

SUPPLEMENTS

INTRODUCTION

The supplements in this section contain amended operating limitations, operating procedures, performance data and other necessary information for airplanes conducting special operations and for airplanes equipped with specific options. Operators should refer to each supplement to ensure that all limitations and procedures appropriate for their airplane are observed.

Supplements for the installed optional equipment must be maintained to the latest revision. Those supplements applicable to optional equipment which is not installed in the airplane, do not have to be retained.

A non FAA Approved Log of Supplements is provided for convenience only. This log is a numerical list of all the supplements published for this airplane and shows, also, the number of revisions made to each supplement at the time of this revision.

Each supplement is preceded by a Log of Effective Pages which will be part of the supplement package. Supplement page numbers will include an S and the supplement number.

APPENDICES

APPENDIX A

The first appendix contains the list of questions and the answers to these questions. The list of questions is given in the first part of the appendix and the answers are given in the second part. The list of questions is given in the first part of the appendix and the answers are given in the second part.

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The fourth appendix contains the list of questions and the answers to these questions. The list of questions is given in the first part of the appendix and the answers are given in the second part. The list of questions is given in the first part of the appendix and the answers are given in the second part.

LOG OF APPROVED SUPPLEMENTS

SUPPLEMENT NUMBER	NAME	REVISION NUMBER	EQUIPMENT INSTALLED
1	Reduced Vertical Separation Minimum	2	<input checked="" type="checkbox"/>
2	Universal UNS-1K Flight Management System	2	<input checked="" type="checkbox"/>
3	Mark V Enhanced Ground Proximity Warning System (EGPWS)	2	<input type="checkbox"/>
4	Cockpit Speaker Audio Inhibit Switch	0	<input type="checkbox"/>
5	Traffic Alert and Collision Avoidance System I	1	<input type="checkbox"/>
6	GNS-X _{LS} With GPS Fault Detection and Exclusion (FDE)	3	<input type="checkbox"/>
7	KLN-900 With GPS Fault Detection And Exclusion (FDE)	3	<input type="checkbox"/>
8	Automatic Pulselite System	1	<input type="checkbox"/>
9	SafeFlight N ₁ Reminder	0	<input type="checkbox"/>
10	Collins WXR-852 Weather Radar	1	<input type="checkbox"/>
11	Airplanes Certified to Dutch Configuration	2	<input type="checkbox"/>
12	Aero-M SATCOM Telephone	0	<input type="checkbox"/>
13	Avionics Dispatch Switch	0	<input type="checkbox"/>
14	Aircell Phone System	1	<input type="checkbox"/>
15	BFGoodrich Skywatch SKY497 Traffic Advisory	0	<input type="checkbox"/>
16	CMS-400 Audio Checklist	0	<input type="checkbox"/>
17	Cockpit Voice Recorder	1	<input checked="" type="checkbox"/>
18	BFGoodrich WX-1000E (EFIS) Stormscope	2	<input checked="" type="checkbox"/>
19	Garmin GPS-400	6	<input type="checkbox"/>
20	Garmin GNC-420	3	<input type="checkbox"/>
21	Argus 7000CE Moving Map Display	0	<input type="checkbox"/>
22	Airplanes Operating Under German Certification	7	<input type="checkbox"/>
23	Airplanes Certified to Italian Configuration	1	<input type="checkbox"/>
24	Mark VIII Enhanced Ground Proximity Warning System, Without Windshear	2	<input checked="" type="checkbox"/>
25	BFGoodrich WX-500 Stormscope	0	<input type="checkbox"/>
26	Garmin GNS-530	6	<input type="checkbox"/>
27	Avionic Instruments Inc. 2A350-1B1 350W 115V Inverter	0	<input type="checkbox"/>
28	BFGoodrich SKY899 Skywatch HP TCAS I	0	<input checked="" type="checkbox"/>
29	Airplanes Certified to Brazilian Configuration	2	<input type="checkbox"/>
30	KGS SS120 1200W 115V Inverter	0	<input type="checkbox"/>
31	Garmin GNS-430	5	<input type="checkbox"/>

LOG OF APPROVED SUPPLEMENTS

SUPPLEMENT NUMBER	NAME	REVISION NUMBER	EQUIPMENT INSTALLED
32	Universal UNS-1L Flight Management System	3	_____
33	Transponder 2 on Emergency Bus	0	_____
34	FMS1 on Emergency Bus	0	_____
35	Cabin/Cockpit Interphone System	0	_____
36	FL180 Alert Disable Switch	0	_____
37	KGS Electronics, Inc. SS50 500W/115V Inverter	0	_____ ✓
38	Reserved		_____
39	Airplanes Certified for Steep Approaches	6	_____
40	Universal UNS-1Esp Flight Management System	2	_____
41	Universal Avionics Terrain Awareness Warning System (TAWS)	2	_____
42	AlliedSignal KHF 950 ALE HF Transceiver With KCU 1051 Control Display Unit	0	_____
43	L3 Communications Terrain Awareness and Warning System LandMark TAWS8000	4	_____
44	Garmin GPS-500	3	_____
45	Traffic Alert and Collision Avoidance System II (TCAS II)	1	_____
46	Austrian Registered Airplanes	4	_____
47	EASA Airplanes Certified for Steep Approaches	1	_____
48	Airplanes Operating Under French Certification	1	_____
49	Japanese Registered Airplanes	0	_____
50	Dual Honeywell MST-67A Enhanced Mode S Transponders	0	_____
51	Citation Performance Calculator (CPCalc) or CESNAV	3	_____ ✓
52	Garmin GTX 330 Enhanced Mode S Transponder	1	_____
53	Garmin MX20 Multi-Function Display	0	_____
54	Collins IFIS-5000 Integrated Flight Information System	0	_____
55	KGS Electronics, Inc. SB120 1200W/230V Inverter	0	_____
56	Universal UNS-1L or UNS-1Esp Flight Management System With 802.X Software	1	_____
57	U.K. Crew Training and Flight Testing	0	_____
58	EASA Certified Airplanes	0	_____
59	Dual Garmin GNS-430W/530W	1	_____
60	Configuration Deviation List (CDL)	0	_____
61	Universal UNS-1Lw Flight Management System with LP/LPV Monitor	1	_____



FAA APPROVED

Airplane Flight Manual
CITATION
CJ2

MODEL 525A
525A-0001 THRU -0299

SUPPLEMENT 1
REDUCED VERTICAL SEPARATION MINIMUM

APPROVED BY

FAA APPROVED UNDER FAR 21 SUBPART J
The Cessna Aircraft Co.
Delegation Option Authorization DOA-230428-CF

Sanford R. Kellum Executive Engineer
SKK

DATE OF APPROVAL: 22 NOVEMBER 2000

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WICHITA, KANSAS, USA

22 NOVEMBER 2000

525AFM-S1-02

REVISION 2

7 NOVEMBER 2007 U.S. S1-1

SUPPLEMENT 1

REDUCED VERTICAL SEPARATION MINIMUM

Use the Log of Effective Pages to determine the current status of this supplement.

Pages affected by the current revision are indicated by an asterisk (*) preceding the page number.

Supplement Status	Date
Original	22 November 2000
Revision 1	15 March 2001
Revision 2	07 November 2007

LOG OF EFFECTIVE PAGES

Page Number	Page Status	Revision Number	Configuration Code
* S1-1 thru S1-5	Revised	2	S1-AA
S1-6	Revised	1	S1-AA

APPROVED BY

FAA APPROVED UNDER 14 CFR PART 21 SUBPART J
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Barbara J. Davis Administrative AR
BJD

DATE OF APPROVAL 7 NOVEMBER 2007

SERVICE BULLETIN CONFIGURATION LIST

The following is a list of Service Bulletins that are applicable to the operation of the airplane, and have been incorporated into this supplement. This list contains only those Service Bulletins that are currently active.

<u>Number</u>	<u>Title</u>	<u>Airplane Serial Effectivity</u>	<u>Revision Incorporated</u>	<u>Incorporated in Airplane</u>
SB525A-34-01	Navigation-Reduced Vertical Separation Minimum (RVSM) Operation Minimum Modification	525A-0001 thru -0299		

AIRPLANE CONFIGURATION CODES

The following is a list of airplane configuration codes which appear at the bottom of each page of this supplement to the basic FAA Approved Airplane Flight Manual, and indicate page effectivity by serial number. This list contains only the configurations which have been incorporated into this supplement.

Configuration
Code

Effectivity by
Serial Number

S1-AA

Airplanes 525A-0001 thru -0299 with Dual PFD or AM250
Altimeter and Airplanes 525A-0001 thru -0299 incorporating
SB525A-34-01.

REDUCED VERTICAL SEPARATION MINIMUM

INTRODUCTION

This supplement is part of, and must be placed in, the basic FAA Approved Airplane Flight Manual for airplanes properly equipped and certified for operations in Reduced Vertical Separation Minimum airspace. The information contained herein supplements the information in the basic FAA Approved Airplane Flight Manual. For limitations, procedures and performance information not contained in this supplement, consult the basic FAA Approved Airplane Flight Manual.

OPERATING LIMITATIONS

OPERATIONS AUTHORIZED

This airplane is approved for operations in Reduced Vertical Separation Minimum (RVSM) airspace when required equipment is maintained in accordance with the airplane Maintenance Manual. This does not constitute operational approval. Operational approval must be obtained in accordance with applicable operating rules.

REQUIRED EQUIPMENT

This airplane is approved for operations in Reduced Vertical Separation Minimum (RVSM) airspace when the following equipment is installed and operating normally upon entering RVSM airspace:

1. Pilot and copilot primary altimeters.
2. Autopilot.
3. Altitude Alerter.
4. ATCRBS Transponder.

NOTE

Any changes to the pitot/static, air data computer, autopilot, altitude alerting and/or transponder systems, or other changes that affect operation of these systems, must be evaluated for impact on the RVSM approval.

FLIGHT CREW TRAINING

Each operator must ensure compliance with required crew training and operating practices and procedures.

AIRSPEED LIMITATIONS

Minimum airspeed in RVSM airspace is 150 KIAS.

WEIGHT LIMITATIONS

Minimum weight in RVSM airspace is 8750 pounds.

OPERATING PROCEDURES

The operating procedures are the same as those in the basic FAA Approved Airplane Flight Manual except as follows:

EMERGENCY PROCEDURES

No change.

ABNORMAL PROCEDURES

No change.

NORMAL PROCEDURES

COCKPIT INSPECTION

1. Hot Items/Lights
 - a. Static Ports and surrounding fuselage skin (LH and RH) - CHECK clean, clear, and no damage (upper and lower static vent ports are located on each side of the fuselage below the aft cockpit windows).

BEFORE TAKEOFF

1. Altimeters (pilot and copilot) - CONFIRM and COMPARE. Altimeters must both indicate departure field elevation within ± 50 feet when set to local altimeter setting. Altimeters must indicate within 75 feet of each other when set to local altimeter setting.

CRUISE

1. Verify A/P is in ALT, unless severe turbulence is encountered.
2. Altimeters - CROSSCHECK pilot and copilot altimeters at 1 hour intervals or less, maximum allowed difference 200 feet.

PERFORMANCE

No change.

DESCRIPTION

Operating under Reduced Vertical Separation Minimum (RVSM) permits 1,000 feet vertical separation of aircraft at flight levels from FL290 to FL410. The pitot-static system and instruments must be maintained in accordance with the airplane Maintenance Manual Section 34, Navigation as it pertains to airplanes operating under RVSM rules.

Each operator must ensure compliance with required flight crew training and operating practices and procedures.

