



**SUPPLEMENTAL TYPE CERTIFICATE NUMBER SA11103SC  
INCREASED MAXIMUM ZERO FUEL WEIGHT LIMIT AND  
INSTALLATION OF SAFETY SYSTEMS FOR  
BEECHCRAFT KING AIR 200 SERIES AIRPLANES**

**FAA APPROVED  
AIRPLANE FLIGHT MANUAL SUPPLEMENT**

Airplane Serial No: \_\_\_\_\_

This supplement must be attached to the appropriate FAA Approved Airplane Flight Manual when the aircraft is modified in accordance with STC SA11103SC. The information contained herein supplements or supersedes the basic Airplane Flight Manual only in those areas listed herein. For limitations, procedures and performance information not contained in this supplement, consult the basic Beechcraft 200 Series Airplane Flight Manual, as applicable.

FAA APPROVED

\_\_\_\_\_  
for Manager, Southwest Flight Test Section,  
AIR-713 Federal Aviation Administration  
Fort Worth, Texas 76177

Dated: 01/06/2022

REFERENCE ONLY

HALO 250/275 CONVERSION OPTION 1  
INCREASED MAXIMUM ZERO FUEL WEIGHT LIMIT AND  
INSTALLATION OF SAFETY SYSTEMS FOR  
BEECHCRAFT KING AIR 200 SERIES AIRPLANES

AIRPLANE FLIGHT MANUAL SUPPLEMENT

TABLE OF DIVISIONS

SECTION 1 .....	GENERAL
SECTION 2 .....	LIMITATIONS
SECTION 3 .....	EMERGENCY PROCEDURES
SECTION 3A .....	ABNORMAL PROCEDURES
SECTION 4 .....	NORMAL PROCEDURES
SECTION 5 .....	PERFORMANCE
SECTION 6 .....	WEIGHT & BALANCE
SECTION 7 .....	SYSTEMS DESCRIPTION
SECTION 8 .....	HANDLING, SERVICING, AND MAINTENANCE

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REFERENCE ONLY

**SECTION 1**  
**GENERAL**  
**TABLE OF CONTENTS**

<u>SUBJECT</u>	<u>PAGE</u>
INTRODUCTION .....	1-2
COMPATIBLE MODIFICATIONS .....	1-3
LIST OF EFFECTIVE PAGES .....	1-4
LOG OF REVISIONS .....	1-4

REFERENCE ONLY

**INTRODUCTION**

This supplement should be read carefully by the owner and pilot to become familiar with the operation of the airplane after being modified in accordance with Option 1 of CenTex Aerospace STC SA11103SC (Halo 250/275 conversion), which increases the maximum zero fuel weight limit and installs safety systems. The maximum zero fuel weight limit is increased by 500 pounds (see Section 2 – Limitations for applicable airplane serial numbers). The safety systems increase operational safety by adding functions that are not provided on the standard airplane. Below is a list of the new systems and associated functions. Please note that each system is optional. The right most column indicates whether the system is installed in this specific airplane.

SAFETY SYSTEM	DESCRIPTION	Installed in this airplane?
Over-speed Warning System	Aural alert sounds automatically when $V_{MO}/M_{MO}$ is exceeded. Only available for Garmin G1000 & G1000 NXi. This is a standard function provided by Collins Proline 21 & Fusion avionics.	
Takeoff Trim Warning System	Aural alert sounds automatically when elevator trim is not set properly for takeoff.	
Stall Warning System Ice Mode	Aural alert sounds automatically when stall is imminent due to ice accumulation on wings.	
Engine Fire Extinguisher System	Extinguishes fire in engine compartment when activated by pilot.	
Emergency Cabin Lighting System	Illumination of cabin during emergency situations. Activates automatically or manually.	
Escape Path Markings	Shows pathway along the cabin floor to main door and to emergency exit.	

The terminology used in this supplement matches the terminology used in the basic AFM and POH. This includes the definitions of warnings, cautions, and notes. Also, you will find the format of limitations, procedures, and checklists herein match the AFM and POH format for B200 series airplanes.

## COMPATIBLE MODIFICATIONS

The following STC-approved modifications have been found to be compatible with the Halo 250/275 conversion:

1. SA2698NM-S, Raisbeck Eng. Hartzell HC-D4N-3A/D9383K propeller.
2. SA02130SE, BLR Hartzell HC-E4N-3A/NC9208K propellers
3. SA3366NM, Raisbeck Ram Air Recovery System
4. SA3831NM, Raisbeck Inboard Leading Edges
5. SA3519NM, Raisbeck Aft Body Strakes
6. SA4175NM, Raisbeck MLG Doors
7. SA3857NM, Raisbeck Storage Lockers
8. SA3683NM, Raisbeck Exhaust Stack Fairings
9. SA00433AT, Blackhawk Modifications PWC PT6A-42 Engine Conversion
10. SA10824SC, Blackhawk Modifications PWC PT6A-52 Engine Conversion
11. SA10842SC, Enhanced Aero PWC PT6A-52 Engine Conversion
12. SA02715CH-D, Standard Aero PWC PT6A-52 Engine Conversion
13. SA10737SC, Blackhawk Modifications PWC PT6A-61 Engine Conversion
14. SA01615SE, BLR Winglets
15. SA00184LA, Commuter Air Technology Wilderness Tires Conversion
16. SA01535WI-D, Garmin G1000 Avionics (GDC 7400 ADC or NXi is required)
17. SA02738CH, L-3 Comm ESI-1000 standby instrument
18. SA1036GL, McCauley 4HFR34C7 (54,55,71)/94LA-0 Propellers
19. SA01157CH, McCauley 5HFR34C1008/96LTA-0 Propellers
20. SA890GL and SA757GL, Parker Cleveland wheels and brakes
21. SA2451CE, Commuter Air Technology Super 60 (Cargo) Pod
22. SA2300CE, Avcon Industries Aeropak Cargo Pod
23. SA03209NY, MT-Propeller MTV-27-1-E-C-F-R(P)/CFR225-55f 5-blade propeller
24. SA03289CH, Elliott Aviation Mid-Continent MD302 Electronic Standby Indicator
25. SA2633CE, Aviation Fabricators 4-place side facing divan seat.  
NOTE: Only airplanes manufactured prior to 12/12/86 with passenger seating configurations of 9 or less are compatible.
26. SA2671CE, Aviation Fabricators stretcher installation.
27. SA4157SW, Aviation Fabricators 2-place attendant divan seat.
28. SA02468LA, Aviation Fabricators aft toilet cabinet seat.
29. SA00635WI, Aviation Fabricators jump seat.  
NOTE: Seating configuration may not exceed 9 passenger seats.
30. SA10478SC, Hawker Beechcraft Services flight data recorder/cockpit voice recorder
31. SA00273WI, LifePort stretcher, patient loading, and support system
32. SA02235LA, LifePort Patient Loading and Utility System (PLUS) and ServiPlex
33. SA00882CH, Spectrum Aeromed air ambulance conversion
34. SA01213CH, Spectrum Aeromed air ambulance conversion

