HALO 250

CENTEX AEROSPACE GWI STC SERIES

SUPPLEMENTAL TYPE CERTIFICATE NUMBER SA11103SC
HALO 250 COMMUTER CATEGORY CONVERSION OF
BEECHCRAFT KING AIR B200GT AND B200CGT AIRPLANES
IN THE KING AIR 250 CONFIGURATION
(PRO LINE 21 AND PRO LINE FUSION AVIONICS)

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 B200GT Airplane Flight Manual / Pilot Operating Handbook and BLR Aerospace AFMS-B250-1 AFM Supplement, as applicable.

FAA APPROVED

John Hardie
Acting Manager, Fort Worth Aircraft Certification Office
Southwest Region
Federal Aviation Administration
Fort Worth, Texas 76177

Dated: May 23, 2016

DOCUMENT NUMBER AFM 006-4, REVISION 4
CENTEX AEROSPACE INCORPORATED, 7925 KARL MAY DRIVE, WACO, TX 76708

AIRPLANE FLIGHT MANUAL SUPPLEMENT
FOR KING AIR 250 AIRPLANES WITH
HALO 250 COMMUTER CATEGORY CONVERSION

TABLE OF DIVISIONS

THIS PAGE IS INTENTIONALLY BLANK

SECTION 1
GENERAL
TABLE OF CONTENTS

SUBJECT *PAGE*

INTRODUCTION

This supplement should be read carefully by the owner and the operator in order to become familiar with the operation of the airplane having now been modified by the installation of the CenTex Aerospace Halo 250 Commuter Category conversion. With this conversion, a King Air 250 now has a maximum takeoff weight of 13,420 pounds, and maximum zero fuel weight of 11,500 pounds. These increases in the maximum weight limitations allow the aircraft to carry significantly more payload.

A BE-200 type rating is required for pilots to operate converted King Air 250 airplanes, except for airplanes operating under option 1 of the Supplemental Type Certificate.

NOTE

The BLR Ultimate Performance Package (STC SA02131SE) must be installed on the airplane in order for this supplement to be used.

With the change to Commuter category comes takeoff and discontinued approach flight path profiles up to 1,500 Feet, AGL, and the corresponding airplane performance data to construct these new profiles. Therefore, the takeoff and climb performance data in Section 5 are presented somewhat differently than found in the basic AFM. Takeoff field lengths include the runway length required to stop the airplane on the available runway in the event an engine failure occurs or continue the takeoff with an inoperative engine. Maximum allowed takeoff weight tables and maximum allowed landing weight tables limit the gross weight so that the required minimum climb gradients can be met. Together, the new profiles, takeoff field length data, and maximum allowed takeoff and landing weight limitations serve to increase operational safety by ensuring adequate airplane performance for all contingency situations.

The new systems, likewise, increase the level of safety by providing safety functions that were not previously available. Below is a list of the new systems and associated functions.

- Takeoff trim warning system – aural alert when elevator trim is not set properly for takeoff.
- Stall warning system ice mode – aural alert when stall is imminent due to ice accumulation on wings.
- Engine fire extinguisher system – extinguish fire in engine compartment.
- Emergency cabin lighting system – illumination of cabin during emergency situations.
- Escape path markings – show pathway along the cabin floor to main door and emergency exit.

It is noted the number of passenger seats in the cabin is now limited to maximum of nine seats due to a single emergency exit.

The terminology used in this supplement matches the terminology used in the basic POH and BLR Aerospace AFMS-B250-1 AFM Supplement. This includes the definitions of warnings, cautions, and notes. Also, you will find the format of limitations, procedures, and checklists herein match the POH format for B200GT airplanes.

DESCRIPTIVE DATA

MAXIMUM CERTIFICATED WEIGHTS

Maximum Ramp Weight .....13,510 pounds
Maximum Take-off Weight .....13,420 pounds
Maximum Zero Fuel Weight .....11,500 pounds
Maximum Landing Weight (Standard landing gear) .....12,500 pounds

SPECIFIC LOADINGS

Wing Loading: 42.7 pounds per square foot
Power Loading: 7.9 pounds per shaft horsepower

COMPATIBLE MODIFICATIONS

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

1. SA02131SE, BLR Ultimate Performance Package
2. SA02130SE, BLR Hartzell HC-E4N-3A/NC9208K propellers
3. SA01615SE, BLR Winglets
4. SA3366NM, Raisbeck Engineering Ram Air Recovery System
5. SA2698NM-S Raisbeck Engineering Swept Blade Turbofan Propellers
6. SA3831NM, Raisbeck Engineering Inboard Leading Edges
7. SA3591NM, Raisbeck Engineering Aft Body Strakes
8. SA3857NM, Raisbeck Engineering Storage Lockers
9. SA3683NM, Raisbeck Engineering Exhaust Stack Fairings
10. SA00184LA, Commuter Air Technology Wildness Tires Conversion
11. SA890GL, Parker Cleveland wheels and brakes
12. SA4157SW, SA02468LA, SA00635WI, Aviation Fabricators cabin seats
13. SA10478SC, Hawker Beechcraft Services FDR & CVR
14. SA02738CH, L-3 Comm ESI-1000 (set airspeeds according to AFM 006-4)
15. SA01213CH, Spectrum Aeromed air ambulance conversion
16. SA02235LA, LifePort Patient Loading and Utility System
17. SA03209NY, MT-Propeller MTV-27-1-E-C-F-R(P)/CFR225-55f
18. SA01769WI, Rockwell Collins, Inc. Installation of Pro Line Fusion

It is up to the installer to determine whether any other STC-approved modifications are compatible with the Halo 250 Commuter category conversion. When determining compatibility regulatory requirements applicable to Commuter category airplanes must be considered. Note, other modifications affecting the display of flight attitude, airspeed, and altitude; and autopilot functionality must meet the design assurance levels required for Commuter category airplanes.

- Continued on next page -

LIST OF EFFECTIVE PAGES

The list of effective pages shown below contains all current pages with the page version 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.

LOG OF REVISIONS

Initial Release August 27, 2014
Includes pages dated August 2014

APPROVED BY: S. Frances Cox

Revision 1 December 31, 2014
Includes pages dated December 2014

APPROVED BY: S. Frances Cox

Revision 2 June 30, 2015
Includes pages dated June 2015

APPROVED BY: Scott A. Horn

Revision 3 September 30, 2015
Includes pages dated September 2015

APPROVED BY: Scott A. Horn

Revision 4 May 23, 2016
Includes pages dated May 2016

APPROVED BY: John Hardie

SECTION 2
LIMITATIONS
TABLE OF CONTENTS

The limitations shown in this section are approved by the Federal Aviation Administration and must be observed while operating Beechcraft King Air B200GT airplanes that have been modified by the CenTex Aerospace Halo 250 Commuter Category STC. This STC approves an increase in the maximum takeoff weight from 12,500 pounds to 13,420 pounds and a change from Normal Category to Commuter Category.

Refer to the Beechcraft B200GT Pilot Operating Handbook and BLR Aerospace AFMS-B250-1 AFM Supplement for limitations not contained in this section.

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
Operating Maneuvering Speed, V_O	182	181	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}	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	NC	Do not exceed this airspeed or Mach number in any operation.

NC-No change to original airspeed limitation. See BLR Aerospace AFMS-B250-1 AFM Supplement.

AIRSPEED INDICATOR DISPLAY

DISPLAY	KIAS VALUE OR RANGE	SIGNIFICANCE
Red Line	Unchanged	Air minimum Control Speed (V_{MCA})
Solid Red Bar (at bottom of airspeed scale)	75	ISS LSC* Marker. The top of the marker changes with flap position to reflect the following stall speeds. Stalling speed (V_{S0}) at maximum weight with flaps down and zero thrust.
	82	Stalling speed (V_{S1}) at maximum weight with flaps approach and zero thrust.
	92	Stalling speed (V_{S1}) at maximum weight with flaps up and zero thrust.
◀ DN (white)	Unchanged	Maximum speed permissible with flaps extended beyond approach.
◀ APP (white)	Unchanged	Maximum speed permissible with flaps in approach position.
Blue Line	Unchanged	One-Engine-Inoperative Best Rate of Climb Speed
Solid Red Bar (at top of airspeed scale)	Unchanged	V_{MO} Marker. The bottom of the marker represents the Maximum Operating Speed. These speeds may not be deliberately exceeded in any flight regime.

POWER PLANT LIMITATIONS

Engine Model(s) PT6A-52

Engine Operating Limits:

Takeoff & Max Continuous Power	850 SHP	2230 FT-LBS	2000 RPM

Propeller Limitation: Autofeather must be in operation during takeoff.

FUEL IMBALANCE

The maximum allowable fuel imbalance between wing fuel systems is 300 pounds, except for one engine inoperative operations. The maximum allowable fuel imbalance between wing fuel systems is 1,000 pounds when operating with one engine inoperative.

WEIGHT LIMITS

Maximum Ramp Weight ..... 13,510 pounds

Maximum Take-off Weight is 13,420 pounds or as limited by (see Section 5):

- Maximum Allowed Takeoff Weight tables
- Maximum Allowed Takeoff Weight As Limited By Brake Energy
- Maximum Tire Speed During Takeoff
- Takeoff Speeds and Field Lengths tables

For 14 CFR Part 135 Operations:

- Service Ceiling – One Engine Inoperative

Maximum Landing Weight is 12,500 pounds, or as limited by (see Section 5)

- Maximum Allowed Landing Weight tables
- Landing Distance charts

Maximum Zero Fuel Weight ..... 11,500 pounds

CENTER OF GRAVITY LIMITS

Aft Limits

195.8 inches aft of datum at 13,420 pounds gross weight with straight line variation to 196.4 inches aft of datum at 12,500 pounds gross weight.
196.4 inches aft of datum at gross weights less than 12,500 pounds.

Forward Limits

188.0 inches aft of datum at 13,420 pounds gross weight with straight line variation to 181.0 inches aft of datum at 11,279 pounds gross weight.
181.0 inches aft of datum at gross weights less than 11,279 pounds.

MANUEVER LIMITS

The Beechcraft King Air B200GT series airplanes modified in accordance with the CenTex Aerospace HALO 250 gross weight increase STC are Commuter Category airplanes. Acrobatic maneuvers, including spins, are prohibited.

FLIGHT LOAD FACTOR LIMITS

FLAPS UP	FLAPS DOWN
3.12 positive g's	2.00 positive g's
1.25 negative g's	0.00 g

MINIMUM FLIGHT CREW .....One Pilot

MAXIMUM OCCUPANCY LIMIT

Flight Crew .....Two (Pilot and Co-pilot)
Passengers .....Nine (9)

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 ..... 145 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.

OTHER LIMITATIONS

STRUCTURAL LIMITATIONS

Refer to Chapter Four of the *Super King Air 200 Series Maintenance Manual* and to the *CenTex Aerospace Halo 250 Commuter Category Conversion Instructions for Continued Airworthiness* for structural limitations.

MAXIMUM TAILWIND COMPONENT LIMITATION

Do not land with a tail wind component greater than 10 knots.
Do not takeoff with a tail wind component greater than 10 knots .

MAXIMUM HEADWIND COMPONENT LIMITATION

Do not extrapolate for a headwind component that exceeds 30 knots. Assume a 30 knot headwind component when correcting takeoff field length whenever there is a 30 knot or greater headwind.

PLACARDS

On Overhead Panels in Pilot's Compartment:

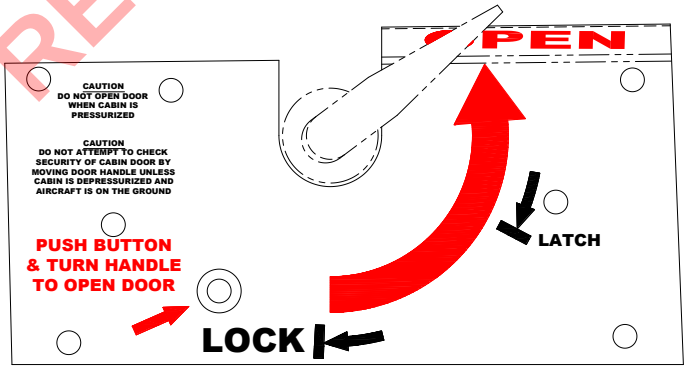
OPERATION LIMITATIONS

THIS AIRPLANE MUST BE OPERATED AS A COMMUTER CATEGORY AIRPLANE IN COMPLIANCE WITH THE OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS, MARKINGS AND MANUALS
NO ACROBATIC MANEUVERS INCLUDING SPINS ARE APPROVED.
THIS AIRPLANE APPROVED FOR VFR, IFR, & DAY & NIGHT OPERATION & IN ICING CONDITIONS.

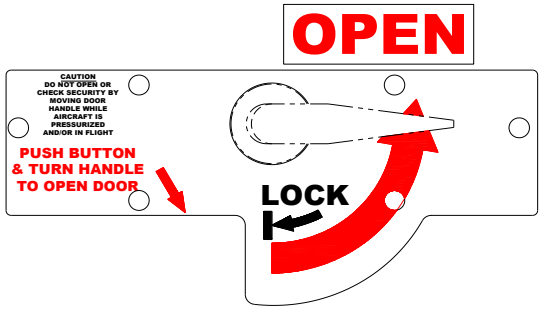
CAUTION

STALL WARNING IS INOPERATIVE WHEN MASTER SWITCH IS OFF
STANDBY COMPASS IS ERRATIC WHEN WINDSHIELD ANTI-ICE AND/OR AIR CONDITIONING IS ON.

Inside Airstair Door Behind Handle (B200GT):



Inside Airstair Door Behind Handle (B200CGT):



KINDS OF OPERATIONS

The Beechcraft King Air 200 series airplanes are approved for the following type of operations when the required equipment is installed and operational as defined within the KINDS OF OPERATIONS EQUIPMENT LIST.

VFR Day
VFR Night
IFR Day
IFR Night
Known Icing Conditions

KINDS OF OPERATIONS EQUIPMENT LIST

This airplane may be operated in day or night VFR, or day and night IFR, when the appropriate equipment is installed and operable.

The following equipment list identifies the systems and equipment upon which type certification for each kind of operation was predicated. The systems and items of equipment listed must be installed and operable unless:

1. The airplane is operated in accordance with a current Minimum Equipment List (MEL) issued by the FAA.

   or;

2. An alternate procedure is provided in the Pilot Operating Handbook and FAA Approved Airplane Flight Manual for the inoperative state of the listed equipment.

Numbers on the Kinds of Operations Equipment List refer to quantities required to be operative for a specified condition.

NOTE

The following systems and equipment list does not include all equipment required by the 14 CFR Part 91 and 135 operating requirements. It also does not include components obviously required for the airplane to be airworthy, such as wings, empennage, engine, etc.

AIRCRAFT EQUIPPED WITH ROCKWELL COLLINS PRO LINE 21 AVIONICS

SYSTEM and/or COMPONENT	VFR DAY	VFR NIGHT	IFR DAY	IFR NIGHT	ICING CONDITIONS	
ELECTRICAL POWER						
1. Battery	1	1	1	1	1	
2. Standby Battery (ESIS)	1	1	1	1	1	
3. Battery Ammeter	1	1	1	1	1	
4. DC Generator	2	2	2	2	2	
5. L & R DC GEN Annunciators	2	2	2	2	2	
6. DC Load Meter	2	2	2	2	2	
ENGINE INDICATIONS						
1. Multifunctional Display (MFD)	1	1	1	1	1	
ENGINE OIL						
1. Chip Detector System including L & R CHIP DETECT Annunciators	2	2	2	2	2	
2. Oil Pressure Indicator in MFD	2	2	2	2	2	
3. Oil Temperature Indicator in MFD	2	2	2	2	2	
4. L & R OIL PRESS annunciator	2	2	2	2	2	
ENVIRONMENTAL						
1. L & R BL AIR FAIL Annunciator	2	2	2	2	2	
2. Bleed Air Shutoff Valve	2	2	2	2	2	
3. ALT WARN Annunciator (Cabin)	1	1	1	1	1	
4. Cabin Rate of Climb Indicator	1	1	1	1	1	
5. Outflow Valve/Safety Valve	2	2	2	2	2	
6. Pressurization Controller	1	1	1	1	1	
7. Differential Pressure/Cabin Altitude Indicator	1	1	1	1	1	
8. DUCT OVERTEMP Annunciator	1	1	1	1	1	
FIRE PROTECTION						
1. Engine Fire Detector System and Annunciators	2	2	2	2	2	
2. Engine Fire Extinguisher System & Annunciators	2	2	2	2	2	
FLIGHT CONTROLS						
1. Flap Position Indicator	1	1	1	1	1	
2. Flap System	1	1	1	1	1	
3. Stall Warning System	1	1	1	1	1	
4. Stall Warning System Ice Mode	0	0	0	0	1	
5. Trim Tab Position Indicator (Rudder, Aileron, and Elevator)	3	3	3	3	3	
6. Yaw Damp	1	1	1	1	1	
7. Elevator Trim Warning System	1	1	1	1	1	

AIRCRAFT EQUIPPED WITH ROCKWELL COLLINS PRO LINE FUSION AVIONICS

SYSTEM and/or COMPONENT	VFR DAY	VFR NIGHT	IFR DAY	IFR NIGHT	ICING CONDITIONS	
ELECTRICAL POWER						
1. Battery	1	1	1	1	1	
2. Standby Display Battery	1	1	1	1	1	
3. Battery Ammeter	1	1	1	1	1	
4. DC Generator	2	2	2	2	2	
5. DC Load Meter	2	2	2	2	2	
ENGINE INDICATIONS						
1. Engine Indication System L & R (Oil Pressure, Oil Temperature, Torque, ITT, Prop RPM, $N_{1)}$	1	1	1	1	1	
ENGINE OIL						
1. L & R Chip Detector System	2	2	2	2	2	
ENVIRONMENTAL						
1. Bleed Air Shutoff Valve	2	2	2	2	2	
2. Altitude Warning System (Cabin)	1	1	1	1	1	
3. Outflow Valve/Safety Valve	2	2	2	2	2	
4. Pressurization Controller	1	1	1	1	1	
5. Differential Pressure/Cabin Altitude Indicator	1	1	1	1	1	
FIRE PROTECTION						
1. Engine Fire Detector System and Annunciators	2	2	2	2	2	
2. Engine Fire Extinguisher System & Annunciators	2	2	2	2	2	
FLIGHT CONTROLS						
1. Flap Position Indicator	1	1	1	1	1	
2. Flap System	1	1	1	1	1	
3. Stall Warning System	1	1	1	1	1	
4. Stall Warning System Ice Mode	0	0	0	0	1	
5. Trim Tab Position Indicator (Rudder, Aileron, and Elevator)	3	3	3	3	3	
6. Yaw Damp	1	1	1	1	1	
7. Elevator Trim Warning System	1	1	1	1	1	

AIRCRAFT EQUIPPED WITH ROCKWELL COLLINS PRO LINE 21 AVIONICS

SYSTEM and/or COMPONENT	VFR DAY	VFR NIGHT	IFR DAY	IFR NIGHT	ICING CONDITIONS	
FUEL						
1. Engine Driven Boost Pump	2	2	2	2	2	
2. Fuel Crossfeed System including Annunciator	1	1	1	1	1	
3. Standby Electric Fuel Pump	2	2	2	2	2	
4. FUEL PRESS Annunciator	2	2	2	2	2	
5. Fuel Quantity Indicating System incl. Annunciators	2	2	2	2	2	
6. Firewall Fuel Shutoff System incl. Annunciators	2	2	2	2	2	
7. Jet Transfer Pump	2	2	2	2	2	
8. Motive Flow Valve	2	2	2	2	2	
ICE AND RAIN PROTECTION						
1. Alternate Static Air System	0	0	1	1	1	
2. Engine Auto Ignition System and Annunciators	2	2	2	2	2	
3. Engine Anti-Ice System and Annunciators	2	2	2	2	2	
4. Heated Fuel Vent	0	0	0	0	2	
5. Heated Windshield (Left)	0	0	0	0	1	
6. Pitot Heat System Including Annunciators	0	0	2	2	2	
7. Pneumatic Pressure Indicator	0	0	1	1	1	
8. Propeller Deicer System	0	0	0	0	1	
9. Stall Warning Heat (Lift Transducer and Mounting Plate)	0	0	0	0	1	
10. Surface Deicer System	0	0	0	0	1	
11. Wing Ice Light (Left)	0	0	0	0	1	
LANDING GEAR						
1. Landing Gear Position Lights	3	3	3	3	3	
2. Landing Gear Handle Light	1	1	1	1	1	
3. Landing Gear Aural Warning	1	1	1	1	1	
4. Landing Gear Hydraulic Power Pack	1	1	1	1	1	
5. HYD FLUID LOW Annunciator	1	1	1	1	1	
6. Alternate Landing Gear Extension System	1	1	1	1	1	
LIGHTS						
1. Cockpit and Instrument Lighting system	0	1	0	1	0	
2. DOOR UNLOCKED Annunciator	1	1	1	1	1	
3. Landing Lights	0	2	0	2	0	
4. Position Lights	0	3	0	3	0	
5. Anti-collision Lights System	0	1	0	1	0	
6. Cabin Emergency Lighting System and Escape Path Markings	Required when carrying passengers					

AIRCRAFT EQUIPPED WITH ROCKWELL COLLINS PRO LINE FUSION AVIONICS

SYSTEM and/or COMPONENT	VFR DAY	VFR NIGHT	IFR DAY	IFR NIGHT	ICING CONDITIONS	
FUEL						
1. Engine Driven Boost Pump	2	2	2	2	2	
2. Fuel Crossfeed System	1	1	1	1	1	
3. Standby Electric Fuel Pump	2	2	2	2	2	
4. Fuel Quantity Indicating System incl. Annunciators	2	2	2	2	2	
5. Firewall Fuel Shutoff System	2	2	2	2	2	
6. Jet Transfer Pump	2	2	2	2	2	
7. Motive Flow Valve	2	2	2	2	2	
ICE AND RAIN PROTECTION						
1. Alternate Static Air System	0	0	1	1	1	
2. Engine Auto Ignition System and Annunciators	2	2	2	2	2	
3. Engine Anti-Ice System	2	2	2	2	2	
4. Heated Fuel Vent	0	0	0	0	2	
5. Heated Windshield (Left)	0	0	0	0	1	
6. Pitot Heat System	0	0	2	2	2	
7. Pneumatic Pressure Indicator	0	0	1	1	1	
8. Propeller Deicer System	0	0	0	0	1	
9. Stall Warning Heat (Lift Transducer and Mounting Plate)	0	0	0	0	1	
10. Surface Deicer System	0	0	0	0	1	
11. Wing Ice Light (Left)	0	0	0	0	1	
LANDING GEAR						
1. Landing Gear Position Lights	3	3	3	3	3	
2. Landing Gear Handle Light	1	1	1	1	1	
3. Landing Gear Aural Warning	1	1	1	1	1	
4. Landing Gear Hydraulic Power Pack	1	1	1	1	1	
5. Alternate Landing Gear Extension System	1	1	1	1	1	
	1	1	1	1	1	
LIGHTS						
1. Cockpit and Instrument Lighting system	0	1	0	1	0	
2. Landing Lights	0	2	0	2	0	
3. Position Lights	0	3	0	3	0	
4. Anti-collision Lights System	0	1	0	1	0	
5. Cabin Emergency Lighting System and Escape Path Markings	Required when carrying passengers					

AIRCRAFT EQUIPPED WITH ROCKWELL COLLINS PRO LINE 21 AVIONICS

SYSTEM and/or COMPONENT	VFR DAY	VFR NIGHT	IFR DAY	IFR NIGHT	ICING CONDITIONS	
FLIGHT INSTRUMENTS						
1. Primary Flight Display (PFD)	2	2	2	2	2	
2. Magnetic Compass	1	1	1	1	1	
3. Electronic Standby Instrument System (ESIS)	1	1	1	1	1	
4. AHRS	2	2	2	2	2	
5. Air Data Computer (ADC)	2	2	2	2	2	
6. Outside Air Temperature	1	1	1	1	1	
OXYGEN						
1. Oxygen System	1	1	1	1	1	
PROPELLER						
1. Autofeather System including Annunciators	1	1	1	1	1	
2. Propeller Reversing System including Annunciators	2	2	2	2	2	
3. Propeller Governor Test Switch	1	1	1	1	1	
4. Propeller Over-speed Governor	2	2	2	2	2	
5. Propeller Low-Pitch Stop	2	2	2	2	2	
VACUUM SYSTEM						
1. Vacuum Gage	1	1	1	1	1	

NOTE

The above Kinds of Operations Equipment List does not include all specific flight instruments and communication/navigation equipment required by 14 CFR Part 91 and 135 Operating Requirements.

AIRCRAFT EQUIPPED WITH ROCKWELL COLLINS PRO LINE FUSION AVIONICS

SYSTEM and/or COMPONENT	VFR DAY	VFR NIGHT	IFR DAY	IFR NIGHT	ICING CONDITIONS	
FLIGHT INSTRUMENTS						
1. Crew Alerting System (CAS)	1	1	1	1	1	
2. Primary Flight Display (PFD)	2	2	2	2	2	
3. Multifunction Display (MFD)	1	1	1	1	1	
4. Magnetic Compass	1	1	1	1	1	
5. Standby Flight Display System (SFDS)	1	1	1	1	1	
6. Attitude Heading System (AHS)	2	2	2	2	2	
7. Air Data System (ADS)	2	2	2	2	2	
8. Outside Air Temperature (Pilot's Side Console)	1	1	1	1	1	
OXYGEN						
1. Oxygen System	1	1	1	1	1	
PROPELLER						
1. Autofeather System including Annunciators	1	1	1	1	1	
2. Propeller Reversing System	2	2	2	2	2	
3. Propeller Governor Test Switch	1	1	1	1	1	
4. Propeller Over-speed Governor	2	2	2	2	2	
5. Propeller Low-Pitch Stop	2	2	2	2	2	
VACUUM SYSTEM						
1. Vacuum Gage	1	1	1	1	1	

THIS PAGE IS INTENTIONALLY BLANK

SECTION 3
EMERGENCY PROCEDURES
TABLE OF CONTENTS

SUBJECT *PAGE*

NOTE

See BLR Aerospace AFMS-B250-1 AFM Supplement and Beechcraft B200GT Pilot Operating Handbook for other Emergency Procedures.

All airspeeds quoted in this section are indicated airspeeds (IAS) and assume zero instrument error.