**FAA APPROVED
Airplane Flight Manual**

Citation CJ2

SERIAL 525A-0001 AND ON

**SUPPLEMENT 2
UNIVERSAL UNS-1K FLIGHT MANAGEMENT SYSTEM**

APPROVED BY

FAA APPROVED UNDER FAR 21 SUBPART J
The Cessna Aircraft Co.
Delegation Option Authorization DOA-230428-CE

Sandra P. Kellaw Executive Engineer

DATE OF APPROVAL 22 JUNE 2000

22 JUNE 2000

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WICHITA, KANSAS, USA

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REVISION 2

4 FEBRUARY 2004

U.S. S2-1

SUPPLEMENT 2

UNIVERSAL UNS-1K FLIGHT MANAGEMENT SYSTEM

Use the Log of Effective Pages to determine the current status of this supplement.

Pages affected by the current revision are indicated by an asterisk (*) preceding the page number.

Supplement Status	Date	Supplement Status	Date
Original	22 June 2000	Revision 2	4 February 2004
Revision 1	1 August 2001		

LOG OF EFFECTIVE PAGES

Page Number	Page Status	Revision Number	Configuration Code
* S2-1 thru S2-2	Revised	2	S2-AA
S2-3	Original	0	S2-AA
* S2-4 thru S2-6	Revised	2	S2-AA
* S2-7	Revised	2	S2-AB
S2-8	Revised	1	S2-AB
* S2-7.1	Revised	2	S2-AC
S2-8.1	Added	1	S2-AC

APPROVED BY

FAA APPROVED UNDER FAR 21 SUBPART J
 The Cessna Aircraft Co.
 Delegation Option Authorization DOA-230428-CE

Signature of Captain Executive Engineer



DATE OF APPROVAL 4 FEBRUARY 2004

SERVICE BULLETIN CONFIGURATION LIST

The following is a list of Service Bulletins that are applicable to the operation of the airplane, and have been incorporated into this supplement. This list contains only those Service Bulletins that are currently active.

<u>Number</u>	<u>Title</u>	<u>Airplane Serial Effectivity</u>	<u>Revision Incorporated</u>	<u>Incorporated in Airplane</u>
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AIRPLANE CONFIGURATION CODES

The following is a list of airplane configuration codes which appear at the bottom of each page of this supplement to the basic FAA Approved Airplane Flight Manual, and indicate page effectivity by serial number. This list contains only the configurations which have been incorporated into this supplement.

	<u>Configuration Code</u>	<u>Effectivity by Serial Number</u>
■	S2-AA	Airplanes 525A-0001 and On, equipped with the Universal UNS-1K Flight Management System.
■	S2-AB	Airplanes 525A-0001 and On, equipped with scanning DME equipment installed.
■	S2-AC	Airplanes 525A-0001 and On, without scanning DME equipment installed.

UNIVERSAL UNS-1K FLIGHT MANAGEMENT SYSTEM

INTRODUCTION

This supplement is part of, and must be placed in, the basic FAA Approved Airplane Flight Manual for airplanes equipped with the Universal UNS-1K Flight Management System. The information contained herein supplements the information of the basic FAA Approved Airplane Flight Manual. For limitations, procedures and performance information not contained in the supplement, consult the basic FAA Approved Airplane Flight Manual.

NAVIGATION OPERATIONAL APPROVALS

The Universal UNS-1K Flight Management System (FMS) is approved under TSO C129 Class B1 and C1 and has been demonstrated capable of, and been shown to meet the requirements for the following operations provided it is receiving usable navigation data from the GPS sensor:

1. Oceanic/Remote (per FAA Notice 8110.60) - When used in conjunction with Universal FDE prediction program P/N 10751, with Software Control Number SCN 21 or FAA approved later version. Two FMS's are required to be installed, operating, and receiving usable signals from independent GPS sensors (or one FMS and one GPS sensor for those routes requiring only one Long Range Navigation (LRN) sensor).
2. North Atlantic (NAT) Minimum Navigational Performance Specification (MNPS) Airspace (as defined in AC91-49 and AC91-70) - Provided that the proper documentation and approval is obtained. Two FMS's are required to be installed, operating, and receiving usable signals from independent GPS sensors.
3. Enroute and Terminal - Including BRNAV/RNP5, in accordance with AC20-138A, AC90-96 and JAA ACJ 20X4. For two crew operations, BRNAV/RNP5 requires that FMS CDI data must be displayed on the copilot's instrument panel (dual PFD installations, or single PFD installations with a separate dedicated CDI displaying FMS aircraft position relative to track on the copilot's side).
4. Non-Precision Approach - In accordance with AC20-138A and AC90-94.

OPERATING LIMITATIONS

GENERAL

1. The Universal UNS-1K Flight Management System Pilot's Operating Manual, Universal Systems report number 2423sv604, dated October 8, 1999 (or later applicable revision), must be immediately available to the flight crew whenever navigation is predicated on the use of the FMS. The software status stated in the Pilot's Manual must match that displayed on the FMS Control Display Unit (CDU).
2. The UNS-1K must be used in conjunction with the Universal off-line RAIM prediction program, P/N 10751, with SCN 21 or later FAA approved versions, when used as the primary means of navigation in oceanic and remote airspace.
3. Navigation within the U.S. National Airspace System shall not be predicated upon the UNS-1K during periods of dead reckoning (DR).
4. The internal database (IDB) must be updated to the latest revision every 28 days; updating to be accomplished with the Universal Avionics update disk or equivalent. When latitude/longitude transferred from the IDB is displayed on the CDU, the pilot will ensure that it is a reasonable position for the requested identifier.
5. The fuel management mode is for advisory purposes only and it does not replace the airplane primary fuel flow and fuel quantity systems.
6. GPS manually entered altitude may be used only after failure of the automatic inputs and must be updated every 5 minutes.
7. When operating outside the magnetic variation model area (north of 72 degrees 45 minutes north latitude, or south of 59 degrees 45 minutes south latitude), the pilot must manually insert magnetic variation.
8. The UNS-1K displayed VNAV information is advisory only. Vertical coupling to the flight director or autopilot is not available.
9. The A/P TURB mode must be selected OFF to conduct LNAV GPS approaches.
10. Instrument approaches must be accomplished in accordance with approved instrument approach procedures that are retrieved from the FMS navigation database. The FMS database must incorporate the current update cycle.

NOTE

- When an instrument approach procedure missed approach point is not identified in the database as a runway (i.e. RW02, etc.), VNAV guidance may not be appropriate for straight-in approach operations.
 - Not all published approaches are in the FMS database. The flight crew must ensure that the planned approach is in the database.
11. IFR non-precision approach approval is limited to published approaches within the U.S. National Airspace System. Approaches to airports in other airspace are not approved unless authorized by the appropriate governing authority.
 12. When the approach at the destination is based on GPS and an alternate airport is required by the applicable operating rules, it must be served by an approach not based on GPS, the aircraft must have operational equipment capable of using that navigation aid, and the required navigation aid must be operational.

(Continued Next Page)

OPERATING LIMITATIONS (Continued)

13. When using FMS guidance for conducting instrument approach procedures that do not include "or GPS" in the title of the published procedure, the flight crew must verify that the procedure specified navaid and associated avionics are operational.
14. The GPS INTEG light/annunciator must be extinguished prior to beginning the approach.
15. Instrument approaches must be conducted with the FMS in the approach mode of operation, the FMS approach annunciator must be illuminated (cyan APP on EHSI) prior to the Final Approach Fix (FAF), and RAIM must be available at the FAF.
16. ILS, LOC, LOC-BC, LDA, SDF, and MLS approaches using the UNS-1K for final approach guidance are not approved.
17. With the exception of oceanic/remote, other navigation equipment appropriate to the ground facilities along the intended route must be installed and operable, as required by the operating rules applicable to the specific type of operation (i.e., VOR, DME, etc.).
18. The FMS is approved for FMS VFR approaches as a VFR pilot aid only.
19. The use of manually inserted runway coordinates is limited to VFR operations only.

OPERATING PROCEDURES

The operating procedures are the same as those in the basic FAA Approved Airplane Flight Manual except as follows:

EMERGENCY PROCEDURES

No change.

ABNORMAL PROCEDURES**DEAD RECKONING (DR) DISPLAYED ON FMS CDU MESSAGE PAGE**

1. Do not predicate navigation on the FMS until the DR message has extinguished.

RAIM NOT AVAILABLE MESSAGE ON FMS CDU MESSAGE PAGE

1. Continue to navigate using FMS equipment or revert to an alternate means of navigation appropriate to the route and phase of flight.

NOTE

Enroute and terminal navigation may still be available. The FMS will still provide a best computed position (BCP) using short range navigation sensors (DME).

2. If continuing to navigate using GPS equipment, verify position every 15 minutes using another IFR approved navigation system.

AMBER "MSG" ANNUNCIATOR ILLUMINATED

1. UNS-1K MSG Button - PRESS.

NOTE

UNS-1K message descriptions are contained in the UNS-1K Pilot's Operating Manual.

PERFORMANCE

No change.

NORMAL PROCEDURES

Refer to the UNS-1K Operating Manual.

DESCRIPTION

The UNS-1K is an integrated navigation management system designed to provide the pilot with centralized control for the airplane's navigation sensors, computer based flight planning, and fuel management. The FMS accepts primary position information from short and long range navigation sensors. The primary position data received from the sensors is filtered within the FMS to derive a Best Computed Position (BCP). It accomplishes these computations and advises the flight crew of components or systems requiring attention, as well as other irregularities, such as loss of enough sensors to compute a valid position. In the latter situation, if sensor loss endures over a set length of time, the system will enter Dead Reckoning (DR) mode and so inform the pilot through a message on the control display unit (CDU).

The UNS-1K provides lateral steering information to the pilot through the PFD. When connected to the autopilot, it provides roll steering commands. The VNAV function provides vertical steering information displayed on the UNS-1K CDU. VNAV guidance is not provided to the flight director or autopilot. The NAV computer additionally computes fuel flow information, providing a current fuel status, and airplane gross weight throughout the flight, if the fuel and gross weight are updated prior to takeoff.

NOTE

Start nozzle fuel is supplied continuously at a flow rate of approximately 9 lbs/hr while the engine is operating and is not accounted for in the fuel flow indication on the UNS-1K. The fuel flow on the MFD does account for the 9 lbs/hr start nozzle fuel.

FAA APPROVED
Airplane Flight Manual

Citation **441**

SERIAL 525A-0001 AND ON

SUPPLEMENT 17
COCKPIT VOICE RECORDER

APPROVED BY

FAA APPROVED UNDER FAR 21 SUBPART J
The Cessna Aircraft Co
Delegation Option Authorization DOA-230428-CE

Donna R. Kellum Executive Engineer
DRK

DATE OF APPROVAL

5 JUNE 2001

SUPPLEMENT 17

COCKPIT VOICE RECORDER

Use the Log of Effective Pages to determine the current status of this supplement.

Pages affected by the current revision are indicated by an asterisk (*) preceding the page number.

Supplement Status	Date
Original	5 June 2001
Revision 1	11 January 2002

LOG OF EFFECTIVE PAGES

Page	Page Status	Revision Number	Configuration Code
* S17-1 thru			
S17-2	Revised	1	S17-AA
S17-3	Original	0	S17-AA
* S17-4	Revised	1	S17-AA
* S17-5/S17-6	Revised	1	S17-AB
* S17-5.1/S17-6.1	Added	1	S17-AC

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James J. Connel Executive Engineer
JAC

DATE OF APPROVAL

11 JANUARY 2002

SERVICE BULLETIN CONFIGURATION LIST

The following is a list of Service Bulletins that are applicable to the operation of the airplane, and have been incorporated into this supplement. This list contains only those Service Bulletins that are currently active.

<u>Number</u>	<u>Title</u>	<u>Airplane Serial Effectivity</u>	<u>Revision Incorporated</u>	<u>Incorporated in Airplane</u>
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AIRPLANE CONFIGURATION CODES

The following is a list of airplane configuration codes which appear at the bottom of the page of this supplement to the basic FAA Approved Airplane Flight Manual, and indicates page effectivity by serial number. This list contains only the configurations which have been incorporated into this supplement.