It is up to the installer to determine whether any other STC-approved modifications are compatible with the Halo 250/275 conversion.

#### LIST OF EFFECTIVE PAGES

The list of effective pages shown below contains all current pages, with effective revision number or date. This list should be used to verify this supplement contains all of the applicable and required pages. When inserting revised pages into this supplement the List of Effective Pages should be updated, as well, to the corresponding new list.

Title Page thru 1-4.....	December 2021
2-1 thru 2-4 .....	December 2021
2-5 thru 2-6 .....	September 2012
3-1 thru 3-2 .....	December 2021
3A-1 thru 3A-2 .....	September 2012
4-1 thru 4-8 .....	December 2021
5-1 thru 5-2 .....	September 2012
6-1 thru 6-4 .....	December 2021
7-1 .....	September 2012
7-2 thru 7-6 .....	December 2021
7-7 thru 7-8 .....	September 2012
7-9 thru 7-10 .....	December 2021
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#### LOG OF REVISIONS

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**SECTION 2**  
**LIMITATIONS**  
**TABLE OF CONTENTS**

<u>SUBJECT</u>	<u>PAGE</u>
AIRSPED LIMITATIONS .....	2-2
POWER PLANT LIMITATIONS .....	2-4
WEIGHT LIMITS .....	2-4
ICING LIMITATIONS .....	2-4

REFERENCE ONLY

The limitations shown in this section are approved by the Federal Aviation Administration and must be observed while operating Beechcraft King Air 200 series airplanes that have been modified in accordance with Option 1 of CenTex Aerospace STC SA11103SC.

It is noted that not all of the information presented in this Supplement is changed from the basic Airplane Flight Manual or Pilot Operating Handbook information. This was done to aid the pilot in the retention of the changed limitations by presenting together changed and unchanged limitations that are relational. The changed information or value is identified either by a note or by simple underline.

**AIRSPEED LIMITATIONS**

SPEED	KCAS	KIAS	REMARKS
Maneuvering Speed, $V_A$	NC	NC	Do not make full or abrupt control movements above this speed.
Maximum Flap Extension/ Extended Speed, $V_{FE}$ Approach Position – 40% Full Down Position – 100%	NC NC	NC NC	Do not extend flaps or operate with flaps in prescribed position above these speeds.
Maximum Landing Gear Operating Speed, $V_{LO}$ Extension Retraction	NC NC	NC NC	Do not exceed or retract landing gear above the speeds given.
Maximum Landing Gear Extended Speed, $V_{LE}$	NC	NC	Do not exceed this speed with landing gear extended.
Air Minimum Control Speed $V_{MCA}$ Hartzell Propellers ..... McCaughey Propellers..... <sup>1</sup> STC SA2698NM....Flaps Up... Flaps Approach... <sup>2</sup> STC SA02130SE....Flaps Up .... Flaps Approach...	NC NC NC NC NC NC	NC NC NC NC NC NC	This is the lowest airspeed at which the airplane is directionally controllable when one engine suddenly becomes inoperative and the other engine is at takeoff power. (See definition in Section I of the basic AFM or POH)
Maximum Operating Speed $V_{MO}$ $M_{MO}$	NC	NC <u>0.58 Mach</u>	Do not exceed this airspeed or Mach number in any operation.

NC-No change to original airspeed limitation. See basic AFM / POH.

1 Hartzell HC-D4N-3A/D9383K prop installed per Raisbeck Engineering STC SA2698NM-S.

2 Hartzell HC-E4N-3A/NC9208K prop installed per BLR Hartzell STC SA02130SE.

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**POWER PLANT LIMITATIONS**

Engine Model(s) .....PT6A-41 or PT6A-42 or PT6A-52 or PT6A-61

**Engine Operating Limits:**

Takeoff & Max Continuous Power	850 SHP	2230 FT-LBS	2000 RPM
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**WEIGHT LIMITS****Maximum Zero Fuel Weight:**

Model 200, A200 and B200 series with Serials BB-2 thru BB-1438, BB-1440 thru BB-1443, BL-1 thru BL-138 ..... No Change

Model B200 series with Serials BB-1439, BB-1444 & after, BL-139 & after, BY-1 thru BY-116, BY-118..... 11,500 pounds**ICING LIMITATIONS**

The limitations and information presented in this subsection have been changed from the basic Airplane Flight Manual and Pilot Operation Handbook. The changes are considered by the FAA to be essential in ensuring the safe operation of the airplane in icing conditions.

Minimum Ambient Temperature for Operation of Deicing Boots ..... -40°C

Minimum Airspeed for Sustained Icing Flight ..... 140 Knots

Sustained flight in icing conditions with flaps extended is prohibited except for approach and landing.

ENGINE ANTI-ICE shall be ON for operations in ambient temperatures of +5°C or below when flight free of visible moisture cannot be assured.

ENGINE ANTI-ICE shall be OFF for all takeoff and flight operations in ambient temperatures above + 15°C.

Takeoff is prohibited with any frost, ice, snow, or slush adhering to the wings, horizontal stabilizer, control surfaces, propeller blades, or engine inlet.

