

TURBO SKYLANE JT-A

MODEL J182T



Specification & Description

Initial _____

Preliminary
April 2014, Revision C
Beginning with Serial # J182T00001

Exhibit "A"



**SPECIFICATION AND DESCRIPTION
EXHIBIT “A”**

APRIL 2014

PRELIMINARY

REVISION C

BEGINNING WITH SERIAL # J182T00001

April 2014, Preliminary Revision C

INTRODUCTION

This document is published for the purpose of providing general information for the evaluation of design, performance and equipment of the Cessna Turbo Skylane. 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

This document supersedes all previous Specification and Description documents and describes only the Turbo Skylane Model J182T, its powerplant and equipment. Also included are the warranties applicable to the Turbo Skylane Model J182T aircraft, the SMA SR305-230E-C1 Engine, the Hartzell propeller and OEM-installed Garmin avionics, and L3 communications 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 Turbo Skylane (Model J182T). The Skylane aircraft is an all-metal, single-engine piston, high-wing monoplane with a four-person seating capacity including a crew of one or two. Suitable allowance for luggage is provided.

1.1 Certification

The Model J182T is certified to the requirements of U.S. FAA Federal Aviation Regulation Part 23 through amendment 23-6, including day, night, VFR and IFR.

1.2 Approximate Dimensions

Overall Height 9 ft 4 in (2.84 m)
 Overall Length 28 ft 6 in (8.68 m)

Wing

Span (overall)36 ft (10.97 m)
 Area174 sq ft (16.2 sq m)

Cabin

Height (max)48.5 in (1.23 m)
 Width (trim to trim) 42 in (1.07 m)
 Length (firewall to aft baggage bulkhead) 134 in (3.40 m)

Cabin Door

Height (front) 41 in (1.04 m)
 Height (rear)38.5 in (0.98 m)
 Width (top) 32 in (0.81 m)
 Width (bottom) 36.5 in (0.93 m)

Baggage Door

Height (front)22 in (0.56 m)
 Height (rear)20.5 in (0.52 m)
 Width15.8 in (0.40 m)