EMERGENCY AIRSPEEDS

One-Engine Inoperative Best Angle-of-Climb (V_{XSE}) ..... 105 Knots
One-Engine Inoperative Best Rate-of-Climb (V_{YSE}) ..... 116 Knots
One-Engine-Inoperative Enroute Climb (V_{ENR}):
13,420 pounds ..... 113 Knots
13,000 pounds ..... 111 Knots
12,000 pounds ..... 107 Knots
11,000 pounds ..... 104 Knots
10,000 pounds ..... 104 Knots
Air Minimum Control Speed (V_{MCA})..... 92 Knots
Emergency Descent ..... 181 Knots
Maximum Range Glide..... 136 Knots

ENGINE FAILURE DURING TAKEOFF (AT OR BELOW V_1) – TAKEOFF ABORTED

1. Power Levers ..... GROUND FINE
2. Brakes .....AS REQUIRED TO ACHIEVE STOPPING DISTANCE
3. Operative Engine ..... MAXIMUM REVERSE or AS REQUIRED

WARNING

Extreme care must be exercised when using
single-engine reversing on surfaces with reduced traction.

ENGINE FAILURE DURING TAKEOFF (AT OR ABOVE V_1) – TAKEOFF CONTINUED

1. V_R Speed ..... ROTATE TO APPROX 8° NOSE UP ATTITUDE
2. Landing Gear (when positive climb established) ..... UP
3. Airspeed ..... V_2 (MAINTAIN TO 400 FEET AGL)
4. Propeller Inoperative Engine ..... VERIFY FEATHERED
5. Airspeed at 400 Feet AGL..... V_{ENR}
6. Flaps (if extended) ..... UP AT V_2 + 5 KNOTS
7. Climb to 1,500 Feet AGL

WARNING

Do not retard the failed engine power lever until the Autofeather system has completely feathered the propeller and propeller rotation has stopped. To do so will deactivate the autofeather circuit and prevent automatic feathering.

8. Clean up (Inoperative engine)
   a. Condition Lever - FUEL CUT OFF
   b. Propeller Lever - FEATHER
   c. Firewall Shutoff Valve - CLOSE
   d. Auto Ignition - OFF
   e. Autofeather - OFF
   f. Generator - OFF
9. Electrical Load ..... MONITOR

CABIN EMERGENCY LIGHTING ACTIVATION

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

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.

THIS PAGE IS INTENTIONALLY BLANK

SECTION 3A
ABNORMAL PROCEDURES
TABLE OF CONTENTS

NOTE

See BLR Aerospace AFMS-B250-1 AFM Supplement and Beechcraft B200GT Pilot Operating Handbook for other Abnormal Procedures.

FLAPS UP LANDING

Refer to Section 5 of Supplement AFM 006-4 for Flaps Up Landing Distance.

WEIGHT POUNDS	**V_{REF} (FLAPS UP)** KNOTS
13,420	124
13,000	121
12,500	119
12,000	115
11,000	111
10,000	106
9,000	101

1. Approach Speed, V_{REF} (Flaps Up) ..... CONFIRM
2. Autofeather ..... ARM
3. Pressurization ..... CHECK
4. Cabin Sign ..... NO SMOKE & FSB
5. Flaps ..... UP

CAUTION

Do not silence the landing gear warning horn, since the flap actuated portion of the landing gear warning system will not be actuated during a flap up landing.

6. Flap Override ..... SELECT
7. Landing Gear ..... DOWN
8. Lights ..... AS REQUIRED

NOTE

Under low visibility conditions, landing and taxi lights should be left off due to light reflections.

9. Radar ..... AS REQUIRED
10. Surface Deice ..... CYCLE (as required)

If wings are free of ice:

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

If residual ice remains on wing boots:

12. Surface Deice ..... CYCLE
13. Stall Warning Ice Mode Annunciator ..... ILLUMINATED
14. Approach Speed and Landing Distance ..... INCREASE V_{REF} BY 15 KNOTS AND INCREASE LANDING DISTANCE BY 25 PER CENT.

See LANDING DISTANCE chart in Section 5 of Supplement AFM 006-4

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 if ice is not shed from the deice boots.

NOTE

If crosswind landing is anticipated, determine Crosswind Component from Section 5, PERFORMANCE. Immediately prior to touchdown, lower upwind wing and align the fuselage with the runway. During rollout, hold aileron control into the wind and maintain directional control with rudder and brakes. Use propeller reverse as desired.

When Landing Is Assured:

15. Approach Speed..... V_{REF} – ESTABLISHED (With ice on wings, V_{REF} + 15)
16. Yaw Damp ..... OFF
17. Power Levers..... IDLE
18. Propeller Levers ..... FULL FORWARD

After Touchdown:

19. Power Levers.....LIFT AND SELECT GROUND FINE OR REVERSE (as required)
20. Brakes .....AS REQUIRED

ONE-ENGINE-INOPERATIVE APPROACH AND LANDING

WEIGHT POUNDS	Flaps DOWN V_{REF} Speeds, KNOTS
13,420	105
13,000	104
12,500	103
12,000	102
11,000	99
10,000	96
9,000	93

1. Approach Speed, V_{REF}.....CONFIRM
2. Fuel Balance.....CHECK
3. Pressurization .....CHECK
4. Cabin Sign ..... NO SMOKE & FSB

When it is certain that the field can be reached:

5. Flaps..... APPROACH
6. Landing Gear..... DN
7. Propeller Lever.....FULL FORWARD
8. Airspeed .....V_{REF} + 10

9. Interior and Exterior Lights .....AS REQUIRED
10. Radar.....AS REQUIRED
11. Surface Deice .....CYCLE AS REQUIRED

If wings are free of ice:
12. Stall Warning Ice Mode Switch ..... PRESS (to select Normal Mode)

If residual ice remains on wing boots:
13. Surface Deice .....CYCLE
14. Stall Warning Ice Mode Annunciator .....ILLUMINATED
15. Approach Speed and Landing Distance.....INCREASE V_{REF} BY 15 KNOTS AND INCREASE LANDING DISTANCE BY 25 PERCENT
See LANDING DISTANCE chart in Section 5 of Supplement AFM 006-4.

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 if ice is not shed from the deice boots.

NOTE

If crosswind landing is anticipated, determine Crosswind Component from Section 5, PERFORMANCE. Immediately prior to touchdown, lower upwind wing and align the fuselage with the runway. During rollout, hold aileron control into the wind and maintain directional control with rudder and brakes.

When It is Certain There is No Possibility of a Go-Around
16. Flaps ..... DN
17. Airspeed .....V_{REF} (With ice on wings, V_{REF} + 15)
18. Perform normal landing.

NOTE

Single-engine reverse thrust may be used with caution after touchdown on smooth, dry, paved surfaces.

ONE-ENGINE-INOPERATIVE GO-AROUND

1. Power ..... MAXIMUM ALLOWABLE
2. Landing Gear ..... UP
3. Flaps ..... UP AT V_{REF} + 10 KNOTS
4. Airspeed ..... V_{REF} + 20 KNOTS

OVERWEIGHT LANDING

WEIGHT POUNDS	V_{REF} KNOTS
13,420	105
13,000	104
12,500	103

When Landing Is Assured:

1. Flaps ..... DOWN
2. Airspeed ..... V_{REF}
3. Yaw Damp ..... OFF
4. Power Levers ..... IDLE
5. Propeller Levers ..... FULL FORWARD
6. Sink Rate ..... TOUCHDOWN WITH NOMINAL OR LESS SINK RATE

After Touchdown:

7. Power Levers ..... LIFT AND SELECT GROUND FINE
8. Brakes ..... AS REQUIRED

NOTE

An overweight landing is defined as any landing made when the airplane gross weight is greater than 12,500 pounds, which is the maximum landing weight limitation. When the airplane is landed at a gross weight above 12,500 pounds the pilot should request that an inspection in accordance with the King Air 200 Series Maintenance Manual Section 5-50-00 Inspection After Hard Landing be performed before the next flight. Also, an overweight landing where the touchdown sink rate is nominal will not result in damage to the landing gear or airframe structure.

Only For Aircraft with Rockwell Collins Pro Line Fusion:

STALL FAIL **Stall Fail**

This CAS message indicates that the stall computer has failed. Maintain airspeed appropriate for phase of flight.

NOTE

Halo 250 equipped aircraft have two stall computer modes, Normal Mode and Icing Mode. The Stall Fail CAS message applies to the mode in use at the time of failure.

SECTION 4
NORMAL PROCEDURES
TABLE OF CONTENTS

All airspeeds quoted in this section are indicated airspeeds (IAS) and assume zero instrument error.

AIRSPEEDS FOR SAFE OPERATION

Maximum Demonstrated Crosswind Component ..... 25 Knots
Maximum Demonstrated Wind Components for Coupled Approaches
- Crosswind..... 16 Knots
- Tailwind..... 10 Knots

Takeoff (Flaps UP)
- Decision Speed, V_1 .....
- Rotation, V_R.....
- Safety Speed, V_2.....
- Enroute Climb, V_{ENR}.....

Takeoff (Flaps Approach)
- Decision Speed, V_1 .....
- Rotation, V_R.....
- Safety Speed, V_2.....
- Enroute Climb, V_{ENR}.....

See Section 5 Performance for Takeoff Speeds

Two-Engine Best Angle-of-Climb (V_X)..... 100 Knots
Two-Engine Best Rate-of-Climb (V_Y) ..... 125 Knots
Cruise Climb:
- Sea level to 10,000 feet ..... 160 Knots
- 10,000 feet to 20,000 feet ..... 140 Knots
- 20,000 feet to 25,000 feet ..... 130 Knots
- 25,000 feet to 35,000 feet ..... 120 Knots

Maximum Airspeed for Effective Windshield Anti-icing ..... 226 Knots
Operating Maneuvering Speed (V_O)..... 181 Knots
Turbulent Air Penetration ..... 170 Knots

CAUTION

For turbulent air penetration, use an airspeed of 170 knots. Avoid over-action on power levers. Turn off autopilot altitude hold. Keep wings level, maintain attitude and avoid use of trim. Do not chase airspeed and altitude. Penetration should be at an altitude which provides adequate maneuvering margins when severe turbulence is encountered.

Landing Approach:
- Flaps Down..... V_{REF}, see Section 5 Performance

Balked Landing Climb..... V_{REF}, see Section 5 Performance
Intentional One-Engine-Inoperative Speed (V_{SSE}) ..... 104 Knots
Air Minimum Control Speed (V_{MCA}), Flaps Up ..... 92 Knots
Flaps Approach ..... 87 Knots

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 installation of the CenTex Aerospace Halo 250 Commuter Category STC.

PREFLIGHT INSPECTION

CABIN/COCKPIT

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 the Battery Switch is turned OFF.

Emergency Lighting Cabin Switch ..... OFF
Emergency Escape Path Markings ..... MUST BE UNCOVERED & VISIBLE

LEFT WING AND NACELLE

Change the following:

Propeller ..... CHECK PROPELLER AND DEICE BOOT CONDITION

RIGHT WING AND NACELLE

Change the following:

Propeller ..... CHECK PROPELLER AND DEICE BOOT CONDITION

BEFORE ENGINE STARTING

Add the following step after airstair door is LOCKED.

Emergency Lighting Cabin Switch ..... ON

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
Over-speed Aural Warning .....TEST

BEFORE TAKEOFF (RUNUP)

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 conducting with the stall warning system in the Ice Mode, a misleading stall warning following lift-off will likely occur.

TAKEOFF

1. Brakes ..... HOLD
2. Power ..... SET (ensure minimum takeoff power is available)
3. *Rockwell Collins Pro Line 21 Annunciators:*
   [L AFX] and [R AFX] or ..... ILLUMINATED
   [L AUTOFEATHER] and [R AUTOFEATHER] ..... ILLUMINATED
   Rockwell Collins Pro Line Fusion CAS Messages:
   Left AFX and Right AFX ..... CONFIRM DISPLAYED ON EICAS
4. Brakes ..... RELEASED

NOTE

Increasing airspeed will cause torque and ITT to increase.

5. V_R ..... ROTATE TO APPROX. 8° NOSE UP ATTITUDE
6. Landing Gear (when positive climb established) ..... UP
7. Airspeed ..... MAINTAIN V_2 UNTIL CLEAR OF OBSTACLES
8. Flaps (at V_2 + 5 Knots) ..... UP

CLIMB

Add the following after normal climb checklist.

CLIMB IN ICING CONDITIONS

1. Engine Anti-Ice ..... ON

Rockwell Collins Pro Line 21 Annunciators:

[L ENG ANTI-ICE] and [R ENG ANTI-ICE] ILLUMINATED

Rockwell Collins Pro Line Fusion CAS Message:

L-R ENG ANTI-ICE CAS MESSAGE DISPLAYED

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 ..... 145 KNOTS MINIMUM AIRSPEED

CRUISE

Add the following after normal cruise checklist.

CRUISE IN ICING CONDITIONS

At first sign of ice accretion on aircraft.

1. Airspeed – 145 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 145 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 – 145 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 MINIMUM 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

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

BEFORE LANDING

1. Landing Approach Speed .....CONFIRM V_{REF}
2. Autofeather .....ARM
3. Pressurization .....CHECK
4. Cabin Sign ..... NO SMOKE & FSB
5. Flaps..... APPROACH
6. Landing Gear..... DN
7. Lights .....AS REQUIRED

NOTE

Under low visibility conditions, landing and taxi lights should be left off due to light reflections.

8. Radar .....AS REQUIRED
9. Surface Deice .....CYCLE AS REQUIRED

If wings are free of ice:

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

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

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

In the **NOTE** *replace last sentence with* "Stall speeds can be expected to increase as much as 15 knots if ice is present on the wings and/or horizontal tail surfaces."

NORMAL LANDING

1. Flaps..... DOWN
2. Airspeed.....V_{REF} (With ice on wings, V_{REF} + 15)
3. Yaw Damper ..... OFF
4. Power Levers ..... IDLE
5. Prop Levers .....FULL FORWARD

After Touchdown:

6. Power Levers .....LIFT AND SELECT GROUND FINE
7. Brakes .....AS REQUIRED

MAXIMUM REVERSE THRUST LANDING

Replace step 2:

2. Airspeed ..... V_{REF} (With ice on wings, V_{REF} + 15)

BALKED LANDING

1. Power ..... MAXIMUM ALLOWABLE
2. Airspeed ..... MAINTAIN V_{REF}

When clear of obstacles or 400 feet AGL, establish a normal climb

3. Flaps (at V_{REF} + 10) ..... APPROACH
4. Landing Gear ..... UP
5. Flaps (at 125 knots) ..... UP

SHUT DOWN AND SECURING

Add the following steps.

16. Emerg Cabin Lt Switch ..... OFF
20. Emergency Cabin Light Power Switch ..... OFF

OTHER PROCEDURES

ICING FLIGHT

Refer to Section 2 Limitations of this Supplement for limitations relating to icing flight. See Section 3A for abnormal procedures associated with icing equipment malfunctions and procedures required for severe icing conditions. 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:

a. Airspeed ..... 145 KNOTS MINIMUM
b. Surface Deice Switch ..... SINGLE AND RELEASE
c. Stall Warning Ice Mode Annunciator ..... VERIFY ILLUMINATED
d. Repeat as required

TAKEOFF TRIM WARNING TEST

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 approximately 80% 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% N_1 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 SYSTEM OPERATION

-Only Airplanes with GARMIN G1000 avionics suite-

A warning system has been added to airplanes with GARMIN G1000 avionics 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.

STALL WARNING SYSTEM OPERATION

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.

CABIN EMERGENCY LIGHTING SYSTEM OPERATION

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 pack 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 batteries have been discharged or there is a malfunction in the system. Discharged batteries must be removed and recharged or replaced. The Halo 250 Instructions for Continued Airworthiness manual describes the proper procedures for removing and recharging or replacing the cabin emergency lighting system batteries.

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

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

OVERWEIGHT LANDING

An overweight landing is defined as any landing made when the airplane gross weight is greater than 12,500 pounds, which is the maximum landing weight limitation. If it becomes necessary to land the airplane at a gross weight above 12,500 pounds the pilot should request that an inspection in accordance with the King Air 200 Series Maintenance Manual Section 5-50-00 Inspection After Hard Landing be performed before the next flight. Note that components in the standard landing gear have less overall strength margin than the corresponding components in the high flotation landing gear. Also, an overweight landing where the touchdown sink rate is nominal will not result in damage to the landing gear or airframe structure.

NOISE CHARACTERISTICS

The takeoff noise level of King Air 200 series airplanes modified in accordance with the CenTex Aerospace Halo 250 Commuter Category STC established in compliance with 14 CFR Part 36, Appendix G and ICOA Annex 16, Chapter 10 is 85.3 dB(A). The limit is 88.0 dB(A).

No determination has been made by the Federal Aviation Administration that the noise level of this airplane is, or should be, acceptable or unacceptable for operation at, into, or out of any airport.

OPERATIONS AT AIRPORTS ABOVE 10,000 FEET PRESSURE ALTITUDE

BEFORE ENGINE STARTING

Prior to turning battery on:

Oxygen Controls ..... DO NOT PULL ON

WARNING

With the Oxygen Controls not pulled on, crew oxygen and automatic deployment of the passenger oxygen masks is not available.

After turning battery on:

Rockwell Collins Pro Line 21 Annunciator: [ALT WARN] ..... ILLUMINATED (above approximately 12,000 feet)

Rockwell Collins Pro Line Fusion CAS Message:

Cabin Alt High CAS MESSAGE DISPLAYED

BEFORE TAKEOFF (FINAL ITEMS)

Envir Bleed Air ..... LOW

CLIMB

1. Envir Bleed Air ..... AUTO
2. Cabin Controller ..... SET AT PLANNED CRUISE ALTITUDE PLUS 500 FEET (if desired)
3. Pressurization ..... CHECK
4. Oxygen Controls (after cabin altitude descends through 11,000 feet) ..... PULL ON SYSTEM READY

DESCENT

When landing at field elevations above 11,000 feet pressure altitude:

1. Oxygen Controls (prior to cabin altitude climbing through 11,000 feet) ..... PUSH OFF
2. Envir Bleed Air ..... LOW
3. *Rockwell Collins Pro Line 21 Annunciator:* [ALT WARN] .... ILLUMINATED (above approximately 12,000 feet)

   Rockwell Collins Pro Line Fusion CAS Message:

   Cabin Alt High CAS MESSAGE DISPLAYED (above approximately 12,000 feet)

WARNING

With the Oxygen Controls not pulled on, crew oxygen and automatic deployment of the passenger oxygen masks is not available.

SECTION 5
PERFORMANCE
TABLE OF CONTENTS

INTRODUCTION TO COMMUTER CATEGORY PERFORMANCE AND FLIGHT PLANNING

REGULATORY COMPLIANCE

Information in this section is provided for the purpose of maintaining compliance with the applicable certification requirements of 14 CFR Part 23, which imposes specific performance based limitations. The airplane will not meet these performance limitations under all atmospheric conditions for which it is approved at the maximum takeoff weight of 13,420 pounds and at the maximum landing weight of 12,500 pounds. Therefore, the operating weight must be reduced under some atmospheric conditions. The maximum operating weights are limited by the following performance data and compliance therewith is mandatory.

Note that brake energy and tire speed rating are new limitations introduced in this supplement that includes data necessary for takeoff and landing operations up to 14,000 feet pressure altitude.

For all 14 CFR Part 91 and Part 135 operations:

1. Maximum Allowed Takeoff Weight (to meet takeoff climb requirements and to not exceed brake energy rating)
2. Maximum Tire Speed During Takeoff (to not exceed maximum tire speed rating)
3. Takeoff Field Length
4. Maximum Allowed Landing Weight (to meet landing climb requirements)
5. Landing Distance

For 14 CFR Part 135 operations only:

6. Service Ceiling – One Engine Inoperative

FLIGHT TEST PERFORMANCE CONDITIONS

All performance data presented in this section is based on FAA-approved performance data taken from applicable King Air 200 series Airplane Flight Manual(s) and verified by FAA flight testing.

1. Power ratings include the installation, bleed air, and accessory losses.
2. Full temperature accountability within the operational limits for which the airplane is certified.

NOTE

Should ambient air temperature or altitude be below the lowest temperature or altitude shown on the performance charts, use the performance at the lowest value shown.

3. All takeoff and landing performance is based on paved, dry runway.
4. Runway or takeoff and landing performance was obtained using the following procedures and conditions:

ONE ENGINE INOPERATIVE TAKEOFF (ACCELERATE-GO)

- Static takeoff power was set.
- The critical engine was shutdown with the condition lever just prior to V_1. The Autofeather system was allowed to feather the inoperative engine propeller.
- The acceleration was continued to V_R and the airplane was rotated to an attitude of approximately 8° nose up.
- The landing gear was retracted when a positive rate of climb was established.
- V_2 was attained by 35 feet AGL and maintained until 400 feet AGL.

REJECTED TAKEOFF (ACCELERATE STOP)

- Static takeoff power was set.
- The critical engine was shut down with the condition lever just prior to V_1.
- Both power levers were rapidly moved to the idle position in one continuous motion at V_1.
- Maximum braking was immediately initiated and maintained until the airplane came to a complete stop.

ALL ENGINES TAKEOFF

- Static takeoff power was set.
- The airplane was accelerated to V_R and the airplane was rotated to an attitude of approximately 8° nose up.
- The landing gear was retracted when a positive rate of climb was established.
- V_2 was attained by 35 feet AGL and maintained until 400 feet AGL.

LANDING

- Power was set to maintain a 3° approach angle with the airspeed stabilized at V_{REF}.
- Both power levers were moved to the idle position when the airplane reached 50 feet AGL.
- Maximum braking was immediately initiated and maintained until the airplane came to a complete stop.

PERFORMANCE CONFIGURATIONS

	No. of Oper-ating Engines	Power	Flap Setting	Landing Gear
1st Segment Takeoff Climb	1	Takeoff	Up or Approach	Down
2nd Segment Takeoff Climb	1	Takeoff	Up or Approach	Up
Horizontal Acceleration	1	Takeoff	Up	Up
Enroute Climb	1	Max Continuous	Up	Up
Approach Climb	1	Max Continuous	Approach	Up
Balked Landing Climb	2	Takeoff	Landing	Down

FLIGHT PLANNING

Flight planning is an essential part of operating this airplane. Proper flight planning ensures that the pilot is complying with the applicable 14 CFR Part 23 regulatory requirements, which are intended to increase the level of safety. The regulations applicable to Commuter category airplanes impose performance minimums that must be met in order for the airplane to takeoff and land using a specified departure and destination runway. These additional performance minimums make sure, in the event there is an engine failure during takeoff, the airplane can be stopped on the available runway or the airplane's climb performance is adequate to clear obstacles within the takeoff flight path. It is the pilot's responsibility to do the proper flight planning and thereby make certain the airplane's performance will meet the required minimums under the actual conditions. When the actual conditions are such that the performance minimums cannot be met, the pilot must elect to lower the gross weight of the airplane, select a longer runway, or wait until outside air temperatures cool sufficiently so the performance minimums will be met.

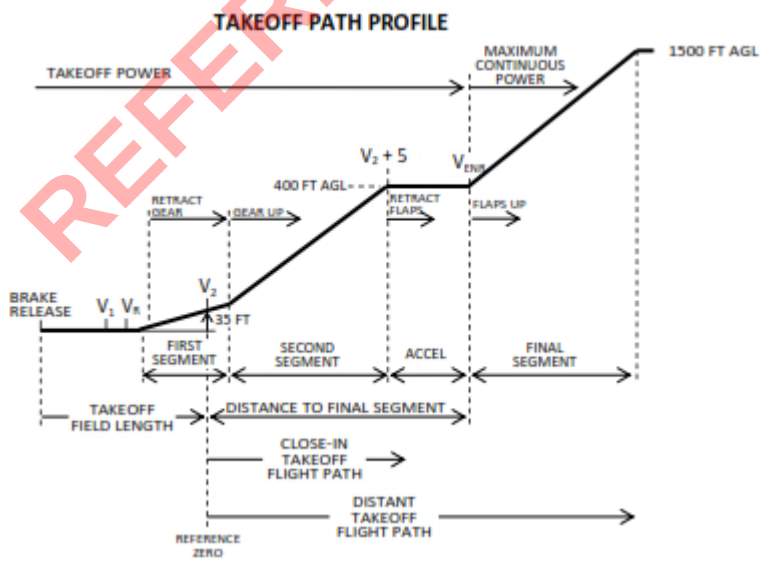
Furthermore, the takeoff flight path profile that the pilot must fly is defined in this section. The subsequent paragraph TAKEOFF PATH PROFILE shows and explains the new takeoff flight path profile, which is typical for commuter and transport category airplanes. The profile has multiple segments where the takeoff speeds and airplane configurations are applicable from the beginning of the takeoff run until the airplane reaches 1,500 feet above ground level.

The performance data in this section are presented in a familiar format, similar to the Beechcraft performance charts, tables, and graphs in the basic AFM/POH. However, the tabular presentations of takeoff field lengths and of maximum allowed takeoff and landing weight to meet minimum climb requirements are new to the operators and pilots of the King Air 200 series airplanes. These tables should prove to be straightforward and easy to use. It is noted interpolation of the tabulated data can be utilized when needed.

The following example shows how to properly plan for a typical flight. The departure airport and destination airport conditions were selected for the following example so that there is similarity with the flight planning example found in the BLR AFMS-B250-1 AFM Supplement and Beechcraft King Air B200GT AFM/POH. Please note the airport, weather, and route information presented in this example are not to be considered accurate or reliable and should not be used for any actual flight plan. It is presented here only as an example of how to properly plan a flight and how to correctly utilize the performance data in this section.

TAKEOFF PATH PROFILE

For the King Air B200GT series airplanes with the Halo 250 Commuter category conversion, the takeoff path is defined as shown below. The performance data presented in this section provide the parameters that are needed to construct such a takeoff path for a given departure runway and location. The variable the pilot must consider and restrict, if necessary, is the takeoff weight. This is required to ensure the takeoff path of the airplane will not require more runway than is available and will clear all obstacles.



MAXIMUM ALLOWED TAKEOFF WEIGHT

The maximum takeoff weight limit from Section 2 Limitations is 13,420 pounds. However, the maximum allowed takeoff weight may be less than the maximum takeoff weight limit depending on the available runway length and any obstacles in the takeoff path, the engine inoperative climb performance of the airplane, the braking energy that would be needed to abort a takeoff at decision speed (V_1), and the tire speed rating. Below is a list of the performance data tables and charts contained in the section that establish the maximum allowed takeoff weight.