In icing conditions the airplane must be operated, and its ice protection system used as described in the operating procedures section of this AFM Supplement. Where specific operational speeds and performance information have been established for such conditions, this information must be used.

**WARNING**

Severe icing may result from environment conditions outside of those for which the airplane is certificated. Flight in freezing rain, freezing drizzle, or mixed icing conditions (supercooled liquid water and ice crystals) may result in ice build-up on protected surfaces exceeding the capacity of the ice protection system, or may result in ice forming aft of the protected surfaces. This ice may not be shed using the ice protection systems, and may seriously degrade the performance and controllability of the airplane and an unsafe situation will likely result. It is the responsibility of the pilot to identify severe icing conditions and to exit such condition to ensure safe flight operations.

1. Severe icing conditions that exceed those for which the airplane is certificated shall be determined by the following visual cues. If one or more of these visual cues exists, immediately request priority handling from Air Traffic Control to facilitate a route or an altitude change to exit the icing conditions.
  - Extensive ice accumulation on the airframe and windshield in areas not observed to collect ice during light or moderate icing conditions.
  - Accumulation of ice on the upper surface of the wing, aft of the protected area (i.e., leading-edge boot).
  - Accumulation of ice on the engine nacelles and propeller spinners farther aft than observed during light or moderate icing conditions.
2. DO NOT USE THE AUTOPILOT in severe icing conditions or whenever:
  - Visual cues specified above exist.
  - Unusual aileron trim settings are required.
  - Autopilot trim warnings occur.

Note: an unsafe condition exists when the autopilot is engaged, and the airplane handling characteristics are degrading due to ice accumulating on the airplane. The pilot will not be aware of this unsafe condition, which requires an immediate exit from icing conditions if he/she is not manually flying the airplane.
3. All icing detection lights must be operative prior to flight into known or forecast icing conditions at night.

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## SECTION 3 EMERGENCY PROCEDURES

### EMERGENCY CABIN LIGHTING ACTIVATION

(If installed)

An emergency lighting system has been added to provide lighting in key areas of the passenger cabin in case there is an emergency situation, such as a loss of electrical power or when an evacuation of the aircraft is required. To manually activate the system, place the control switch located on the copilot instrument panel in the ON position. The emergency cabin flood lamps will illuminate the cabin areas near the emergency exit and door. Also, the system will automatically activate the emergency cabin flood lamps whenever the control switch is in the ARM position, and the aircraft experiences a horizontal deceleration of 2g's, or more.

### EMERGENCY ESCAPE PATH

(If installed)

Photoluminescent markings have been installed on the cabin floor outlining the aisle and the location of the emergency exit door and cabin door. Under conditions of reduced visibility, such as a cabin filled with smoke, occupants can follow this marked escape path to the exit from the aircraft.

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**SECTION 3A**  
**ABNORMAL PROCEDURES**

No Changes

*See basic Airplane Flight Manual / Pilot Operating Handbook*

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REFERENCE ONLY

**SECTION 4**  
**NORMAL PROCEDURES**  
**TABLE OF CONTENTS**

<i>SUBJECT</i>	<i>PAGE</i>
PROCEDURES BY FLIGHT PHASE	
PREFLIGHT INSPECTION .....	4-2
BEFORE ENGINE STARTING .....	4-2
BEFORE TAKEOFF (RUNUP) .....	4-2
CLIMB	
CLIMB IN ICING CONDITIONS .....	4-3
CRUISE	
CRUISE IN ICING CONDITIONS .....	4-3
OUTSIDE OF ICING CONDITIONS AND WINGS FREE OF ICE .....	4-3
ICING CONDITIONS .....	4-3
BEFORE LANDING .....	4-4
SHUT DOWN AND SECURING .....	4-4
OTHER PROCEDURES	
ICING FLIGHT .....	4-5
TAKEOFF TRIM WARNING TEST .....	4-5
OVER-SPEED WARNING TEST .....	4-6
STALL WARNING SYSTEM OPERATION .....	4-6
EMERGENCY CABIN LIGHTING SYSTEM OPERATION .....	4-6
CHARGING EMERGENCY ESCAPE PATH MARKINGS .....	4-7

## PROCEDURES BY FLIGHT PHASE

### NOTE

Refer to all applicable Supplements for flight phase procedures for optional equipment installed in the airplane. The procedures listed below are required for airplanes modified by the Halo 250/275 conversion.

## PREFLIGHT INSPECTION

### CABIN/COCKPIT

*If the Emergency Cabin Lighting System is installed:*

*Add the following steps while Battery Switch is OFF.*

Emergency Lighting Cabin Switch ..... ON  
Emerg Cabin Lt Control Switch.....ARM  
Emergency Cabin Flood Lamps ..... CHECK (illuminated)

*Add the following step when Battery Switch is ON.*

Emergency Cabin Flood Lamps .....CHECK (not illuminated)

*Add the following step after Battery Switch is turned OFF.*

Emergency Lighting Cabin Switch ..... OFF

## BEFORE ENGINE STARTING

*If the Emergency Cabin Lighting System is installed, add the following step after airstair door is LOCKED.*

Emergency Cabin Lighting Switch ..... ON

*If the Takeoff Trim Warning System is installed, add the following steps after the Battery Switch is ON.*

Left Power Lever ..... ADVANCE TO AT LEAST 80% POSITION

Autofeather Switch .....ARM

Elevator Trim Warning System..... TEST

Elevator Trim Control..... SET FOR TAKEOFF

Autofeather Switch ..... OFF

Left and Right Power Levers ..... IDLE

*If the Over-speed Warning System is installed, add the following step after the Battery Switch is ON.*

Over-speed Aural Warning..... TEST

## BEFORE TAKEOFF (RUNUP)

*If the Stall Warning System Ice Mode is installed, add the following steps after the Surface Deice System check.*

Stall Warning Ice Mode Annunciator ..... ILLUMINATED

Stall Warning..... TEST

Stall Warning Ice Mode Annunciator ..... PRESS (to select Normal Mode)

### NOTE

The stall warning system must be in the Normal Mode during takeoff and initial climb-out. If a takeoff is conducted with the stall warning system in the Ice Mode, a misleading stall warning following lift-off will likely occur.