1. GENERAL DESCRIPTION (Continued)

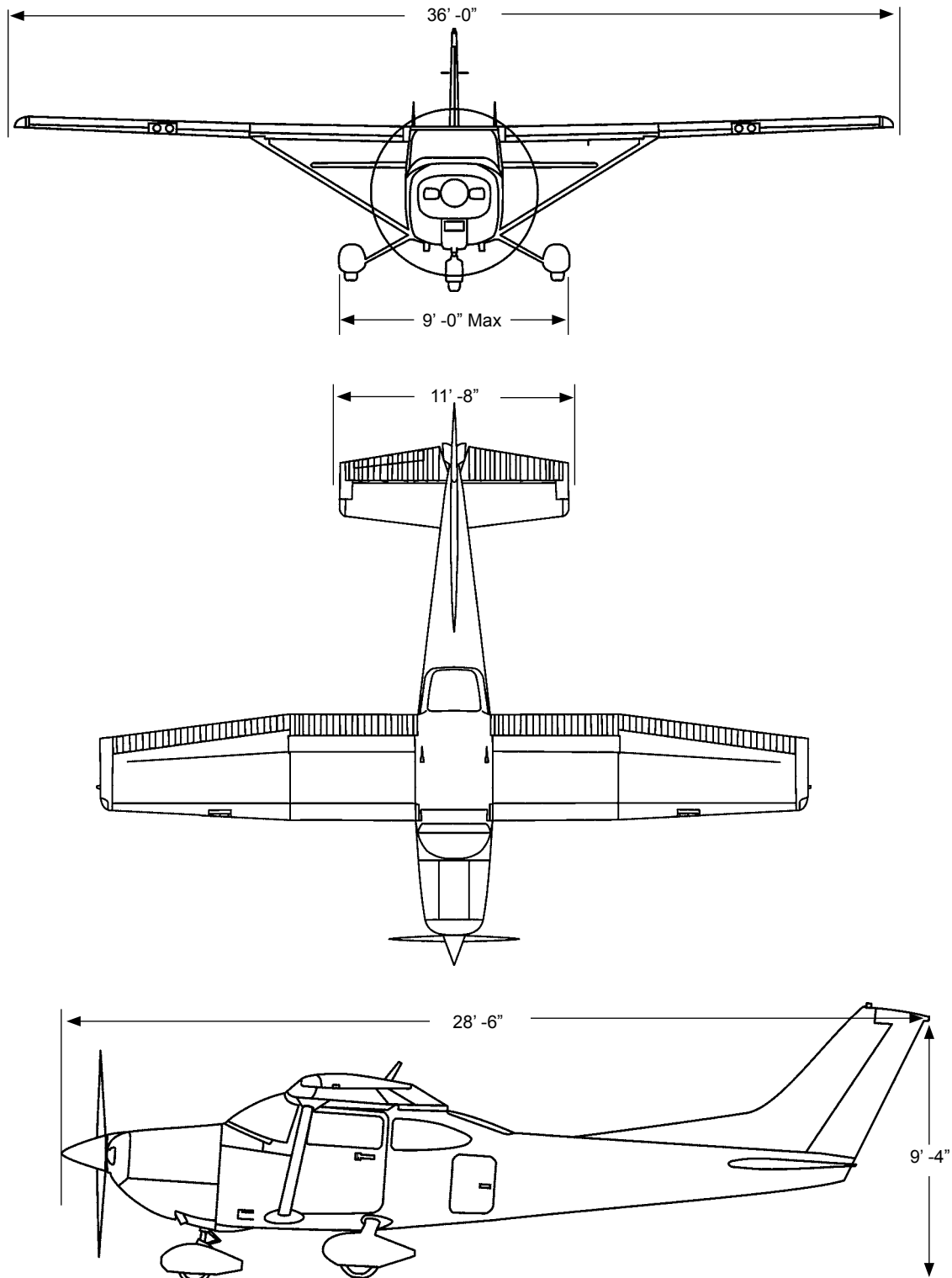
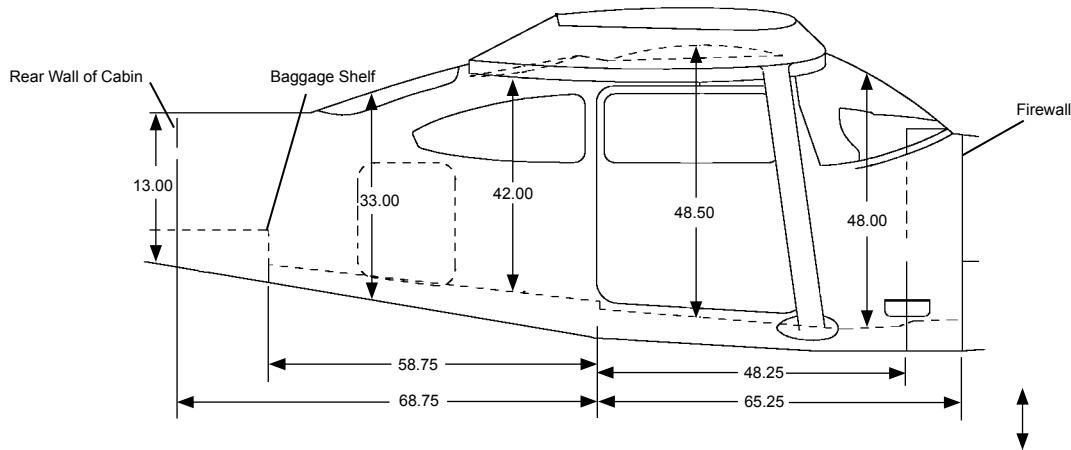


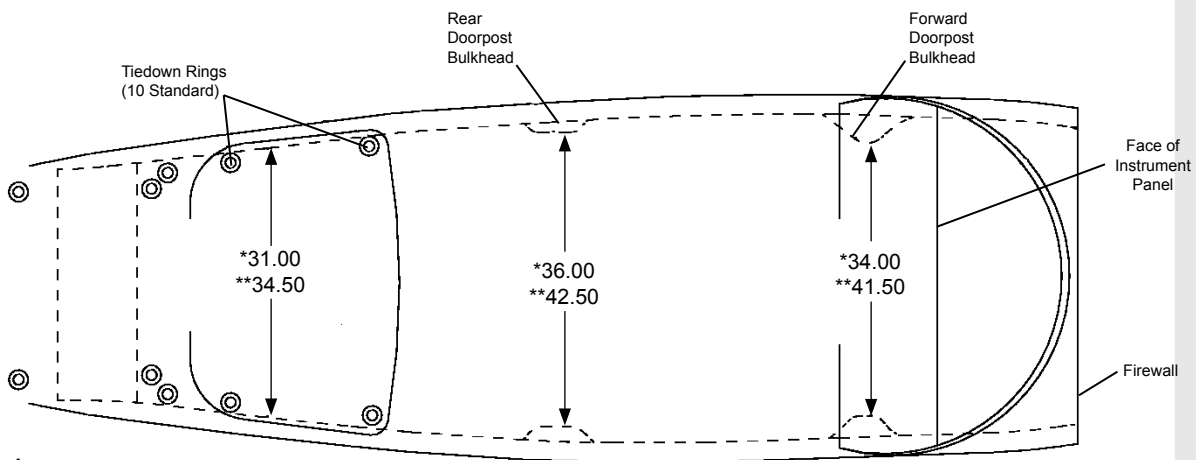
FIGURE I — SKYLANE EXTERIOR DIMENSIONS

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1. GENERAL DESCRIPTION (Continued)