- MAXIMUM ALLOWED TAKEOFF WEIGHT – FLAPS UP / APPROACH TO MEET FIRST, SECOND AND FINAL SEGMENT CLIMB REQUIREMENTS
- MAXIMUM ALLOWED TAKEOFF WEIGHT LIMITED BY BRAKE ENERGY – FLAPS UP/APPROACH
- MAXIMUM TIRE SPEED DURING TAKEOFF– FLAPS UP/APPROACH
- SERVICE CEILING – ONE ENGINE INOPERATIVE (14 CFR PART 135 OPERATIONS)
- TAKEOFF SPEEDS & FIELD LENGTHS – FLAPS UP/APPROACH

MAXIMUM ALLOWED LANDING WEIGHT

The maximum landing weight limit from Section 2 Limitations is 12,500 pounds. However, the maximum allowed landing weight may be less if a reduction in weight is required so that the engine inoperative climb performance during a discontinued/missed approach meets the minimum requirement. The following chart(s) should be used to determine the maximum allowed landing weight:

- MAXIMUM ALLOWED LANDING WEIGHT - TO ACHIEVE LANDING CLIMB REQUIREMENTS
- MAXIMUM ALLOWED LANDING WEIGHT - TO ACHIEVE LANDING CLIMB REQUIREMENT WITH ICE ACCUMULATIONS PRESENT
- LANDING DISTANCE (WITHOUT/WITH) PROPELLER REVERSE
- CLIMB -BALKED LANDING (Note-requirement met at all weights)

PERFORMANCE EXAMPLE

CONDITIONS

At Departure:

Outside Air Temperature ..... 28°C
Field Elevation ..... 5,333 feet
Altimeter Setting ..... 29.82 Inches Hg
Wind ..... 330° at 10 knots
Runway 35 length ..... 11,500 feet
Runway 35 gradient ..... 0.4% Down
Pressure Altitude .....5,333 ft + (29.92-29.82) x 1,000 ft = 5,433 feet
Airplane is not equipped with Beechcraft High Flotation landing gear.

Route Segment	Course	Dist. NM	Wind, Temp. at FL 260	Temp. FL 180
LEG A	265° M 252° T	143	350°/40ks, -10°C	-6°C
LEG B	321° M 255° T	192	350°/40ks, -10°C	-6°C
LEG C	270° M 233° T	81	340°/35ks, -20°C	0°C
LEG D	250° M 234° T	145	340°/35ks, -20°C	0°C
LEG E	227° M 210° T	146	290°/45ks, -20°C	-4°C

At Destination:
Outside Air Temperature ..... 32°C
Field Elevation..... 4,412 feet
Altimeter Setting..... 29.60 Inches Hg
Wind ..... 270° at 5 knots
Runway 25 length ..... 6,101 feet
Pressure Altitude .....4,412 ft + (29.92-29.60) x 1,000 ft = 4,732 feet

MAXIMUM ALLOWED TAKEOFF WEIGHT TABLES

TO MEET FIRST, SECOND AND FINAL SEGMENT CLIMB REQUIREMENTS

The maximum allowed takeoff weight must be established for the takeoff configuration (i.e, flaps up or flaps approach) and the departure conditions (i.e., pressure altitude and outside air temperature). These two tables list the maximum allowed takeoff weight for the corresponding configuration at which the airplane will meet the first, second, and final segment climb requirements.

A check of the example shown on the table for flaps up shows the maximum allowed takeoff weight to be 13,420 pounds with flaps in either the up or approach positions.

NOTE: Similarly, the maximum allowed landing weight should be established for the arrival conditions during preflight planning. The landing weight (i.e., takeoff weight minus the fuel consumed enroute to the destination) must not be greater than the maximum allowed landing weight.

MAXIMUM ALLOWED TAKEOFF WEIGHT LIMITED BY BRAKE ENERGY CHART

Determine with the applicable chart whether a reduction in takeoff weight is necessary to not exceed the brake energy rating during a rejected/aborted takeoff run. For this example, no reduction in takeoff weight is required.

MAXIMUM TIRE SPEED DURING TAKEOFF CHARTS

Determine with the applcable chart whether the takeoff conditions will cause the tire speed rating(s) to be exceeded. The lowest tire speed rating approved for airplanes with this conversion is 160 MPH. Do not attempt a takeoff if the tire speed rating will be exceeded. Change runway to reduce a tail wind or increase a headwind component, or wait until conditions are acceptable. Also, tires with a speed rating of 170 MPH or greater can be installed. For this example, the maximum tire speed will be less than 160 mph.

SERVICE CEILING – ONE ENGINE INOPERATIVE CHART

This chart establishes the maximum weight at which the airplane will climb at least 50 feet per minute with one engine inoperative and the associated propeller feathered. It also serves to provide the altitudes necessary to comply with 14 CFR Part 135.181 performance requirements for Part 135 operations.

A check of the example shown on the Service Ceiling – One Engine Inoperative chart shows for an outside temperature of -6°C, the service ceiling is 20,500 feet pressure altitude at a gross weight of 13,000 pounds.

Note, to determine the maximum takeoff weight that results in a service ceiling equal to the highest Maximum Enroute Altitude (MEA), add the weight of the fuel used to reach a MEA to the weight from this chart that provides the required service ceiling.

TAKEOFF SPEEDS & FIELD LENGTHS TABLES

There are two sets of takeoff speeds and field length tables - one set for flaps up and the other set for flaps approach. The pilot can choose either of these two flap settings for takeoff, but the corresponding maximum allowed takeoff weight, accelerate stop distance, and net gradient of climb data must be applied. Takeoff speeds are the takeoff decision speed (V_1), rotation speed (V_R), safety speed (V_2), and final segment climb speed (V_{ENR}) that apply to the takeoff condition. The field lengths presented in these charts allow the airplane to be stopped within the distance shown when an engine fails at a speed below V_1 and the pilot immediately aborts the takeoff with maximum braking. Also, the field lengths are sufficient to allow a takeoff to be continued and to reach a height of 35 feet above the point of liftoff within the distance shown when an engine failure occurs at or just below V_1, the airplane is rotated at V_R, and V_2 is obtained and maintained before or upon reaching the 35 feet height. Please note a takeoff with flaps set to approach is only advantageous at heavy gross weights when there is a relatively short runway with minimal obstacles in the second segment of the takeoff path.

A preliminary look at the takeoff field length required for a flaps-up takeoff at the performance example departure conditions and at a gross weight of 13,420 pounds shows the required field length to be between 7,154 feet and 9,552 feet. As you can see, interpolation is required to determine whether the takeoff field length is greater than the available runway. Also, if pressure altitude is in-between table values, select the next higher pressure altitude. Below is an example of how to interpolate takeoff field length for temperatures that are in-between values shown in the table.

<u>For Flaps Up</u>: TOW of 13,420 lbs,
Pressure Altitude 5,000 ft, OAT of 25°C & 35°C; TFL is 7,154 ft & 8,525 ft.
Pressure Altitude 6,000 ft, OAT of 25°C & 35°C; TFL is 7,555 ft & 9,552 ft.
Interpolate to find TFL at Pressure Altitude 5,433, OAT of 28°C;
For 5,000 ft PA, OAT 28°C, TFL = 7154 + (8525-7154) x 3/10 = 7,565 feet,
For 6,000 ft PA, OAT 28°C, TFL = 7555 + (9552-7555) x 3/10 = 8,154 feet,
For 5,433 Ft PA, OAT 28°C, TFL = 7565+(8154-7565) x .433 = 7,820 feet.
Takeoff speeds, V_1, V_r, V_2, and V_{ENR}, are 103, 104, 113, and 113 knots.

TAKEOFF FIELD LENGTH CORRECTION CHARTS

Use these charts to correct the takeoff field length for runway slope/gradient and for headwind and tail wind components. When the runway surface is not flat, the takeoff field length should be corrected to account for the effect of a sloping takeoff surface. A downward slope will aid in accelerating the airplane and thus reduces the field length. However, if the accelerate-stop distance is

the deciding field length, a downward slope will result in a longer field length. This effect can be seen for field lengths less than approximately 5,000 feet.The uncorrected TFL distance of 7,820 feet can now be corrected for the runway 35 downward gradient of 0.4% and effect of wind (330° at 10 knots) using this chart. For determining headwind or tail wind component see the WIND COMPONENTS graph in the basic AFM/POH. The example on the chart shows the corrected TFL to be 7,250 feet, which is less than the available length of runway 35 at the departure airport.

CLEARWAYS

If the runway to be used for takeoff has a clearway, up to 20% of the field length required for takeoff can be over the clearway. Check the runway declared distance information, which is published in the Airport/Facility Directory, to determine whether the runway has a clearway. This information will include the following lengths if a clearway exists:

- TORA (takeoff run available)
- TODA (takeoff distance available)
- ASDA (accelerate-stop distance available)

Note - The length of a clearway is TODA minus TORA.

To utilize a clearway all of the following conditions must be met:

1. The TORA must be at least 80% of the required takeoff field length.
2. The TODA must be at least equal to the required takeoff field length.
3. The ASDA must be equal to or greater than the required accelerate-stop distance (see the ACCELERATE-STOP DISTANCE chart in this section).

CLOSE IN and DISTANT TAKEOFF FLIGHT PATH CHARTS

The Close-In Takeoff Flight Path and Distant Takeoff Flight Path charts are used to determine the minimum climb gradient required from the zero reference point in the takeoff path to clear any obstacles in the takeoff path. To demonstrate how to use the charts assume there is a 175 feet high ridge located 5,750 feet from the end of departure runway 35 in the performance example.

The corrected takeoff field length from the example is 7,250 feet. Since the departure runway is 11,500 feet long, from reference zero to the end of the runway is 4,250 feet. This distance is added to 5,750 feet to place the 175 feet high ridge 10,000 feet from reference zero. A check of the Close-In Takeoff Flight Path chart example shows the minimum climb gradient must be 1.4%.

Next, check the Net Gradient of Climb chart to see whether the climb gradient produced by the airplane will meet the minimum climb gradient. The example on this chart shows the airplane will deliver a climb gradient of 2.59%, which will allow the airplane to clear the ridge.

Note, when a takeoff is made with flaps set to approach there is a period upon reaching 400 feet AGL where the pilot momentarily levels off and accelerates to V_2 + 5, and then retracts the flaps before climbing again at V_{ENR}. The airplane travels approximately 3,000 feet horizontally during this period. This 3,000 feet should be subtracted from the distance to the obstacle when determining the minimum climb gradient. The reduction in the distance to the obstacle is a means to account for the distance the aircraft travels while it is accelerating and not climbing.

MAXIMUM ALLOWED LANDING WEIGHT TABLES

The maximum landing weight limitation from Section 2 Limitations is 12,500 pounds. However, the maximum allowed landing weight may be less than the maximum landing weight limit depending on the airplane's climb performance. In the event of a discontinued approach with one engine inoperative the climb gradient must not be less than 2.1%. Following the data in the maximum allowed landing weight table ensures the airplane will be at a weight allowing the climb requirements to be met.

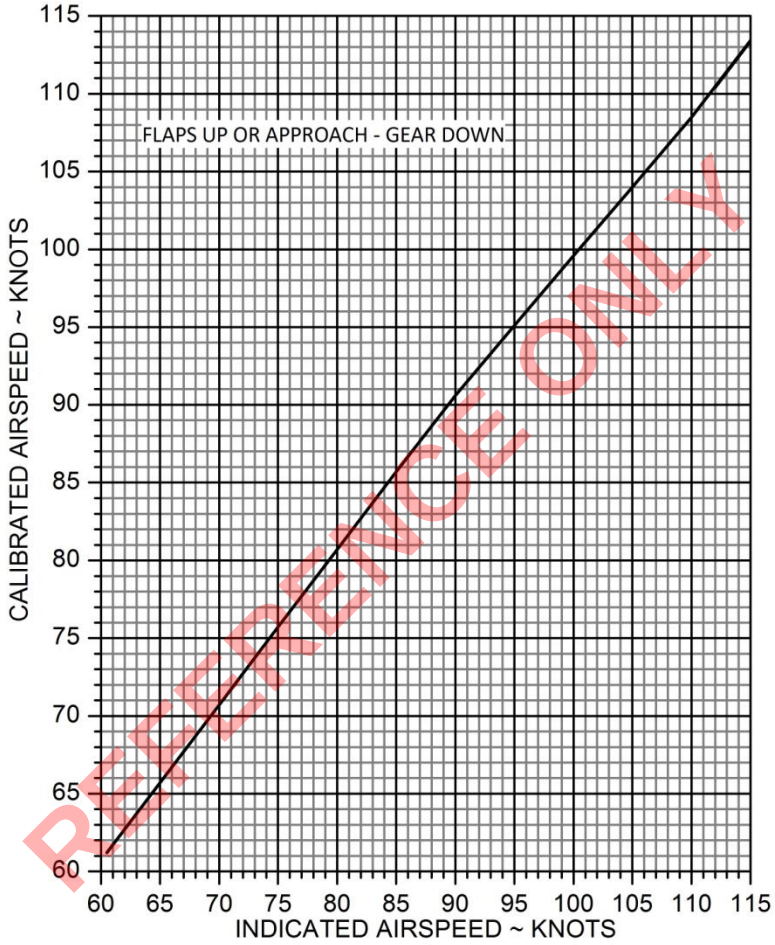
The fuel required to reach the destination should be subtracted from the takeoff weight to determine the predicted landing weight. If the predicted landing weight is greater than the maximum allowed landing weight, then the takeoff weight must be reduced so that the maximum allowed landing weight is not exceeded at the destination. A check of the example shown on the MAXIMUM ALLOWED LANDING WEIGHT table, which corresponds to the example trip, shows the maximum allowed landing weight to be 12,500 pounds. The following charts contained in this section are provided to aid in determining the fuel required to reach the destination. See the BLR AFMS-B250-1 AFM Supplement for more detailed information regarding cruise performance and the associated fuel consumption.

- TIME, FUEL, AND DISTANCE TO CLIMB
- MAXIMUM CRUISE POWER 1800 RPM (ISA and ISA+20°C tables)
- MAXIMUM CRUISE POWER 1700 RPM (ISA and ISA+20°C tables)
- MAXIMUM RANGE POWER 1700 RPM (ISA and ISA+20°C tables)
- TIME, FUEL, AND DISTANCE TO DESCEND

Please note when icing is expected during the landing approach, the MAXIMUM ALLOWED LANDING WEIGHT - TO ACHIEVE LANDING CLIMB REQUIREMENTS WITH ICE ACCUMULATIONS PRESENT table must be used to determine the maximum allowed landing weight. The data presented in this table takes into account the increased drag and loss of propeller efficiency caused by ice accumulations on the airplane.

AIRSPEED CALIBRATION - NORMAL SYSTEM

TAKE-OFF GROUND ROLL

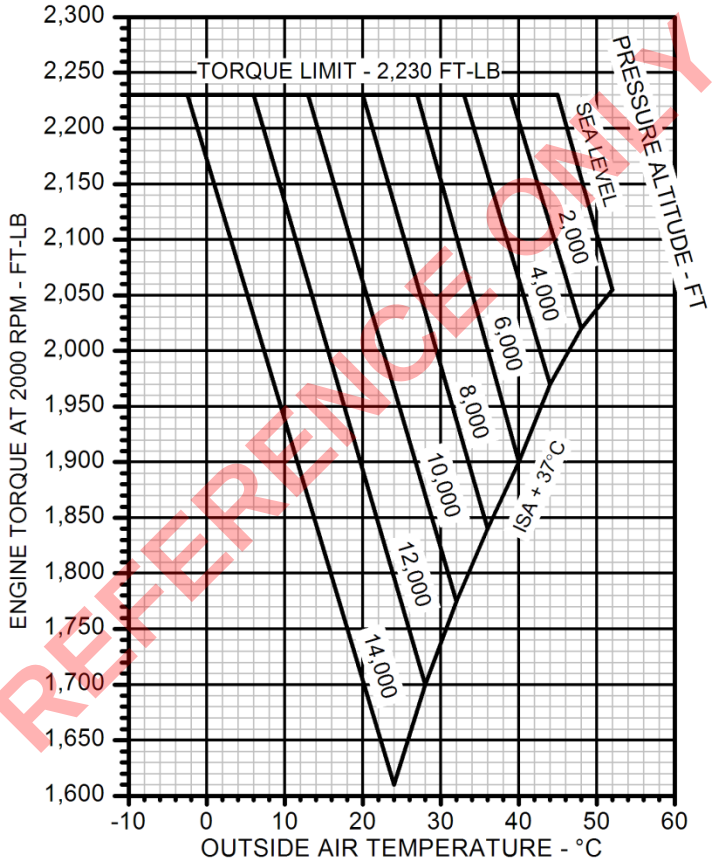


MINIMUM TAKE-OFF POWER AT 2000 RPM

WITH ICE VANES RETRACTED
(65 KNOTS)

NOTES

1. Torque increases approximately 30 Ft-LB from zero to 65 knots.
2. The power (Torque) indicated is the minimum value at 65 knots for which takeoff performance in this section can be obtained. Torque will continue to increase above 65 knots.

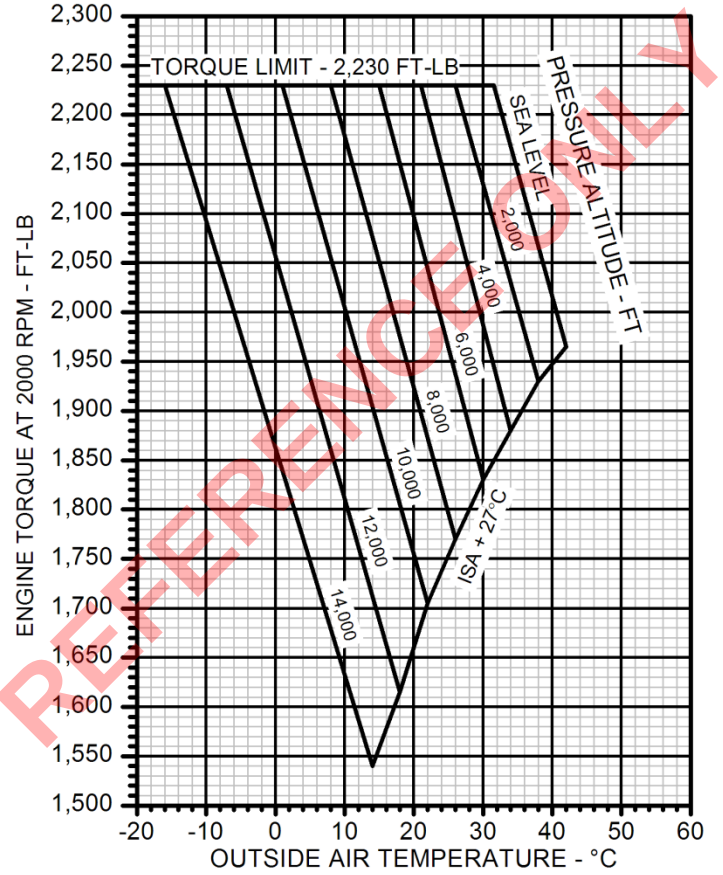


MINIMUM TAKE-OFF POWER AT 2000 RPM

WITH ICE VANES EXTENDED
(65 KNOTS)

NOTES

1. Torque increases approximately 20 Ft-LB from zero to 65 knots.
2. The power (Torque) indicated is the minimum value at 65 knots for which takeoff performance in this section can be obtained. Torque will continue to increase above 65 knots.
3. Takeoff with vanes extended is prohibited above ISA+27°C.

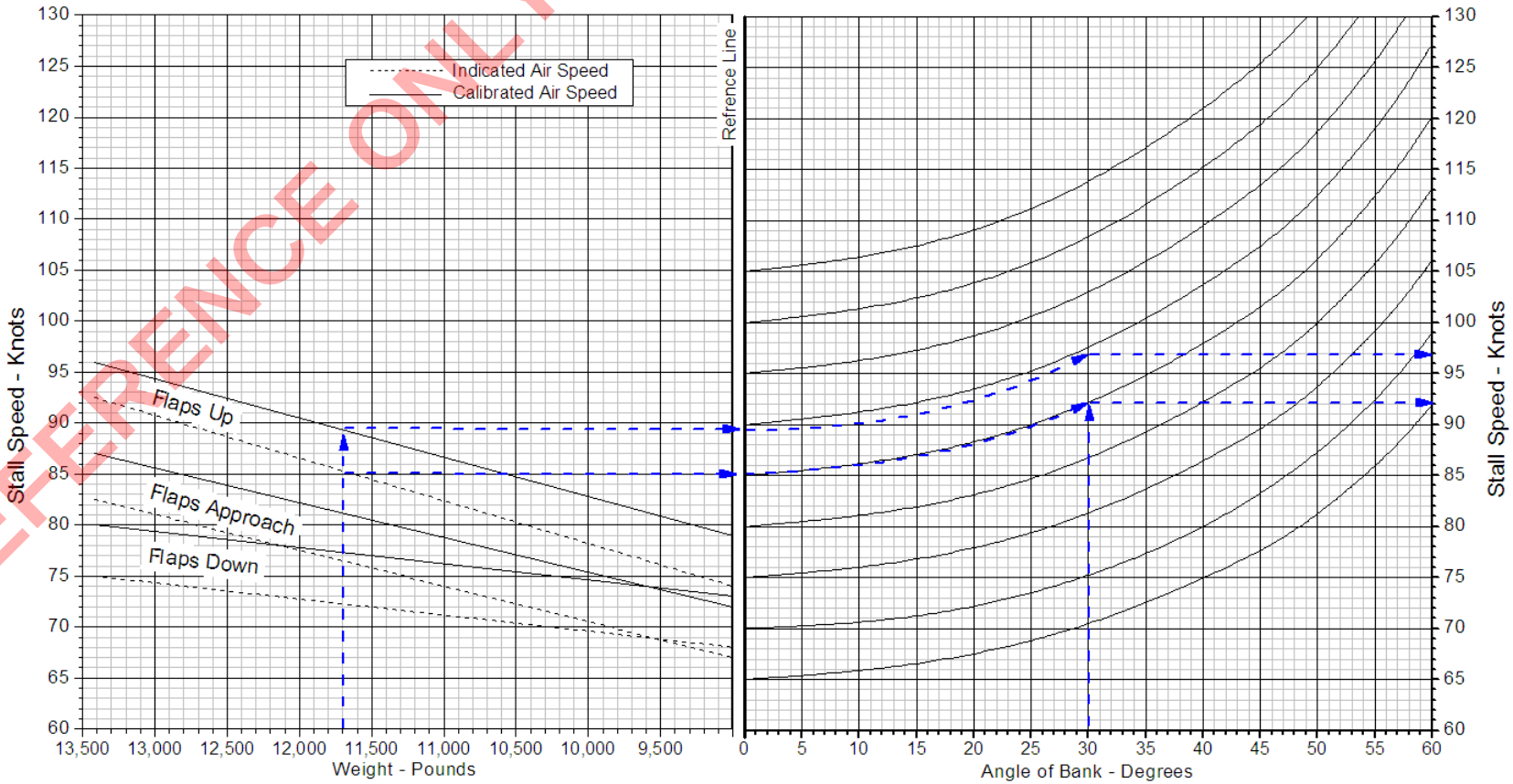


Stall Speeds - Zero Thrust

Notes:

1. Maximum altitude loss during normal stall recovery is approximately 800 feet.
2. Maximum nose down pitch attitude and altitude loss durring recovery from one engine inoperative stalls per FAR 23.205 are approximately 8 degrees and 300 feet respectively.
3. The pilot should respond to a stall warning by pitching the aircraft nose down until the stall warning ceases, leveling the wings to orient lift vector for recovery, and adding power to assist in the recovery. Level the airplane after the stall warning has ceased and airspeed has increased at least 25 knots.
4. For operations with ice accumulations present, stall speeds may increase 15 knots.
5. Power setting to achieve Zero Thrust is 250 FT-LB of Torque and propeller speed of 1600 RPM.

Example
Weight..... 11,700 pounds
Flaps ..... Up
Angle of Bank..... 30 degrees
Stall Speed ..... 97 Knots CAS
92 Knots IAS



MAXIMUM ALLOWED TAKEOFF WEIGHT – FLAPS UP

TO MEET FIRST, SECOND, AND FINAL SEGMENT CLIMB REQUIREMENTS

NOTES:

1. The gross weight of the airplane at takeoff must not exceed the Maximum Allowed Takeoff Weight at the corresponding pressure altitude and temperature shown in this table. This ensures compliance to the regulatory requirement for a minimum climb gradient in the event of an engine failure. For temperatures below 0°C and pressure altitudes up to 14,000 feet, the Maximum Allowed Takeoff Weight is 13,420 ponds.
2. For operations with ice vanes extended, add 6°C to the actual Outside Air Temperature and use this adjusted temperature in the table.
3. Blue background indicates under the respective conditions the Maximum Allowed Takeoff Weight is less than 13,420 pounds.