## CLIMB

*If the Stall Warning System Ice Mode is installed, add the following after the normal climb checklist.*

### CLIMB IN ICING CONDITIONS

1. Engine Anti-Ice ..... ON  
L & R ENG ANTI-ICE annunciators ILLUMINATED
  2. Auto Ignition ..... ARM
  3. Prop Deice ..... AUTO
  4. Stall Warning Heat ..... CONFIRM ON
  5. Left and Right Fuel Vent Heat ..... CONFIRM ON
  6. Left and Right Pitot Heat ..... CONFIRM ON
  7. Windshield Anti-Ice ..... CONFIRM NORMAL OR HI
- At first sign of ice accretion on aircraft.*
8. Surface Deice Switch ..... SINGLE AND RELEASE (repeat as required)
  9. Stall Warning Ice Mode Annunciator ..... ILLUMINATED
  10. Climb Power ..... SET MAX CONT POWER (to expedite climb)
  11. Airspeed ..... 140 KNOTS MINIMUM AIRSPEED

## CRUISE

*If the Stall Warning System Ice Mode is installed, add the following after the normal cruise checklist.*

### CRUISE IN ICING CONDITIONS

*At first sign of ice accretion on aircraft.*

1. Airspeed ..... 140 KNOTS MINIMUM
2. Surface Deice Switch ..... SINGLE AND RELEASE
3. Stall Warning Ice Mode Annunciator ..... VERIFY ILLUMINATED

*Outside of icing conditions and wings free of ice.*

1. Stall Warning Ice Mode Annunciator ..... PRESS (to select Normal Mode)
2. Stall Warning Ice Mode Annunciator ..... EXTINGUISHED

### ICING CONDITIONS

*Replace the warning statement with the following:*

#### WARNING

Due to distortion of the wing airfoil, ice accumulation on the leading edges can cause a significant loss in rate of climb and in cruise speed, as well as increases in stall speed. Even after cycling deicing boots, the ice accumulation remaining on the boots plus ice accumulations on unprotected areas can cause large performance losses. In order to minimize ice accumulation on unprotected surfaces of the wing, maintain a minimum of 140 knots during operations in sustained icing conditions. In the event of windshield icing, reduce airspeed to 226 knots or below. Prior to a landing approach, cycle the deicing boots to shed any accumulated ice. The stall warning system will sound the aural warning at 15 to 20 knots above the normal warning speed when it is in the ice mode, which is appropriate when there is ice on the wings.

*Add the following after Surface Deice.*

*At first sign of ice accretion on aircraft.*

- a. Airspeed ..... 140 KNOTS MINIMUM
- b. Surface Deice Switch ..... SINGLE AND RELEASE
- c. Stall Warning Ice Mode Annunciator ..... VERIFY ILLUMINATED
- d. Repeat as required.

*If Single Position of the Surface Deice Switch Fails:*

- e. Surface Deice Switch ..... MANUAL AND HOLD  
FOR A MINIMU OF 6 SECONDS, THEN RELEASE
- f. Stall Warning Ice Mode Annunciator ..... VERIFY ILLUMINATED
- g. Repeat as required.

*Add the following.*

*OUTSIDE OF ICING CONDITIONS AND WINGS FREE OF ICE*

- 1. Stall Warning Ice Mode Annunciator ..... PRESS (to select Normal Mode)
- 2. Stall Warning Ice Mode Annunciator ..... EXTINGUISHED

#### **BEFORE LANDING**

*If the Stall Warning System Ice Mode is installed, add or change the following steps.*

*If wings are free of ice:*

Stall Warning Ice Mode Switch ..... PRESS (to select Normal Mode)

*If residual ice remains on wing boots and/or unprotected surfaces:*

Surface Deice ..... CYCLE  
Stall Warning Ice Mode Annunciator ..... ILLUMINATED  
Approach Speed and Landing Distance ..... INCREASE  $V_{REF}$  BY 15 KNOTS  
AND INCREASE EXPECTED LANDING DISTANCE BY 25 PERCENT

#### **NOTE**

Prior to the landing approach, cycle the wing deice boots to shed as much residual ice as possible, regardless of the amount of ice remaining on the boots. Stall speeds can be expected to increase as much as 15 knots if ice is present on the wings and/or horizontal tail surfaces.

#### **SHUT DOWN AND SECURING**

*If the Emergency Cabin Lighting System is installed, add the following steps.*

Emerg Cabin Lt Control Switch ..... OFF  
Emergency Lighting Cabin Switch ..... OFF

## OTHER PROCEDURES

### ICING FLIGHT

*If the Stall Warning System Ice Mode is installed, add the following.*

Refer to Section 2 Limitations of this Supplement for limitations relating to icing flight. See the BEFORE TAKEOFF (RUNUP) and CRUISE checklists in this section for normal ground and in-flight procedures pertaining to flight in icing conditions.

*At first sign of ice accretion on aircraft:*

1. Airspeed ..... 140 KNOTS MINIMUM
2. Surface Deice Switch..... SINGLE AND RELEASE
3. Stall Warning Ice Mode Annunciator ..... VERIFY ILLUMINATED
4. Repeat as required.

### TAKEOFF TRIM WARNING TEST

*If the Takeoff Trim Warning System is installed, add the following.*

A warning system has been added that provides a constant tone aural alert in the cockpit when the elevator trim tab is not set within the acceptable range for takeoff and engine power is increased above 90%  $N_1$ . The system should be tested for proper operation before the first flight of each day while conducting the BEFORE ENGINE STARTING procedure. To perform this test the trim warning system must first be activated by placing the Autofeather switch to ARM. Then, the left power lever must be advanced past the 80% position. The system should now be tested by adjusting the elevator trim tab to a position outside of the takeoff range marked on the tab position indicator in both the nose up and the nose down directions. The aural alert should sound just as the tab position indicator moves outside of the takeoff range. The aural alert should be silent when the tab position is inside of the takeoff range.

