

**Pilot's Operating Handbook and  
FAA Approved Airplane Flight Manual Supplement  
for the  
Garmin Terrain Awareness/Warning System**

(Aircraft Serials w/ Perspective Avionics Only)

When the Garmin Terrain Awareness/Warning System is installed on the aircraft, this POH Supplement is applicable and must be inserted in the Supplements Section of the Pilot's Operating Handbook. This document must be carried in the airplane at all times. Information in this supplement adds to, supersedes, or deletes information in the basic Pilot's Operating Handbook.

• Note •

This POH Supplement Change, dated Revision 02: 09-01-16, supersedes and replaces Revision 01 of this POH Supplement dated 01-06-10.

FAA Approved     *Addison P. Tower*     <sup>SEP</sup>     01, 2016      
Date

for Timothy Smyth, Manager  
Chicago Aircraft Certification Office, ACE-115C  
Federal Aviation Administration

## Section 1 - General

The airplane is equipped with the Garmin Terrain Awareness/Warning System that performs the functions of a Class B Terrain Awareness and Warning System (TAWS) in accordance with TSO C151b.

Refer to the Cirrus Perspective Integrated Flight Deck Pilot's Guide for additional information on the system and its operating modes.

## Section 2 - Limitations

1. The appropriate revision of the Cirrus Perspective Cockpit Reference Guide (p/n 190-00821-XX, where X can be any digit from 0 to 9) must be immediately available to the pilot during flight. The system software version stated in the reference guide must be appropriate for the system software version displayed on the equipment.
2. Do not use Terrain Awareness and Warning System for navigation of the aircraft. The TAWS is intended to serve as a situational awareness tool only and may not provide the accuracy fidelity on which to solely base terrain or obstacle avoidance maneuvering decisions.
3. To avoid getting unwanted alerts, TAWS must be inhibited when landing at an airport that is not included in the airport database.

• Note •

Only vertical maneuvers are recommended responses to warnings and cautions unless operating in VMC or the pilot determines, using all available information and instruments, that a turn, in addition to the vertical escape maneuver, is the safest course of action. During certain operations, warning thresholds may be exceeded due to specific terrain or operating procedures. During day VFR flight, these warnings may be considered as cautionary.

Pilots are authorized to deviate from their current air traffic control (ATC) clearance to the extent necessary to comply with a TAWS warning.

## Section 3 - Emergency Procedures

To prevent unwanted aural alerting during ditching or other off-airport landings, inhibit the Terrain Awareness System functions by selecting the INHIBIT Softkey on the TAWS Page.

### **Response To TAWS Warnings**

#### **Red PULL UP Warning**



*Aural “PULL UP” Warning*

*Aural “TERRAIN, TERRAIN; PULL UP, PULL UP” Warning*

*Aural “TERRAIN AHEAD, PULL UP” Warning*

*Aural “OBSTACLE AHEAD, PULL UP” Warning*

*Aural “OBSTACLE, OBSTACLE; PULL UP, PULL UP” Warning*

1. Level the wings, simultaneously adding full power.
2. Increase pitch attitude to 15 degrees nose up.
3. Adjust pitch attitude to ensure terrain clearance while respecting stall warning. If flaps are extended, retract flaps to the UP position.
4. Continue climb at best angle of climb speed ( $V_x$ ) until terrain clearance is assured.

## Section 3A - Abnormal Procedures

### Response To TAWS Cautions

#### *Yellow TERRAIN Caution*

TERRAIN

*Aural "CAUTION, TERRAIN" Caution*

*Aural "TERRAIN AHEAD" Caution*

*Aural "CAUTION, OBSTACLE" Caution*

*Aural "OBSTACLE AHEAD" Caution*

*Aural "TOO LOW, TERRAIN" Caution*

*Aural "SINK RATE" Caution*

*Aural "DON'T SINK" Caution*

1. Take positive corrective action until the alert ceases. Stop descending, or initiate a climb turn as necessary, based on analysis of all available instruments and information.

## Section 4 - Normal Procedures

Normal operating procedures are outlined in the Cirrus Perspective Integrated Flight Deck Pilot's Guide.

### Alert Priority

When any of the TAWS aural alerts are in progress, all aural TRAFFIC alerts are inhibited.

### Advisory Callout

The advisory callout "*FIVE HUNDRED*", occurs at approximately 500 feet AGL.

## Section 5 - Performance

No Change.

## Section 6 - Weight & Balance

No Change.

## Section 7 - System Description

The Terrain Awareness/Warning System receives data from the GPS receiver to determine horizontal position and altitude and compares this information to the onboard terrain and obstacle databases to calculate and “predict” the aircraft’s flight path in relation to the surrounding terrain and obstacles. In this manner, TAWS provides advanced alerts of predicted dangerous terrain conditions via aural alerts communicated through the pilot’s headset and color-coded terrain annunciations displayed on the PFD.

Refer to the Cirrus Perspective Integrated Flight Deck Pilot’s Guide for additional information on the system and its operating modes.

## System Constraints

System test at startup: Aural tone lasting approximately one second indicates successful completion of internal system test.

### **Yellow TAWS FAIL Caution**

TAWS FAIL

### **Aural “TAWS SYSTEM FAILURE” Warning**

1. TAWS power-up self-test has failed or TAWS has detected problems with database validity, hardware status, and/or GPS status.

### **White TAWS N/A Advisory**

TAWS N/A

### **Aural “TAWS NOT AVAILABLE” Advisory**

Should the 3-D GPS navigation solution become degraded or if the aircraft is out of the database coverage area, the annunciation ‘TAWS N/A’ is generated in the annunciation window and on the TAWS Page. The aural message “TAWS NOT AVAILABLE” is generated. When the GPS signal is re-established and the aircraft is within the database coverage area, the aural message “TAWS AVAILABLE” is generated.

## **Geodetic Sea Level (GSL) versus Measured Sea Level**

TAWS uses information provided from the GPS receiver to provide a horizontal position and altitude. This data serves as the reference for color-coding for the TAWS Page and as an input to the TAWS Hazard Avoidance algorithms. Because it is derived from GPS, GSL Altitude may differ from corrected barometric altitude. Therefore, GSL Altitude should not be used for navigation.