Cabin Height Dimensions



Code
*Cabin
** Lower Window Line

Cabin Width Dimensions

FIGURE II — SKYLANE INTERIOR DIMENSIONS

1. GENERAL DESCRIPTION (Continued)

1.3 Design Weight and Capacities

Maximum Ramp Weight	3,110 lbs (1,411 kg)
Maximum Takeoff Weight	3,100 lbs (1,406 kg)
Maximum Landing Weight	2,950 lbs (1,338 kg)
Standard Empty Weight	2,092 lbs (948 kg)
Maximum Useful Load	1,018 lbs (461 kg)
Baggage Allowance	200 lbs (91 kg)
Fuel Capacity	
Total Capacity	92 gal (348.2 L)
Total Useable	87 gal (329.3 L)
Total Capacity each Tank	46 gal (174.1 L)
Total Useable Capacity each Tank	43.5 gal (164.6 L)
Oil Capacity	
Sump	8.5 qts (8 L)
Total Capacity	12.7 qts (12 L)

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2. PERFORMANCE

All estimated performance data are based on airplane weights at 3,100 pounds; standard atmospheric conditions; level, hardsurface, dry runways; and no wind. They are calculated values derived from flight tests conducted by Cessna Aircraft Company under carefully documented conditions and will vary with individual airplanes, pilots, and numerous other factors affecting flight performance.

Service Ceiling	20,000 ft
Takeoff Distance S.L. (Ground Roll)	775 ft
Takeoff Distance S.L. (To Clear 50 ft. Obstacle)	1,385 ft
Maximum Climb Rate S.L.	1,000 fpm
Maximum Speed (10,000 ft)	156 kts / 180 mph
Maximum Range and Endurance	1,480 nm / 12.3 hrs
Cruise Speed (90% pwr at 14,000 ft)	155 kts / 178 mph
Cruise Range and Endurance (90% pwr at 14,000 ft)	1,025 nm / 6.6 hrs
Landing Distance (Ground Roll)	590 ft
Landing Distance (To Clear 50 ft. Obstacle)	1,350 ft

3. POWERPLANT & ACCESSORIES

- SMA SR305-230E-C1 Engine
- 227 HP @2200 RPM
- Certified for Jet A, Jet A1, TS-1 (Russia and CIS) and #3 Jet Fuel (China)
- Turbocharging System (Fully Automatic)
- Fuel Injection System
- Tubular Steel Engine Mount
- Dynafocal Rear Engine Mount
- Engine Driven Vacuum Pump
- Automatic Alternate Engine Air
- Oil Cooler
- Rigid - Mounted Cowling
- Manual Cowl Flaps
- Induction Air Filter
- Full Flow Oil Filter
- Throttle Control
- Hartzell Constant Speed, 3 Blade Composite Prop
- Propeller Governor
- Propeller Spinner, Polished
- Electric Starter