<u>Configuration Code</u>	<u>Effectivity by Serial Number</u>
S17-AA	Airplanes equipped with Cockpit Voice Recorder.
S17-AB	Airplanes equipped with Cockpit Voice Recorder (A200S).
S17-AC	Airplanes equipped with Cockpit Voice Recorder (FA2100).

COCKPIT VOICE RECORDER (FA2100)

INTRODUCTION

This supplement is part of, and must be placed in, the basic FAA Approved Airplane Flight Manual for airplanes equipped with Cockpit Voice Recorder (FA2100). The information contained herein supplements the information of the basic FAA Approved Airplane Flight Manual. For limitations, procedures and performance information not contained in this supplement, consult the basic FAA Approved Airplane Flight Manual.

OPERATING LIMITATIONS

No Change.

OPERATING PROCEDURES

The operating procedures are the same as those in the basic FAA Approved Airplane Flight Manual except as follows:

EMERGENCY PROCEDURES

No Change.

ABNORMAL PROCEDURES

No Change.

NORMAL PROCEDURES

No Change

PERFORMANCE

No Change.

DESCRIPTION

The Model FA2100 Cockpit Voice Recorder (CVR) system provides a continuous 30 minute record of all voice communications originating in the cockpit and aft PA audio via 4 individually recorded channels. In addition, a separate 2 hour continuous record is provided which combines the 4 channels into a single data stream.

The sensitive cockpit microphone is located to the left of the annunciator panel. The system is energized when the battery switch is in the BATT position. The control panel contains a test switch which must be pressed for a minimum of 5 seconds to check system operation. Steady illumination of the test lamp verifies that the recorder is operating properly.

An erase button is provided which requires at least a 2-second depression to initiate the bulk erasure cycle. The bulk erasure can only be accomplished on the ground, with the cabin door open.

FAA APPROVED
Airplane Flight Manual

Citation CJ2

SERIAL 525A-0001 AND ON

SUPPLEMENT 18
BFGOODRICH WX-1000E (EFIS) STORMSCOPE

APPROVED BY

FAA APPROVED UNDER FAR 21 SUBPART J
The Cessna Aircraft Co.
Delegation Option Authorization DCA-230428-CE

JRK **Charles P. Kethan** Executive Engineer

DATE OF APPROVAL 27 NOVEMBER 2000

SUPPLEMENT 18

BFGOODRICH WX-1000E (EFIS) STORMSCOPE

Use the Log of Effective Pages to determine the current status of this supplement.

Pages affected by the current revision are indicated by an asterisk (*) preceding the page number.

Supplement Status	Date
Original	27 November 2000
Revision 1	12 March 2001
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LOG OF EFFECTIVE PAGES

Page	Page Status	Revision Number	Configuration Code
* S18-1 thru S18-2	Revision	2	S18-AA
S18-3 thru S18-4	Original	0	S18-AA
* S18-5	Revision	2	S18-AA
S18-6	Revision	1	S18-AA

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James J. Conrad Executive Engineer

JAC

DATE OF APPROVAL 24 JANUARY 2003

SERVICE BULLETIN CONFIGURATION LIST

The following is a list of Service Bulletins that are applicable to the operation of the airplane, and have been incorporated into this supplement. This list contains only those Service Bulletins that are currently active.

<u>Number</u>	<u>Title</u>	<u>Airplane Serial Effectivity</u>	<u>Revision Incorporated</u>	<u>Incorporated in Airplane</u>
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AIRPLANE CONFIGURATION CODES

The following is a list of airplane configuration codes which appear at the bottom of each page of this supplement to the basic FAA Approved Airplane Flight Manual, and indicate page effectivity by serial number. This list contains only the configurations which have been incorporated into this supplement.

Configuration
Code

Effectivity by
Serial Number

S18-AA

Airplanes 525A-0001 and on, equipped with optional BFGoodrich WX-1000E (EFIS) Stormscope

BFGOODRICH WX-1000E (EFIS) STORMSCOPE

INTRODUCTION

This supplement is a part of, and must be placed in, the basic FAA Approved Airplane Flight Manual for airplanes equipped with optional BFGoodrich WX-1000E (EFIS) Stormscope. The information contained herein supplements the information of the basic FAA Approved Airplane Flight Manual. For limitations, procedures and performance information not contained in this supplement, consult the basic FAA Approved Airplane Flight Manual.

OPERATING LIMITATIONS

GENERAL

If the stormscope is equipped with an electronic checklist, it must contain FAA approved operating procedures. It is the operator's responsibility to ensure checklist contents are consistent with current Airplane Flight Manual Procedures.

1. Operation of the WX-1000E (EFIS) Stormscope is prohibited on the ground.

NOTE

During takeoff or high power ground runs, the WX-1000E (EFIS) Stormscope should be OFF to preclude false strikes.

OPERATING PROCEDURES

The operating procedures are the same as those in the basic FAA Approved Airplane Flight Manual except as follows:

EMERGENCY PROCEDURES

No change.

ABNORMAL PROCEDURES

No change.

NORMAL PROCEDURES

NOTE

The WX-1000E (EFIS) Stormscope is incompatible with Pulse Light System operation. Turn off either the Pulse Lights or the Stormscope, depending on which system is required for the current phase of flight.

PERFORMANCE

No change.

DESCRIPTION

The Stormscope provides information to the flight crew regarding the presence of thunderstorm activity allowing the pilot to make thunderstorm avoidance decisions. The information can be displayed on the Collins PFD/MFD and/or a separate Stormscope display (CRT). The system maps electrical discharge activity 360 degrees around the aircraft up to a distance of 200 nautical miles. In addition, the system receives heading from the AHRS in order to maintain proper display orientation during turns.

The processor continuously provides storm data acquisition and self test functions regardless of the display mode selected. Faults detected by the system are logged in nonvolatile memory with a fault code and time tag. A message is displayed on the CRT indicating the error and any degradation of operating functions. The operator is prompted to press any button to resume operation. Any failure of the processor circuitry will be indicated on the processor's FAULT LED indicators as well as the CRT. These failures will not be displayed on the PFD/MFD.

The electronic checklist, clock and "MIC KEY STUCK" functions are available only on the CRT display (if installed). The checklists are not pilot programmable but can be field programmed to meet the pilot's specific requirements. Up to six checklists with thirty items per checklist are available. The electronic clock provides current time and date, elapsed time counter and a stopwatch for timed approaches. Pressing the mic key inhibits processor data acquisition. If the system is inhibited for more than one minute, "MIC KEY STUCK" will be displayed on the CRT.

The WX1000E (EFIS) will automatically disable heading display and heading stabilization if the heading input to the Stormscope fails. If this occurs, the heading display at the top of the weather display will show dashes (---) on the CRT. This indication is not displayed on the PFD/MFD.

Pressing the CLEAR button on the CRT clears all currently displayed lightning data from the CRT and the PFD/MFD displays. To accomplish this function without the CRT installed, the Stormscope must be deselected and reselected using the line select button on the PFD/MFD.

For aircraft with Stormscope, Skywatch and the CRT installed, a switch/light may be provided adjacent to the CRT to select Stormscope or Skywatch information.

**FAA APPROVED
Airplane Flight Manual**

Citation CJ2

SERIAL 525A-0001 AND ON

SUPPLEMENT 24

**MARK VIII ENHANCED GROUND PROXIMITY
WARNING SYSTEM, WITHOUT WINDSHEAR**

APPROVED BY

FAA APPROVED UNDER FAR 21 SUBPART J
The Cessna Aircraft Co.
Delegation Option Authorization DOA-230428-CE

Barbara R. Kethan Executive Engineer
BRK

DATE OF APPROVAL

13 JUNE 2001

13 JUNE 2001

SUPPLEMENT 24

MARK VIII ENHANCED GROUND PROXIMITY WARNING SYSTEM, WITHOUT WINDSHEAR

Use the Log of Effective Pages to determine the current status of this supplement.

Pages affected by the current revision are indicated by an asterisk (*) preceding the page number.

Supplement Status	Date
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APPROVED BY

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The Cessna Aircraft Co.
Delegation Option Authorization DOA-230428-CE

[Signature] Executive Engineer
[Signature]

DATE OF APPROVAL

5 JUNE 2003

SERVICE BULLETIN CONFIGURATION LIST

The following is a list of Service Bulletins that are applicable to the operation of the airplane, and have been incorporated into this supplement. This list contains only those Service Bulletins that are currently active.

<u>Number</u>	<u>Title</u>	<u>Airplane Serial Effectivity</u>	<u>Revision Incorporated</u>	<u>Incorporated in Airplane</u>
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AIRPLANE CONFIGURATION CODES

The following is a list of airplane configuration codes which appear at the bottom of each page of this supplement to the basic FAA Approved Airplane Flight Manual, and indicate page effectivity by serial number. This list contains only the configurations which have been incorporated into this supplement.

Configuration
Code

Effectivity by
Serial Number

S24-AA

Airplanes 525A-0001 and on, with Mark VIII
Enhanced Ground Proximity Warning
System, Without Windshear.

MARK VIII ENHANCED GROUND PROXIMITY WARNING SYSTEM, WITHOUT WINDSHEAR

INTRODUCTION

This supplement is part of, and must be placed in, the basic FAA Approved Airplane Flight Manual for Airplanes with Mark VIII Enhanced Ground Proximity Warning System, Without Windshear. The information contained herein supplements the information of the basic FAA Approved Airplane Flight Manual. For limitations, procedures, and performance information not contained in this supplement, consult the basic FAA Approved Airplane Flight Manual.

OPERATING LIMITATIONS

1. The use of this system is limited to performing a caution/warning function only. The Enhanced Ground Proximity Warning System (EGPWS) is not intended as a primary flight instrument. The Enhanced Ground Proximity Warning System pilots guide, P/N 060-4314-000, Rev A dated March 2001 (or later applicable revision), must be available to the flight crew when operating the EGPWS.
2. Pilots are authorized to deviate from their current air traffic control (ATC) clearance to the extent necessary to comply with an EGPWS warning.
3. The terrain display is intended to serve as a situational awareness tool only. The terrain/obstacle database does not include 100 percent of all terrain, nor does it include 100% of all obstacles. Navigation is not to be predicated upon use of the terrain database display.
4. The terrain display must be INHIBITED by selecting TERR INHIB when using QFE as altitude reference.
5. EGPWS must be INHIBITED by selecting TERR INHIB when within 15 nm of landing at an airport for which any of the following conditions apply:
 - a.) The airport has no approved instrument approach procedure.
 - b.) The longest runway is less than 3500 feet in length.
 - c.) The airport/approach is not listed in AlliedSignal Avionics, Inc. Document 060-4326-00 Revision E or latest revision. (Reference URL <http://www.egpws.com>).
6. Enhanced modes of the EGPWS will give false warnings or no warnings if the aircraft's GPS position is uncertain from the interfaced FMS. The only interfaced FMS's approved for installation with the Mark VIII EGPWS are the UNS-1K, GNS-X_{LS} w/Mod 6, or the KLN-900. If the aircraft's GPS position is uncertain from the interfaced FMS, the interfaced FMS must be powered off or the TERR INHIBIT switch must be selected and TERR FAIL will be displayed. This will not affect the basic GPWS functions. (The Mark VIII is also available with an internal GPS which will automatically inhibit terrain if the aircraft's position becomes uncertain.)

OPERATING PROCEDURES

The operating procedures are the same as those in the basic FAA Approved Airplane Flight Manual except as follows:

NOTE

- When an EGPWS CAUTION occurs, adjust the airplane's flight path or configuration until the CAUTION ceases.
- If an EGPWS WARNING occurs, immediately initiate and continue a climbing, vertical escape maneuver which will provide maximum terrain clearance capability, until all alerts cease. Only vertical maneuvers are recommended unless operating in visual meteorological conditions (VMC) and/or the pilot determines, based on all available information, that turning in addition to the vertical escape maneuver is the safest course of action.
- When flying under daylight VFR, should a warning threshold be deliberately exceeded or encountered due to specific terrain or operating procedure at certain locations, the warnings may be regarded as cautionary and the approach or other procedure continued, provided visual terrain clearance is maintained.