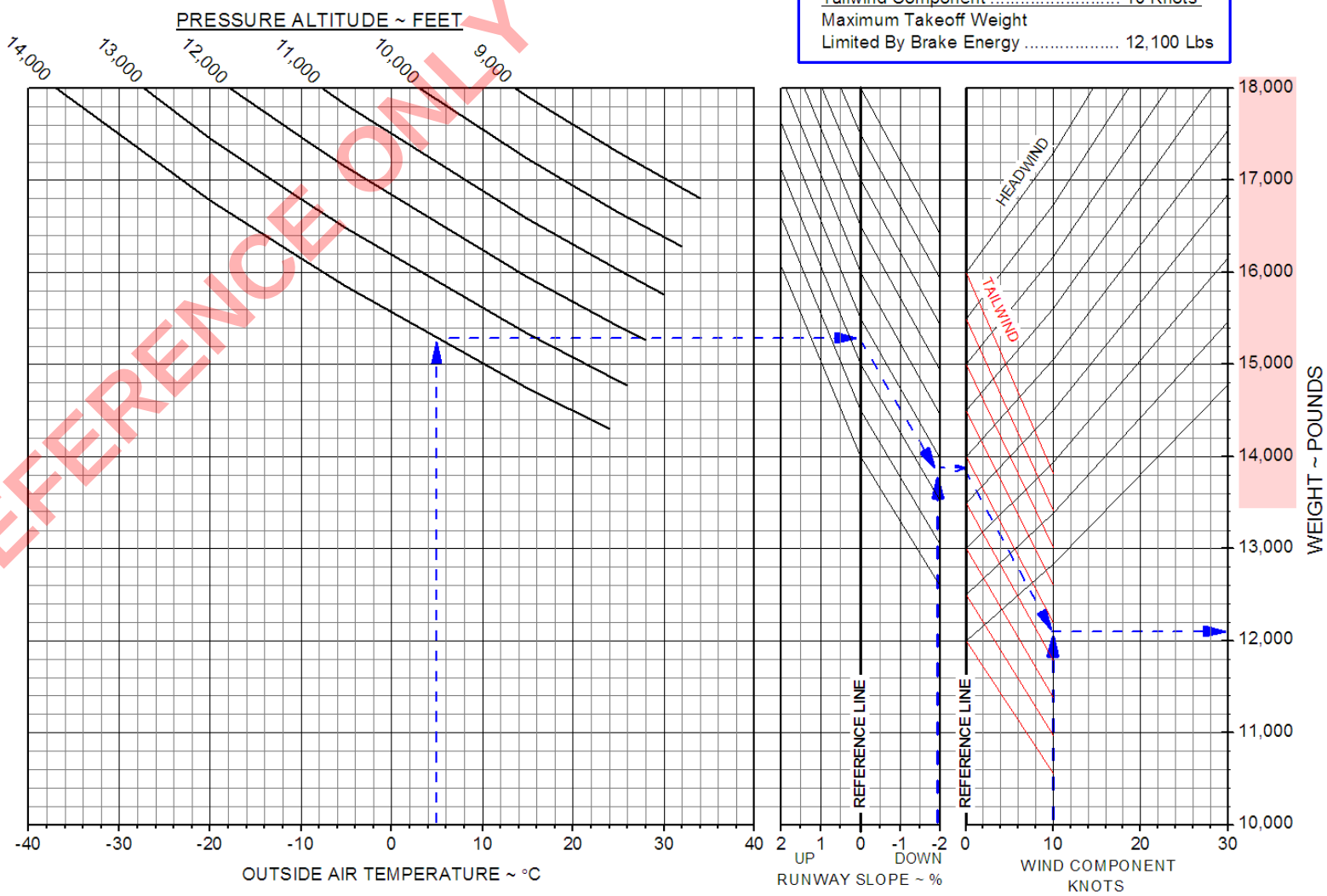
Pressure Altitude -Feet-	Outside Air Temperature Maximum Allowed Takeoff Weight - Pounds											
14,000	0°C 13,420	5°C 13,217	10°C 12,594	15°C 11,937	20°C 11,239	24°C 10,679						
13,000	0°C 13,420	5°C 13,420	10°C 13,202	15°C 12,569	20°C 11,903	25°C 11,187	26°C 11,037					
12,000	0°C 13,420	5°C 13,420	10°C 13,420	15°C 13,177	20°C 12,536	25°C 11,852	28°C 11,430					
11,000	0°C 13,420	5°C 13,420	10°C 13,420	15°C 13,420	20°C 13,058	25°C 12,425	30°C 11,753					
10,000	0°C 13,420	5°C 13,420	10°C 13,420	15°C 13,420	20°C 13,420	25°C 12,956	30°C 12,327	32°C 12,059				
9,000	0°C 13,420	5°C 13,420	10°C 13,420	15°C 13,420	20°C 13,420	25°C 13,420	30°C 12,847	34°C 12,331				
8,000	0°C 13,420	5°C 13,420	10°C 13,420	15°C 13,420	20°C 13,420	25°C 13,420	30°C 13,368	35°C 12,719	36°C 12,589			
7,000	0°C 13,420	5°C 13,420	10°C 13,420	15°C 13,420	20°C 13,420	25°C 13,420	30°C 13,420	35°C 13,275	38°C 12,878			
6,000	0°C 13,420	5°C 13,420	10°C 13,420	15°C 13,420	20°C 13,420	25°C 13,420	30°C 13,420	35°C 13,420	40°C 13,172			
5,000	0°C 13,420	5°C 13,420	10°C 13,420	15°C 13,420	20°C 13,420	25°C 13,420	30°C 13,420	35°C 13,420	40°C 13,420	42°C 13,370		
4,000	0°C 13,420	5°C 13,420	10°C 13,420	15°C 13,420	20°C 13,420	25°C 13,420	30°C 13,420	35°C 13,420	40°C 13,420	44°C 13,420		
3,000	0°C 13,420	5°C 13,420	10°C 13,420	15°C 13,420	20°C 13,420	25°C 13,420	30°C 13,420	35°C 13,420	40°C 13,420	45°C 13,420	46°C 13,420	
2,000	0°C 13,420	5°C 13,420	10°C 13,420	15°C 13,420	20°C 13,420	25°C 13,420	30°C 13,420	35°C 13,420	40°C 13,420	45°C 13,420	48°C 13,420	
1,000	0°C 13,420	5°C 13,420	10°C 13,420	15°C 13,420	20°C 13,420	25°C 13,420	30°C 13,420	35°C 13,420	40°C 13,420	45°C 13,420	50°C 13,420	
Sea Level	0°C 13,420	5°C 13,420	10°C 13,420	15°C 13,420	20°C 13,420	25°C 13,420	30°C 13,420	35°C 13,420	40°C 13,420	45°C 13,420	50°C 13,420	52°C 13,420

MAXIMUM ALLOWED TAKEOFF WEIGHT - FLAPS UP

LIMITED BY BRAKE ENERGY

NOTE: Red shading identifies the Maximum Takeoff Weight structural limitation is exceeded.

Example
Outside Air Temperature ..... 5°C
Pressure Altitude ..... 14,000 Feet
Runway Slope ..... 2% Down
Tailwind Component ..... 10 Knots
Maximum Takeoff Weight
Limited By Brake Energy ..... 12,100 Lbs

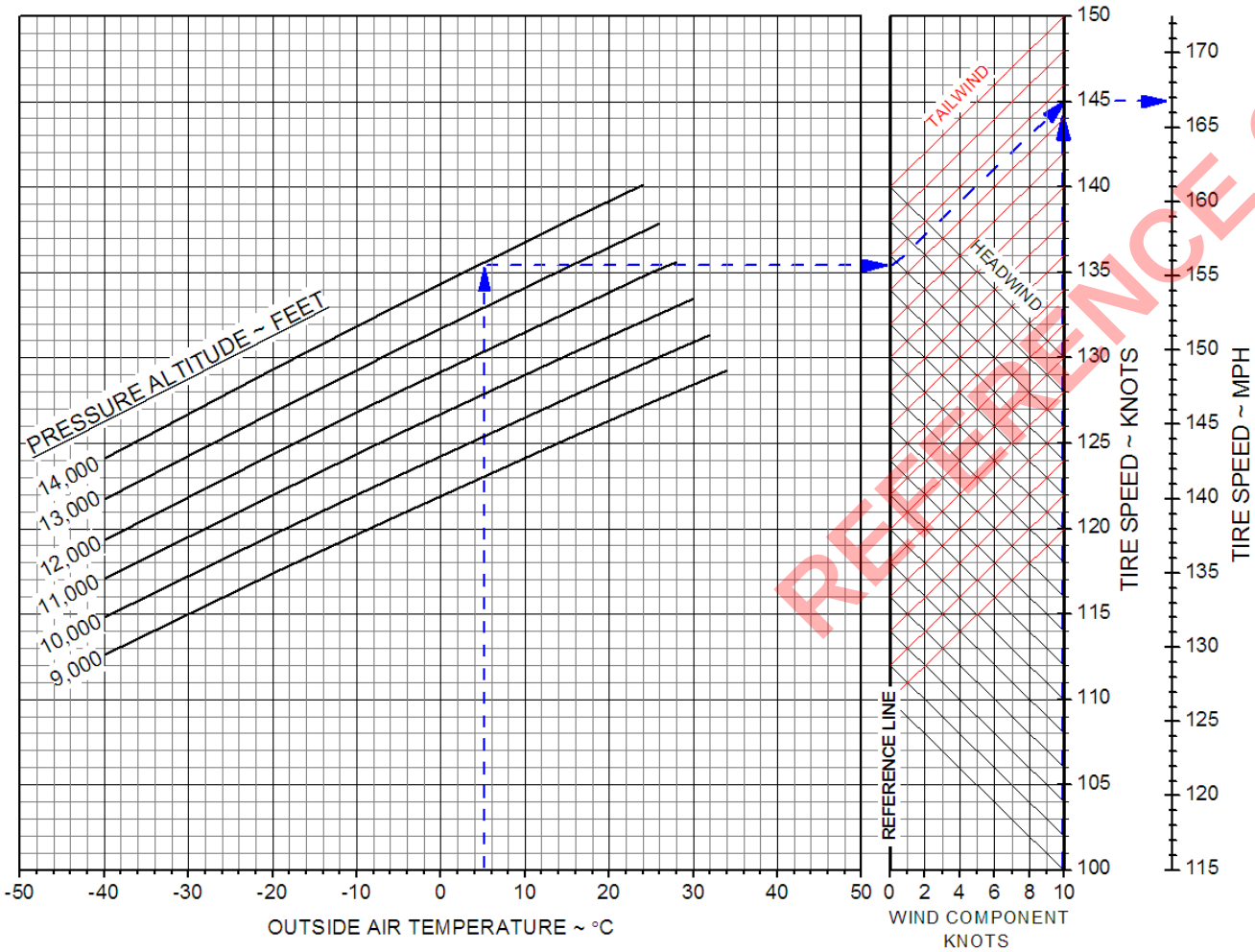


MAXIMUM TIRE SPEED DURING TAKEOFF - FLAPS UP

Associated Conditions:
- Pitch rotation occurs at V_R.

Notes:
- The lowest tire speed rating approved for airplanes with this coversion is 160 mph.
- Do not takeoff if the tire speed rating will be exceeded for any tire installed on airplane.

Example
Outside Air Temperature..... 5°C
Pressure Altitude..... 14,000 Feet
Tailwind Component..... 10 Knots
Tire Speed ..... 145 Knots
167 MPH



MAXIMUM ALLOWED TAKEOFF WEIGHT – FLAPS APPROACH

TO MEET FIRST, SECOND, AND FINAL SEGMENT CLIMB REQUIREMENTS

NOTES

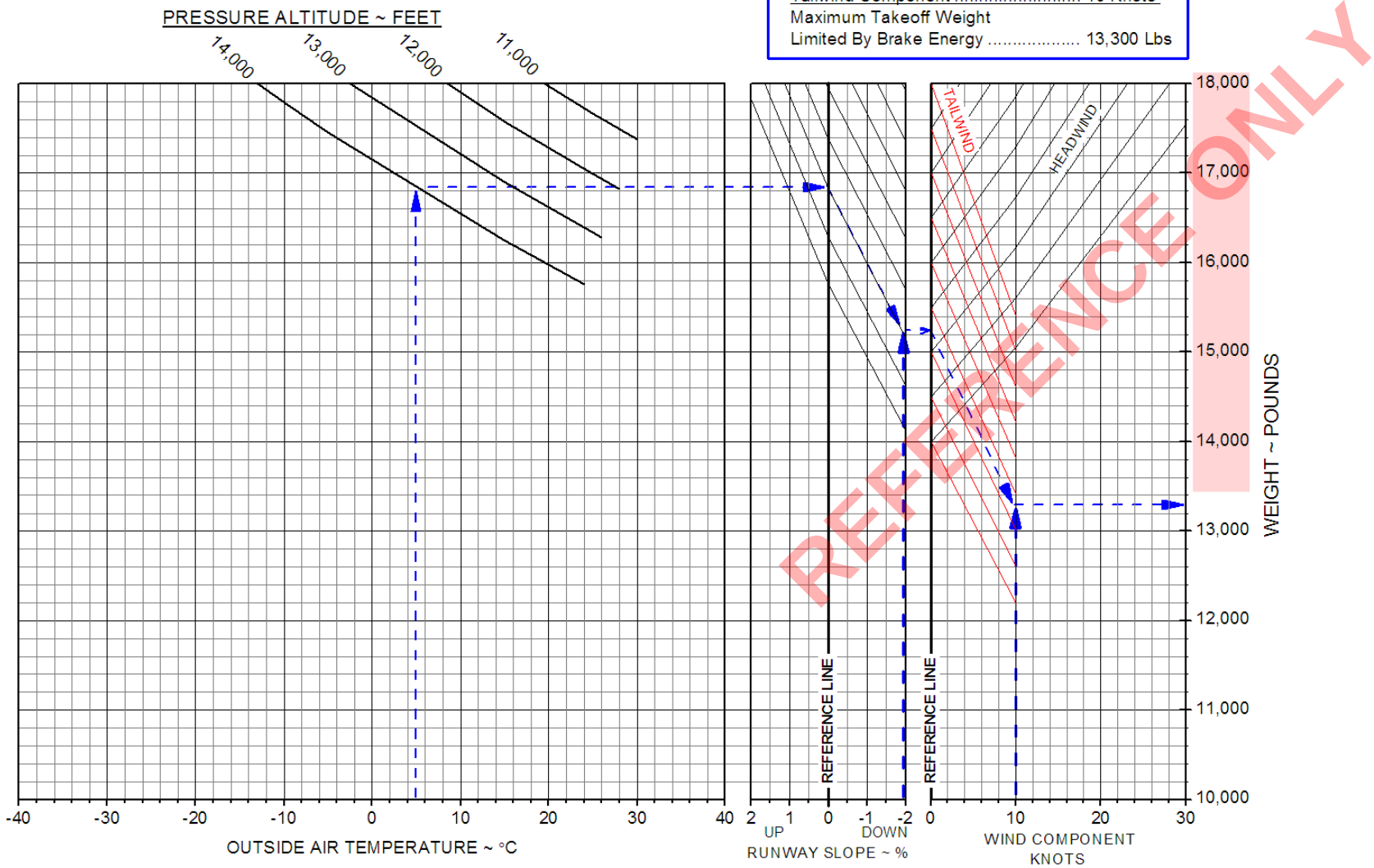
1. The gross weight of the airplane at takeoff must not exceed the Maximum Allowed Takeoff Weight at the corresponding pressure altitude and temperature shown in this table. This ensures compliance to the regulatory requirement for a minimum climb gradient in the event of an engine failure.
2. For operations with ice vanes extended, add 6°C to the actual Outside Air Temperature and use this adjusted temperature in the table.
3. Blue background indicates under the respective conditions the Maximum Allowed Takeoff Weight is less than 13,420 pounds.

Pressure Altitude Feet	Outside Air Temperature Maximum Allowed Takeoff Weight - Pounds																			
14,000	-40°C 13,385	-35°C 13,276	-30°C 13,161	-25°C 13,049	-20°C 12,937	-15°C 12,821	-10°C 12,703	-5°C 12,583	0°C 12,368	5°C 11,770	10°C 11,099	15°C 10,477	20°C 9,783	24°C 9,142						
13,000	-40°C 13,420	-35°C 13,420	-30°C 13,355	-25°C 13,250	-20°C 13,142	-15°C 13,031	-10°C 12,929	-5°C 12,817	0°C 12,706	5°C 12,412	10°C 11,794	15°C 11,099	20°C 10,451	25°C 9,727	26°C 9,564					
12,000	-40°C 13,420	-35°C 13,420	-30°C 13,420	-25°C 13,420	-20°C 13,341	-15°C 13,241	-10°C 13,141	-5°C 13,041	0°C 12,931	5°C 12,829	10°C 12,428	15°C 11,787	20°C 11,077	25°C 10,405	28°C 9,963					
11,000	-40°C 13,420	-35°C 13,420	-30°C 13,420	-25°C 13,420	-20°C 13,420	-15°C 13,420	-10°C 13,331	-5°C 13,234	0°C 13,135	5°C 13,035	10°C 12,889	15°C 12,351	20°C 11,702	25°C 10,987	30°C 10,324					
10,000	-40°C 13,420	-35°C 13,420	-30°C 13,420	-25°C 13,420	-20°C 13,420	-15°C 13,420	-10°C 13,420	-5°C 13,420	0°C 13,330	5°C 13,236	10°C 13,139	15°C 12,860	20°C 12,274	25°C 11,624	30°C 10,919	32°C 10,668				
9,000	-40°C 13,420	-35°C 13,420	-30°C 13,420	-25°C 13,420	-20°C 13,420	-15°C 13,420	-10°C 13,420	-5°C 13,420	0°C 13,420	5°C 13,420	10°C 13,341	15°C 13,250	20°C 12,836	25°C 12,229	30°C 11,571	34°C 10,988				
8,000	-40°C 13,420	-35°C 13,420	-30°C 13,420	-25°C 13,420	-20°C 13,420	-15°C 13,420	-10°C 13,420	-5°C 13,420	0°C 13,420	5°C 13,420	10°C 13,420	15°C 13,420	20°C 13,362	25°C 12,796	30°C 12,179	35°C 11,499	36°C 11,352			
7,000	-40°C 13,420	-35°C 13,420	-30°C 13,420	-25°C 13,420	-20°C 13,420	-15°C 13,420	-10°C 13,420	-5°C 13,420	0°C 13,420	5°C 13,420	10°C 13,420	15°C 13,420	20°C 13,420	25°C 13,308	30°C 12,728	35°C 12,092	38°C 11,681			
6,000	-40°C 13,420	-35°C 13,420	-30°C 13,420	-25°C 13,420	-20°C 13,420	-15°C 13,420	-10°C 13,420	-5°C 13,420	0°C 13,420	5°C 13,420	10°C 13,420	15°C 13,420	20°C 13,420	25°C 13,420	30°C 13,245	35°C 12,643	40°C 12,002			
5,000	-40°C 13,420	-35°C 13,420	-30°C 13,420	-25°C 13,420	-20°C 13,420	-15°C 13,420	-10°C 13,420	-5°C 13,420	0°C 13,420	5°C 13,420	10°C 13,420	15°C 13,420	20°C 13,420	25°C 13,420	30°C 13,420	35°C 13,111	40°C 12,507	42°C 12,254		
4,000	-40°C 13,420	-35°C 13,420	-30°C 13,420	-25°C 13,420	-20°C 13,420	-15°C 13,420	-10°C 13,420	-5°C 13,420	0°C 13,420	5°C 13,420	10°C 13,420	15°C 13,420	20°C 13,420	25°C 13,420	30°C 13,420	35°C 13,420	40°C 12,980	44°C 12,496		
3,000	-40°C 13,420	-35°C 13,420	-30°C 13,420	-25°C 13,420	-20°C 13,420	-15°C 13,420	-10°C 13,420	-5°C 13,420	0°C 13,420	5°C 13,420	10°C 13,420	15°C 13,420	20°C 13,420	25°C 13,420	30°C 13,420	35°C 13,420	40°C 13,420	45°C 12,874	46°C 12,751	
2,000	-40°C 13,420	-35°C 13,420	-30°C 13,420	-25°C 13,420	-20°C 13,420	-15°C 13,420	-10°C 13,420	-5°C 13,420	0°C 13,420	5°C 13,420	10°C 13,420	15°C 13,420	20°C 13,420	25°C 13,420	30°C 13,420	35°C 13,420	40°C 13,420	45°C 13,351	48°C 12,995	
1,000	-40°C 13,420	-35°C 13,420	-30°C 13,420	-25°C 13,420	-20°C 13,420	-15°C 13,420	-10°C 13,420	-5°C 13,420	0°C 13,420	5°C 13,420	10°C 13,420	15°C 13,420	20°C 13,420	25°C 13,420	30°C 13,420	35°C 13,420	40°C 13,420	45°C 13,420	50°C 13,197	
Sea Level	-40°C 13,420	-35°C 13,420	-30°C 13,420	-25°C 13,420	-20°C 13,420	-15°C 13,420	-10°C 13,420	-5°C 13,420	0°C 13,420	5°C 13,420	10°C 13,420	15°C 13,420	20°C 13,420	25°C 13,420	30°C 13,420	35°C 13,420	40°C 13,420	45°C 13,420	50°C 13,420	52°C 13,391

MAXIMUM ALLOWED TAKEOFF WEIGHT - FLAPS APPROACH
LIMITED BY BRAKE ENERGY

NOTE: Red shading identifies the Maximum Takeoff Weight structural limitation is exceeded.

Example
Outside Air Temperature ..... 5°C
Pressure Altitude ..... 14,000 Feet
Runway Slope ..... 2% Down
Tailwind Component ..... 10 Knots
Maximum Takeoff Weight
Limited By Brake Energy ..... 13,300 Lbs

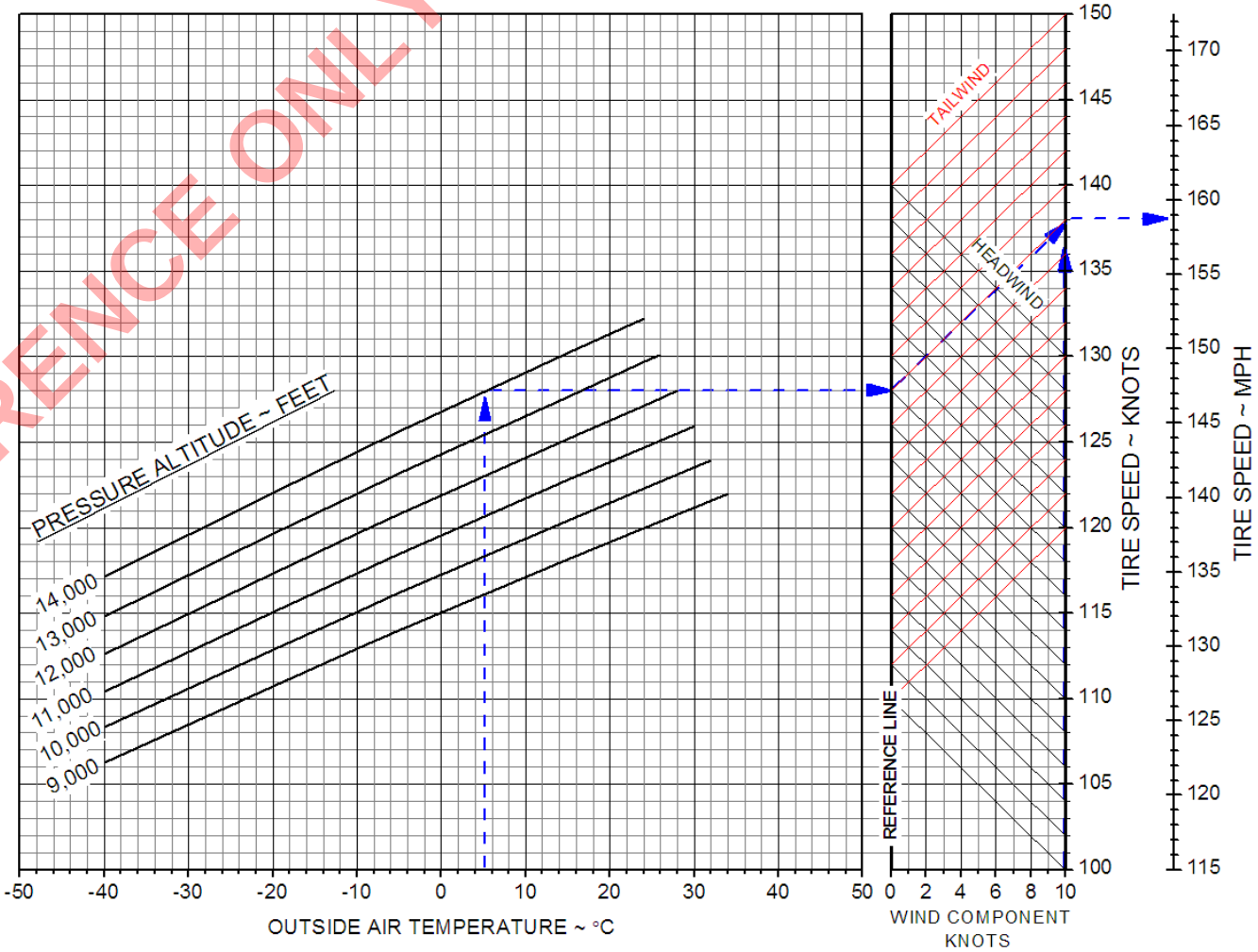


MAXIMUM TIRE SPEED DURING TAKEOFF - FLAPS APPROACH

Associated Conditions:
- Pitch rotation occurs at V_R.

Notes:
- The lowest tire speed rating approved for airplanes with this coversion is 160 mph.
- Do not takeoff if the tire speed rating will be exceeded for any tire installed on airplane.

Example
Outside Air Temperature..... 5°C
Pressure Altitude..... 14,000 Feet
Tailwind Component..... 10 Knots
Tire Speed ..... 138 Knots
159 MPH

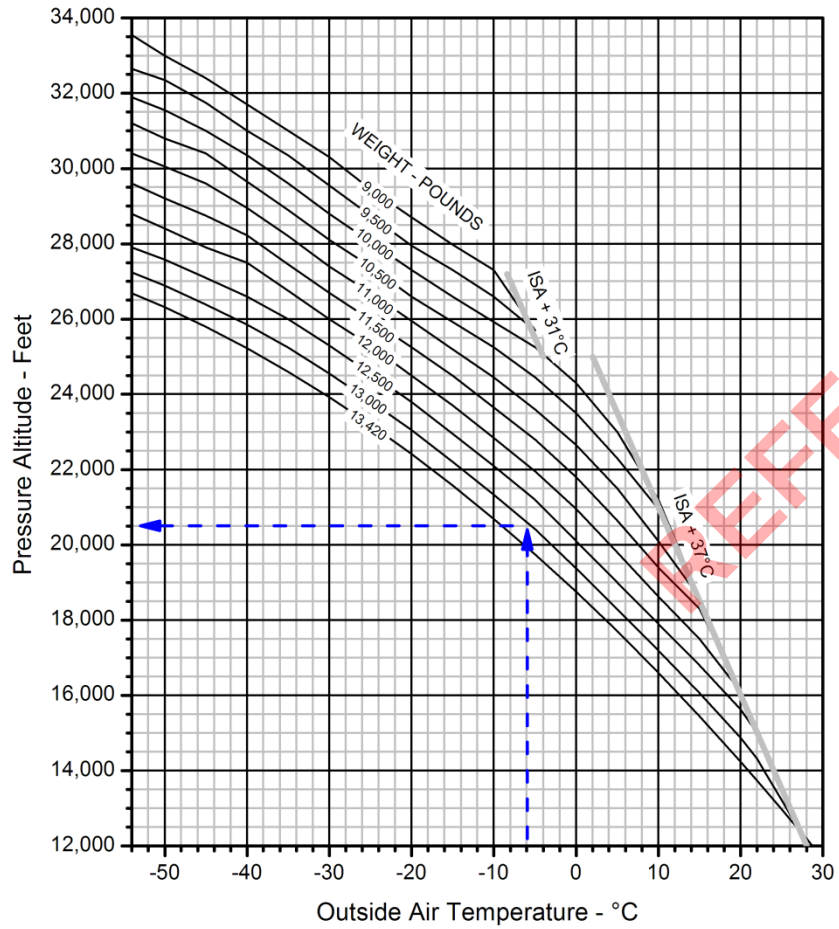


SERVICE CEILING - ONE ENGINE INOPERATIVE

Associated Conditions
Power .....Max Continuous
Landing Gear .....Up
Inoperative Prop ...Feathered
Flaps .....Up

Example
OAT ..... -6°C
Weight ..... 13,000 LBS
Climb Speed ..... 111 KIAS
Service Ceiling ... 20,500 Feet

Notes
1. Service ceiling is the maximum pressure alitutde at which the airplasne is capable of climbing 50 FPM with one propeller feathered.
2. For operations with ice vanes entended, decrease the service ceiling obtained from this graph by 3,000 feet.