4. SKYLANE EQUIPMENT LIST

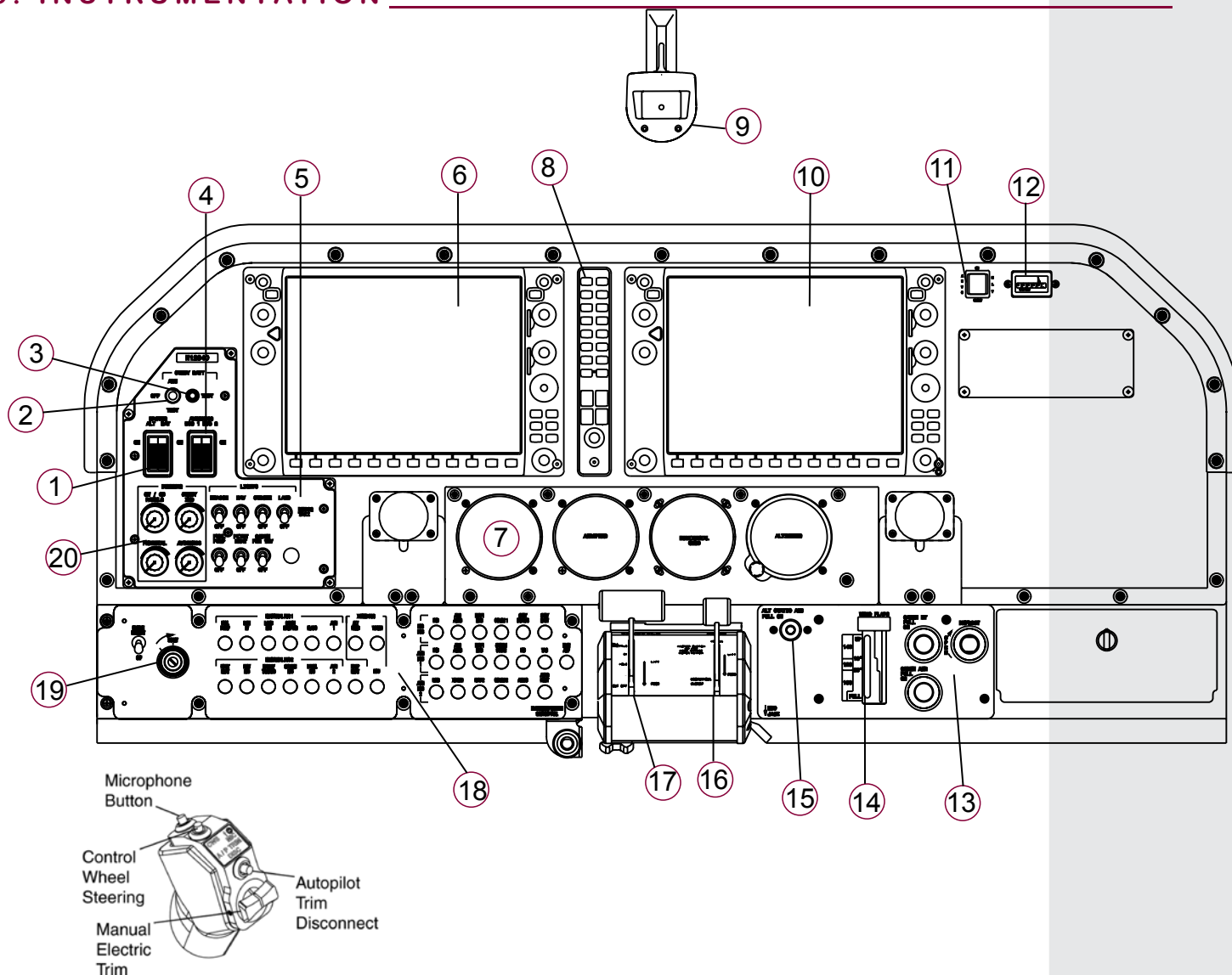
The following list of equipment is included on the standard aircraft and does not reflect optional equipment.

Avionics

- GMA-1347 Digital Audio Panel with Marker Beacon/ Intercom
- GTX-33 ES Transponder-Mode S w-TIS
- GIA-63W NAV/COM/GPS/WAAS with GS #1
- GIA-63W NAV/COM/GPS/WAAS with GS #2
- GDU-1044B Primary Flight Display (PFD)
- GDU-1044B Multi-Function Display (MFD)
- GEA-71 Engine/Airframe Computer
- GRS-77 Attitude & Heading Reference System (AHRS)
- GDC-74A Air Data Computer with OAT Probe
- GMU-44 Magnetometer
- Garmin SafeTaxi & FliteCharts
- GFC-700 Autopilot
 - Go-Around Switch
 - Electric Trim
 - A/P Disconnect
 - Control Wheel Steering Button
- Electronic Checklists
- ME406 Two Frequency Emergency Locator Transmitter
- Emergency Locator Transmitter Remote Mounted Switch
- Backup Attitude Gyro, Altimeter, Airspeed Indicator and Manifold Pressure Indicator
- Control Wheel Push-To-Talk Switch-Pilot/Copilot
- Mic & Phone Jacks-Pilot/Copilot/Passengers
- Auxiliary Stereo Input Jack
- Antennas:
 - Marker Beacon Antenna
 - Transponder Antenna
 - VHF/GPS Antenna (2)
 - NAV Antenna
 - Emergency Locator Transmitter External Antenna
- Pitot System - Heated
- Static System
- Hand Held Microphone
- Alternate Static Source
- Compass