EMERGENCY PROCEDURES

BASIC GROUND PROXIMITY WARNINGS

The following modes are basic GPWS modes. If any of the following warnings occur, immediately initiate corrective action to eliminate the cause for the warning as follows:

MODE	AURAL WARNING MESSAGE	VISUAL WARNING MESSAGE (Color/Display)	ACTION
2 *	"PULL UP, PULL UP TERRAIN, TERRAIN"	PULL UP (Red / PFD ADIs)	Immediately execute a vertical escape maneuver (indicates rapidly rising terrain ahead as a function of rate of change in radio altimeter).

CAUTION

- * GPWS MODE 2 WILL NOT PROVIDE WARNING FOR FLIGHT INTO PRECIPITOUS OR VERY RAPIDLY RISING TERRAIN WITH LITTLE OR NO RISING PREAMBLE TERRAIN.

(Continued Next Page)

EMERGENCY PROCEDURES (Continued)**ENHANCED GROUND PROXIMITY WARNINGS**

The following are enhanced modes based on proximity to database terrain. If any of the following warnings occur, immediately initiate corrective action to clear the terrain as follows:

AURAL WARNING MESSAGE	VISUAL WARNING MESSAGE (Color/Display)	ACTION
"TERRAIN - TERRAIN, PULL UP - PULL UP"	PULL UP (Red / PFD ADIs)	Immediately execute a vertical escape maneuver. (This message indicates less than 30 seconds to impact with terrain which is within 250 to 500 feet below or higher than airplane altitude.)
"OBSTACLE - OBSTACLE, PULL UP - PULL UP"	PULL UP (Red / PFD ADIs)	Immediately execute a vertical escape maneuver. (This message indicates less than 30 seconds to impact with obstacle which is within 250 to 500 feet below or higher than airplane altitude.)

ABNORMAL PROCEDURES

GPWS (AMBER message in PFD and MFD) - The GPWS system computer has detected a fault or a required aircraft system input has been lost to the GPWS system. All GPWS functions will be inoperative and the annunciations will be inhibited.

TERR (AMBER message in PFD and MFD) - The EGPWS is unable to display terrain or provide enhanced mode warnings.

NOTE

- In the event that the Radio Altimeter is not functioning, the basic GPWS modes (Modes 1 to 6 and Enhanced Terrain Clearance Floor Mode) will not be available. The other enhanced features, however, will be available.
- Any degradation of Radio Altimeter signal can significantly degrade basic GPWS mode operation. Unexplained drop-outs in radio altimeter indication should be investigated.

GROUND PROXIMITY ALERTS

The following modes are basic GPWS modes which are a function of radio altitude. If any of the following alerts occur, immediately initiate corrective action to eliminate the cause of the alert, as follows:

MODE	AURAL ALERT MESSAGE	VISUAL ALERT MESSAGE (Color/Display)	ACTION
1	"SINK RATE"	GND PROX (Amber / PFD ADIs)	Reduce rate of descent until the warning ceases (indicates excessive sink rate below 1100 feet AGL in landing configuration).
2	"TERRAIN"	GND PROX (Amber / PFD ADIs)	Maneuver airplane to avoid terrain (climb, turn as required). If terrain clearance continues to decrease, the aural message TERRAIN will be given until the terrain clearance stops decreasing.
3	"DON'T SINK"	GND PROX (Amber / PFD ADIs)	Establish a positive rate of climb (indicates radio altitude loss after takeoff, with gear and flaps not in landing configuration, below 300 foot AGL).

(Continued Next Page)

ABNORMAL PROCEDURES (Continued)

GROUND PROXIMITY ALERTS (Continued)

MODE	AURAL ALERT MESSAGE	VISUAL ALERT MESSAGE (Color/Display)	ACTION
4A	"TOO LOW, TERRAIN"	GND PROX (Amber / PFD ADIs)	Immediately level off or initiate a climb as required. (This message indicates the airplane has descended below 1100 feet AGL, is not in landing configuration, and airspeed is greater than 190 KIAS.)
4A	"TOO LOW, GEAR"	GND PROX (Amber / PFD ADIs)	Immediately level off, initiate a climb or lower landing gear as required. (This message indicates the airplane has descended below 500 feet AGL, landing gear is not down, and airspeed is below 150 KIAS.)
4B **	"TOO LOW, FLAPS"	GND PROX (Amber / PFD ADIs)	Immediately level off, initiate a climb or extend flaps, as required. (This message indicates the airplane has descended below approximately 245 feet AGL, airspeed is below 160 KIAS and flaps are not in the 35° position.)
5	"GLIDESLOPE"	----	Maneuver the airplane to recapture the glideslope, go-around, or continue the approach - if visual - as required. (This message indicates the airplane has descended more than approximately 1.6 dots below glideslope on an ILS, is below 1000 feet AGL, and is descending greater than 500 foot per minute.)

NOTES

** If landing with flaps less than 35°, FLAP OVERRIDE must be selected to prevent inappropriate TOO LOW, FLAPS alert.

(Continued Next Page)

ABNORMAL PROCEDURES (Continued)

ENHANCED GROUND PROXIMITY CAUTIONS

The following are Enhanced GPWS modes. If any of the following cautions occur, immediately initiate corrective action to eliminate the cause of the caution, as follows:

AURAL CAUTION MESSAGE	VISUAL CAUTION MESSAGE (Color/Display)	ACTION
"TOO LOW, TERRAIN"	GND PROX (Amber / PFD ADIs)	Immediately level off, climb or continue (if visual) as required. (This message indicates the airplane has passed through the EGPWS minimum terrain clearance floor, based on proximity to nearest airport.)
"CAUTION-TERRAIN, CAUTION-TERRAIN"	GND PROX (Amber / PFD ADIs)	Adjust the airplane's flight path to avoid terrain until the caution ceases. (This message indicates the airplane is within 30 to 60 seconds of impact with terrain which is within 250 to 500 feet below or higher than airplane altitude. This message will repeat every 7 seconds.)
"CAUTION - OBSTACLE, CAUTION - OBSTACLE"	GND PROX (Amber / PFD ADIs)	Adjust the airplane's flight path to avoid obstacles until the caution ceases. (This message indicates the airplane is within 30 to 60 seconds of impact with terrain which is within 250 to 500 feet below or higher than airplane altitude. This message will repeat every 7 seconds.)

ADVISORY CALLOUTS (MODE 6)

Mode 6 provides the following advisory callouts. No visual alert is associated with Mode 6.

MODE	AURAL ADVISORY	ACTION
6	"FIVE HUNDRED"	This callout will occur on every approach at 500 ft AGL provided an ILS glideslope is not selected to the pilot's instruments, or if an ILS glideslope is selected and the aircraft is 2 dots below glideslope.
6	"BANK ANGLE, BANK ANGLE"	This callout alerts the pilot to excessive bank angles. The bank angle that causes this alert varies linearly from 10° at 30 feet AGL to 40° at 150 feet AGL to 55° at 2450 feet AGL.

(Continued Next Page)

ABNORMAL PROCEDURES (Continued)

GPS POSITION UNCERTAIN.

If GPS position from the interfaced FMS (KLN-900, UNS-1K or GNS-X_{LS} w/Mod 6 only) is uncertain, the affected FMS must be powered off or the TERR INHIBIT switch must be selected.

WARNING

WHEN GPS POSITION FROM THE INTERFACED FMS IS UNCERTAIN, ENHANCED MODES OF THE GROUND PROXIMITY WARNING SYSTEM MAY GIVE FALSE WARNINGS OR NO WARNINGS AT ALL.

NORMAL PROCEDURES

COCKPIT PREPARATION

Warning Systems - CHECK/OFF.

GROUND PROXIMITY WARNING SYSTEM

NOTE

GPWS self-test is inhibited in flight.

1. With the EGPWS system configured as follows:
 - Terrain "inhibit" switch is in the normal mode (off).
 - Set EFIS to display TERRAIN.
2. Press the GROUND PROX test switch for less than two seconds.
3. Verify the following:
 - The GPWS, and TERR AMBER annunciators will illuminate.
 - Below Glide Slope aural warning sounds and GPWS annunciator illuminates.
 - The GPWS annunciator will extinguish and GPWS G/S CANCELED annunciator will illuminate.
 - The GPWS G/S CANCELED annunciator will extinguish.
 - The PULL UP annunciators will illuminate and PULL-UP aural warning will sound.
 - The PULL UP annunciators will extinguish.
 - The PULL UP annunciator will illuminate and "TERRAIN, TERRAIN, PULL UP" aural warning will sound.
 - The optional terrain display self test will be presented on the EHSI's and MFD, if TERRAIN selected, with TERR TEST cyan displayed.
 - The optional terrain display self test will terminate after one sweep of the terrain display.

NOTE

If GROUND PROX test switch is held for more than 2 seconds, a long test of all modes will be completed.

(Continued Next Page)

NORMAL PROCEDURES (Continued)

EGPWS MODE SELECTIONS

EGPWS modes are selected as follows:

- TERRAIN - The terrain map can be displayed by selecting TERRAIN on the PFD/MFD line select key. The terrain map can be selected/deselected by consecutive presses of this button. Terrain map cannot be selected if Terrain Inhibit is selected. Terrain mode is deselected if PFD/MFD RDR is selected, and visa-versa.
- BELOW G/S CANCEL - The BELOW GLIDESLOPE alert may be cancelled at any time and any altitude by pressing the GPWS G/S switch/annunciator.
- GPWS FLAP O'RIDE - To avoid nuisance "TOO LOW, FLAPS" alert during training or other flights during landings of flaps less than 35°, the alert may be inhibited by pressing the FLAP OVRD switch/annunciator. There will be up to a six second delay for the flap position warning system to return to normal operation after deselecting the FLAP OVRD switch/annunciator.
- TERRAIN INHIBIT - The terrain inhibit function can be enabled by selecting the TERR INHIB switch/annunciator. When terrain inhibit is selected, the 'Enhanced' GPWS warnings and the terrain map are inhibited. The basic GPWS Modes 1-6 will remain active. Selecting this mode will display cyan TERRAIN INHIB on the PFD/MFD, if TERR is active for display.
- STP APR ACTIVE - If the steep approach option is installed, the warning envelope for Mode 1 ("Sink Rate" and "Pull Up" warnings) will automatically be adjusted during steep approaches at the following airports:

<u>IDENTIFIER</u>	<u>AIRPORT</u>	<u>APPROACH</u>
EGLC	London City, England	ILS DME Rwy 10 ILS DME Rwy 28
KSAN	Lindbergh Field, San Diego, California	LOC Rwy 27
CYJT	Stephenville, Newfoundland, Canada	ILS Rwy 27

When conducting steep approaches at the above airports, the EGPWS STP APR/ACTIVE annunciator switch will illuminate automatically. When conducting steep approaches at airports other than those listed above, the flight crew must select the steep approach mode by pressing the EGPWS STP APR/ACTIVE annunciator switch. In normal EGPWS mode, the top portion of the annunciator, GPWS STP APR, is illuminated in white. Pressing the push button annunciator switch enables the same EGPWS Mode 1 warning envelope adjustments and causes the lower portion of the annunciator, ACTIVE, to illuminate in amber.

(Continued Next Page)

DESCRIPTION

The Enhanced Ground Proximity Warning System provides visual and aural alerts in the following Basic GPWS Modes:

1. Excessive rate-of-descent with respect to terrain (Mode 1).
2. Excessive closure rates to terrain (Mode 2).
3. Negative climb before acquiring a predetermined terrain clearance after takeoff or missed approach (Mode 3).
4. Insufficient terrain clearance based on the airplane configuration (a flap override switch is provided to disable the flap configuration input to the system to prevent nuisance warnings when landing with less than full flaps) (Mode 4).
5. Inadvertent descent below glideslope (Mode 5).
6. SMART 500 callout - Altitude callout at 500 AGL (Mode 6).
7. Excessive bank angle alerting (Mode 6).