USING TAKEOFF SPEEDS & FIELD LENGTHS TABLES

The first group of tables applies to aircraft operating with flaps in the approach setting for takeoff and the second group for airplanes with flaps up. In each group, tables are provided in increments of 1,000 feet pressure altitude starting with a pressure altitude of 1,000 feet below sea level up to 10,000 feet. Each table is arranged by aircraft weight and ambient outside air temperature. Starting with the maximum takeoff weight of 13,420 pounds in the top row, subsequent rows provide takeoff data for airplane gross weights from 13,000 pound to 9,000 pounds in 500 pound increments. Outside air temperatures in degrees Celsius are listed at the top of each column. The cells contain the corresponding takeoff speeds in knots indicated airspeed (KIAS) and takeoff field length (TOFL) in feet. The V_{ENR} speed, which does not vary with temperature, is listed below the weight. It is noted V_2 and V_{ENR} are the same speed when the takeoff is conducted with the flaps up.

The table below lists the temperatures at each altitude relative to an "ISA" day temperature. It is provided as a convenience and is not required when utilizing the graphs and tables in this section during flight planning.

Pres. Alt. Feet	OUTSIDE AIR TEMPERATURE (°C)							
	ISA-30	ISA-20	ISA-10	ISA	ISA+10	ISA+20	ISA+30	ISA+37
Sea level	-15	-5	5	15	25	35	45	52
1,000	-17	-7	3	13	23	33	43	50
2,000	-19	-9	1	11	21	31	41	48
3,000	-21	-11	-1	9	19	29	39	46
4,000	-23	-13	-3	7	17	27	37	44
5,000	-25	-15	-5	5	15	25	35	42
6,000	-27	-17	-7	3	13	23	33	40
7,000	-29	-19	-9	1	11	21	31	38
8,000	-31	-21	-11	-1	9	19	29	36
9,000	-33	-23	-13	-3	7	17	27	34
10,000	-35	-25	-15	-5	5	15	25	32
11,000	-37	-27	-17	-7	3	13	23	30
12,000	-39	-29	-19	-9	1	11	21	28
13,000	-41	-31	-21	-11	-1	9	19	26
14,000	-43	-33	-23	-13	-3	7	17	24

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS APPROACH
-1,000 FEET PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature. Red shading indicates performance requirements are not met.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)							
		-35	-5	5	15	25	35	45	54
13,420 LB	V_1	98	98	98	98	98	98	98	98
6087 KG	V_R	98	98	98	98	98	98	98	98
	V_2	101	101	101	101	101	101	101	101
V_{ENR} = 113	TOFL-FT	2869	3425	3624	3822	4021	4220	4419	4802
13,000 LB	V_1	98	98	98	98	98	98	98	98
5897 KG	V_R	98	98	98	98	98	98	98	98
	V_2	100	100	100	100	100	100	100	100
V_{ENR} = 111	TOFL-FT	2835	3305	3460	3627	3829	4030	4231	4602
12,500 LB	V_1	98	98	98	98	98	98	98	98
5670 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 109	TOFL-FT	2794	3250	3400	3549	3700	3850	4008	4363
12,000 LB	V_1	98	98	98	98	98	98	98	98
5443 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 107	TOFL-FT	2753	3195	3340	3485	3631	3776	3922	4124
11,500 LB	V_1	98	98	98	98	98	98	98	98
5216 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 105	TOFL-FT	2713	3140	3281	3421	3562	3702	3843	3965
11,000 LB	V_1	98	98	98	98	98	98	98	98
4990 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	2672	3085	3221	3356	3492	3629	3765	3883
10,500 LB	V_1	98	98	98	98	98	98	98	98
4763 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	2631	3030	3161	3292	3423	3555	3686	3800
10,000 LB	V_1	98	98	98	98	98	98	98	98
4536 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	2591	2975	3102	3227	3354	3481	3607	3717
9,500 LB	V_1	98	98	98	98	98	98	98	98
4309 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	2550	2920	3042	3163	3285	3407	3529	3635
9,000 LB	V_1	98	98	98	98	98	98	98	98
4082 KG	V_R	98	98	98	98	98	98	98	98
OR LESS	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	2509	2865	2982	3099	3216	3333	3450	3552

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS APPROACH
SEA LEVEL PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature. Red shading indicates performance requirements are not met.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)							
		-35	-5	5	15	25	35	45	52
13,420 LB	V_1	98	98	98	98	98	98	98	98
6087 KG	V_R	98	98	98	98	98	98	98	98
	V_2	101	101	101	101	101	101	101	101
V_{ENR} = 113	TOFL-FT	3060	3627	3816	4005	4194	4383	4572	5511
13,000 LB	V_1	98	98	98	98	98	98	98	98
5897 KG	V_R	98	98	98	98	98	98	98	98
	V_2	100	100	100	100	100	100	100	100
V_{ENR} = 111	TOFL-FT	2944	3447	3621	3812	4004	4195	4379	5286
12,500 LB	V_1	98	98	98	98	98	98	98	98
5670 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 109	TOFL-FT	2900	3388	3550	3713	3875	4037	4200	5018
12,000 LB	V_1	98	98	98	98	98	98	98	98
5443 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 107	TOFL-FT	2856	3328	3486	3643	3800	3958	4115	4750
11,500 LB	V_1	98	98	98	98	98	98	98	98
5216 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 105	TOFL-FT	2812	3269	3422	3574	3725	3878	4030	4305
11,000 LB	V_1	98	98	98	98	98	98	98	98
4990 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	2768	3210	3357	3504	3651	3798	3945	4101
10,500 LB	V_1	98	98	98	98	98	98	98	98
4763 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	2724	3151	3293	3435	3576	3718	3860	4011
10,000 LB	V_1	98	98	98	98	98	98	98	98
4536 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	2680	3091	3228	3365	3502	3639	3776	3921
9,500 LB	V_1	98	98	98	98	98	98	98	98
4309 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	2636	3032	3164	3296	3427	3559	3691	3830
9,000 LB	V_1	98	98	98	98	98	98	98	98
4082 KG	V_R	98	98	98	98	98	98	98	98
OR LESS	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	2592	2973	3099	3226	3352	3479	3606	3740

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS APPROACH
1,000 FEET PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature. Red shading indicates performance requirements are not met.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)							
		-35	-5	5	15	25	35	45	50
13,420 LB	V_1	98	98	98	98	98	98	98	98
6087 KG	V_R	98	98	98	98	98	98	98	98
	V_2	101	101	101	101	101	101	101	101
V_{ENR} = 113	TOFL-FT	3205	3838	4049	4260	4471	4682	5361	6142
13,000 LB	V_1	98	98	98	98	98	98	98	98
5897 KG	V_R	98	98	98	98	98	98	98	98
	V_2	100	100	100	100	100	100	100	100
V_{ENR} = 111	TOFL-FT	3083	3643	3857	4069	4277	4485	5136	5872
12,500 LB	V_1	98	98	98	98	98	98	98	98
5670 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 109	TOFL-FT	3033	3541	3710	3879	4048	4252	4867	5550
12,000 LB	V_1	98	98	98	98	98	98	98	98
5443 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 107	TOFL-FT	2984	3477	3640	3804	3968	4132	4598	5229
11,500 LB	V_1	98	98	98	98	98	98	98	98
5216 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 105	TOFL-FT	2937	3412	3571	3729	3888	4046	4245	4728
11,000 LB	V_1	98	98	98	98	98	98	98	98
4990 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	2889	3348	3501	3654	3808	3961	4153	4341
10,500 LB	V_1	98	98	98	98	98	98	98	98
4763 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	2841	3284	3432	3580	3728	3875	4061	4189
10,000 LB	V_1	98	98	98	98	98	98	98	98
4536 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	2792	3220	3362	3505	3647	3790	3969	4092
9,500 LB	V_1	98	98	98	98	98	98	98	98
4309 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	2744	3156	3293	3430	3568	3705	3877	3995
9,000 LB	V_1	98	98	98	98	98	98	98	98
4082 KG	V_R	98	98	98	98	98	98	98	98
OR LESS	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	2696	3092	3223	3355	3487	3619	3785	3899

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS APPROACH
2,000 FEET PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature. Red shading indicates performance requirements are not met.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)							
		-35	-5	5	15	25	35	45	48
13,420 LB	V_1	98	98	98	98	98	98	98	98
6087 KG	V_R	98	98	98	98	98	98	98	98
	V_2	101	101	101	101	101	101	101	101
V_{ENR} = 113	TOFL-FT	3357	4056	4289	4522	4755	4988	6149	6616
13,000 LB	V_1	98	98	98	98	98	98	98	98
5897 KG	V_R	98	98	98	98	98	98	98	98
	V_2	100	100	100	100	100	100	100	100
V_{ENR} = 111	TOFL-FT	3222	3864	4100	4331	4556	4781	5878	6312
12,500 LB	V_1	98	98	98	98	98	98	98	98
5670 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 109	TOFL-FT	3169	3696	3875	4103	4319	4535	5556	5950
12,000 LB	V_1	98	98	98	98	98	98	98	98
5443 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 107	TOFL-FT	3117	3627	3796	3967	4137	4306	5234	5588
11,500 LB	V_1	98	98	98	98	98	98	98	98
5216 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 105	TOFL-FT	3065	3558	3722	3887	4051	4215	4732	5045
11,000 LB	V_1	98	98	98	98	98	98	98	98
4990 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	3012	3489	3647	3807	3966	4124	4362	4628
10,500 LB	V_1	98	98	98	98	98	98	98	98
4763 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	2960	3420	3573	3727	3880	4033	4263	4341
10,000 LB	V_1	98	98	98	98	98	98	98	98
4536 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	2907	3351	3498	3647	3795	3942	4164	4239
9,500 LB	V_1	98	98	98	98	98	98	98	98
4309 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	2855	3282	3424	3566	3709	3851	4064	4137
9,000 LB	V_1	98	98	98	98	98	98	98	98
4082 KG	V_R	98	98	98	98	98	98	98	98
OR LESS	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	2802	3213	3349	3486	3624	3760	3965	4035

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS APPROACH
3,000 FEET PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature. Red shading indicates performance requirements are not met.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)							
		-35	-5	5	15	25	35	45	46
13,420 LB	V_1	98	98	98	98	98	98	98	
6087 KG	V_R	98	98	98	98	98	98	98	
	V_2	101	101	101	101	101	101	101	
V_{ENR} = 113	TOFL-FT	3520	4281	4533	4786	5039	5292	7104	
13,000 LB	V_1	98	98	98	98	98	98	98	98
5897 KG	V_R	98	98	98	98	98	98	98	98
	V_2	100	100	100	100	100	100	100	100
V_{ENR} = 111	TOFL-FT	3370	4091	4340	4586	4831	5074	6748	6919
12,500 LB	V_1	98	98	98	98	98	98	98	98
5670 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 109	TOFL-FT	3316	3873	4110	4348	4583	4815	6324	6475
12,000 LB	V_1	98	98	98	98	98	98	98	98
5443 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 107	TOFL-FT	3258	3799	3978	4159	4339	4555	5901	6031
11,500 LB	V_1	98	98	98	98	98	98	98	98
5216 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 105	TOFL-FT	3202	3724	3898	4072	4246	4421	5318	5433
11,000 LB	V_1	98	98	98	98	98	98	98	98
4990 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	3143	3649	3818	3986	4155	4323	4872	4976
10,500 LB	V_1	98	98	98	98	98	98	98	98
4763 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	3087	3575	3737	3899	4062	4225	4564	4660
10,000 LB	V_1	98	98	98	98	98	98	98	98
4536 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	3029	3500	3657	3813	3970	4127	4401	4429
9,500 LB	V_1	98	98	98	98	98	98	98	98
4309 KG	V_R	98	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	2973	3425	3576	3727	3878	4029	4293	4320
9,000 LB	V_1	98	98	98	98	98	98	98	98
4082 KG	V_R	98	98	98	98	98	98	98	98
OR LESS	V_2	99	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	2917	3351	3496	3641	3786	3931	4185	4211

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS APPROACH
4,000 FEET PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature. Red shading indicates performance requirements are not met.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)						
		-35	-5	5	15	25	35	44
13,420 LB	V_1	98	98	98	98	98	98	98
6087 KG	V_R	98	98	98	98	98	98	98
	V_2	101	101	101	101	101	101	101
V_{ENR} = 113	TOFL-FT	3694	4512	4785	5058	5331	5989	7968
13,000 LB	V_1	98	98	98	98	98	98	98
5897 KG	V_R	98	98	98	98	98	98	98
	V_2	100	100	100	100	100	100	100
V_{ENR} = 111	TOFL-FT	3526	4321	4585	4849	5113	5730	7526
12,500 LB	V_1	98	98	98	98	98	98	98
5670 KG	V_R	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99
V_{ENR} = 109	TOFL-FT	3464	4094	4347	4600	4853	5421	7000
12,000 LB	V_1	98	98	98	98	98	98	98
5443 KG	V_R	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99
V_{ENR} = 107	TOFL-FT	3403	3973	4164	4354	4593	5113	6474
11,500 LB	V_1	98	98	98	98	98	98	98
5216 KG	V_R	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99
V_{ENR} = 105	TOFL-FT	3341	3893	4077	4261	4446	4661	5820
11,000 LB	V_1	98	98	98	98	98	98	98
4990 KG	V_R	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	3279	3813	3991	4169	4347	4555	5323
10,500 LB	V_1	98	98	98	98	98	98	98
4763 KG	V_R	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	3217	3732	3904	4076	4248	4449	4982
10,000 LB	V_1	98	98	98	98	98	98	98
4536 KG	V_R	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	3156	3652	3818	3984	4149	4343	4641
9,500 LB	V_1	98	98	98	98	98	98	98
4309 KG	V_R	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	3094	3572	3731	3891	4051	4237	4502
9,000 LB	V_1	98	98	98	98	98	98	98
4082 KG	V_R	98	98	98	98	98	98	98
OR LESS	V_2	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	3032	3492	3645	3798	3952	4131	4386

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS APPROACH
5,000 FEET PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature. Red shading indicates performance requirements are not met.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)							
		-35	-5	5	15	25	35	42	
13,420 LB	V_1	98	98	98	98	98	98	98	
6087 KG	V_R	98	98	98	98	98	98	98	
	V_2	101	101	101	101	101	101	101	
V_{ENR} = 113	TOFL-FT	3876	4827	5145	5462	5780	7321	9195	
13,000 LB	V_1	98	98	98	98	98	98	98	
5897 KG	V_R	98	98	98	98	98	98	98	
	V_2	100	100	100	100	100	100	100	
V_{ENR} = 111	TOFL-FT	3696	4626	4933	5233	5534	6939	8581	
12,500 LB	V_1	98	98	98	98	98	98	98	
5670 KG	V_R	98	98	98	98	98	98	98	
	V_2	99	99	99	99	99	99	99	
V_{ENR} = 109	TOFL-FT	3630	4386	4681	4961	5241	6484	7850	
12,000 LB	V_1	98	98	98	98	98	98	98	
5443 KG	V_R	98	98	98	98	98	98	98	
	V_2	99	99	99	99	99	99	99	
V_{ENR} = 107	TOFL-FT	3564	4165	4429	4689	4948	6029	7119	
11,500 LB	V_1	98	98	98	98	98	98	98	
5216 KG	V_R	98	98	98	98	98	98	98	
	V_2	99	99	99	99	99	99	99	
V_{ENR} = 105	TOFL-FT	3495	4079	4273	4467	4661	5430	6376	
11,000 LB	V_1	98	98	98	98	98	98	98	
4990 KG	V_R	98	98	98	98	98	98	98	
	V_2	99	99	99	99	99	99	99	
V_{ENR} = 104	TOFL-FT	3429	3992	4180	4367	4555	4972	5815	
10,500 LB	V_1	98	98	98	98	98	98	98	
4763 KG	V_R	98	98	98	98	98	98	98	
	V_2	99	99	99	99	99	99	99	
V_{ENR} = 104	TOFL-FT	3363	3906	4087	4268	4449	4713	5435	3363
10,000 LB	V_1	98	98	98	98	98	98	98	
4536 KG	V_R	98	98	98	98	98	98	98	
	V_2	99	99	99	99	99	99	99	
V_{ENR} = 104	TOFL-FT	3295	3819	3994	4168	4343	4598	5055	3295
9,500 LB	V_1	98	98	98	98	98	98	98	
4309 KG	V_R	98	98	98	98	98	98	98	
	V_2	99	99	99	99	99	99	99	
V_{ENR} = 104	TOFL-FT	3229	3733	3901	4069	4237	4482	4705	3229
9,000 LB	V_1	98	98	98	98	98	98	98	
4082 KG	V_R	98	98	98	98	98	98	98	
OR LESS	V_2	99	99	99	99	99	99	99	
V_{ENR} = 104	TOFL-FT	3160	3647	3808	3970	4131	4367	4581	3160

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS APPROACH
6,000 FEET PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature. Red shading indicates performance requirements are not met.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)						
		-35	-5	5	15	25	35	40
13,420 LB	V_1	98	98	98	98	98	98	
6087 KG	V_R	98	98	98	98	98	98	
	V_2	101	101	101	101	101	101	
V_{ENR} = 113	TOFL-FT	4072	5160	5522	5885	6247	8844	
13,000 LB	V_1	98	98	98	98	98	98	98
5897 KG	V_R	98	98	98	98	98	98	98
	V_2	100	100	100	100	100	100	100
V_{ENR} = 111	TOFL-FT	3880	4948	5296	5633	5969	8288	9635
12,500 LB	V_1	98	98	98	98	98	98	98
5670 KG	V_R	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99
V_{ENR} = 109	TOFL-FT	3801	4695	5027	5334	5639	7626	8700
12,000 LB	V_1	98	98	98	98	98	98	98
5443 KG	V_R	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99
V_{ENR} = 107	TOFL-FT	3729	4442	4759	5034	5308	6964	7764
11,500 LB	V_1	98	98	98	98	98	98	98
5216 KG	V_R	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99
V_{ENR} = 105	TOFL-FT	3656	4268	4472	4676	4880	6245	6932
11,000 LB	V_1	98	98	98	98	98	98	98
4990 KG	V_R	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	3584	4175	4373	4569	4766	5700	6307
10,500 LB	V_1	98	98	98	98	98	98	98
4763 KG	V_R	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	3512	4082	4273	4463	4653	5330	5887
10,000 LB	V_1	98	98	98	98	98	98	98
4536 KG	V_R	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	3439	3989	4173	4356	4540	4960	5468
9,500 LB	V_1	98	98	98	98	98	98	98
4309 KG	V_R	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	3367	3896	4074	4250	4426	4736	5048
9,000 LB	V_1	98	98	98	98	98	98	98
4082 KG	V_R	98	98	98	98	98	98	98
OR LESS	V_2	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	3295	3804	3974	4143	4313	4611	4776

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS APPROACH
7,000 FEET PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature. Red shading indicates performance requirements are not met.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)							
		-35	-5	5	15	25	35	38	
13,420 LB	V_1	98	98	98	98	98	98		
6087 KG	V_R	98	98	98	98	98	98		
	V_2	101	101	101	101	101	101		
V_{ENR} = 113	TOFL-FT	4365	5560	5959	6358	7498	11764		
13,000 LB	V_1	98	98	98	98	98	98		
5897 KG	V_R	98	98	98	98	98	98		
	V_2	100	100	100	100	100	100		
V_{ENR} = 111	TOFL-FT	4172	5326	5702	6071	7090	10727		
12,500 LB	V_1	98	98	98	98	98	98	98	
5670 KG	V_R	98	98	98	98	98	98	98	
	V_2	99	99	99	99	99	99	99	
V_{ENR} = 109	TOFL-FT	3985	5048	5396	5729	6603	9492	10250	
12,000 LB	V_1	98	98	98	98	98	98	98	
5443 KG	V_R	98	98	98	98	98	98	98	
	V_2	99	99	99	99	99	99	99	
V_{ENR} = 107	TOFL-FT	3910	4771	5090	5388	6117	8257	8732	
11,500 LB	V_1	98	98	98	98	98	98	98	
5216 KG	V_R	98	98	98	98	98	98	98	
	V_2	99	99	99	99	99	99	99	
V_{ENR} = 105	TOFL-FT	3830	4475	4690	4904	5505	7342	7738	
11,000 LB	V_1	98	98	98	98	98	98	98	
4990 KG	V_R	98	98	98	98	98	98	98	
	V_2	99	99	99	99	99	99	99	
V_{ENR} = 104	TOFL-FT	3755	4375	4583	4790	5039	6658	6998	
10,500 LB	V_1	98	98	98	98	98	98	98	
4763 KG	V_R	98	98	98	98	98	98	98	
	V_2	99	99	99	99	99	99	99	
V_{ENR} = 104	TOFL-FT	3675	4275	4476	4676	4910	6203	6510	
10,000 LB	V_1	98	98	98	98	98	98	98	
4536 KG	V_R	98	98	98	98	98	98	98	
	V_2	99	99	99	99	99	99	99	
V_{ENR} = 104	TOFL-FT	3595	4176	4369	4561	4787	5750	6023	
9,500 LB	V_1	98	98	98	98	98	98	98	
4309 KG	V_R	98	98	98	98	98	98	98	
	V_2	99	99	99	99	99	99	99	
V_{ENR} = 104	TOFL-FT	3520	4076	4262	4447	4665	5295	5535	
9,000 LB	V_1	98	98	98	98	98	98	98	
4082 KG	V_R	98	98	98	98	98	98	98	
OR LESS	V_2	99	99	99	99	99	99	99	
V_{ENR} = 104	TOFL-FT	3440	3976	4155	4333	4542	4902	5047	

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS APPROACH
8,000 FEET PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature. Red shading indicates performance requirements are not met.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)							
		-35	-5	5	15	25	35	36	
13,420 LB	V_1	98	98	98	98	98			
6087 KG	V_R	98	98	98	98	98			
	V_2	101	101	101	101	101			
V_{ENR} = 113	TOFL-FT	4668	5974	6410	6845	9751			
13,000 LB	V_1	98	98	98	98	98	98		
5897 KG	V_R	98	98	98	98	98	98		
	V_2	100	100	100	100	100	100		
V_{ENR} = 111	TOFL-FT	4472	5716	6121	6519	9068	13474		
12,500 LB	V_1	98	98	98	98	98	98		
5670 KG	V_R	98	98	98	98	98	98		
	V_2	99	99	99	99	99	99		
V_{ENR} = 109	TOFL-FT	4239	5409	5776	6131	8255	11505		
12,000 LB	V_1	98	98	98	98	98	98		
5443 KG	V_R	98	98	98	98	98	98		
	V_2	99	99	99	99	99	99		
V_{ENR} = 107	TOFL-FT	4094	5101	5432	5743	7442	9536		
11,500 LB	V_1	98	98	98	98	98	98	98	
5216 KG	V_R	98	98	98	98	98	98	98	
	V_2	99	99	99	99	99	99	99	
V_{ENR} = 105	TOFL-FT	4010	4686	4911	5181	6656	8412	8544	
11,000 LB	V_1	98	98	98	98	98	98	98	
4990 KG	V_R	98	98	98	98	98	98	98	
	V_2	99	99	99	99	99	99	99	
V_{ENR} = 104	TOFL-FT	3926	4579	4796	5014	6064	7578	7688	
10,500 LB	V_1	98	98	98	98	98	98	98	
4763 KG	V_R	98	98	98	98	98	98	98	
	V_2	99	99	99	99	99	99	99	
V_{ENR} = 104	TOFL-FT	3841	4472	4682	4892	5665	7035	7133	
10,000 LB	V_1	98	98	98	98	98	98	98	
4536 KG	V_R	98	98	98	98	98	98	98	
	V_2	99	99	99	99	99	99	99	
V_{ENR} = 104	TOFL-FT	3757	4365	4568	4770	5266	6492	6577	
9,500 LB	V_1	98	98	98	98	98	98	98	
4309 KG	V_R	98	98	98	98	98	98	98	
	V_2	99	99	99	99	99	99	99	
V_{ENR} = 104	TOFL-FT	3673	4258	4453	4648	4949	5949	6022	
9,000 LB	V_1	98	98	98	98	98	98	98	
4082 KG	V_R	98	98	98	98	98	98	98	
OR LESS	V_2	99	99	99	99	99	99	99	
V_{ENR} = 104	TOFL-FT	3589	4152	4339	4526	4815	5406	5466	

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS APPROACH
9,000 FEET PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature. Red shading indicates performance requirements are not met.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)							
		-35	-5	5	15	25	30		
13,420 LB	V_1	98	98	98	98	98			
6087 KG	V_R	98	98	98	98	98			
	V_2	101	101	101	101	101			
V_{ENR} = 113	TOFL-FT	5016	6442	6917	7392	13255			
13,000 LB	V_1	98	98	98	98	98			
5897 KG	V_R	98	98	98	98	98			
	V_2	100	100	100	100	100			
V_{ENR} = 111	TOFL-FT	4809	6148	6581	7010	11947			
12,500 LB	V_1	98	98	98	98	98	98		
5670 KG	V_R	98	98	98	98	98	98		
	V_2	99	99	99	99	99	99		
V_{ENR} = 109	TOFL-FT	4560	5798	6181	6555	10389	12300		
12,000 LB	V_1	98	98	98	98	98	98		
5443 KG	V_R	98	98	98	98	98	98		
	V_2	99	99	99	99	99	99		
V_{ENR} = 107	TOFL-FT	4316	5448	5781	6100	8832	9876		
11,500 LB	V_1	98	98	98	98	98	98		
5216 KG	V_R	98	98	98	98	98	98		
	V_2	99	99	99	99	99	99		
V_{ENR} = 105	TOFL-FT	4217	4935	5213	5492	7824	8669		
11,000 LB	V_1	98	98	98	98	98	98		
4990 KG	V_R	98	98	98	98	98	98		
	V_2	99	99	99	99	99	99		
V_{ENR} = 104	TOFL-FT	4126	4820	5050	5282	7073	7778		
10,500 LB	V_1	98	98	98	98	98	98		
4763 KG	V_R	98	98	98	98	98	98		
	V_2	99	99	99	99	99	99		
V_{ENR} = 104	TOFL-FT	4035	4704	4927	5150	6579	7203		
10,000 LB	V_1	98	98	98	98	98	98		
4536 KG	V_R	98	98	98	98	98	98		
	V_2	99	99	99	99	99	99		
V_{ENR} = 104	TOFL-FT	3945	4589	4804	5019	6085	6628		
9,500 LB	V_1	98	98	98	98	98	98		
4309 KG	V_R	98	98	98	98	98	98		
	V_2	99	99	99	99	99	99		
V_{ENR} = 104	TOFL-FT	3852	4474	4681	4888	5591	6053		
9,000 LB	V_1	98	98	98	98	98	98		
4082 KG	V_R	98	98	98	98	98	98		
OR LESS	V_2	99	99	99	99	99	99		
V_{ENR} = 104	TOFL-FT	3761	4359	4557	4757	5127	5478		