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5. INSTRUMENTATION



- | | |
|---|--|
| <ol style="list-style-type: none"> 1. MASTER Switch (ALT and BAT) 2. STBY BATT Switch 3. STBY BATT Test Annunciator 4. AVIONICS Switch (BUS 1 and BUS 2) 5. Electrical Switches 6. GDU-1044B Primary Flight Display 7. Backup Attitude Gyro, Airspeed & Altimeter Indicator and Manifold Pressure Indicator 8. GMA-1347 Audio Panel 9. Compass 10. GDU-1044B Multi-Function Display | <ol style="list-style-type: none"> 11. ELT Remote Switch/Annunciator 12. Flight Hour Recorder (Hobbs Meter) 13. Cabin Air Control 14. Wing Flap Switch Lever And Position Indicator 15. ALT Static Air Valve Control 16. Mode Select Lever 17. Throttle (With Friction Lock) 18. Electrical and Avionics Circuit Breakers 19. Start Switch, Key Operated 20. Dimming Panel |
|---|--|

FIGURE III — SKYLANE INSTRUMENT PANEL

6. ELECTRICAL POWER

- Alternator, 28 Volt, 95 Amp
- Battery, 24 Volt, 10.0 AH (1 hr rate), Manifold Type
- Standby Battery, 24 volt, 6.2 AH (1 hr rate), Sealed Type
- Standby Battery Controller
- Electrical Circuit Panel
 - Alternator/Battery Master Switch
 - Split Avionics Master Switch
 - Circuit Breakers, Electrical
 - Switches, Electrical
- Electrical J-Box
 - Alternator Control Unit
 - Battery Current Sensor
 - Ground Service Receptacle
 - Starter Relay
 - Alternator Relay
 - Battery Relay
 - Ground Power Relay
 - Bus Circuit Protection
- Cabin Power Jack -12 Volt (fore & aft), 10 Amp

7. ENGINE INDICATING SYSTEM (ELECTRONIC)

- Ammeters
- Voltmeters
- Vacuum
- Manifold Pressure
- Oil Pressure and Temperature
- Tachometer - Hour Recorder
- Fuel Flow (GPH)
- LH/RH Fuel Quantity
- CHT - Cylinder Head Temperature
- TIT - Turbine Inlet Temperature
- Percentage Power
- Standby Vacuum System
- Annunciation – Caution and Warning Alerts (PFD)

8. ENVIRONMENTAL

- Windshield Defroster, Pilot
- Ventilator, Adjustable (6 places)
- Heating System
- Insulation / Soundproofing
- Precise Flight Oxygen System - Consists of a micro-
phone mask and A5 flowmeter and oxymizer can-
nula for the pilot, and standard mask, A5 flowmeter,
and oxymizer cannulas for each passenger position.
- 4 place oxygen equipment bag

9. EXTERIOR

- Epoxy Corrosion Proofing, All Structure
- LH Door, Pilot with Hinged Window, Lock and Key
- RH Door, Copilot with Hinged Window
- LH Baggage Door, with Lock and Key
- Rear Window
- All Windows Tinted
- Gear Jack Pads
- Fixed Landing Gear
- Main and Nose Gear Fairings
- White Polyurethane Exterior Paint
- Refueling Steps and Handles, Wing Struts and Fuselage
- Fixed Cabin Entrance Steps
- Tie Down Rings, LH/RH Wing & Tail
- Tube Type Tires
 - Nose – 5.00 X 5
 - Mains - 6.00 X 6
- Conical Camber Wing Tip
- Strut Braced, Camber Lift Wings
- Static Wicks

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10. EXTERIOR LIGHTS

- LED Ground Recognition Beacon - Vertical Tail
- LED Navigation, LH/RH Wing Tip & Vertical Tail
- Navigation Light Detectors, LH/RH
- Wing Tip Strobe, LH/RH
- Dual Wing LED Landing and Taxi Lights with integrated Pulse Recognition Technology
- Underwing Courtesy, LH and RH Wing

11. FLIGHT CONTROLS

- Hydraulic Brakes, Toe-Operated
- Parking Brake
- Stainless Steel Control Cables
- Dual Flight Controls - Aileron/Elevator/Rudder
- Leather Wrap Control Wheels, All Purpose Pilot/Copilot
- Pilot Control Wheel Switches
 - Pitch Trim
 - AP Disconnect
 - Control Wheel Steering Button
- Go-Around Switch
- Elevator Trim - Manual/Electric
- Rudder Trim - Manual
- Electrical Preselect - Flaps
- Steerable Nose Wheel
- Aileron and Elevator Control Lock