In addition, the Enhanced Ground Proximity Warning System provides the following terrain map enhanced modes:

1. Terrain Clearance Floor exceedance.
2. "Look-Ahead" Cautionary Terrain and Obstacle Alerting and Warning Awareness.
3. MFD automatic Terrain and Obstacle Awareness Pop-Up Display is not configured in this installation.
4. Terrain and Obstacle Awareness Display. The EGPWS provides display of proximate terrain and obstacles. The terrain display is color-and intensity-coded (by density) to provide visual indication of the relative vertical distance between the airplane and the terrain. The color bands are as shown in the following table:

NOTE

- The yellow-green boundary will be automatically adjusted to a -250 feet value when landing gear is selected DOWN, and to -500 feet when the landing gear is selected UP.
- If there is no terrain data in the database for a particular area, then Terrain Awareness alerting is not available for that area. The affected area is colored magenta.

RELATIVE ALTITUDE IN FEET (above or below aircraft)	DISPLAYED DOT PATTERN AND COLOR
+ 2000 and Greater	Heavy density red
+1000 to +2000	Heavy density bright yellow
-250/-500 to +1000	Medium density dark yellow (appears brown)
-1000 to -250/-500	Medium intensity bright green
-2000 to -1000	Light density dark green
Caution Alert, Regardless of Altitude	Bright Solid Yellow
Warning Alert, Regardless of Altitude	Bright Solid Red

(Continued Next Page)

DESCRIPTION (continued)

Aural warnings, cautions and advisories.

Mode 1 Pull Up	"PULL UP" immediately repeated.
Mode 2 Pull Up	"PULL UP" immediately repeated.
Mode 2 Pull Up Preface	"TERRAIN-TERRAIN" not repeated.
Enhanced Terrain Awareness Preface	"TERRAIN-TERRAIN" immediately repeated.
Enhanced Terrain Awareness Warning	"PULL UP".
Obstacle Preface	"OBSTACLE - OBSTACLE" not repeated.
Obstacle Warning	"PULL UP" immediately repeated.
Mode 2 Terrain	"TERRAIN".

Aural warnings, cautions and advisories.

Enhanced Terrain Awareness Caution	"CAUTION TERRAIN (Pause) CAUTION TERRAIN (7 Second Pause)".
Obstacle Awareness Caution	"CAUTION - OBSTACLE".
Mode 4 Too Low Terrain	"TOO LOW TERRAIN".
TCF Too Low Terrain	"TOO LOW TERRAIN".
Mode 6 Altitude	"FIVE HUNDRED" one message per non-precision approach.
Mode 4 Gear	"TOO LOW, GEAR" repeated twice, unless terrain clearance continues to decrease.
Mode 4 Flaps	"TOO LOW, FLAPS" repeated twice, unless terrain clearance continues to decrease.
Mode 1 Sink Rate	"SINK RATE - SINK RATE" one message.
Mode 3 Don't Sink	"DON'T SINK" repeated twice, unless terrain clearance continues to decrease.
Mode 5 Glideslope	"GLIDESLOPE" variable delay, more frequent and louder if condition worsens.
Mode 6 Bank Angle	"BANK ANGLE - BANK ANGLE"

NOTE

EGPWS aural alerts and warnings above will override TCAS warnings.

PERFORMANCE

No Change.

**FAA APPROVED
Airplane Flight Manual**

Citation CJ2

SERIAL 525A-0001 AND ON

SUPPLEMENT 28

BFGOODRICH SKY899 SKYWATCH HP TCAS I

APPROVED BY

FAA APPROVED UNDER FAR 21 SUBPART J
The Cessna Aircraft Co.
Delegation Option Authorization DOA-230428-CE

James J. Lane Executive Engineer



DATE OF APPROVAL 21 November 2001

SUPPLEMENT 28

BFGOODRICH SKY899 SKYWATCH HP TCAS I

Use the Log of Effective Pages to determine the current status of this supplement.

Pages affected by the current revision are indicated by an asterisk (*) preceding the page number.

Supplement Status	Date
Original	21 November 2001

LOG OF EFFECTIVE PAGES

Page	Page Status	Revision Number	Configuration Code
S28-1 thru S28-10	Original	0	S28-AA

SERVICE BULLETIN CONFIGURATION LIST

The following is a list of Service Bulletins that are applicable to the operation of the airplane, and have been incorporated into this supplement. This list contains only those Service Bulletins that are currently active.

<u>Number</u>	<u>Title</u>	<u>Airplane Serial Effectivity</u>	<u>Revision Incorporated</u>	<u>Incorporated in Airplane</u>
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AIRPLANE CONFIGURATION CODES

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Configuration
Code

Effectivity by
Serial Number

S28-AA

Airplanes 525A-0001 and on, with BFGoodrich
SKY899 Skywatch HP TCAS I.

BFGOODRICH SKY899 SKYWATCH HP TCAS I

INTRODUCTION

This supplement is part of, and must be placed in, the basic FAA Approved Airplane Flight Manual for airplanes equipped with BFGoodrich SKY899 Skywatch HP TCAS I. The information contained herein supplements the information in the basic FAA Approved Airplane Flight Manual. For limitations, procedures and performance information not contained in this supplement, consult the basic FAA Approved Airplane Flight Manual.

OPERATING LIMITATIONS

1. The SKY899 TCAS I Pilot's Manual, Publication No. 009-11901-001 Revision 93, dated 03/09/01, or appropriate later revision must be readily available to the flight crew when operating the SKY899 TCAS I.
2. If the SKY899 TCAS I is installed for display on a Garmin 400 series or 500 series, the 500 Series Traffic System Addendum (P/N 190-00181-14, Rev. A or later), or the 400 Series Traffic/Weather Addendum (P/N 190-00140-10, Rev. C or later), must be readily available to the flight crew when operating the SKY899 TCAS I.

OPERATING PROCEDURES

The operating procedures are the same as those in the basic FAA Approved Airplane Flight Manual except as follows:

EMERGENCY PROCEDURES

No change.

ABNORMAL PROCEDURES

TCAS FAILURE (AMBER "TCAS FAIL" ANNUNCIATOR ON PFD OR MFD)

1. TCAS Circuit Breaker – CHECK IN.
2. TCAS Selected – ON.

IF TCAS FAIL ANNUNCIATOR REMAINS ON

3. ADC1 Circuit Breaker – CHECK IN.

NORMAL PROCEDURES

1. Refer to the appropriate TCAS I Pilot's Manual described in the Limitations section.
2. Preflight test – **ACTIVATE THE SELF-TEST MODE** by pressing the test button switch light. Refer to Figure 28-1. The aural annunciation "SKYWATCH SYSTEM TEST PASSED" and visual confirmation "TRAFFIC" on PFD/MFD advise that the minimum equipment is available and operational. "SKYWATCH SYSTEM TEST FAILED" is announced if the minimum equipment is not available and operational.

NOTE

The self-test can only be activated on the ground in Standby mode. The self-test cannot be initiated in flight.

3. Ground Operation

BEFORE TAKEOFF

The TCAS I should be selected to "TFC" (TRAFFIC ADVISORY) mode on the PFD line select key just prior to takeoff.

AFTER LANDING

Verify that the TCAS I has automatically switched to STBY mode after clearing runway.

4. TCAS I Flight Procedures

TCAS Traffic Advisory (TA).

Using the information on the TCAS display, commence a visual search for the intruder. If and only if the intruder is visually acquired, maneuver the airplane to maintain safe separation.

CAUTION

EVASIVE MANEUVERS BASED SOLELY ON TCAS TRAFFIC ADVISORIES, WITHOUT VISUAL CONFIRMATION OF THE INTRUDER, ARE NOT RECOMMENDED.

(Continued Next Page)

NORMAL PROCEDURES (Continued)

5. TCAS I range selection:
 - a. A 10 NM (or lower) range may be selected for takeoff, low altitude climb, approach and landing, and below 10,000 feet.
 - b. A 10 NM (or greater) range may be selected for high altitude cruise.
 - c. The range selected has no effect on the TCAS I logic for giving TAs.
6. TCAS traffic advisory annunciations (TA):

AURAL	VISUAL	CREW POSITION
"TRAFFIC, TRAFFIC"	<ul style="list-style-type: none">• Amber "TRAFFIC" on the PFD.• Amber filled circle on the TCAS display.	Conduct visual search for the intruder. If successful, maintain visual acquisition to ensure safe separation.

PERFORMANCE

No change.

DESCRIPTION

The TCAS I Traffic Alert and Collision Avoidance System is an independent airborne system. It is designed as a back-up to the Air Traffic Control system and the “see and avoid” concept. The system consists of one airplane mounted antenna, a TCAS I computer unit, and a Mode C transponder. TCAS I displays and controls are located in the cockpit.

TCAS CONTROL SWITCHES		FUNCTION/PILOT ACTION
<p>TCAS POWER STBY OPR</p> <p>Switch label illuminated by avionics power and dimmed on night lighting control.</p> <p>White TCAS POWER label. Amber STBY label. Green OPR label.</p>	<p>The SKY899 TCAS I defaults to the standby STBY mode after power application by avionics master switch.</p> <p>To place the SKY899 TCAS I in operational mode, press this switch once momentarily. OPR will illuminate and STBY will extinguish. Power to the Skywatch system is supplied through the TCAS I circuit breaker on the right hand breaker panel. No on-off switch is provided for this installation, however if the Skywatch needs to be shut down, the breaker may be pulled.</p>	
<p>TCAS TEST</p> <p>Green test label illuminated by avionics power and dimmed on night lighting control.</p>	<p>This momentary switch invokes the Skywatch self-test when the system is in the standby mode.</p>	
<p>TCAS ALTITUDE ADVANCE</p> <p>White label illuminated by avionics power and dimmed on night lighting control.</p>	<p>This momentary switch allows the user to toggle between the ABOVE, BELOW, Normal, and Unrestricted vertical display modes. All modes except normal are indicated on the selected TCAS I display.</p>	

Figure 28-1

These switches are illuminated when power is applied to the avionics bus. TCAS POWER switch indication will default to STBY upon system failure.

The following features are available with the SKY899 TCAS I:

- a. The TCAS I range will correspond to the range that is selected on the display for which TCAS I information is selected. The maximum TCAS display range extends to 35 nautical miles. TCAS I information will be scaled on the selected traffic display for ranges greater than these.
- b. The TCAS system will automatically revert to ON during takeoff and STBY after landing through squat switch logic. The automatic switching should be verified after takeoff and after clearing the runway on landing.
- c. The self-test function is inhibited in flight. The self-test can only be initiated on the ground in the STBY mode. An aural annunciation and visual test pattern on the display on which TCAS I is selected will follow after the TCAS TEST switch is depressed.

(Continued Next Page)

DESCRIPTION (Continued)

TCAS detects and tracks other aircraft by interrogating their transponders. Aircraft detected, tracked, and displayed by TCAS are referred to as "intruders." TCAS analyzes the transponder replies to determine range and bearing, which it presents to the crew on the TCAS display. Relative Altitude is also presented if the intruding transponder is reporting altitude. If TCAS determines that a possible collision hazard exists, it issues both visual and aural advisories to the crew.

NOTE

- Traffic symbols displayed by the SKY899 TCAS I originate from transponder equipped aircraft. Nearby aircraft without transponders or with inoperative transponders will not be displayed by the SKY899 TCAS I.
- Intruder aircraft will not be displayed when the closure rate exceeds 1200 knots.
- The TCAS I aural warning is inhibited below 400 feet AGL.

TCAS has a minimum surveillance volume defined by a horizontal radius of 35 nautical miles and a vertical range of plus or minus 10,000 feet. TCAS may track aircraft outside its minimum volume depending on the transponder type being interrogated, the range of the intruder, and the density of intruders. The selected TCAS display range does not affect the TCAS airspace surveillance volume.