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS APPROACH
10,000 FEET PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature. Red shading indicates performance requirements are not met.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)							
		-35	-5	5	15	25	28		
13,420 LB	V_1	98	98	98	98				
6087 KG	V_R	98	98	98	98				
	V_2	101	101	101	101				
V_{ENR} = 113	TOFL-FT	5382	6925	7440	8767				
13,000 LB	V_1	98	98	98	98	98			
5897 KG	V_R	98	98	98	98	98			
	V_2	100	100	100	100	100			
V_{ENR} = 111	TOFL-FT	5162	6591	7053	8221	15267			
12,500 LB	V_1	98	98	98	98	98			
5670 KG	V_R	98	98	98	98	98			
	V_2	99	99	99	99	99			
V_{ENR} = 109	TOFL-FT	4900	6193	6592	7571	12714			
12,000 LB	V_1	98	98	98	98	98	98		
5443 KG	V_R	98	98	98	98	98	98		
	V_2	99	99	99	99	99	99		
V_{ENR} = 107	TOFL-FT	4639	5795	6131	6921	10161	10737		
11,500 LB	V_1	98	98	98	98	98	98		
5216 KG	V_R	98	98	98	98	98	98		
	V_2	99	99	99	99	99	99		
V_{ENR} = 105	TOFL-FT	4429	5226	5520	6207	8911	9354		
11,000 LB	V_1	98	98	98	98	98	98		
4990 KG	V_R	98	98	98	98	98	98		
	V_2	99	99	99	99	99	99		
V_{ENR} = 104	TOFL-FT	4331	5065	5310	5667	7989	8340		
10,500 LB	V_1	98	98	98	98	98	98		
4763 KG	V_R	98	98	98	98	98	98		
	V_2	99	99	99	99	99	99		
V_{ENR} = 104	TOFL-FT	4232	4942	5178	5439	7396	7694		
10,000 LB	V_1	98	98	98	98	98	98		
4536 KG	V_R	98	98	98	98	98	98		
	V_2	99	99	99	99	99	99		
V_{ENR} = 104	TOFL-FT	4134	4818	5046	5297	6802	7047		
9,500 LB	V_1	98	98	98	98	98	98		
4309 KG	V_R	98	98	98	98	98	98		
	V_2	99	99	99	99	99	99		
V_{ENR} = 104	TOFL-FT	4036	4694	4913	5156	6208	6401		
9,000 LB	V_1	98	98	98	98	98	98		
4082 KG	V_R	98	98	98	98	98	98		
OR LESS	V_2	99	99	99	99	99	99		
V_{ENR} = 104	TOFL-FT	3938	4570	4781	5014	5614	5755		

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS APPROACH
11,000 FEET PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature. Red shading indicates performance requirements are not met.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)						
		-35	-25	-15	-5	5	15	24
13,420 LB	V_1	98	98	98	98	98	98	
6087 KG	V_R	98	98	98	98	98	98	
	V_2	101	101	101	101	101	101	
V_{ENR} = 113	TOFL-FT	6135	6791	7447	8102	8759	12,924	
13,000 LB	V_1	98	98	98	98	98	98	
5897 KG	V_R	98	98	98	98	98	98	
	V_2	100	100	100	100	100	100	
V_{ENR} = 111	TOFL-FT	5682	6258	6823	7385	7946	11,409	
12,500 LB	V_1	98	98	98	98	98	98	98
5670 KG	V_R	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99
V_{ENR} = 109	TOFL-FT	5302	5811	6299	6782	7262	10,136	14,544
12,000 LB	V_1	98	98	98	98	98	98	98
5443 KG	V_R	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99
V_{ENR} = 107	TOFL-FT	4914	5360	5776	6187	6593	8929	12,306
11,500 LB	V_1	98	98	98	98	98	98	98
5216 KG	V_R	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99
V_{ENR} = 105	TOFL-FT	4663	4941	5294	5657	6015	8039	10,887
11,000 LB	V_1	98	98	98	98	98	98	98
4990 KG	V_R	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	4558	4828	5099	5370	5640	7340	9831
10,500 LB	V_1	98	98	98	98	98	98	98
4763 KG	V_R	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	4453	4715	4978	5239	5501	6832	9137
10,000 LB	V_1	98	98	98	98	98	98	98
4536 KG	V_R	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	4349	4602	4856	5109	5362	6325	8442
9,500 LB	V_1	98	98	98	98	98	98	98
4309 KG	V_R	98	98	98	98	98	98	98
	V_2	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	4244	4489	4734	4978	5223	5818	7747
9,000 LB	V_1	98	98	98	98	98	98	98
4082 KG	V_R	98	98	98	98	98	98	98
OR LESS	V_2	99	99	99	99	99	99	99
V_{ENR} = 104	TOFL-FT	4140	4376	4612	4848	5083	5435	7053

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS APPROACH
12,000 FEET PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature. Red shading indicates performance requirements are not met.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)							
		-35	-25	-15	-5	5	15	22	
13,420 LB	V_1	98	98	98	98	98			
6087 KG	V_R	98	98	98	98	98			
	V_2	101	101	101	101	101			
V_{ENR} = 113	TOFL-FT	6693	7452	8210	8968	9726			
13,000 LB	V_1	98	98	98	98	98	98		
5897 KG	V_R	98	98	98	98	98	98		
	V_2	100	100	100	100	100	100		
V_{ENR} = 111	TOFL-FT	6172	6827	7477	8121	8759	14,539		
12,500 LB	V_1	98	98	98	98	98	98		
5670 KG	V_R	98	98	98	98	98	98		
	V_2	99	99	99	99	99	99		
V_{ENR} = 109	TOFL-FT	5735	6302	6862	7410	7947	12,646		
12,000 LB	V_1	98	98	98	98	98	98	98	
5443 KG	V_R	98	98	98	98	98	98	98	
	V_2	99	99	99	99	99	99	99	
V_{ENR} = 107	TOFL-FT	5293	5779	6255	6715	7159	10,879	13,378	
11,500 LB	V_1	98	98	98	98	98	98	98	
5216 KG	V_R	98	98	98	98	98	98	98	
	V_2	99	99	99	99	99	99	99	
V_{ENR} = 105	TOFL-FT	4905	5297	5717	6121	6508	9694	11,775	
11,000 LB	V_1	98	98	98	98	98	98	98	
4990 KG	V_R	98	98	98	98	98	98	98	
	V_2	99	99	99	99	99	99	99	
V_{ENR} = 104	TOFL-FT	4793	5086	5381	5674	5980	8793	10,598	
10,500 LB	V_1	98	98	98	98	98	98	98	
4763 KG	V_R	98	98	98	98	98	98	98	
	V_2	99	99	99	99	99	99	99	
V_{ENR} = 104	TOFL-FT	4681	4965	5250	5534	5819	8177	9845	
10,000 LB	V_1	98	98	98	98	98	98	98	
4536 KG	V_R	98	98	98	98	98	98	98	
	V_2	99	99	99	99	99	99	99	
V_{ENR} = 104	TOFL-FT	4569	4844	5119	5394	5670	7560	9093	
9,500 LB	V_1	98	98	98	98	98	98	98	
4309 KG	V_R	98	98	98	98	98	98	98	
	V_2	99	99	99	99	99	99	99	
V_{ENR} = 104	TOFL-FT	4457	4722	4988	5254	5520	6944	8341	
9,000 LB	V_1	98	98	98	98	98	98	98	
4082 KG	V_R	98	98	98	98	98	98	98	
OR LESS	V_2	99	99	99	99	99	99	99	
V_{ENR} = 104	TOFL-FT	4345	4601	4858	5114	5371	6327	7589	

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS APPROACH
13,000 FEET PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature. Red shading indicates performance requirements are not met.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)							
		-35	-25	-15	-5	5	13		
13,420 LB	V_1	98	98	98	98	98			
6087 KG	V_R	98	98	98	98	98			
	V_2	101	101	101	101	101			
V_{ENR} = 113	TOFL-FT	7,284	8,229	9,173	10,119	13,160			
13,000 LB	V_1	98	98	98	98	98	98		
5897 KG	V_R	98	98	98	98	98	98		
	V_2	100	100	100	100	100	100		
V_{ENR} = 111	TOFL-FT	6,683	7,494	8,294	9,089	11,601	16,704		
12,500 LB	V_1	98	98	98	98	98	98		
5670 KG	V_R	98	98	98	98	98	98		
	V_2	99	99	99	99	99	99		
V_{ENR} = 109	TOFL-FT	6,178	6,876	7,555	8,225	10,292	14,345		
12,000 LB	V_1	98	98	98	98	98	98		
5443 KG	V_R	98	98	98	98	98	98		
	V_2	99	99	99	99	99	99		
V_{ENR} = 107	TOFL-FT	5,674	6,267	6,835	7,389	9,052	12,159		
11,500 LB	V_1	98	98	98	98	98	98		
5216 KG	V_R	98	98	98	98	98	98		
	V_2	99	99	99	99	99	99		
V_{ENR} = 105	TOFL-FT	5,204	5,728	6,226	6,709	8,143	10,766		
11,000 LB	V_1	98	98	98	98	98	98		
4990 KG	V_R	98	98	98	98	98	98		
	V_2	99	99	99	99	99	99		
V_{ENR} = 104	TOFL-FT	5,054	5,359	5,728	6,160	7,432	9,726		
10,500 LB	V_1	98	98	98	98	98	98		
4763 KG	V_R	98	98	98	98	98	98		
	V_2	99	99	99	99	99	99		
V_{ENR} = 104	TOFL-FT	4,934	5,229	5,525	5,820	6,917	9,039		
10,000 LB	V_1	98	98	98	98	98	98		
4536 KG	V_R	98	98	98	98	98	98		
	V_2	99	99	99	99	99	99		
V_{ENR} = 104	TOFL-FT	4,814	5,099	5,385	5,671	6,403	8,352		
9,500 LB	V_1	98	98	98	98	98	98		
4309 KG	V_R	98	98	98	98	98	98		
	V_2	99	99	99	99	99	99		
V_{ENR} = 104	TOFL-FT	4,693	4,969	5,245	5,521	5,889	7,666		
9,000 LB	V_1	98	98	98	98	98	98		
4082 KG	V_R	98	98	98	98	98	98		
OR LESS	V_2	99	99	99	99	99	99		
V_{ENR} = 104	TOFL-FT	4,573	4,839	5,105	5,371	5,722	6,979		

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS APPROACH
14,000 FEET PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature. Red shading indicates performance requirements are not met.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)							
		-35	-25	-15	-5	5	11		
13,420 LB	V_1	98	98	98					
6087 KG	V_R	98	98	98					
	V_2	101	101	101					
V_{ENR} = 113	TOFL-FT	7948	9080	10,212					
13,000 LB	V_1	98	98	98	98	98			
5897 KG	V_R	98	98	98	98	98			
	V_2	100	100	100	100	100			
V_{ENR} = 111	TOFL-FT	7253	8216	9168	10,107	14,995			
12,500 LB	V_1	98	98	98	98	98			
5670 KG	V_R	98	98	98	98	98			
	V_2	99	99	99	99	99			
V_{ENR} = 109	TOFL-FT	6669	7490	8290	9068	13,006			
12,000 LB	V_1	98	98	98	98	98	98		
5443 KG	V_R	98	98	98	98	98	98		
	V_2	99	99	99	99	99	99		
V_{ENR} = 107	TOFL-FT	6091	6781	7443	8074	11,153	13,378		
11,500 LB	V_1	98	98	98	98	98	98		
5216 KG	V_R	98	98	98	98	98	98		
	V_2	99	99	99	99	99	99		
V_{ENR} = 105	TOFL-FT	5572	6178	6756	7302	9924	11,775		
11,000 LB	V_1	98	98	98	98	98	98		
4990 KG	V_R	98	98	98	98	98	98		
	V_2	99	99	99	99	99	99		
V_{ENR} = 104	TOFL-FT	5320	5686	6202	6687	8994	10,598		
10,500 LB	V_1	98	98	98	98	98	98		
4763 KG	V_R	98	98	98	98	98	98		
	V_2	99	99	99	99	99	99		
V_{ENR} = 104	TOFL-FT	5191	5497	5803	6229	8362	9845		
10,000 LB	V_1	98	98	98	98	98	98		
4536 KG	V_R	98	98	98	98	98	98		
	V_2	99	99	99	99	99	99		
V_{ENR} = 104	TOFL-FT	5062	5358	5654	5950	7731	9093		
9,500 LB	V_1	98	98	98	98	98	98		
4309 KG	V_R	98	98	98	98	98	98		
	V_2	99	99	99	99	99	99		
V_{ENR} = 104	TOFL-FT	4934	5219	5505	5791	7099	8341		
9,000 LB	V_1	98	98	98	98	98	98		
4082 KG	V_R	98	98	98	98	98	98		
OR LESS	V_2	99	99	99	99	99	99		
V_{ENR} = 104	TOFL-FT	4805	5080	5356	5632	6467	7589		

THIS PAGE IS INTENTIONALLY BLANK

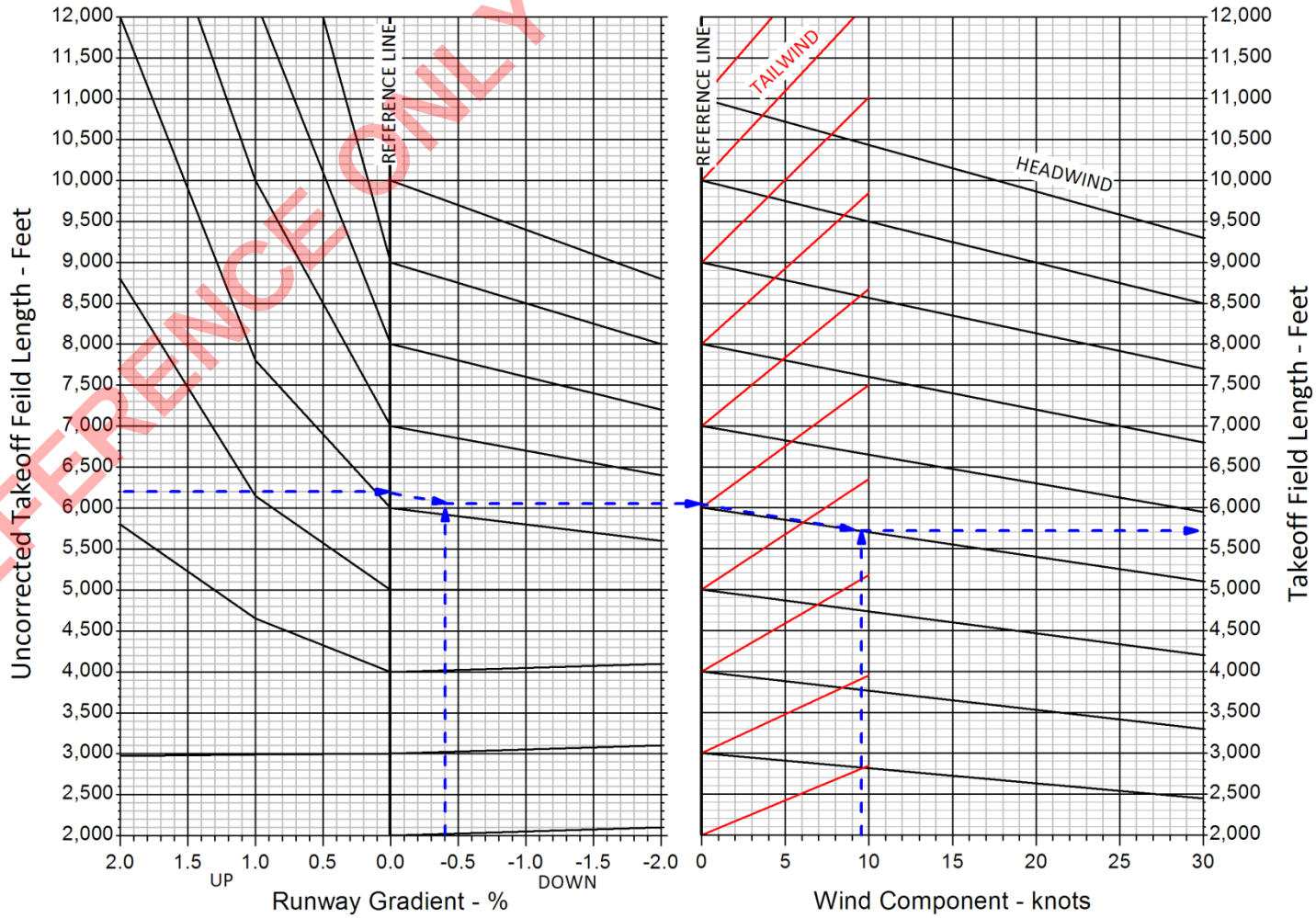
TAKEOFF FIELD LENGTH CORRECTION - FLAPS APPROACH

FOR RUNWAY GRADIENT AND WIND COMPONENT

Notes:

1. Obtain take-off field length from the appropriate Take-Off Speeds and Field Lengths table and enter the graph below with that value to determine the field length corrected for runway gradient and wind component.
2. The wind grid includes factors of 50% for headwinds and 150% for tailwinds. Components of reported winds may be used directly in the graph.
3. Do not extrapolate for headwind components greater than 30 knots. Use a 30 knot headwind component for correcting Takeoff Field Length when headwind component is 30 knots or greater.
4. Do not take-off with more than a 10 knot tail wind component.

Example:
Uncorrected Takeoff Field Length.. 6,205 ft
Runway gradient..... 0.4% Down
Headwind component..... 9.5 knots
Corrected take-off field length..... 5,725 feet



ACCELERATE - STOP DISTANCE - FLAPS APPROACH

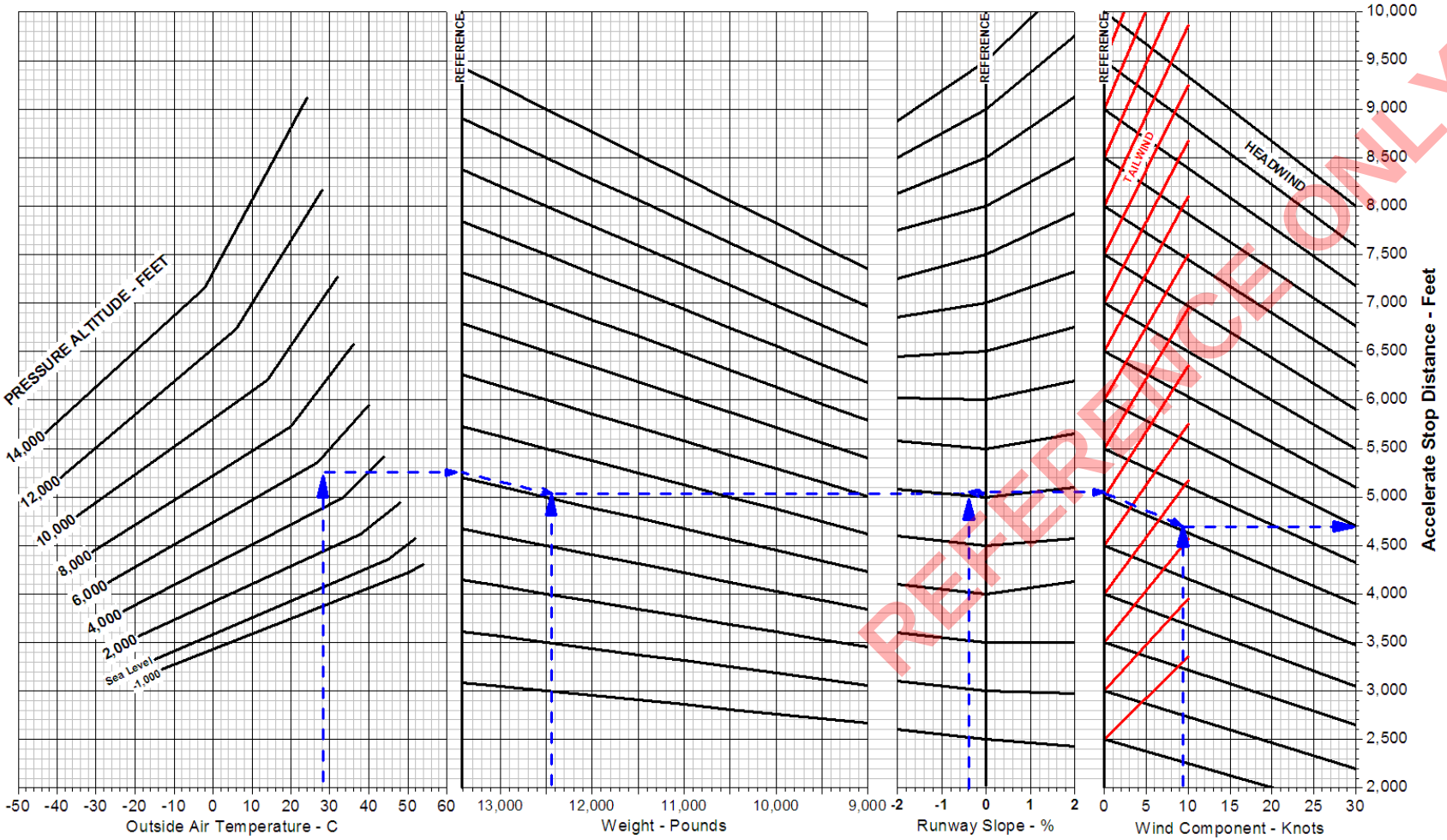
Associated conditions

Power..... 1. Take-off power set before brake release.
2. Both engines idle at V_1 speed and reverse on operating engine.

Flaps..... Up
Autofeather..... Armed
Braking..... Maximum
Runway..... Paved, Level, Dry Surface

Decision Speed, V_1 = 98 Knots at all weights

Example
OAT..... 28 °C
Pressure Altitude..... 5,433 feet
Weight..... 12,422 pounds
Runway Slope..... -0.4%
Headwind Component..... 9.5 knots
Field Length ..... 4,700 feet



NET GRADIENT OF CLIMB - FLAPS APPROACH

Associated Conditions
Power..... Take-Off
Flaps..... Approach
Landing Gear..... Up
Inoperative Propeller... Feathered

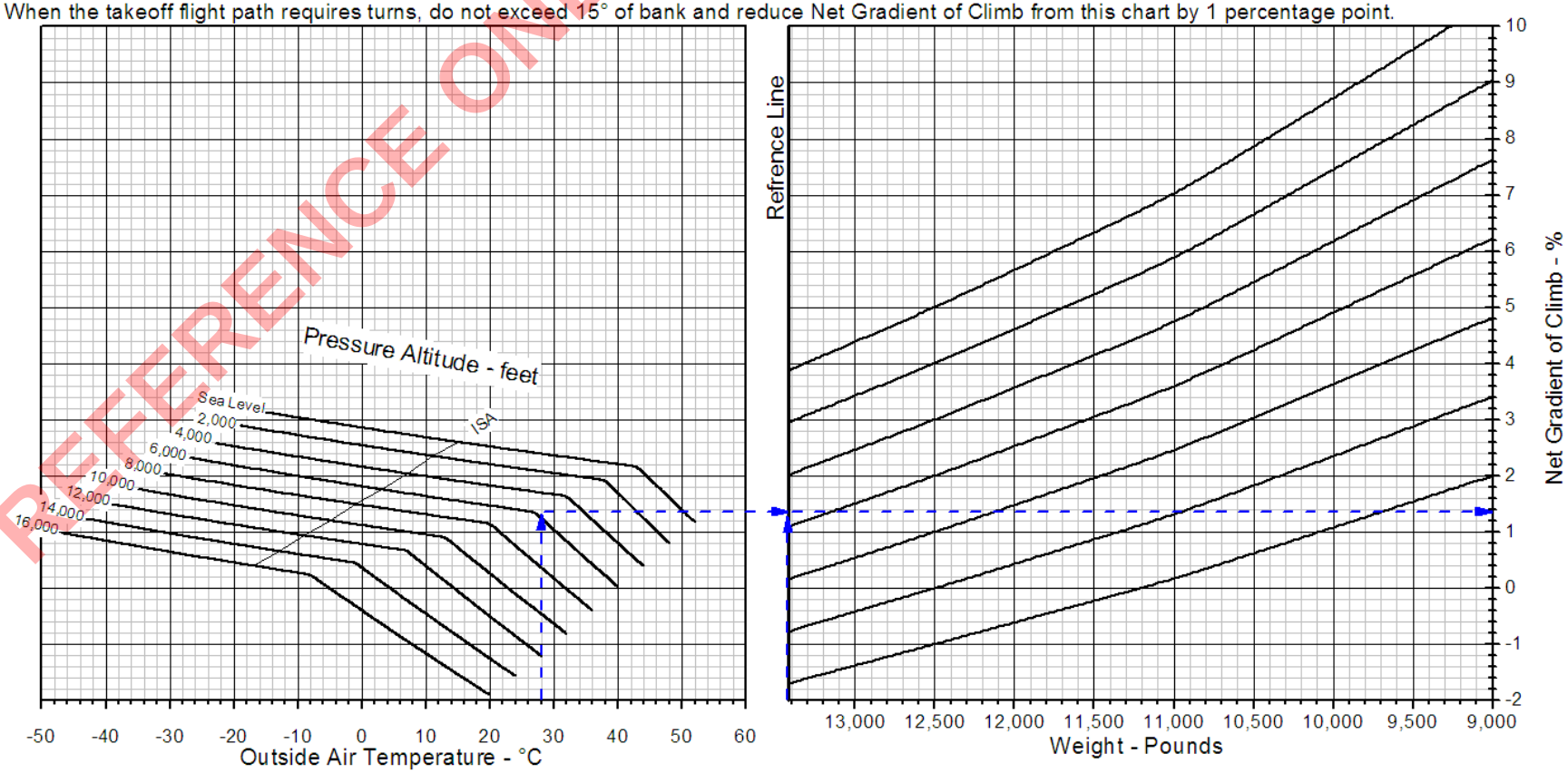
Weight - Pounds	V_2 - Knots
13,420	101
13,000	100
12,000	99
9,000	99

Example
OAT..... 28 °C
Pressure Altitude..... 5,430 feet

Take-Off Weight - Pounds	Net Gradient - %
13,420	1.37

Speed at 13,420 pounds..... 101 knots

Notes:
1. This chart for the second segment of the takeoff flight path when executing a takeoff with flaps set to approach. Use the pressure altitude of the top of the segment.
2. A distance of 3,000 feet is required for acceleration during flap retraction and the transition from V_2 to V_{ENR}. When V_{ENR} is 145 knots, this distance is 8,000 feet.
3. For operations with engine ice vanes extended reduce the Net Gradient of Climb from this chart by 0.9 percentage points.
4. When the takeoff flight path requires turns, do not exceed 15° of bank and reduce Net Gradient of Climb from this chart by 1 percentage point.