12. FUEL SYSTEM

- Electric Auxiliary Fuel Pump
- Engine Driven Fuel Pump
- Integral Wet Wing Fuel Tanks, 87 Gal. Usable
- Fuel Selector Valve, Left/Both/Right/Off
- Fuel Strainer, Incorporated with Fuselage Quick Drain
- Fuel Tank Quick Drain, 5 per wing
- Fuel Sampler Cup
- Fuel Vapor Return System

13. INTERIOR

- High Contrast Sport Interior Theme - Light Taupe and Black
- Light Taupe Leather Seating Surface with Black Perforated (Embossed) Leather Inserts on Seat Cushion and Seat Back
- Door Panel, Upper Sidewall Accent - Black Perforated (Embossed) Leather
- Door, Lower Sidewall, Kick Panel - Black Kydex
- Vinyl Grip Flooring in Crew Area
- Carpeting in Passenger Area
- Amsafe Inflatable Seat Belts & Shoulder Harness STC, Inertia Reel, Pilot, Copilot, Passenger 3 & 4 Bench Seats
- Rear Seat Bench with One Piece Reclining Back, Seat Belts & Shoulder Harness, Inertia Reel
- Passenger Side Wall
- Pilot and Copilot Seats
 - Adjustable Fore and Aft
 - Reclining Backs
 - Vertical Adjustment
- Pilot & Copilot Door Armrests
- Approach Plate Holder on Pilot Control Wheel
- Pilot's Check List
- Pilot's Operating Handbook
- Hand Held Fire Extinguisher
- Glareshield
- Clothes Hanger Bar
- Metal Instrument Panel, with Removable Subpanels
- Map/Glove Compartment
- Baggage Net
- Radio Call Plate
- Map & Storage Pockets
- Cabin Door Scuff Plates
- Pilot/Copilot Sun Visors
- Passenger Cup Holders
- Jepp Manual Storage Console with Cup Holders
- Tow Bar

14. INTERIOR LIGHTING

- LED Pilot/Copilot Cabin Overhead LED Lights
- LED Passenger Overhead Light
- Interior Lights Dimming Controls
- Map Light, Pilot Control Wheel
- Sub-Panel Lighting (LED Backlighted)
 - Flaps
 - Throttle
 - Mixture
 - Propeller
 - Cowl Flap
 - Environmental Controls (Air and Heat)
- Switch Panel Lighting (LED Backlighted)
 - Avionics and Master Switches
 - Dimming Rheostats
 - Landing, Taxi and Nav Switches
 - Beacon, Strobe, Fuel Pump, Pitot Heat
 - 12 Volt Cabin Power
 - Standby Battery Switch
- Circuit Breakers
- Ignition / Start Switch
- LCD Lighted Glass Panel Displays:
 - Electronic Flight Instruments
 - Electronic Avionics Instruments
 - Electronic Engine Instruments
- Audio Panel Bezel (Backlighted)
- Backup Attitude Gyro, Altimeter and Airspeed Indicator Internally Lighted
- Radio Call Plate (Backlighted)
- Compass Internally Lighted

15. EXTERIOR STRIPING OPTIONS

- Distinctive exterior styling in a variety of colors is provided.

16. TRAINING

- 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.

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17. LIMITED WARRANTIES

17.1 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 the Warranty Start Date, except as hereafter noted. Engines, engine part accessories, avionics, batteries, propellers and governors are specifically excluded from this warranty. Paint and graphics warranties are addressed separately.

Spare parts sold by Cessna, excluding engines, engine part accessories, avionics, batteries, propellers and governors are warranted for six (6) months after installation, except as hereafter noted.

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 to any 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 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 (paint, upholstery, rubber-like items, etc.) due to corrosion, wear and exposure.

WITH THE EXCEPTION OF THE WARRANTY OF TITLE, 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 IM-

PLIED 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 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 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.

17.2 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

17. LIMITED WARRANTIES (Continued)

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, 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 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.

17.3 SMA NEW ENGINE WARRANTY POLICY

Each SMA aircraft engine shipped from SMA facility on or after January 1, 2013 is warranted as follows:

1. (a) For a period of thirty six (36) months or 1200 hours, whichever occurs first, after the warranty activation date, SMA 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 thirty six (36) months or 1200 hours it is returned to an SMA representative authorized to handle the engine covered by this warranty and

which upon examination is found to the satisfaction of SMA to be defective in material or workmanship. During this period SMA reserves the right at its option to replace the defective component or part with either a new or rebuilt engine or part.