TCAS I will display three different traffic symbols based on the intruder's location and closure rate. Non-threat traffic, depicted by an open cyan diamond on the TCAS display, indicates that an intruder's relative altitude is greater than ± 1200 feet or its range is beyond 5 nautical miles. Proximity traffic, depicted by a filled cyan diamond indicates that the intruder is within ± 1200 feet and within 5 nautical miles range, but is still not considered a threat.

Traffic Advisory (TA) traffic, depicted by a filled yellow circle, indicates that the intruder is considered a threat. An intruder is considered a threat when its closest point of approach meets specific range and closure rate criteria. A traffic advisory will also trigger an aural announcement of "TRAFFIC, TRAFFIC" if the aircraft is above 400 feet AGL with an operating radio altimeter input.

TCAS continuously calculates intruder projected positions. TAs are therefore constantly updated and provide real-time advisory information. Intruders not considered as threats may not be displayed, depending on traffic density, even though they may be acquired visually by the flight crew. Intruders considered to be threats will be displayed as such, regardless of traffic density or other factors.

DESCRIPTION (Continued)

NOTE

If AHRS1 heading information is lost to the SKY899 TCAS I, it will continue to operate, but at a degraded performance level. The bearing to the intruder traffic will only be based on the azimuth from the TCAS antenna. During maneuvering flight, the intruder bearing will be degraded until a steady state condition is established for the antenna to update the intruder position.

NOTE

If radio altimeter information is lost to the SKY899 TCAS I, it will continue to operate, but at a degraded performance level. The system will revert to a gear down indication to silence aural warnings, regardless of altitude. The system will allow aural warnings below 400 feet AGL until the gear is down.

**FAA APPROVED
Airplane Flight Manual**

Citation CJ2

SERIAL 525A-0001 AND ON

SUPPLEMENT 37

KGS ELECTRONICS, INC. SS50 500W/115V INVERTER

APPROVED BY

FAA APPROVED UNDER FAR 21 SUBPART J
The Cessna Aircraft Co.
Delegation Option Authorization DOA-230420-CE

James J. Conrad Executive Engineer
JJC

DATE OF APPROVAL 29 APRIL 2002

SUPPLEMENT 37

KGS ELECTRONICS, INC. SS50 500W/115V INVERTER

Use the Log of Effective Pages to determine the current status of this supplement.

Pages affected by the current revision are indicated by an asterisk (*) preceding the page number.

Supplement Status	Date
Original	29 April 2002

LOG OF EFFECTIVE PAGES

Page	Page Status	Revision Number	Configuration Code
S37-1 thru S37-6	Original	0	S37-AA

SERVICE BULLETIN CONFIGURATION LIST

The following is a list of Service Bulletins that are applicable to the operation of the airplane, and have been incorporated into this supplement. This list contains only those Service Bulletins that are currently active.

<u>Number</u>	<u>Title</u>	<u>Airplane Serial Effectivity</u>	<u>Revision Incorporated</u>	<u>Incorporated in Airplane</u>
---------------	--------------	--	----------------------------------	-------------------------------------

AIRPLANE CONFIGURATION CODES

The following is a list of airplane configuration codes which appear at the bottom of each page of this supplement to the basic FAA Approved Airplane Flight Manual, and indicate page effectivity by serial number. This list contains only the configurations which have been incorporated into this supplement.

Configuration
Code

Effectivity by
Serial Number

S37-AA

Airplanes 525A-0001 and On equipped with
KGS Electronics, Inc. SS50 500W/115V
Inverter.

KGS ELECTRONICS, INC. SS50 500W/115V INVERTER

INTRODUCTION

This supplement is part of, and must be placed in, the basic FAA Approved Airplane Flight Manual for airplanes equipped with the KGS Electronics, Inc. SS50 500W/115V Inverter. The information contained herein supplements the information in the basic FAA Approved Airplane Flight Manual. For limitations, procedures and performance information not contained in this supplement, consult the basic FAA Approved Airplane Flight Manual.

OPERATING LIMITATIONS

No Change.

OPERATING PROCEDURES

The operating procedures are the same as those in the basic FAA Approved Airplane Flight Manual except as follows:

EMERGENCY PROCEDURES

NOTE

The SS50 Inverter will not function with the battery switch in the EMER position.

ABNORMAL PROCEDURES

No change.

NORMAL PROCEDURES

NOTE

The SS50 inverter operation was certified under clean load without adverse interference to other aircraft systems. Since a wide variety of items may be powered by this inverter, it is the responsibility of the pilot in command to ensure that accessories powered by the inverter system do not interfere with required aircraft flight instruments, navigation and communication equipment, or any other equipment required for safe operation.

PERFORMANCE

No change.

DESCRIPTION

The Avionic Instruments Inc. SS50 inverter supplies 115VAC to one or more standard wall outlets and can supply up to 500 Watts of power. Wall outlets are typically located in the pullout table(s) in front of seats 5 and 6. The system is protected by a 60-ampere current limiter located in the aft junction box. An ON-OFF switch located in the wall outlet turns the inverter on when a plug is inserted into the wall outlet and off when the plug is removed.



TEXTRON AVIATION

FAA APPROVED

Airplane Flight Manual

CITATION

CJ2

MODEL 525A
525A-0001 thru -0299

SUPPLEMENT 51

CITATION PERFORMANCE CALCULATOR (CPCalc) OR CESNAV

APPROVED BY FAA APPROVED UNDER 14 CFR PART 21 SUBPART J

Cessna Aircraft Co.

Delegation Option Authorization DOA-230504-CE

Andrew J. Connel Lead DOA Administrator
JAE

DATE OF APPROVAL 21 APRIL 2005

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CESSNA AIRCRAFT COMPANY
WICHITA, KANSAS, USA

525AFM-S51-03

REVISION 3

11 APRIL 2017

U.S.

S51-1

21 APRIL 2005

SUPPLEMENT 51

CITATION PERFORMANCE CALCULATOR (CPCalc) OR CESNAV

Use the Log of Effective Pages to determine the current status of this supplement.

Pages affected by the current revision are indicated by an asterisk (*) preceding the page number.

Supplement Status	Date
Original	21 April 2005
Revision 1	22 March 2006
Revision 2	4 June 2013
Revision 3	11 April 2017

LOG OF EFFECTIVE PAGES

Page Number	Page Status	Revision Number	Configuration Code
* S51-1 thru S51-2	Revised	3	S51-AA
S51-3	Original	0	S51-AA
* S51-4 thru S51-10	Revised	3	S51-AA
* S51-11 thru S51-12	Added	3	S51-AA

APPROVED BY *Mark Gielisch*
for Stephen Gielisch, Lead ODA Administrator
Textron Aviation Inc.
Organization Delegation Authorization ODA-100129-CE
FAA Approved Under 14 CFR Part 183 Subpart D
DATE OF APPROVAL 4/11/2017

SERVICE BULLETIN CONFIGURATION LIST

The following is a list of Service Bulletins that are applicable to the operation of the airplane, and have been incorporated into this supplement. This list contains only those Service Bulletins that are currently active.

<u>Number</u>	<u>Title</u>	<u>Airplane Serial Effectivity</u>	<u>Revision Incorporated</u>	<u>Incorporated in Airplane</u>
SB525A-27-03	Flight controls - Flap Override Switch Installation	525A-0001 thru -0160		

AIRPLANE CONFIGURATION CODES

The following is a list of airplane configuration codes that appear at the bottom of each page of this supplement to the basic FAA Approved Airplane Flight Manual, and indicates page effectivity by serial number. This list contains only the configurations which have been incorporated into this supplement.

<u>Configuration Code</u>	<u>Effectivity by Serial Number</u>
S51-AA	Airplanes 525A-0001 thru -0160 incorporating SB525A-27-03 and Airplanes 525A-0161 thru -0299 using the Citation Performance Calculator (CPCalc) or CESNAV

CITATION PERFORMANCE CALCULATOR (CPCalc) OR CESNAV

INTRODUCTION

This supplement is part of, and must be placed in, the basic FAA Approved Airplane Flight Manual for Airplanes 525A-0001 thru -0299 using performance information from the Citation Performance Calculator (CPCalc) or CESNAV. The information contained herein supplements the information of the basic FAA Approved Airplane Flight Manual. For limitations, procedures and performance information not contained in this supplement, consult the basic FAA Approved Airplane Flight Manual.

OPERATING LIMITATIONS

GENERAL

1. CPCalc for Windows[®] - the Program Version displayed on the Main screen must match the Program Version shown in the table below:
2. CESNAV for iPad[®] - The Program Version and Data Revision displayed on the Home screen must match the Program Version and Data Revision shown in the table below:

Operating System	Program Version	Data Revision
Microsoft [®] Windows [®]	2.0 or Later	NA
iOS for iPad [®]	3.2 or Later	1.X

OPERATIONAL APPROVALS

CPCalc and CESNAV provide FAA approved Takeoff and Landing performance information and provide advisory Wet Takeoff and Landing performance information.

1. CPCalc and CESNAV are approved for use as an alternative source to the takeoff and landing data presented in Section IV of the basic FAA Approved Airplane Flight Manual.
2. CPCalc, CESNAV and the AFM are each equally valid sources of performance data; however, the operator must use performance data from only one of these sources.
3. Any modification to the FAA-approved computerized AFM software application, or subsequent alteration to the generated output, will cancel the airworthiness approval of the information.
4. Inputs with decimal values must be entered into CPCalc using the current decimal separator symbol selected in the Windows[®] operating system regional control panel options. No other separator symbols are allowed as input values.

OPERATING PROCEDURES

No change.

PERFORMANCE

WARNING

The CPCalc or CESNAV performance that is shown is for those conditions as specified. Any deviation from these conditions will result in different performance. There can be combinations of conditions (weight, altitude, and temperature) that could result in performance other than that which would normally be expected: e.g., as weight gets lighter, required distances are longer.

DEFINITIONS

Climb Gradient Surface: Imaginary surface located 35 feet above the end of the available runway and inclined at a required gradient.

NET TAKEOFF FLIGHT PATH METHODS

The airplane is flown to Level Off Altitude per the Gross Takeoff Flight Path. Level Off Altitude is the sum of Airport Barometric Altitude and Takeoff Climb Increment. The Takeoff Climb Increment is based on Gross Takeoff Flight Path which is associated with Net Takeoff Flight Path meeting the requirements of one of the three methods the user specifies.

CPCalc and CESNAV provide the level off altitude and the horizontal distances along the net takeoff flight path. The net takeoff flight path is used to plan obstacle clearance. CPCalc and CESNAV will reduce the gross weight, if necessary, to meet specific flight path performance requirements. CPCalc and CESNAV provide three methods for the user to specify net takeoff flight path performance.

SINGLE ENGINE FLIGHT PATH CONDITIONS:			
	FIRST SEGMENT	SECOND SEGMENT	THIRD SEGMENT
LANDING GEAR	DOWN TRANSITIONING TO UP	UP	UP
WING FLAP DEGREES	UP or 15	UP or 15	UP OR 15 TRANSITIONING TO UP
SPEEDBRAKES	RETRACT	RETRACT	RETRACT
INOPERATIVE ENGINE	WINDMILLING	WINDMILLING	WINDMILLING
OPERATIVE ENGINE	T.O. THRUST	T.O. THRUST *	T.O. THRUST *
AIRSPPEED	V ₂	V ₂	V ₂ TRANSITIONING TO V _{ENR}

* TAKEOFF THRUST IS LIMITED TO TEN MINUTES MAXIMUM AND THEREAFTER TO MAXIMUM CONTINUOUS THRUST.

(Continued Next Page)

NET TAKEOFF FLIGHT PATH METHODS (Continued)

- The net takeoff flight path will level off at a fixed height 1500 feet above the takeoff surface.