THIS PAGE IS INTENTIONALLY BLANK

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS UP
-1,000 FEET PRESSURE ALTITUDE

Note:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)							
		-35	-5	5	15	25	35	45	54
13,420 LB	V_1	103	103	103	103	103	103	103	103
6087 KG	V_R	104	104	104	104	104	104	104	104
	V_2	113	113	113	113	113	113	113	113
V_{ENR} = 113	TOFL-FT	**3326**	**4150**	**4424**	**4699**	**4973**	**5248**	**5523**	**5938**
13,000 LB	V_1	103	103	103	103	103	103	103	103
5897 KG	V_R	103	103	103	103	103	103	103	103
	V_2	111	111	111	111	111	111	111	111
V_{ENR} = 111	TOFL-FT	**3164**	**3843**	**4093**	**4344**	**4595**	**4846**	**5097**	**5476**
12,500 LB	V_1	103	103	103	103	103	103	103	103
5670 KG	V_R	103	103	103	103	103	103	103	103
	V_2	109	109	109	109	109	109	109	109
V_{ENR} = 109	TOFL-FT	**3061**	**3555**	**3718**	**3922**	**4144**	**4367**	**4589**	**4925**
12,000 LB	V_1	103	103	103	103	103	103	103	103
5443 KG	V_R	103	103	103	103	103	103	103	103
	V_2	107	107	107	107	107	107	107	107
V_{ENR} = 107	TOFL-FT	**2994**	**3469**	**3626**	**3782**	**3939**	**4095**	**4251**	**4403**
11,500 LB	V_1	103	103	103	103	103	103	103	103
5216 KG	V_R	103	103	103	103	103	103	103	103
	V_2	105	105	105	105	105	105	105	105
V_{ENR} = 105	TOFL-FT	**2952**	**3411**	**3563**	**3714**	**3866**	**4018**	**4169**	**4316**
11,000 LB	V_1	103	103	103	103	103	103	103	103
4990 KG	V_R	103	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**2909**	**3354**	**3501**	**3647**	**3794**	**3941**	**4087**	**4229**
10,500 LB	V_1	103	103	103	103	103	103	103	103
4763 KG	V_R	103	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**2866**	**3296**	**3438**	**3579**	**3721**	**3863**	**4004**	**4141**
10,000 LB	V_1	103	103	103	103	103	103	103	103
4536 KG	V_R	103	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**2823**	**3238**	**3375**	**3512**	**3649**	**3786**	**3922**	**4054**
9,500 LB	V_1	103	103	103	103	103	103	103	103
4309 KG	V_R	103	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**2781**	**3181**	**3313**	**3444**	**3576**	**3708**	**3840**	**3967**
9,000 LB	V_1	103	103	103	103	103	103	103	103
4082 KG	V_R	103	103	103	103	103	103	103	103
OR LESS	V_2	104	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**2738**	**3123**	**3250**	**3376**	**3504**	**3631**	**3757**	**3880**

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS UP
SEA LEVEL PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)							
		-35	-5	5	15	25	35	45	52
13,420 LB	V_1	103	103	103	103	103	103	103	103
6087 KG	V_R	104	104	104	104	104	104	104	104
	V_2	113	113	113	113	113	113	113	113
V_{ENR} = 113	TOFL-FT	**3538**	**4403**	**4692**	**4980**	**5268**	**5557**	**5845**	**6745**
13,000 LB	V_1	103	103	103	103	103	103	103	103
5897 KG	V_R	103	103	103	103	103	103	103	103
	V_2	111	111	111	111	111	111	111	111
V_{ENR} = 111	TOFL-FT	**3311**	**4074**	**4338**	**4601**	**4864**	**5128**	**5391**	**6212**
12,500 LB	V_1	103	103	103	103	103	103	103	103
5670 KG	V_R	103	103	103	103	103	103	103	103
	V_2	109	109	109	109	109	109	109	109
V_{ENR} = 109	TOFL-FT	**3201**	**3725**	**3917**	**4150**	**4383**	**4617**	**4850**	**5578**
12,000 LB	V_1	103	103	103	103	103	103	103	103
5443 KG	V_R	103	103	103	103	103	103	103	103
	V_2	107	107	107	107	107	107	107	107
V_{ENR} = 107	TOFL-FT	**3128**	**3633**	**3801**	**3969**	**4138**	**4306**	**4474**	**4944**
11,500 LB	V_1	103	103	103	103	103	103	103	103
5216 KG	V_R	103	103	103	103	103	103	103	103
	V_2	105	105	105	105	105	105	105	105
V_{ENR} = 105	TOFL-FT	**3081**	**3570**	**3733**	**3896**	**4059**	**4222**	**4385**	**4565**
11,000 LB	V_1	103	103	103	103	103	103	103	103
4990 KG	V_R	103	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3034**	**3507**	**3665**	**3823**	**3980**	**4138**	**4295**	**4470**
10,500 LB	V_1	103	103	103	103	103	103	103	103
4763 KG	V_R	103	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**2987**	**3444**	**3597**	**3749**	**3901**	**4054**	**4206**	**4374**
10,000 LB	V_1	103	103	103	103	103	103	103	103
4536 KG	V_R	103	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104	104
V_{ENR} =104	TOFL-FT	**2940**	**3381**	**3529**	**3676**	**3823**	**3970**	**4117**	**4279**
9,500 LB	V_1	103	103	103	103	103	103	103	103
4309 KG	V_R	103	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**2893**	**3319**	**3460**	**3602**	**3744**	**3886**	**4027**	**4184**
9,000 LB	V_1	103	103	103	103	103	103	103	103
4082 KG	V_R	103	103	103	103	103	103	103	103
OR LESS	V_2	104	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**2846**	**3256**	**3392**	**3529**	**3665**	**3801**	**3938**	**4089**

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS UP
1,000 FEET PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)							
		-35	-5	5	15	25	35	45	50
13,420 LB	V_1	103	103	103	103	103	103	103	103
6087 KG	V_R	104	104	104	104	104	104	104	104
	V_2	113	113	113	113	113	113	113	113
V_{ENR} = 113	TOFL-FT	**3779**	**4700**	**5006**	**5313**	**5620**	**5926**	**6659**	**7420**
13,000 LB	V_1	103	103	103	103	103	103	103	103
5897 KG	V_R	103	103	103	103	103	103	103	103
	V_2	111	111	111	111	111	111	111	111
V_{ENR} = 111	TOFL-FT	**3505**	**4345**	**4625**	**4905**	**5185**	**5465**	**6134**	**6829**
12,500 LB	V_1	103	103	103	103	103	103	103	103
5670 KG	V_R	103	103	103	103	103	103	103	103
	V_2	109	109	109	109	109	109	109	109
V_{ENR} = 109	TOFL-FT	**3343**	**3923**	**4171**	**4420**	**4668**	**4916**	**5509**	**6125**
12,000 LB	V_1	103	103	103	103	103	103	103	103
5443 KG	V_R	103	103	103	103	103	103	103	103
	V_2	107	107	107	107	107	107	107	107
V_{ENR} = 107	TOFL-FT	**3266**	**3798**	**3975**	**4151**	**4328**	**4505**	**4884**	**5421**
11,500 LB	V_1	103	103	103	103	103	103	103	103
5216 KG	V_R	103	103	103	103	103	103	103	103
	V_2	105	105	105	105	105	105	105	105
V_{ENR} = 105	TOFL-FT	**3216**	**3730**	**3901**	**4072**	**4243**	**4415**	**4631**	**4781**
11,000 LB	V_1	103	103	103	103	103	103	103	103
4990 KG	V_R	103	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3163**	**3662**	**3827**	**3993**	**4159**	**4324**	**4533**	**4679**
10,500 LB	V_1	103	103	103	103	103	103	103	103
4763 KG	V_R	103	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3113**	**3594**	**3754**	**3913**	**4074**	**4234**	**4436**	**4577**
10,000 LB	V_1	103	103	103	103	103	103	103	103
4536 KG	V_R	103	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3060**	**3525**	**3680**	**3834**	**3989**	**4144**	**4339**	**4474**
9,500 LB	V_1	103	103	103	103	103	103	103	103
4309 KG	V_R	103	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3010**	**3457**	**3607**	**3755**	**3904**	**4054**	**4241**	**4372**
9,000 LB	V_1	103	103	103	103	103	103	103	103
4082 KG	V_R	103	103	103	103	103	103	103	103
OR LESS	V_2	104	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**2960**	**3389**	**3533**	**3676**	**3819**	**3963**	**4144**	**4270**

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS UP
2,000 FEET PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)							
		-35	-5	5	15	25	35	45	48
13,420 LB	V_1	103	103	103	103	103	103	103	103
6087 KG	V_R	104	104	104	104	104	104	104	104
	V_2	113	113	113	113	113	113	113	113
V_{ENR} = 113	TOFL-FT	**4028**	**5003**	**5328**	**5653**	**5978**	**6303**	**7482**	**7945**
13,000 LB	V_1	103	103	103	103	103	103	103	103
5897 KG	V_R	103	103	103	103	103	103	103	103
	V_2	111	111	111	111	111	111	111	111
V_{ENR} = 111	TOFL-FT	**3732**	**4622**	**4919**	**5215**	**5512**	**5809**	**6885**	**7308**
12,500 LB	V_1	103	103	103	103	103	103	103	103
5670 KG	V_R	103	103	103	103	103	103	103	103
	V_2	109	109	109	109	109	109	109	109
V_{ENR} = 109	TOFL-FT	**3492**	**4168**	**4431**	**4695**	**4958**	**5221**	**6175**	**6550**
12,000 LB	V_1	103	103	103	103	103	103	103	103
5443 KG	V_R	103	103	103	103	103	103	103	103
	V_2	107	107	107	107	107	107	107	107
V_{ENR} = 107	TOFL-FT	**3408**	**3965**	**4151**	**4336**	**4522**	**4708**	**5465**	**5791**
11,500 LB	V_1	103	103	103	103	103	103	103	103
5216 KG	V_R	103	103	103	103	103	103	103	103
	V_2	105	105	105	105	105	105	105	105
V_{ENR} = 105	TOFL-FT	**3353**	**3892**	**4072**	**4251**	**4431**	**4611**	**4877**	**5033**
11,000 LB	V_1	103	103	103	103	103	103	103	103
4990 KG	V_R	103	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3297**	**3818**	**3993**	**4166**	**4340**	**4514**	**4772**	**4859**
10,500 LB	V_1	103	103	103	103	103	103	103	103
4763 KG	V_R	103	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104	104
V_{ENR} =104	TOFL-FT	**3241**	**3745**	**3913**	**4081**	**4249**	**4417**	**4666**	**4751**
10,000 LB	V_1	103	103	103	103	103	103	103	103
4536 KG	V_R	103	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3185**	**3672**	**3834**	**3996**	**4158**	**4321**	**4561**	**4642**
9,500 LB	V_1	103	103	103	103	103	103	103	103
4309 KG	V_R	103	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3129**	**3598**	**3755**	**3911**	**4067**	**4224**	**4455**	**4534**
9,000 LB	V_1	103	103	103	103	103	103	103	103
4082 KG	V_R	103	103	103	103	103	103	103	103
OR LESS	V_2	104	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3074**	**3525**	**3676**	**3826**	**3976**	**4127**	**4350**	**4426**

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS UP
3,000 FEET PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)							
		-35	-5	5	15	25	35	45	46
13,420 LB	V_1	103	103	103	103	103	103	103	103
6087 KG	V_R	104	104	104	104	104	104	104	104
	V_2	113	113	113	113	113	113	113	113
V_{ENR} = 113	TOFL-FT	**4274**	**5324**	**5674**	**6025**	**6375**	**6725**	**8469**	**8650**
13,000 LB	V_1	103	103	103	103	103	103	103	103
5897 KG	V_R	103	103	103	103	103	103	103	103
	V_2	111	111	111	111	111	111	111	111
V_{ENR} = 111	TOFL-FT	**3959**	**4915**	**5235**	**5555**	**5875**	**6194**	**7786**	**7951**
12,500 LB	V_1	103	103	103	103	103	103	103	103
5670 KG	V_R	103	103	103	103	103	103	103	103
	V_2	109	109	109	109	109	109	109	109
V_{ENR} = 109	TOFL-FT	**3656**	**4428**	**4712**	**4995**	**5279**	**5562**	**6974**	**7120**
12,000 LB	V_1	103	103	103	103	103	103	103	103
5443 KG	V_R	103	103	103	103	103	103	103	103
	V_2	107	107	107	107	107	107	107	107
V_{ENR} = 107	TOFL-FT	**3565**	**4148**	**4341**	**4535**	**4729**	**4930**	**6162**	**6289**
11,500 LB	V_1	103	103	103	103	103	103	103	103
5216 KG	V_R	103	103	103	103	103	103	103	103
	V_2	105	105	105	105	105	105	105	105
V_{ENR} = 105	TOFL-FT	**3505**	**4069**	**4256**	**4444**	**4631**	**4819**	**5349**	**5457**
11,000 LB	V_1	103	103	103	103	103	103	103	103
4990 KG	V_R	103	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3445**	**3989**	**4171**	**4352**	**4534**	**4715**	**5040**	**5073**
10,500 LB	V_1	103	103	103	103	103	103	103	103
4763 KG	V_R	103	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3383**	**3911**	**4086**	**4261**	**4437**	**4612**	**4926**	**4958**
10,000 LB	V_1	103	103	103	103	103	103	103	103
4536 KG	V_R	103	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3323**	**3831**	**4000**	**4170**	**4339**	**4508**	**4811**	**4842**
9,500 LB	V_1	103	103	103	103	103	103	103	103
4309 KG	V_R	103	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3263**	**3752**	**3915**	**4079**	**4241**	**4405**	**4697**	**4726**
9,000 LB	V_1	103	103	103	103	103	103	103	103
4082 KG	V_R	103	103	103	103	103	103	103	103
OR LESS	V_2	104	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3201**	**3673**	**3830**	**3987**	**4144**	**4301**	**4583**	**4611**

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS UP
4,000 FEET PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)						
		-35	-5	5	15	25	35	44
13,420 LB	V_1	103	103	103	103	103	103	103
6087 KG	V_R	104	104	104	104	104	104	104
	V_2	113	113	113	113	113	113	113
V_{ENR} = 113	TOFL-FT	**4530**	**5655**	**6031**	**6406**	**6781**	**7494**	**9354**
13,000 LB	V_1	103	103	103	103	103	103	103
5897 KG	V_R	103	103	103	103	103	103	103
	V_2	111	111	111	111	111	111	111
V_{ENR} = 111	TOFL-FT	**4190**	**5217**	**5561**	**5903**	**6245**	**6896**	**8594**
12,500 LB	V_1	103	103	103	103	103	103	103
5670 KG	V_R	103	103	103	103	103	103	103
	V_2	109	109	109	109	109	109	109
V_{ENR} = 109	TOFL-FT	**3823**	**4696**	**5000**	**5304**	**5608**	**6185**	**7690**
12,000 LB	V_1	103	103	103	103	103	103	103
5443 KG	V_R	103	103	103	103	103	103	103
	V_2	107	107	107	107	107	107	107
V_{ENR} = 107	TOFL-FT	**3727**	**4332**	**4535**	**4737**	**4970**	**5473**	**6786**
11,500 LB	V_1	103	103	103	103	103	103	103
5216 KG	V_R	103	103	103	103	103	103	103
	V_2	105	105	105	105	105	105	105
V_{ENR} = 105	TOFL-FT	**3661**	**4247**	**4444**	**4639**	**4834**	**5066**	**5881**
11,000 LB	V_1	103	103	103	103	103	103	103
4990 KG	V_R	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3596**	**4163**	**4352**	**4541**	**4730**	**4955**	**5287**
10,500 LB	V_1	103	103	103	103	103	103	103
4763 KG	V_R	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3530**	**4078**	**4261**	**4444**	**4626**	**4843**	**5164**
10,000 LB	V_1	103	103	103	103	103	103	103
4536 KG	V_R	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3464**	**3993**	**4170**	**4346**	**4522**	**4732**	**5041**
9,500 LB	V_1	103	103	103	103	103	103	103
4309 KG	V_R	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3398**	**3908**	**4078**	**4248**	**4418**	**4620**	**4918**
9,000 LB	V_1	103	103	103	103	103	103	103
4082 KG	V_R	103	103	103	103	103	103	103
OR LESS	V_2	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3332**	**3823**	**3987**	**4151**	**4314**	**4509**	**4796**

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS UP
5,000 FEET PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature. Red shading indicates performance requirements are not met.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)						
		-35	-5	5	15	25	35	42
13,420 LB	V_1	103	103	103	103	103	103	103
6087 KG	V_R	104	104	104	104	104	104	104
	V_2	113	113	113	113	113	113	113
V_{ENR} = 113	TOFL-FT	**4804**	**5984**	**6378**	**6771**	**7164**	**8528**	**10,133**
13,000 LB	V_1	103	103	103	103	103	103	103
5897 KG	V_R	103	103	103	103	103	103	103
	V_2	111	111	111	111	111	111	111
V_{ENR} = 111	TOFL-FT	**4442**	**5518**	**5877**	**6236**	**6595**	**7840**	**9305**
12,500 LB	V_1	103	103	103	103	103	103	103
5670 KG	V_R	103	103	103	103	103	103	103
	V_2	109	109	109	109	109	109	109
V_{ENR} =109	TOFL-FT	**4009**	**4962**	**5281**	**5599**	**5918**	**7022**	**8320**
12,000 LB	V_1	103	103	103	103	103	103	103
5443 KG	V_R	103	103	103	103	103	103	103
	V_2	107	107	107	107	107	107	107
V_{ENR} = 107	TOFL-FT	**3899**	**4543**	**4757**	**4971**	**5240**	**6203**	**7336**
11,500 LB	V_1	103	103	103	103	103	103	103
5216 KG	V_R	103	103	103	103	103	103	103
	V_2	105	105	105	105	105	105	105
V_{ENR} = 105	TOFL-FT	**3828**	**4452**	**4659**	**4866**	**5075**	**5384**	**6350**
11,000 LB	V_1	103	103	103	103	103	103	103
4990 KG	V_R	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3755**	**4360**	**4560**	**4761**	**4963**	**5260**	**5686**
10,500 LB	V_1	103	103	103	103	103	103	103
4763 KG	V_R	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3687**	**4268**	**4462**	**4657**	**4851**	**5139**	**5404**
10,000 LB	V_1	103	103	103	103	103	103	103
4536 KG	V_R	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3614**	**4177**	**4364**	**4552**	**4739**	**5017**	**5273**
9,500 LB	V_1	103	103	103	103	103	103	103
4309 KG	V_R	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3544**	**4085**	**4266**	**4446**	**4627**	**4895**	**5141**
9,000 LB	V_1	103	103	103	103	103	103	103
4082 KG	V_R	103	103	103	103	103	103	103
OR LESS	V_2	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3473**	**3994**	**4167**	**4341**	**4516**	**4773**	**5011**

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS UP
6,000 FEET PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature. Red shading indicates performance requirements are not met.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)						
		-35	-5	5	15	25	35	40
13,420 LB	V_1	103	103	103	103	103	103	103
6087 KG	V_R	104	104	104	104	104	104	104
	V_2	113	113	113	113	113	113	113
V_{ENR} = 113	TOFL-FT	**5084**	**6319**	**6731**	**7143**	**7555**	**9652**	**10911**
13,000 LB	V_1	103	103	103	103	103	103	103
5897 KG	V_R	103	103	103	103	103	103	103
	V_2	111	111	111	111	111	111	111
V_{ENR} = 111	TOFL-FT	**4696**	**5823**	**6200**	**6576**	**6952**	**8866**	**10016**
12,500 LB	V_1	103	103	103	103	103	103	103
5670 KG	V_R	103	103	103	103	103	103	103
	V_2	109	109	109	109	109	109	109
V_{ENR} = 109	TOFL-FT	**4234**	**5234**	**5567**	**5901**	**6234**	**7931**	**8950**
12,000 LB	V_1	103	103	103	103	103	103	103
5443 KG	V_R	103	103	103	103	103	103	103
	V_2	107	107	107	107	107	107	107
V_{ENR} = 107	TOFL-FT	**4077**	**4758**	**4985**	**5225**	**5516**	**6996**	**7885**
11,500 LB	V_1	103	103	103	103	103	103	103
5216 KG	V_R	103	103	103	103	103	103	103
	V_2	105	105	105	105	105	105	105
V_{ENR} = 105	TOFL-FT	**4000**	**4659**	**4880**	**5100**	**5319**	**6061**	**6819**
11,000 LB	V_1	103	103	103	103	103	103	103
4990 KG	V_R	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3923**	**4561**	**4774**	**4987**	**5199**	**5575**	**6102**
10,500 LB	V_1	103	103	103	103	103	103	103
4763 KG	V_R	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3846**	**4463**	**4669**	**4874**	**5079**	**5442**	**5732**
10,000 LB	V_1	103	103	103	103	103	103	103
4536 KG	V_R	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3769**	**4365**	**4563**	**4762**	**4960**	**5310**	**5504**
9,500 LB	V_1	103	103	103	103	103	103	103
4309 KG	V_R	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3693**	**4266**	**4458**	**4649**	**4840**	**5177**	**5364**
9,000 LB	V_1	103	103	103	103	103	103	103
4082 KG	V_R	103	103	103	103	103	103	103
OR LESS	V_2	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3616**	**4168**	**4352**	**4536**	**4720**	**5045**	**5225**

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS UP
7,000 FEET PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature. Red shading indicates performance requirements are not met.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)						
		-35	-5	5	15	25	35	38
13,420 LB	V_1	103	103	103	103	103	103	103
6087 KG	V_R	104	104	104	104	104	104	104
	V_2	113	113	113	113	113	113	113
V_{ENR} = 113	TOFL-FT	**5445**	**6826**	**7287**	**7747**	**8566**	**11,272**	**12,085**
13,000 LB	V_1	103	103	103	103	103	103	103
5897 KG	V_R	103	103	103	103	103	103	103
	V_2	111	111	111	111	111	111	111
V_{ENR} = 111	TOFL-FT	**5026**	**6286**	**6707**	**7128**	**7875**	**10,346**	**11,088**
12,500 LB	V_1	103	103	103	103	103	103	103
5670 KG	V_R	103	103	103	103	103	103	103
	V_2	109	109	109	109	109	109	109
V_{ENR} = 109	TOFL-FT	**4527**	**5644**	**6017**	**6390**	**7052**	**9242**	**9900**
12,000 LB	V_1	103	103	103	103	103	103	103
5443 KG	V_R	103	103	103	103	103	103	103
	V_2	107	107	107	107	107	107	107
V_{ENR} = 107	TOFL-FT	**4272**	**5002**	**5327**	**5652**	**6230**	**8140**	**8713**
11,500 LB	V_1	103	103	103	103	103	103	103
5216 KG	V_R	103	103	103	103	103	103	103
	V_2	105	105	105	105	105	105	105
V_{ENR} = 105	TOFL-FT	**4192**	**4876**	**5105**	**5333**	**5605**	**7037**	**7526**
11,000 LB	V_1	103	103	103	103	103	103	103
4990 KG	V_R	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**4107**	**4771**	**4992**	**5213**	**5476**	**6295**	**6729**
10,500 LB	V_1	103	103	103	103	103	103	103
4763 KG	V_R	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**4022**	**4665**	**4879**	**5093**	**5347**	**5914**	**6321**
10,000 LB	V_1	103	103	103	103	103	103	103
4536 KG	V_R	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3940**	**4560**	**4766**	**4973**	**5218**	**5649**	**5914**
9,500 LB	V_1	103	103	103	103	103	103	103
4309 KG	V_R	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3860**	**4455**	**4653**	**4852**	**5088**	**5504**	**5628**
9,000 LB	V_1	103	103	103	103	103	103	103
4082 KG	V_R	103	103	103	103	103	103	103
OR LESS	V_2	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3775**	**4349**	**4541**	**4732**	**4959**	**5359**	**5479**

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS UP
8,000 FEET PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature. Red shading indicates performance requirements are not met.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)						
		-35	-5	5	15	25	35	36
13,420 LB	V_1	103	103	103	103	103	103	103
6087 KG	V_R	104	104	104	104	104	104	104
	V_2	113	113	113	113	113	113	113
V_{ENR} = 113	TOFL-FT	**5826**	**7353**	**7862**	**8371**	**10,073**	**12,968**	**13,258**
13,000 LB	V_1	103	103	103	103	103	103	103
5897 KG	V_R	103	103	103	103	103	103	103
	V_2	111	111	111	111	111	111	111
V_{ENR} = 111	TOFL-FT	**5373**	**6768**	**7232**	**7697**	**9251**	**11,894**	**12,159**
12,500 LB	V_1	103	103	103	103	103	103	103
5670 KG	V_R	103	103	103	103	103	103	103
	V_2	109	109	109	109	109	109	109
V_{ENR} = 109	TOFL-FT	**4835**	**6070**	**6482**	**6894**	**8272**	**10,615**	**10,850**
12,000 LB	V_1	103	103	103	103	103	103	103
5443 KG	V_R	103	103	103	103	103	103	103
	V_2	107	107	107	107	107	107	107
V_{ENR} = 107	TOFL-FT	**4472**	**5373**	**5733**	**6092**	**7293**	**9336**	**9541**
11,500 LB	V_1	103	103	103	103	103	103	103
5216 KG	V_R	103	103	103	103	103	103	103
	V_2	105	105	105	105	105	105	105
V_{ENR} = 105	TOFL-FT	**4383**	**5095**	**5333**	**5571**	**6314**	**8058**	**8232**
11,000 LB	V_1	103	103	103	103	103	103	103
4990 KG	V_R	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**4294**	**4983**	**5212**	**5443**	**5811**	**7200**	**7355**
10,500 LB	V_1	103	103	103	103	103	103	103
4763 KG	V_R	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**4204**	**4870**	**5092**	**5315**	**5670**	**6765**	**6910**
10,000 LB	V_1	103	103	103	103	103	103	103
4536 KG	V_R	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**4115**	**4758**	**4972**	**5187**	**5530**	**6329**	**6465**
9,500 LB	V_1	103	103	103	103	103	103	103
4309 KG	V_R	103	103	103	103	103	103	103
	V_2	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**4026**	**4645**	**4852**	**5059**	**5390**	**5893**	**6020**
9,000 LB	V_1	103	103	103	103	103	103	103
4082 KG	V_R	103	103	103	103	103	103	103
OR LESS	V_2	104	104	104	104	104	104	104
V_{ENR} = 104	TOFL-FT	**3936**	**4533**	**4731**	**4931**	**5249**	**5689**	**5732**