When the power levers are advanced to initiate a takeoff and the aural alert sounds, immediately reduce power to idle and abort the takeoff. Do not takeoff when the elevator trim tab position is not set within the takeoff range.

#### **OVER-SPEED WARNING TEST**

*If the Over-speed Warning System is installed, add the following.*

A warning system has been added to the aircraft that provides a pulsing tone aural alert in the cockpit when the airspeed is greater than  $V_{MO}$  or the Mach number is greater than  $M_{MO}$ . When the alert is heard the pilot must take immediate action to reduce airspeed below the maximum operating limit. The system should be tested while conducting the BEFORE ENGINE STARTING procedure by simply selecting the TEST position on the OVERSPEED WARNING TEST switch. A loud pulsing tone should sound if the system is functioning properly.

#### **STALL WARNING SYSTEM OPERATION**

*If the Stall Warning System Ice Mode is installed, add the following.*

An ICE MODE feature has been added to the stall warning system. The ice mode is automatically activated when the Surface Deice system is selected by the pilot. Illumination of the STALL WARNING ICE MODE annunciator indicates the stall warning system is operating in the ice mode. After exiting icing conditions and when the aircraft is free of ice, transfer the stall warning system to the normal mode by pressing and releasing the STALL WARNING ICE MODE annunciator.

#### **EMERGENCY CABIN LIGHTING SYSTEM OPERATION**

*If the Emergency Cabin Lighting System is installed, add the following.*

An emergency lighting system has been added to provide supplemental lighting in the passenger cabin around the emergency exit door and cabin door. Two switches – a cabin switch located in the ceiling and a control switch located in the copilot instrument panel – control operation of the system.

When entering the cabin during the preflight inspection the charge level of the emergency lighting system battery should be verified. To do this, place the cabin switch to ON with the aircraft battery switch OFF. The emergency cabin flood lamps should illuminate. If the lamps do not illuminate, the emergency lighting system battery has been discharged or there is a malfunction in the system.

Before taxiing, place the cabin switch to ON and the control switch to ARMED. This is the switch configuration for normal taxiing and flight operations.

When shutting down and exiting the airplane, place both the control switch and the cabin switch to OFF.



It is acceptable to utilize the flood lamps to illuminate the cabin whenever needed, such as for boarding or to charge the photoluminescent escape path markings. Limit the time the flood lamps are being powered by the emergency lighting system battery to no more than 20 minutes to ensure the battery will have remaining capacity in case of an emergency.

**CHARGING EMERGENCY ESCAPE PATH MARKINGS**

*If the Escape Path Markings are installed, add the following.*

Photoluminescent markings have been installed on the cabin floor outlining the aisle and the paths to the emergency exit door and cabin door. The markings must be charged during preflight operations by illuminating the cabin with either or a combination of sunlight through the cabin windows, the cabin lights, or the emergency cabin flood lamps when any part of that flight will be conducted in darkness. The table below lists the minimum charging time to ensure the markings will perform as intended throughout the respective flight.

**Required Charging of Emergency Escape Path Markings**

Charging Time	Duration of Acceptable Luminance
5 minutes	1.5 hours
10 minutes	2.5 hours
20 minutes	4 hours
30 minutes	5 hours

End

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## **SECTION 5 PERFORMANCE**

No Changes

*See basic Airplane Flight Manual / Pilot Operating Handbook*

REFERENCE ONLY

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## SECTION 6 WEIGHT AND BALANCE

### TABLE OF CONTENTS

<i>SUBJECT</i>	<i>PAGE</i>
INTRODUCTION .....	6-2
WEIGHT AND CENTER-OF-GRAVITY LIMITS MAXIMUM ZERO FUEL WEIGHT .....	6-2
WEIGHT AND BALANCE DIAGRAM .....	6-3
WEIGHT AND BALANCE DIAGRAM KILOGRAMS .....	6-4

## INTRODUCTION

The maximum zero fuel weight limit for airplanes manufactured after the year 1992 is increased to 11,500 pounds. The applicable airplanes by serial number are listed below:

- BB-1439, BB-1444 & after
- BL-139 & after
- BY-1 thru BY-116, BY-118

Other weight limits are unchanged.

There are no changes to weighing instructions, computing basic empty weight and balance, dimensional and loading data, cabin arrangements, and the procedure for computing weight and balance. See the basic Airplane Flight Manual or Pilot Operating Handbook for weight and balance information and procedures not contained in this section.

For the airplanes listed above, two weight and balance diagrams are in this section that show the new maximum zero fuel weight limit. The first diagram is useful for verifying the loaded airplane is within the approved center-of-gravity limits when weight computations are made in pounds gross weight. The second diagram should be used when weight and balance computations are made in kilograms.