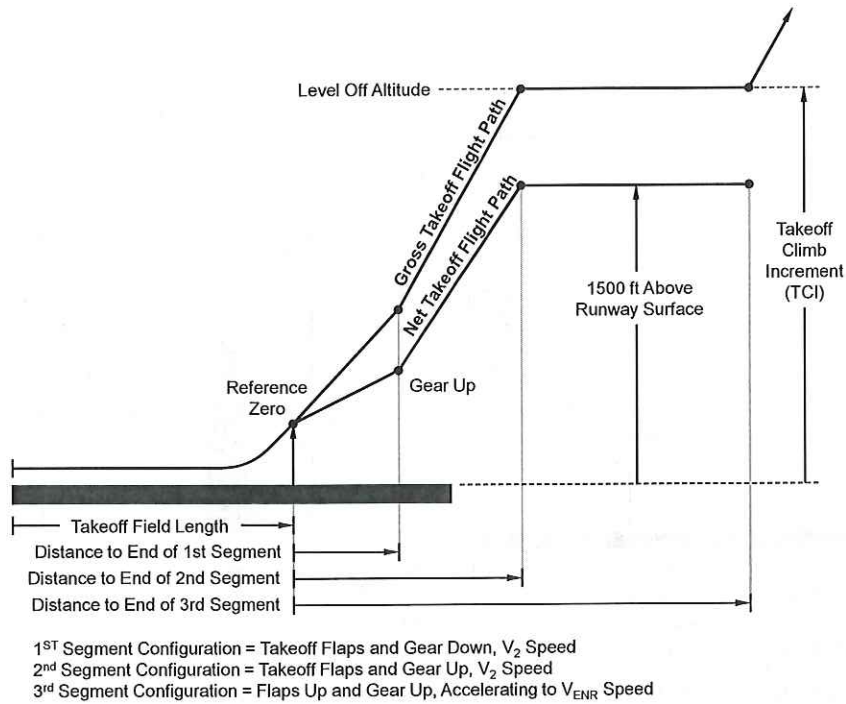
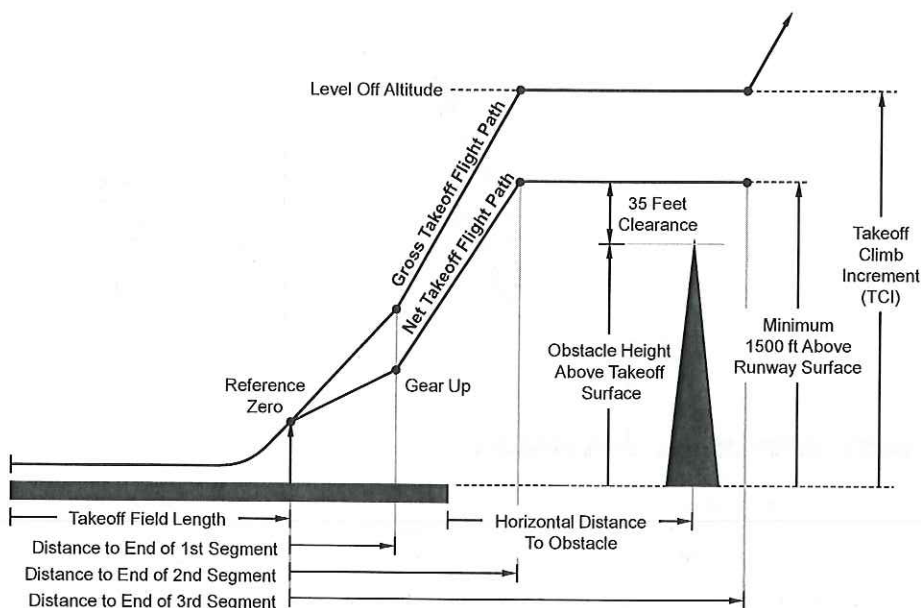


Figure S51-1

(Continued Next Page)

NET TAKEOFF FLIGHT PATH METHODS (Continued)

- The net takeoff flight path may continue the 2nd segment climb beyond 1500 feet to clear an obstacle located anywhere along the path by at least 35 feet.



1st Segment Configuration = Takeoff Flaps and Gear Down, V_2 Speed
 2nd Segment Configuration = Takeoff Flaps and Gear Up, V_2 Speed
 3rd Segment Configuration = Flaps Up and Gear Up, Accelerating to V_{ENR} Speed

Figure S51-2

NET TAKEOFF FLIGHT PATH METHODS (Continued)

- The net takeoff flight path may continue the 2nd segment climb beyond 1500 feet until the aircraft reaches an assigned level off altitude. The net takeoff flight path is prevented from penetrating a defined climb gradient surface.

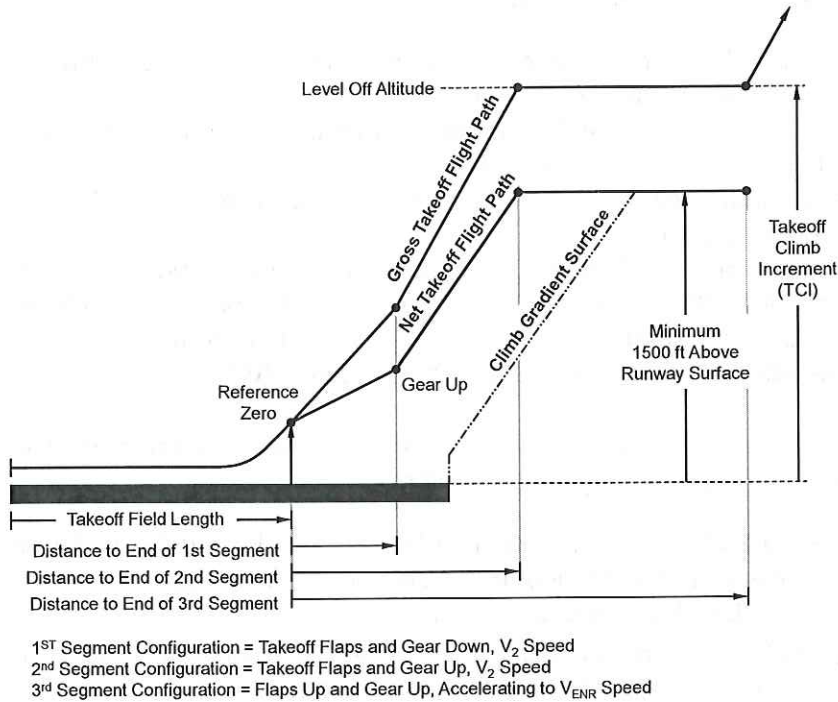


Figure S51-3

DESCRIPTION

SOFTWARE PROCEDURES

The Windows® CPCalc software provides help with detailed information on how to use CPCalc for calculating Takeoff and Landing performance information.

1. Operational landing distance factor requirements may be set under the menu selection **Tools → Options**, or the keyboard shortcut **CTRL+O**.
2. Climb Gradient calculator is available under the menu selection **Tools → Climb Gradient Calculator**, or the keyboard shortcut **CTRL+G**.
3. Help is available under the menu selection **Help → Contents**. For help specific to the screen shown, press the **F1** key.
4. The calculated performance data may be printed to a connected printer by selecting the **Print All Takeoff** or **Print All Landing** buttons on the appropriate output tabs.
5. Additional condition information is available from each output tab by selecting the **Additional Conditions** button or the keyboard shortcut **Alt+C**.

The iPad® CESNAV software provides help with detailed information on how to use CESNAV for calculating Takeoff and Landing performance information.

1. Operational landing factor requirements may be set by selecting the **Options** button (gear icon) at the top of the Main screen and then selecting the **Settings** tab button at the top, and scrolling down to the Landing Factors section.
2. The Climb Gradient Calculator is available by first selecting the **Tools** button from the menu bar at the top and then scrolling down until the Climb Gradient Calculator appears.
3. Help is available by selecting the **Options** button (gear icon) at the top of the Main screen and then selecting the **Help** tab button at the top.
4. The takeoff or landing calculated performance data may be printed by selecting **Share** in the top right corner of the Performance Results screens. Note that this functionality requires that the iPad device be properly configured with a wireless network printer.

SOFTWARE INFORMATION

1. The CPCalc and CESNAV software has been demonstrated to function with the following operating system versions:

CPCalc for Microsoft®	CESNAV for Apple®
Windows® XP Windows® Vista® Windows® 7 Windows® 8 Windows® 8.1 Windows® 10	iOS 9.X for iPad® iOS 10.0 for iPad®

(Continued Next Page)

SOFTWARE INFORMATION (Continued)

2. The CPCalc software has been demonstrated to function with any 400 MHz or faster x86 or x64 based processor.

3. It is recommended that CPCalc for Windows[®] be installed on a system that meets the following system requirements:
 - Microsoft[®] Windows[®] operating system (XP, Vista, 7, 8, 8.1, or 10).
 - Minimum CPU 400 MHz, recommended CPU 600 MHz or better (Intel[®] or AMD[®]).
 - Minimum memory 64 MB, recommended memory 128 MB or higher.
 - 60 MB free disk space for installation.
 - Input device (keyboard/mouse/pen).
 - Display that supports an 800 x 600 or higher resolution and 256 colors or higher.
 - Administrative rights to install programs.
 - Microsoft[®] Data Access Components (MDAC) Version 2.5 or higher (included on installation CD).

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United States of America
Department of Transportation
Federal Aviation Administration

Supplemental Type Certificate

Number: SA09856AC

This certificate issued to: Honeywell International (Bendix King)
9201-B San Mateo Boulevard, NE
Albuquerque, NM 87113

certifies that the change in the type design for the following product with the limitations and conditions therefore as specified hereon meets the airworthiness requirements of Part 23 of the Federal Aviation Regulations

Original Product - Type Certificate Number:

Make:

Model: *See attached FAA Approved Model List (AML) No. SA09856AC for a list of approved aircraft models and applicable airworthiness regulations.

Description of Type Design Change:

Installation of BendixKing Aerowave 100 In-flight Data Link System for non-essential, non-required aircraft Cabin Systems & Equipments in accordance with FAA Approved Model List (AML) SA09856AC, Master Document List, Document No. 89800015-21, Rev. -, dated April 19, 2016, or later FAA approved revision. AFMS, Document No. 89800015-004, Rev. -, approved March 15, 2016, or later FAA approved revision is required. AML Eligibility Summary Report, Document No. 89800015-031, Rev. -, dated March 21, 2016, or later FAA approved revision is required.

Limitations and Conditions:

1. Approval of this change in type design applies to the aircraft listed in AML only. A copy of this certificate and FAA AML No. SA09856AC, must be maintained as part of the permanent record for the modified aircraft.
2. The installer must determine whether this design change is compatible with previously approved modifications.
3. If the holder agrees to permit another person to use this certificate to alter a product, the holder must give the other person written evidence of that permission.

