANTY.**

To obtain warranty service, contact your local GARMIN authorized Service Center. For assistance in locating a Service Center near you, call GARMIN Customer Service at one of the numbers shown below.

## 18. LIMITED WARRANTY (Continued)

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**GARMIN International**  
1200 East 151st Street  
Olathe, Kansas 66062, U.S.A.  
Toll free: 1-800-800-1020  
Phone: 1-913-397-8200  
FAX: 1-913-397-0836

**GARMIN (Europe) Ltd.**  
Unit 5, The Quadrangle  
Abbey Park Industrial Estate  
Romsey, SO51 9AQ, U.K.  
Phone: 44-1794-519944  
FAX: 44-1794-519222  
Visit our web site at: [www.garmin.com](http://www.garmin.com)