(b) To activate the warranty, the Warranty Activation Form (i) shall be signed and sent by the customer to SMA, and (ii) shall be approved by SMA. Such warranty shall only be effective if (i) the Warranty Activation Form is sent by the customer to SMA within six (6) months following the date of delivery of the SMA aircraft engine to the customer, (ii) and/or SMA has approved the Warranty Activation Form. In the case of non approval by SMA of the Warranty Activation Form, the customer shall correct any and all reserves mentioned by SMA on the Warranty Activation Form within two (2) weeks from date of receipt of the Warranty Activation Form.

(c) SMA will pay for reasonable labor costs associated with repairs or replacements under paragraph 1(a) under this warranty costs. The amount of repair and replacement labor costs allowed will be in accordance with the latest revision of the warranty labor allowance guide, published by SMA.

(d) SMA will pay transportation costs in connection with the repair or replacement of any engine, component or part found to the satisfaction of SMA 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 SMA. Transportation cost reimbursement including taxes and duties if applicable, for components or parts will be the actual surface freight charge for shipment of the component or part of the currently published UPS surface rate schedule, whichever is less.

2. Repair or replacement of any engine or part under this warranty will not extend the period of warranty coverage set forth above.
3. This warranty applies only to engines in which parts manufactured or supplied by SMA have been used and nothing contained herein should be constructed as a warranty by SMA of any engine or part not manufactured or supplied by SMA. SMA accepts no responsibility for the failure of any engine or part which

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17. LIMITED WARRANTIES (Continued)

it does not manufacture or supply or damage resulting from such failure.

4. 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 SMA, 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.
5. This warranty does not apply to any engine, component or part manufactured or supplied by SMA 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 SMA has adversely affected the condition of the engine; (3) has been operated inconsistent with SMA 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 JAA certificated configuration.
6. SMA will not be responsible for repair or replacement of any engine, component or part damaged or worn as a result of corrosion, contamination, operation with non-calibrated engine gauges, improper fuel system adjustment, non-SMA approved fuel and oil grades or additives or installation of parts, components or accessories that alter the engine's original type design.
7. 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 glow plugs, filters, hoses, belts, etc.).
8. SMA 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.
9. **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 SMA BE RESPONSIBLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF ANY DEFECT IN ANY ENGINE OR PART, ARISING OUT OF THE LOSS OF EARNINGS, THE LOSS OF PROFIT, THE LOSS OF USE, 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 SMA.

17.4 HARTZELL PROPELLER INC. LIMITED WARRANTY

A. COVERAGE PROVIDED

Products Other Than De-Ice Boots

Hartzell Propeller Inc. ("Hartzell") warrants to the original retail purchaser (the "Purchaser") that it will repair or replace defects in material or workmanship in the components of a product manufactured by Hartzell, other than a de-ice boot, for a period of one (1) year from the date the product is first placed into service, or for the first 1000 operating hours of use of the product, whichever occurs first, subject to the other terms and conditions of this limited warranty.

All of the products identified above are hereinafter referred to as the "Products," and their components hereinafter referred to as "Components."

B. DISCLAIMER OR LIMITATION OF WARRANTIES

UNLESS PROHIBITED BY APPLICABLE LAW, AND EXCEPT FOR THE LIMITED WARRANTIES SET FORTH ABOVE, HARTZELL HEREBY DISCLAIMS ANY AND ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN THE EVENT DIS-

17. LIMITED WARRANTIES (Continued)

CLAIMER OF IMPLIED WARRANTIES IS NOT PERMITTED UNDER APPLICABLE LAW, SUCH IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION AND IN SCOPE OF COVERAGE TO THE DURATION AND SCOPE OF COVERAGE OF THE LIMITED WARRANTY.

SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO ABOVE LIMITATION MAY NOT APPLY TO YOU.

C. TERMS AND CONDITIONS OF LIMITED WARRANTY COVERAGE

In order to obtain coverage under Hartzell's limited warranty, the Purchaser must notify Hartzell in writing of the warranty claim as soon as possible after obtaining knowledge of the potential claim, and in any event not later than ten (10) days following expiration of the limited warranty. Hartzell may withhold warranty repairs pending proof from Purchaser of the date the Product was placed into service, including a fully completed warranty registration card. Hartzell shall provide warranty repair or disposition instructions based on a written statement from the Purchaser describing the alleged defect. All initial transportation and handling charges must be prepaid by the Purchaser until warrantability is determined by Hartzell, at which time Hartzell may reimburse none, some, or all of these charges, at Hartzell's discretion. In the event Hartzell determines, at its sole discretion, that the Product or Component thereof is covered under the limited warranty, Hartzell shall, at its election, either:

- (1) Have the Product or Component repaired and returned to Purchaser;
- (2) Deliver to Purchaser a replacement Product or Component; or
- (3) Issue a credit to the Purchaser in the amount of the actual purchase price for the Product. Hartzell reserves the right to replace Products or Components with remanufactured or re-designed Products or Components of substantially equivalent quality. All warranty repair work will be accomplished at Hartzell's principal place of business, a Hartzell Recommended Service Facility, or a third-party location pre-approved in writing by Hartzell.