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, and revoked or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of Application: December 19, 2014
Date of Issuance: April 28, 2016

Date Reissued: October 13, 2016
Date Amended:

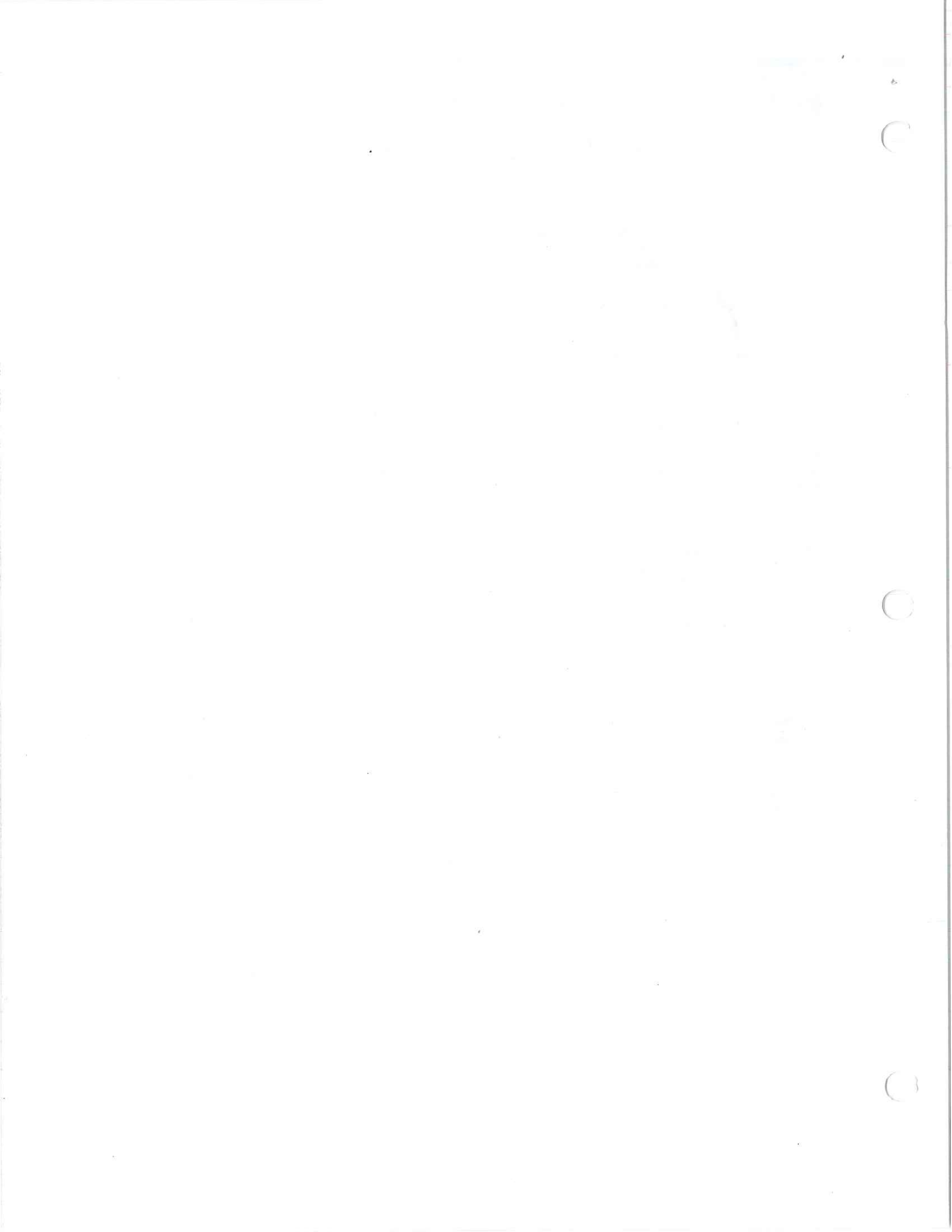
By Direction of the Administrator

Signature

for Matt Crouch

Acting Manager, Fort Worth Aircraft Certification Office,
Southwest Region

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both. This certificate may be transferred or made available to third persons by licensing agreements in accordance with 14 CFR 21.47. Possession of this Supplemental Type Certificate (STC) document by persons other than the STC holder does not constitute rights to the design data nor to alter an aircraft, aircraft engine, or propeller. The STC's supporting documentation (drawings, instructions, specifications, flight manual supplements, etc.) is the property of the STC holder. An STC holder who allows a person to use the STC to alter an aircraft, aircraft engine, or propeller must provide that person with written permission acceptable to the FAA. (Ref. 14 CFR 21.120).



Aircraft Make	Aircraft Model(s)	Type Certificate Data Sheet (TCDS)	Certification Basis	Model Specific Information
Textron Aviation Inc. (formerly Cessna)	501	A27CE	Part 23	
Textron Aviation Inc. (formerly Cessna)	510	A00014WI	Part 23	
Textron Aviation Inc. (formerly Cessna)	525, 525A, 525B, 525C	A1WI	Part 23	
Twin Commander Aircraft LLC	560F, 680, 680E, 680F, 680F(P), 680FL, 680FL(P), 680T, 680V, 680W, 681, 685, 690, 690A, 690B, 690C, 690D, 695, 695A, 695B, 720	2A4	CAR 3	
Twin Commander Aircraft LLC	700	A12SW	Part 23	
Viking Air Limited	DHC-2 Mk.I, DHC-2 Mk.II, DHC-2 Mk.III	A-806	CAR 3	
Viking Air Limited	DHC-6-1, DHC-6-100, DHC 6-200, DHC-6-300, DHC-6-400	A9EA	CAR 3	
Vulcanair S.p.A.	P.68, P.68B, P.68C, P.68C-TC, P.68 "Observer", P.68TC "Observer", AP68TP-300 "Spartacus" , AP68TP-600 "Viator", P.68 "Observer 2", P.68R	A31EU	Part 23	See Installation Manual (89800015-002) Section 2.6 for model specific information for installation requirements.

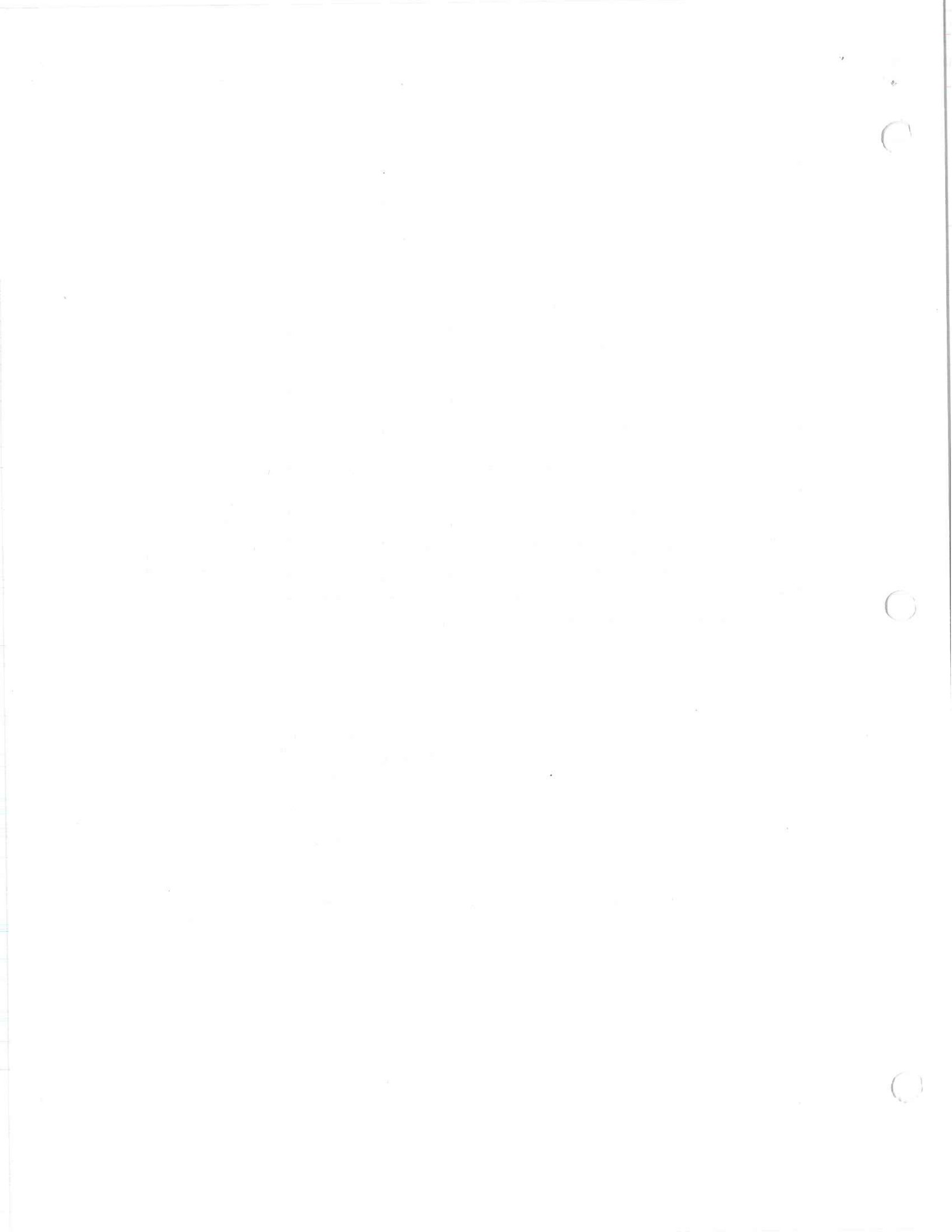
Note – Aircraft Models in **BOLD** are new to this revision.

FAA Approved By:


 Manager
 Fort Worth Aircraft Certification Office
 Federal Aviation Administration
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Date: 30 May 17

Z:/applicants/bendixking/stc/sa09856ac/89800015-020 rev b aml update 16 may 2017





U.S. Department of Transportation
Federal Aviation Administration

MAJOR REPAIR AND ALTERATION (Airframe, Powerplant, Propeller, or Appliance)

Form Approved
OMB No. 2120-0020
11/30/2007

Electronic Tracking Number

For FAA Use Only

INSTRUCTIONS: Print or type all entries. See Title 14 CFR §43.9, Part 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form. This report is required by law (49 U.S.C. §44701). Failure to report can result in a civil penalty for each such violation. (49 U.S.C. §46301(a))

1. Aircraft	Nationality and Registration Mark N414FW	Serial No. 525A0081	
	Make CESSNA	Model 525A	Series
2. Owner	Name (As shown on registration certificate) Birdy One LLC		Address (As shown on registration certificate) 2883 Water Course Dr Diamond Bar, CA 91765

3. For FAA Use Only

4. Type		5. Unit Identification			
Repair	Alteration	Unit	Make	Model	Serial No.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	AIRFRAME	_____	<i>(As described in Item 1 above)</i>	_____
<input type="checkbox"/>	<input type="checkbox"/>	POWERPLANT			
<input type="checkbox"/>	<input type="checkbox"/>	PROPELLER			
<input type="checkbox"/>	<input type="checkbox"/>	APPLIANCE	Type		
			Manufacturer		

6. Conformity Statement

A. Agency's Name and Address Affordable Avionics Inc. 7000 Merrill Ave # 18 Chino, CA 91710 USA	B. Kind of Agency <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;"><input type="checkbox"/> U. S. Certified Mechanic</td> <td style="width: 40%;">Manufacturer</td> </tr> <tr> <td><input type="checkbox"/> Foreign Certified Mechanic</td> <td>C. Certificate No.</td> </tr> <tr> <td><input checked="" type="checkbox"/> Certified Repair Station</td> <td>#8AAR592Y</td> </tr> <tr> <td><input type="checkbox"/> Certified Maintenance Organization</td> <td></td> </tr> </table>	<input type="checkbox"/> U. S. Certified Mechanic	Manufacturer	<input type="checkbox"/> Foreign Certified Mechanic	C. Certificate No.	<input checked="" type="checkbox"/> Certified Repair Station	#8AAR592Y	<input type="checkbox"/> Certified Maintenance Organization	
<input type="checkbox"/> U. S. Certified Mechanic	Manufacturer								
<input type="checkbox"/> Foreign Certified Mechanic	C. Certificate No.								
<input checked="" type="checkbox"/> Certified Repair Station	#8AAR592Y								
<input type="checkbox"/> Certified Maintenance Organization									

D. I certify that the repair and/or alteration made to the unit(s) identified in item 5 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U. S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

Extended range fuel per 14 CFR Part 43 App. B <input type="checkbox"/>	Signature/Date of Authorized Individual <div style="text-align: center;"></div>	Deepun Desai 06-October-2017
--	--	---

7. Approval for Return to Service

Pursuant to the authority given persons specified below, the unit identified in item 5 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is Approved Rejected

	FAA Fit. Standards Inspector		Manufacturer	Maintenance Organization	Persons Approved by Canadian Department of Transport
BY	FAA Designee	<input checked="" type="checkbox"/>	Repair Station	Inspection Authorization	Other (Specify)

Certificate or Designation No. #8AAR592Y	Signature/Date of Authorized Individual <div style="text-align: center;"></div>	Deepun Desai 06-October-2017
--	--	---