## WEIGHT AND CENTER-OF-GRAVITY LIMITS

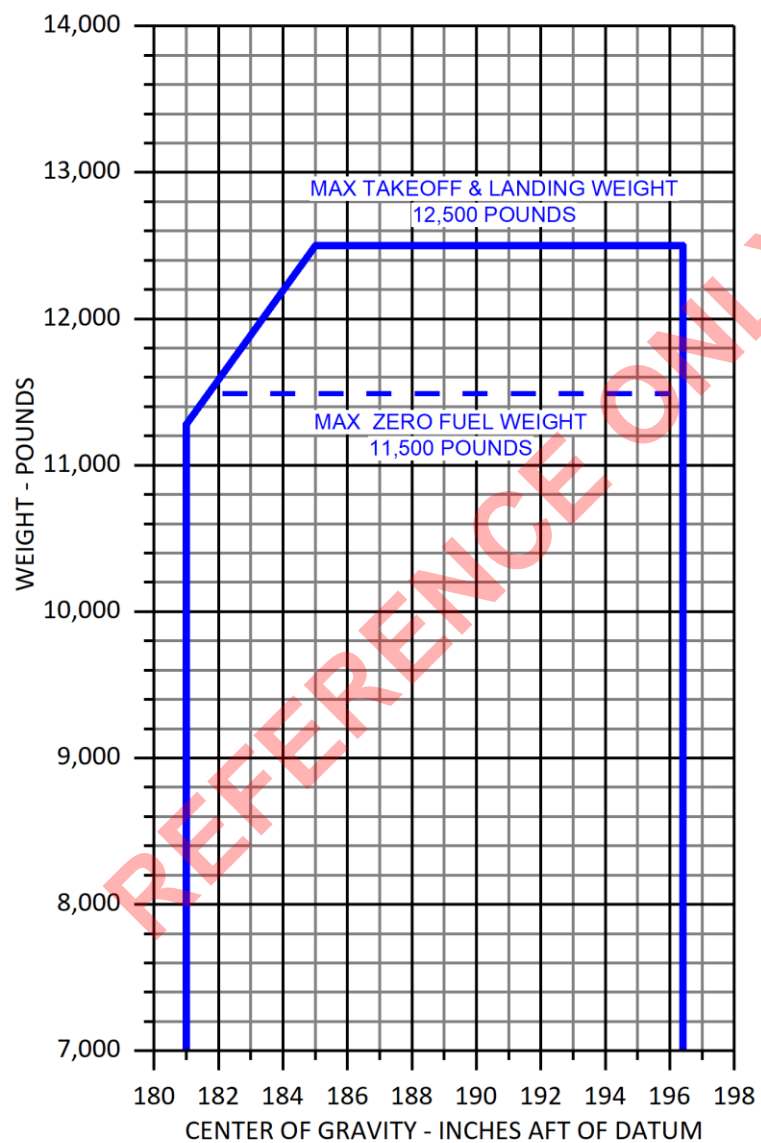
The following weight limits are taken from Section 2 Limitations of this AFM Supplement and repeated here for convenience to the airplane operator. Values that are underlined have been changed by the Halo 250/275 conversion.

Maximum Zero Fuel Weight:

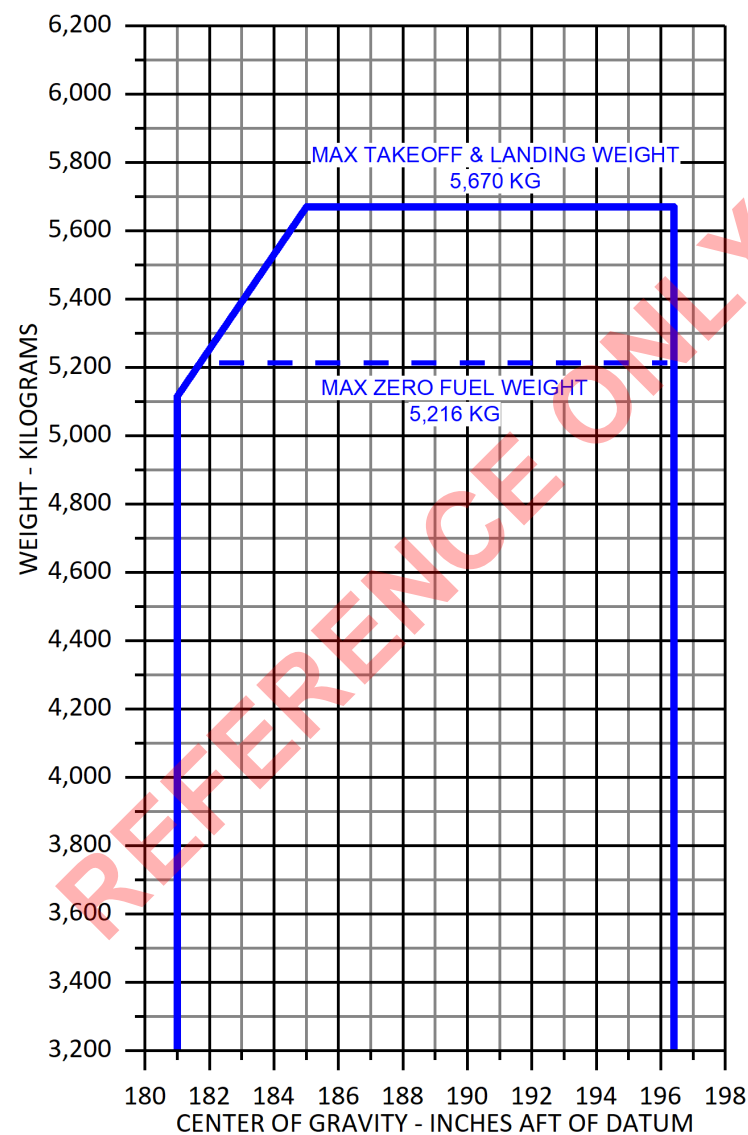
Model 200, A200 and B200 series with Serials BB-2 thru BB-1438, BB-1440 thru BB-1443, BL-1 thru BL-138 .....No Change

Model B200 series with Serials BB-1439, BB-1444 & after, BL-139 & after, BY-1 thru BY-116, BY-118 .....11,500 pounds

**WEIGHT AND BALANCE DIAGRAM**



**WEIGHT AND BALANCE DIAGRAM**  
**KILOGRAMS**





**SECTION 7**  
**SYSTEMS DESCRIPTION**  
**TABLE OF CONTENTS**

<u>SUBJECT</u>	<u>PAGE</u>
INTRODUCTION.....	7-2
TAKEOFF TRIM WARNING.....	7-3
OVER-SPEED WARNING .....	7-4
EMERGENCY ESCAPE PATH MARKINGS .....	7-4
ENGINE FIRE EXTINGUISHER .....	7-5
STALL WARNING ICE MODE .....	7-5
EMERGENCY CABIN LIGHTING .....	7-6

REFERENCE ONLY

### INTRODUCTION

New safety systems may have been installed under Option 1 of STC SA11103SC (Halo 250/275 conversion). The table in Section 1 - Introduction identifies each safety system that is installed in this airplane. These systems provide functions that are required for airplanes certificated in the Commuter category but are not required when operating this airplane in Normal category. Also, if the Ice Mode has been added to the stall warning system, it will now provide a more accurate and reliable warning when the airplane encounters icing conditions. The result of adding these systems is a King Air 200 series airplane that operates at a higher level of safety.