In the event Hartzell determines that the alleged defect is not covered by the limited warranty, the Product or Component will be returned to Purchaser, as is, transportation and handling charges collect. The only remedies under this limited warranty are as set forth above. Any Product repaired, or replacement Product provided, shall retain the balance of the limited warranty provided for herein. This limited warranty is not transferable to any person or entity. This limited warranty does not extend to future performance of a Product.

D. WHAT IS NOT COVERED BY THIS LIMITED WARRANTY

This limited warranty does not provide coverage for any of the following:

1. Normal maintenance and service.
2. Consumable Products and Components, and Products and Components that have reached the end of their normal usable life.
3. Product components not manufactured by Hartzell, which components may or may not be covered under warranties made by the manufacturers of those components.
4. Products and Components not purchased through Hartzell or one of its authorized distributors, or any Products or Component purchased by way of action, salvage, or repossession.
5. Conditions, damage, or issues caused by, in whole or in part, or in any way related to:
 - a. Accident, misuse, theft, or negligence.
 - b. Failure to comply with any instruction provided by Hartzell or its suppliers with respect to the use, operation, maintenance, or service of the Products.
 - c. Alteration or modification of the Products or any Components.
 - d. Acts of God or other environmental conditions.
 - e. Use of the Products for purposes other than their normal use.

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17. LIMITED WARRANTIES (Continued)

f. Failure to seek and obtain warranty coverage in a timely matter.

g. Deterioration or fading due to wear, exposure, or other cause, including but not limited to rust, cosmetic blemishes, and discoloration.

h. Acts or omissions of any person or entity other than Hartzell.

E. DISCLAIMER OF INCIDENTAL AND CONSEQUENTIAL DAMAGES

HARTZELL HEREBY DISCLAIMS ANY AND ALL INCIDENTAL, CONSEQUENTIAL, SPECIAL, DIRECT, AND INDIRECT DAMAGES ARISING OUT OF OR RELATING TO THE PRODUCTS, INCLUDING BUT NOT LIMITED TO LOSS OF USE, INCONVENIENCE, LOST PROFITS, COVER, RENTAL REPLACEMENTS, COSTS AND EXPENSES OF "TROUBLESHOOTING," AND TRANSPORTATION AND DELIVERY EXPENSES NOT PRE-APPROVED IN WRITING BY HARTZELL. IN NO EVENT SHALL HARTZELL'S LIABILITY WITH RESPECT TO ANY PRODUCT, WHETHER UNDER THIS LIMITED WARRANTY, ANY IMPLIED WARRANTY, IN TORT, OR OTHERWISE, EXCEED THE PRICE PAID BY PURCHASER FOR THE PRODUCT. THESE DISCLAIMERS ARE INDEPENDENT OF ANY FAILURE OF THE ESSENTIAL PURPOSE OF ANY WARRANTIES OR REMEDIES PROVIDED TO PURCHASER, AND SHALL SURVIVE ANY DETERMINATION THAT A WARRANTY OR REMEDY FAILED OF ITS ESSENTIAL PURPOSE. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

F. STATUTE OF LIMITATIONS

No action may be brought against Hartzell for breach of its limited warranty, any applicable implied warranty, or for any other claim relating to the Product, more than ten (10) days after expiration of the applicable limited warranty period.

G. GOVERNING LAW

This limited warranty shall be governed by, construed, and enforced in accordance with the laws of the State of Ohio, without reference to conflict of law principles. The United Nations Convention on Contracts for the In-

ternational Sale of Goods shall not apply to this limited warranty.

H. NO AUTHORITY

No person or entity has authority to alter the terms of this limited warranty or make any warranties or representations on behalf of Hartzell. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

Hartzell Propeller Inc.

One Propeller Place Piqua, Ohio 45356

Phone: 937-778-4320

17.5 GARMIN AVIONICS INSTALLED IN SINGLE ENGINE AIRCRAFT

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

17. LIMITED WARRANTIES (Continued)

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.

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
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