Below is a list of the added functions:

- Takeoff Trim Warning
- Over-Speed Warning
- Engine Fire Extinguisher
- Stall Warning Ice Mode
- Emergency Cabin Lighting
- Escape Path Markings

This section describes the functionality of these systems and the pertinent design details. It is imperative that the pilot be knowledgeable of this information so he/she can fully utilize these new features and thereby realize the added safety they provide. For information on systems other than those described in this section see the applicable King Air 200 series basic AFM or Pilot Operating Handbook.

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#### TAKEOFF TRIM WARNING

The Halo 250/275 conversion adds a takeoff trim warning system. The system detects if the elevator trim tab has not been properly set before takeoff and sounds a warning when the pilot initiates a takeoff. The pilot should respond to the warning by immediately aborting the takeoff run.

The trim warning system utilizes the existing elevator tab position indicator to determine tab position. A micro switch actuated by the tab position indicator activates the warning horn when the tab position is outside of the approved range for takeoff. The horn emits a constant, mid-frequency tone. It is located beneath the lower edge of the pilot's instrument panel next to the console. The micro switch is mounted to the console beneath the elevator trim wheel.

Power to the elevator trim warning system comes through the Autofeather system switch when it is in the ARMED position. Power must also pass through the weight-on-wheels switch and the 90%  $N_1$  switch associated with the left engine power lever. The system becomes fully operational once the Autofeather system is ARMED and the left power lever is advanced to the 80% position. The takeoff trim warning system is deactivated through the weight-on-wheels switch after liftoff so no misleading warnings occur during flight. Note the Halo 250/275 conversion requires the Autofeather system to be operative for takeoff.

The warning system should be tested before the first flight of each day, as specified in Section 4 Normal Procedures.

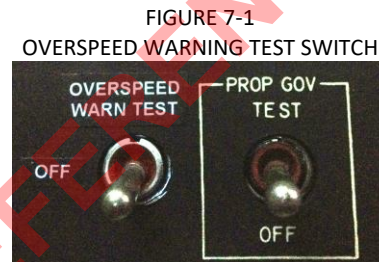
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### OVER-SPEED WARNING

The Halo 250/275 conversion adds an over-speed warning system. The aural warning automatically alerts the pilot whenever airspeed is greater than  $V_{MO}$  or Mach number is greater than  $M_{MO}$ . This system provides a backup to the function provided by the maximum allowable airspeed pointer on the pilot and copilot airspeed indicators. The pilot should respond to a warning by immediately taking the necessary action to reduce airspeed.

The system consists of a pressure sensing switch, an aural warning device, and a test switch. The pressure switch is connected to the pitot and static system lines feeding the pilot's airspeed indicator. The pressure switch activates the aural warning whenever  $V_{MO}$  or  $M_{MO}$  is exceeded. The warning is a pulsing, high-frequency tone. The aural warning device is located beneath the glareshield in front of the pilot. Power to the system is fed from the main electrical bus through a five (5) amp circuit breaker labeled O/S WARN located in the Warning section of the right side circuit breaker panel (See FIGURE 7-6). The pressure sensing switch is mounted inside the aft end of the console. The pressure lines are routed through the console and upward behind the pilot's instrument panel where they connect to the pitot-static system lines.

The system should be tested when conducting the BEFORE ENGINE STARTING procedure by selecting TEST on the OVERSPEED WARN TEST switch (See FIGURE 7-1).



### EMERGENCY ESCAPE PATH MARKINGS

The Halo 250/275 conversion adds photoluminescent markings that highlight the escape path along the floor to the emergency exit door and cabin door. Charging can be accomplished with sunlight or with the interior lights or with the emergency flood lamps. See Section 4 Normal Procedures for the charging time.

### ENGINE FIRE EXTINGUISHER

The CenTex Aerospace or Beechcraft engine fire extinguisher system may be installed. Both systems function and operate in the same manner. Information regarding the engine fire extinguisher system is contained in the basic Airplane Flight Manual or Pilot Operating Handbook.

### STALL WARNING ICE MODE

The King Air 200 series stall warning system does not have the capability to adjust for the effect that icing has on stall speed. Ice accretion causes the wing to stall at a lower angle-of-attack and can result in a 15% to 20% increase in stall speed. The Halo 250/275 conversion adds additional capability, so a reliable and accurate stall warning is available in icing conditions. This new stall warning functionality is called the "ice mode".

The stall warning system will activate the warning horn when the output of the lift transducer reaches a preset voltage. The system has three different voltage settings, one for each flap position, which enables it to provide accurate warning at each flap setting. The Halo 250/275 conversion adds components to the stall warning system that allow three different preset voltages to become active when it is in the ice mode. These voltage settings are uniquely selected so that the effect of ice on the wings is considered. With wing flaps up, the stall warning activates at approximately 20 knots higher airspeed in the ice mode.

The initial sound of the stall warning horn in the ice mode is a 1-Hertz pulsing tone. If angle-of-attack increases further, the duration of the pulsing increases until the tone becomes continuous. The pilot should respond to the initial warning by pitching the aircraft nose down until the warning ceases, leveling the wings to orient lift vector for recovery, and adding power to assist in the recovery. The pilot's failure to respond to a stall warning can result in a stall and subsequent loss of control of the airplane.

Switching to the ice mode occurs automatically when the pilot selects either SINGLE or MANUAL on the Surface Deice switch. The STALL WARNING ICE MODE annunciator, which is located in the glareshield in front of the pilot, will illuminate whenever the ice mode is active (See FIGURE 7-2). The ice mode will stay active until it is manually deactivated by the pilot pressing the illuminated annunciator. This should be done when the airplane is outside of icing conditions and is free of ice. Pressing the annunciator when it is extinguished has no effect. Note the stall warning heat must be operating when flying in icing conditions to keep the lift transducer free of ice.

When testing the stall warning system, the mode in operation when the test is performed is the mode that is tested. A constant tone will be heard if the system is functioning properly. The new system components are located inside the aft end of the console.

FIGURE 7-2  
STALL WARNING ICE MODE ANNUNCIATOR



#### EMERGENCY CABIN LIGHTING

The Halo 250/275 conversion adds an emergency cabin lighting system. It provides supplemental lighting in the cabin around the emergency exit door and cabin door. The system has two LED flood lamps located in the cabin ceiling that are powered by a dedicated battery pack, which contains two 12-volt, sealed lead-acid batteries connected in series, installed under the cabin floor.

The system automatically turns on the flood lamps in the event of a 2-g, or greater, deceleration or a loss of power on the main electrical bus. This keeps the cabin from becoming unlighted during such critical events. Additionally, the lamps can be used for lighting the cabin when boarding or to charge the photoluminescent escape path markings.

Two switches operate the system and provide required functionality. A cabin switch located next to the aft flood lamp connects the battery pack to the system (See FIGURE 7-3). A control switch, located in either the pilot or copilot instrument panel, arms automatic operation or provides manual operation of the flood lamps from the cockpit (See FIGURE 7-4). Power to charge the battery pack is fed from the main electrical bus through a five (5) amp circuit breaker labeled EMERG LIGHT in the ride side circuit breaker panel (See FIGURE 7-6). The battery pack and relays are located beneath the cabin floor typically at either Fuselage Station 207 or Fuselage Station 270.

Two amber indicator lights located in the instrument panel above the control switch (See FIGURE 7-5) warn the pilot when the system switches are not set as required for taxi and takeoff operations. The amber indicator lights will be extinguished when the cockpit control switch is ARMED and the cabin switch is ON. Note these are the required positions for taxi and flight operations.

When exiting the airplane both the control switch and the cabin switch should be placed in the OFF position. If left on, a timer prevents the battery from becoming totally discharged by disconnecting the battery pack from the system after 10 minutes. Selecting OFF on the cabin switch reconnects the battery pack and resets the timer. Note recharging of the battery occurs automatically whenever the airplane battery switch is ON and the main electrical bus is powered by either the generators or an external power source.

The level of charge of the emergency lighting system battery should be checked before the first flight of each day as described in Section 4 NORMAL PROCEDURES. If the lamps do not illuminate when performing this procedure, the battery is discharged or a malfunction has occurred. Also, the battery pack should be inspected at each maintenance Phase inspection for general condition and the time-in-service for the batteries. The batteries must be replaced after 36 calendar months from the time they were installed.

FIGURE 7-3  
EMERGENCY CABIN LIGHTING SYSTEM  
CABIN SWITCH & FLOOD LAMP



FIGURE 7-4  
EMERGENCY CABIN LIGHTING SYSTEM  
COCKPIT CONTROL SWITCH



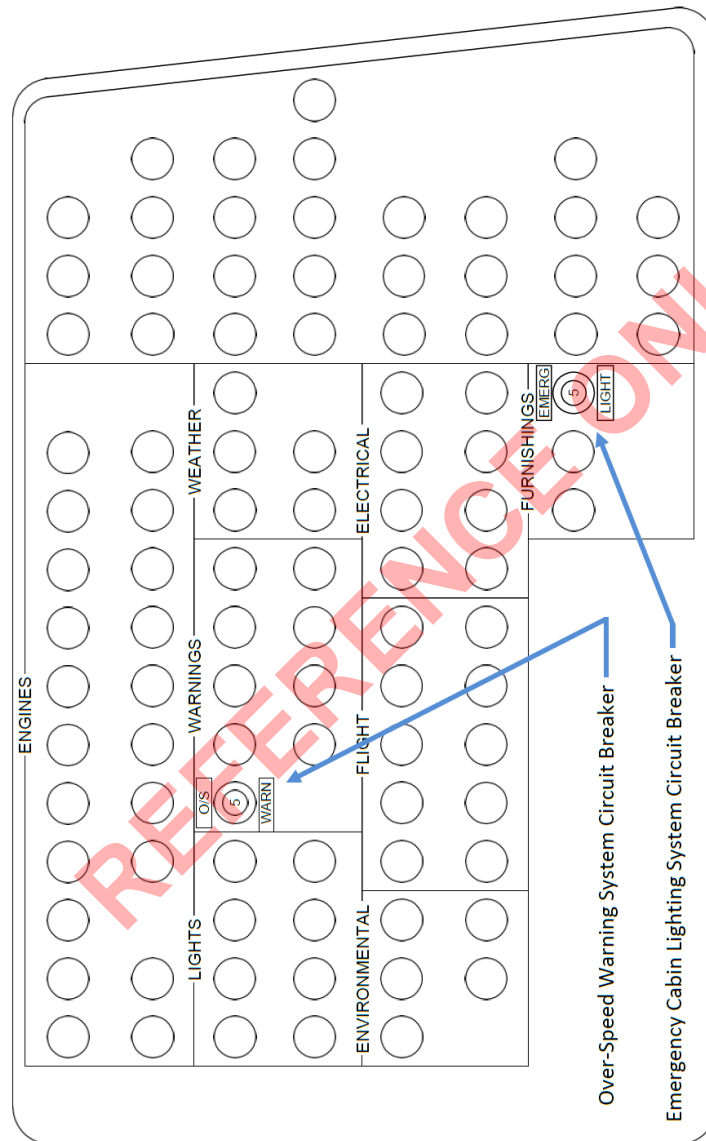
FIGURE 7-5  
EMERGENCY CABIN LIGHTING  
SYSTEM WARNING LIGHTS



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FIGURE 7-6  
RIGHT SIDE CIRCUIT BREAKER PANEL  
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## **SECTION 8**

### **HANDLING, SERVICING, & MAINTENANCE**

No Changes except as shown below.  
*See basic Airplane Flight Manual / Pilot Operating Handbook*

#### **EMERGENCY CABIN LIGHTING SYSTEM**

The battery pack that powers the emergency cabin lighting system must be replaced every 36 calendar months.

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