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS UP
9,000 FEET PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature. Red shading indicates performance requirements are not met.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)							
		-35	-5	5	15	25	34		
13,420 LB	V_1	103	103	103	103	103	103		
6087 KG	V_R	104	104	104	104	104	104		
	V_2	113	113	113	113	113	113		
V_{ENR} = 113	TOFL-FT	**6217**	**8040**	**8648**	**9255**	**12,017**	**14,957**		
13,000 LB	V_1	103	103	103	103	103	103		
5897 KG	V_R	103	103	103	103	103	103		
	V_2	111	111	111	111	111	111		
V_{ENR} = 111	TOFL-FT	**5730**	**7395**	**7949**	**8504**	**11,026**	**13,710**		
12,500 LB	V_1	103	103	103	103	103	103		
5670 KG	V_R	103	103	103	103	103	103		
	V_2	109	109	109	109	109	109		
V_{ENR} = 109	TOFL-FT	**5152**	**6627**	**7118**	**7610**	**9846**	**12,225**		
12,000 LB	V_1	103	103	103	103	103	103		
5443 KG	V_R	103	103	103	103	103	103		
	V_2	107	107	107	107	107	107		
V_{ENR} = 107	TOFL-FT	**4697**	**5858**	**6287**	**6716**	**8666**	**10,740**		
11,500 LB	V_1	103	103	103	103	103	103		
5216 KG	V_R	103	103	103	103	103	103		
	V_2	105	105	105	105	105	105		
V_{ENR} = 105	TOFL-FT	**4601**	**5365**	**5619**	**5873**	**7485**	**9255**		
11,000 LB	V_1	103	103	103	103	103	103		
4990 KG	V_R	103	103	103	103	103	103		
	V_2	104	104	104	104	104	104		
V_{ENR} = 104	TOFL-FT	**4507**	**5243**	**5490**	**5735**	**6693**	**8263**		
10,500 LB	V_1	103	103	103	103	103	103		
4763 KG	V_R	103	103	103	103	103	103		
	V_2	104	104	104	104	104	104		
V_{ENR} = 104	TOFL-FT	**4411**	**5122**	**5360**	**5597**	**6288**	**7763**		
10,000 LB	V_1	103	103	103	103	103	103		
4536 KG	V_R	103	103	103	103	103	103		
	V_2	104	104	104	104	104	104		
V_{ENR} = 104	TOFL-FT	**4313**	**5001**	**5230**	**5459**	**5911**	**7263**		
9,500 LB	V_1	103	103	103	103	103	103		
4309 KG	V_R	103	103	103	103	103	103		
	V_2	104	104	104	104	104	104		
V_{ENR} = 104	TOFL-FT	**4214**	**4880**	**5101**	**5321**	**5757**	**6763**		
9,000 LB	V_1	103	103	103	103	103	103		
4082 KG	V_R	103	103	103	103	103	103		
OR LESS	V_2	104	104	104	104	104	104		
V_{ENR} = 104	TOFL-FT	**4121**	**4759**	**4971**	**5184**	**5603**	**6263**		

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS UP
10,000 FEET PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature. Red shading indicates performance requirements are not met.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)							
		-35	-5	5	15	25	32		
13,420 LB	V_1	103	103	103	103	103			
6087 KG	V_R	104	104	104	104	104			
	V_2	113	113	113	113	113			
V_{ENR} = 113	TOFL-FT	**6648**	**8766**	**9472**	**10,472**	**14,110**			
13,000 LB	V_1	103	103	103	103	103	103		
5897 KG	V_R	103	103	103	103	103	103		
	V_2	111	111	111	111	111	111		
V_{ENR} = 111	TOFL-FT	**6124**	**8058**	**8702**	**9615**	**12,936**	**15,261**		
12,500 LB	V_1	103	103	103	103	103	103		
5670 KG	V_R	103	103	103	103	103	103		
	V_2	109	109	109	109	109	109		
V_{ENR} = 109	TOFL-FT	**5500**	**7214**	**7786**	**8595**	**11,539**	**13,600**		
12,000 LB	V_1	103	103	103	103	103	103		
5443 KG	V_R	103	103	103	103	103	103		
	V_2	107	107	107	107	107	107		
V_{ENR} = 107	TOFL-FT	**4931**	**6371**	**6869**	**7575**	**10,142**	**11,939**		
11,500 LB	V_1	103	103	103	103	103	103		
5216 KG	V_R	103	103	103	103	103	103		
	V_2	105	105	105	105	105	105		
V_{ENR} = 105	TOFL-FT	**4828**	**5640**	**5952**	**6555**	**8745**	**10,278**		
11,000 LB	V_1	103	103	103	103	103	103		
4990 KG	V_R	103	103	103	103	103	103		
	V_2	104	104	104	104	104	104		
V_{ENR} = 104	TOFL-FT	**4724**	**5510**	**5772**	**6066**	**7810**	**9171**		
10,500 LB	V_1	103	103	103	103	103	103		
4763 KG	V_R	103	103	103	103	103	103		
	V_2	104	104	104	104	104	104		
V_{ENR} = 104	TOFL-FT	**4620**	**5380**	**5633**	**5917**	**7338**	**8615**		
10,000 LB	V_1	103	103	103	103	103	103		
4536 KG	V_R	103	103	103	103	103	103		
	V_2	104	104	104	104	104	104		
V_{ENR} = 104	TOFL-FT	**4516**	**5250**	**5494**	**5768**	**6865**	**8060**		
9,500 LB	V_1	103	103	103	103	103	103		
4309 KG	V_R	103	103	103	103	103	103		
	V_2	104	104	104	104	104	104		
V_{ENR} = 104	TOFL-FT	**4412**	**5120**	**5355**	**5619**	**6392**	**7505**		
9,000 LB	V_1	103	103	103	103	103	103		
4082 KG	V_R	103	103	103	103	103	103		
OR LESS	V_2	104	104	104	104	104	104		
V_{ENR} = 104	TOFL-FT	**4309**	**4989**	**5216**	**5470**	**5969**	**6950**		

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS UP
11,000 FEET PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature. Red shading indicates performance requirements are not met.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)							
		-35	-5	5	15	25	30		
13,420 LB	V_1	103	103	103	103	103			
6087 KG	V_R	104	104	104	104	104			
	V_2	113	113	113	113	113			
V_{ENR} = 113	TOFL-FT	**7331**	**9473**	**10,187**	**12,511**	**16,445**			
13,000 LB	V_1	103	103	103	103	103			
5897 KG	V_R	103	103	103	103	103			
	V_2	111	111	111	111	111			
V_{ENR} = 111	TOFL-FT	**6746**	**8702**	**9354**	**11,475**	**15,067**			
12,500 LB	V_1	103	103	103	103	103	103		
5670 KG	V_R	103	103	103	103	103	103		
	V_2	109	109	109	109	109	109		
V_{ENR} = 109	TOFL-FT	**6050**	**7783**	**8361**	**10,242**	**13,426**	**15,018**		
12,000 LB	V_1	103	103	103	103	103	103		
5443 KG	V_R	103	103	103	103	103	103		
	V_2	107	107	107	107	107	107		
V_{ENR} = 107	TOFL-FT	**5353**	**6865**	**7369**	**9009**	**11,786**	**13,174**		
11,500 LB	V_1	103	103	103	103	103	103		
5216 KG	V_R	103	103	103	103	103	103		
	V_2	105	105	105	105	105	105		
V_{ENR} = 105	TOFL-FT	**5040**	**5947**	**6377**	**7776**	**10,145**	**11,330**		
11,000 LB	V_1	103	103	103	103	103	103		
4990 KG	V_R	103	103	103	103	103	103		
	V_2	104	104	104	104	104	104		
V_{ENR} = 104	TOFL-FT	**4929**	**5769**	**6048**	**6950**	**9051**	**10,102**		
10,500 LB	V_1	103	103	103	103	103	103		
4763 KG	V_R	103	103	103	103	103	103		
	V_2	104	104	104	104	104	104		
V_{ENR} = 104	TOFL-FT	**4819**	**5630**	**5900**	**6530**	**8504**	**9491**		
10,000 LB	V_1	103	103	103	103	103	103		
4536 KG	V_R	103	103	103	103	103	103		
	V_2	104	104	104	104	104	104		
V_{ENR} = 104	TOFL-FT	**4708**	**5491**	**5752**	**6182**	**7957**	**8881**		
9,500 LB	V_1	103	103	103	103	103	103		
4309 KG	V_R	103	103	103	103	103	103		
	V_2	104	104	104	104	104	104		
V_{ENR} = 104	TOFL-FT	**4597**	**5352**	**5603**	**6018**	**7410**	**8270**		
9,000 LB	V_1	103	103	103	103	103	103		
4082 KG	V_R	103	103	103	103	103	103		
OR LESS	V_2	104	104	104	104	104	104		
V_{ENR} = 104	TOFL-FT	**4486**	**5213**	**5455**	**5854**	**6863**	**7659**		

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS UP
12,000 FEET PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature. Red shading indicates performance requirements are not met.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)							
		-35	-5	5	15	25	28		
13,420 LB	V_1	103	103	103	103	103			
6087 KG	V_R	104	104	104	104	104			
	V_2	113	113	113	113	113			
V_{ENR} = 113	TOFL-FT	**7937**	**10,161**	**10,902**	**14,822**	**19,095**			
13,000 LB	V_1	103	103	103	103	103			
5897 KG	V_R	103	103	103	103	103			
	V_2	111	111	111	111	111			
V_{ENR} = 111	TOFL-FT	**7299**	**9330**	**10,006**	**13,585**	**17,486**			
12,500 LB	V_1	103	103	103	103	103			
5670 KG	V_R	103	103	103	103	103			
	V_2	109	109	109	109	109			
V_{ENR} = 109	TOFL-FT	**6540**	**8340**	**8940**	**12,113**	**15,571**			
12,000 LB	V_1	103	103	103	103	103	103		
5443 KG	V_R	103	103	103	103	103	103		
	V_2	107	107	107	107	107	107		
V_{ENR} = 107	TOFL-FT	**5781**	**7351**	**7874**	**10,640**	**13,656**	**14,561**		
11,500 LB	V_1	103	103	103	103	103	103		
5216 KG	V_R	103	103	103	103	103	103		
	V_2	105	105	105	105	105	105		
V_{ENR} = 105	TOFL-FT	**5260**	**6361**	**6807**	**9168**	**11,741**	**12,513**		
11,000 LB	V_1	103	103	103	103	103	103		
4990 KG	V_R	103	103	103	103	103	103		
	V_2	104	104	104	104	104	104		
V_{ENR} = 104	TOFL-FT	**5142**	**6039**	**6338**	**8184**	**10,467**	**11,152**		
10,500 LB	V_1	103	103	103	103	103	103		
4763 KG	V_R	103	103	103	103	103	103		
	V_2	104	104	104	104	104	104		
V_{ENR} = 104	TOFL-FT	**5024**	**5891**	**6180**	**7690**	**9834**	**10,477**		
10,000 LB	V_1	103	103	103	103	103	103		
4536 KG	V_R	103	103	103	103	103	103		
	V_2	104	104	104	104	104	104		
V_{ENR} = 104	TOFL-FT	**4906**	**5743**	**6022**	**7195**	**9201**	**9803**		
9,500 LB	V_1	103	103	103	103	103	103		
4309 KG	V_R	103	103	103	103	103	103		
	V_2	104	104	104	104	104	104		
V_{ENR} = 104	TOFL-FT	**4789**	**5595**	**5864**	**6701**	**8568**	**9129**		
9,000 LB	V_1	103	103	103	103	103	103		
4082 KG	V_R	103	103	103	103	103	103		
OR LESS	V_2	104	104	104	104	104	104		
V_{ENR} = 104	TOFL-FT	**4671**	**5447**	**5706**	**6275**	**7936**	**8454**		

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS UP
13,000 FEET PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature. Red shading indicates performance requirements are not met.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)							
		-35	-5	5	15	25	26		
13,420 LB	V_1	103	103	103	103				
6087 KG	V_R	104	104	104	104				
	V_2	113	113	113	113				
V_{ENR} = 113	TOFL-FT	**8667**	**10,990**	**12,944**	**17,651**				
13,000 LB	V_1	103	103	103	103	103			
5897 KG	V_R	103	103	103	103	103			
	V_2	111	111	111	111	111			
V_{ENR} = 111	TOFL-FT	**7966**	**10,087**	**11,871**	**16,186**	**20,464**			
12,500 LB	V_1	103	103	103	103	103			
5670 KG	V_R	103	103	103	103	103			
	V_2	109	109	109	109	109			
V_{ENR} = 109	TOFL-FT	**7131**	**9011**	**10,593**	**14,402**	**18,211**			
12,000 LB	V_1	103	103	103	103	103			
5443 KG	V_R	103	103	103	103	103			
	V_2	107	107	107	107	107			
V_{ENR} = 107	TOFL-FT	**6296**	**7936**	**9315**	**12,637**	**15,958**			
11,500 LB	V_1	103	103	103	103	103	103		
5216 KG	V_R	103	103	103	103	103	103		
	V_2	105	105	105	105	105	105		
V_{ENR} = 105	TOFL-FT	**5546**	**6860**	**8037**	**10,871**	**13,705**	**13,989**		
11,000 LB	V_1	103	103	103	103	103	103		
4990 KG	V_R	103	103	103	103	103	103		
	V_2	104	104	104	104	104	104		
V_{ENR} = 104	TOFL-FT	**5419**	**6357**	**7181**	**9696**	**12,210**	**12,461**		
10,500 LB	V_1	103	103	103	103	103	103		
4763 KG	V_R	103	103	103	103	103	103		
	V_2	104	104	104	104	104	104		
V_{ENR} = 104	TOFL-FT	**5291**	**6198**	**6747**	**9110**	**11,471**	**11,707**		
10,000 LB	V_1	103	103	103	103	103	103		
4536 KG	V_R	103	103	103	103	103	103		
	V_2	104	104	104	104	104	104		
V_{ENR} = 104	TOFL-FT	**5164**	**6040**	**6456**	**8523**	**10,733**	**10,954**		
9,500 LB	V_1	103	103	103	103	103	103		
4309 KG	V_R	103	103	103	103	103	103		
	V_2	104	104	104	104	104	104		
V_{ENR} = 104	TOFL-FT	**5037**	**5881**	**6282**	**7937**	**9994**	**10,200**		
9,000 LB	V_1	103	103	103	103	103	103		
4082 KG	V_R	103	103	103	103	103	103		
OR LESS	V_2	104	104	104	104	104	104		
V_{ENR} = 104	TOFL-FT	**4910**	**5722**	**6109**	**7351**	**9256**	**9446**		

TAKEOFF SPEEDS & FIELD LENGTHS - FLAPS UP
14,000 FEET PRESSURE ALTITUDE

Notes:

For operations with ice vanes extended, add 6°C to actual Outside Air Temperature. Red shading indicates performance requirements are not met.

T.O. WEIGHT	ITEM	OUTSIDE AIR TEMPERATURE (°C)							
		-35	-5	5	15	24			
13,420 LB	V_1	103	103	103	103				
6087 KG	V_R	104	104	104	104				
	V_2	113	113	113	113				
V_{ENR} = 113	TOFL-FT	**9411**	**11,845**	**15,639**	**20,713**				
13,000 LB	V_1	103	103	103	103				
5897 KG	V_R	103	103	103	103				
	V_2	111	111	111	111				
V_{ENR} = 111	TOFL-FT	**8645**	**10,867**	**14,331**	**18,964**				
12,500 LB	V_1	103	103	103	103				
5670 KG	V_R	103	103	103	103				
	V_2	109	109	109	109				
V_{ENR} = 109	TOFL-FT	**7733**	**9703**	**12,774**	**16,881**				
12,000 LB	V_1	103	103	103	103	103			
5443 KG	V_R	103	103	103	103	103			
	V_2	107	107	107	107	107			
V_{ENR} = 107	TOFL-FT	**6821**	**8539**	**11,217**	**14,798**	**18,021**			
11,500 LB	V_1	103	103	103	103	103			
5216 KG	V_R	103	103	103	103	103			
	V_2	105	105	105	105	105			
V_{ENR} = 105	TOFL-FT	**5909**	**7375**	**9660**	**12,715**	**15,465**			
11,000 LB	V_1	103	103	103	103	103			
4990 KG	V_R	103	103	103	103	103			
	V_2	104	104	104	104	104			
V_{ENR} = 104	TOFL-FT	**5700**	**6686**	**8621**	**11,331**	**13,770**			
10,500 LB	V_1	103	103	103	103	103			
4763 KG	V_R	103	103	103	103	103			
	V_2	104	104	104	104	104			
V_{ENR} = 104	TOFL-FT	**5563**	**6516**	**8100**	**10,646**	**12,937**			
10,000 LB	V_1	103	103	103	103	103			
4536 KG	V_R	103	103	103	103	103			
	V_2	104	104	104	104	104			
V_{ENR} = 104	TOFL-FT	**5427**	**6347**	**7579**	**9961**	**12,104**			
9,500 LB	V_1	103	103	103	103	103			
4309 KG	V_R	103	103	103	103	103			
	V_2	104	104	104	104	104			
V_{ENR} = 104	TOFL-FT	**5290**	**6177**	**7058**	**9276**	**11,271**			
9,000 LB	V_1	103	103	103	103	103			
4082 KG	V_R	103	103	103	103	103			
OR LESS	V_2	104	104	104	104	104			
V_{ENR} = 104	TOFL-FT	**5154**	**6007**	**6580**	**8590**	**10,438**			

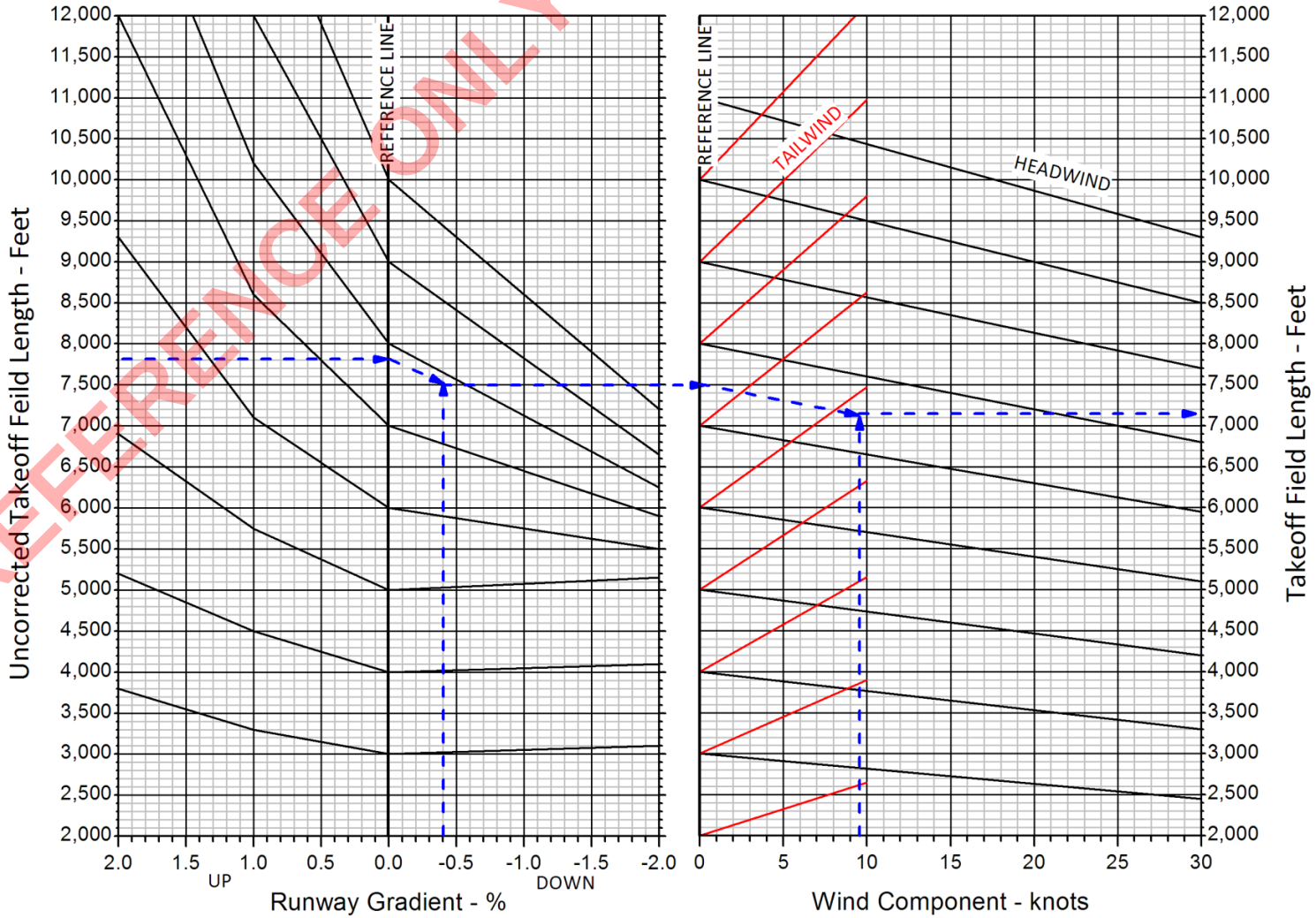
TAKEOFF FIELD LENGTH CORRECTION - FLAPS UP

FOR RUNWAY GRADIENT AND WIND COMPONENT

Notes:

1. Obtain take-off field length from the appropriate Take-Off Speeds and Field Lengths table and enter the graph below with that value to determine the field length corrected for runway gradient and wind component.
2. The wind grid includes factors of 50% for headwinds and 150% for tailwinds. Components of reported winds may be used directly in the graph.
3. Do not extrapolate for headwind components greater than 30 knots. Use a 30 knot headwind component for correcting Takeoff Field Length when headwind component is 30 knots or greater.
4. Do not take-off with more than a 10 knot tail wind component.

Example:
Uncorrected Takeoff Field Length.. 7,820 ft
Runway gradient..... 0.4% Down
Headwind component..... 9.5 knots
Corrected take-off field length..... 7,250 feet



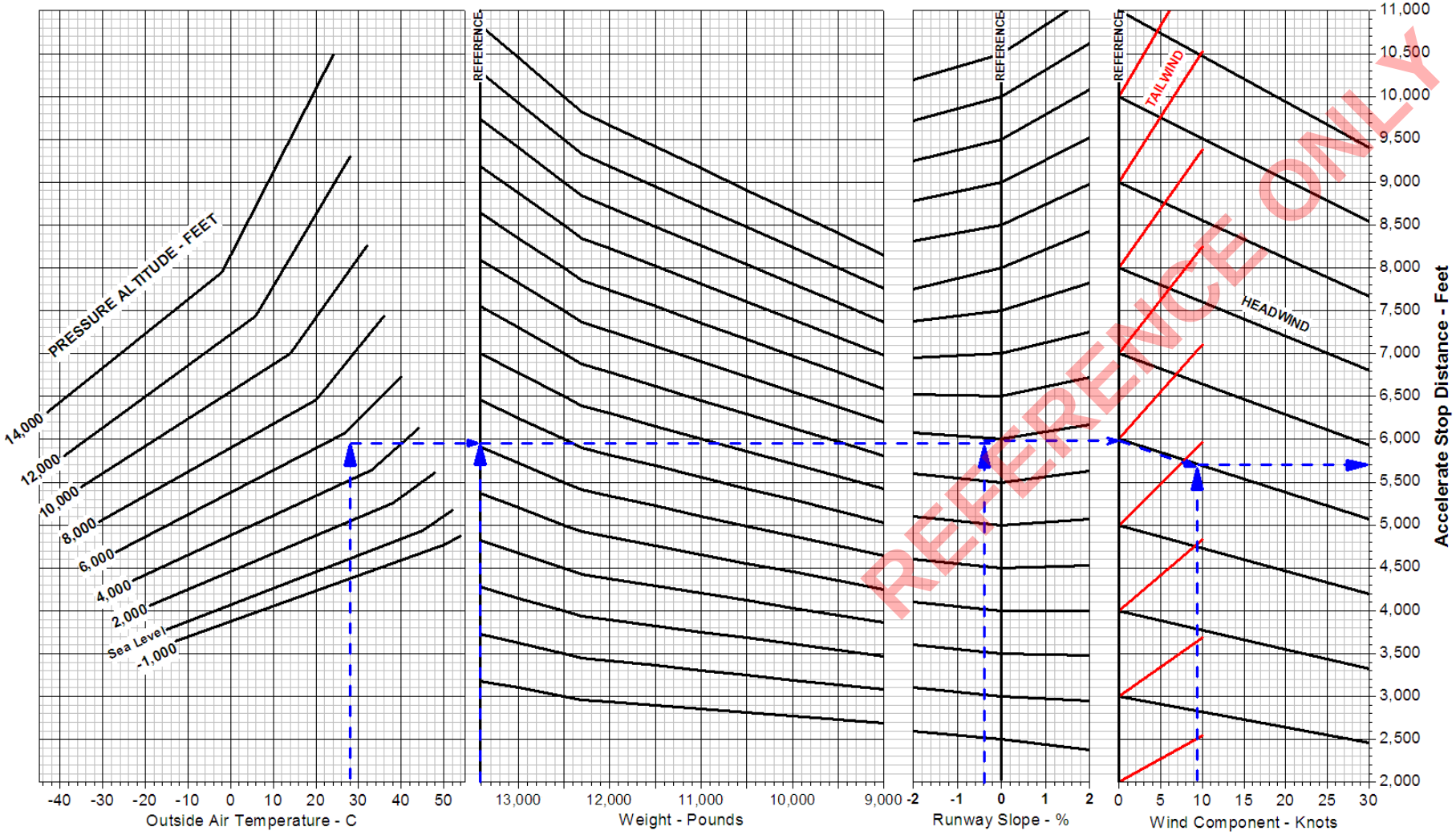
ACCELERATE - STOP DISTANCE - FLAPS UP

Associated conditions

Power..... 1. Take-off power set before brake release.
2. Both engines idle at V_1 speed and reverse on operating engine.
Flaps..... Up
Autofeather..... Armed
Braking..... Maximum
Runway..... Paved, Level, Dry Surface

Decision Speed, V_1 = 103 Knots at all weights

Example
OAT..... 28 °C
Pressure Altitude..... 5,430 feet
Weight..... 13,420 pounds
Runway Slope..... -0.4%
Headwind Component..... 9.5 knots
Field Length ..... 5,700 feet



NET GRADIENT OF CLIMB - FLAPS UP

Associated Conditions
Power..... Take-Off
Flaps..... Up
Landing Gear..... Up
Inoperative Propeller... Feathered

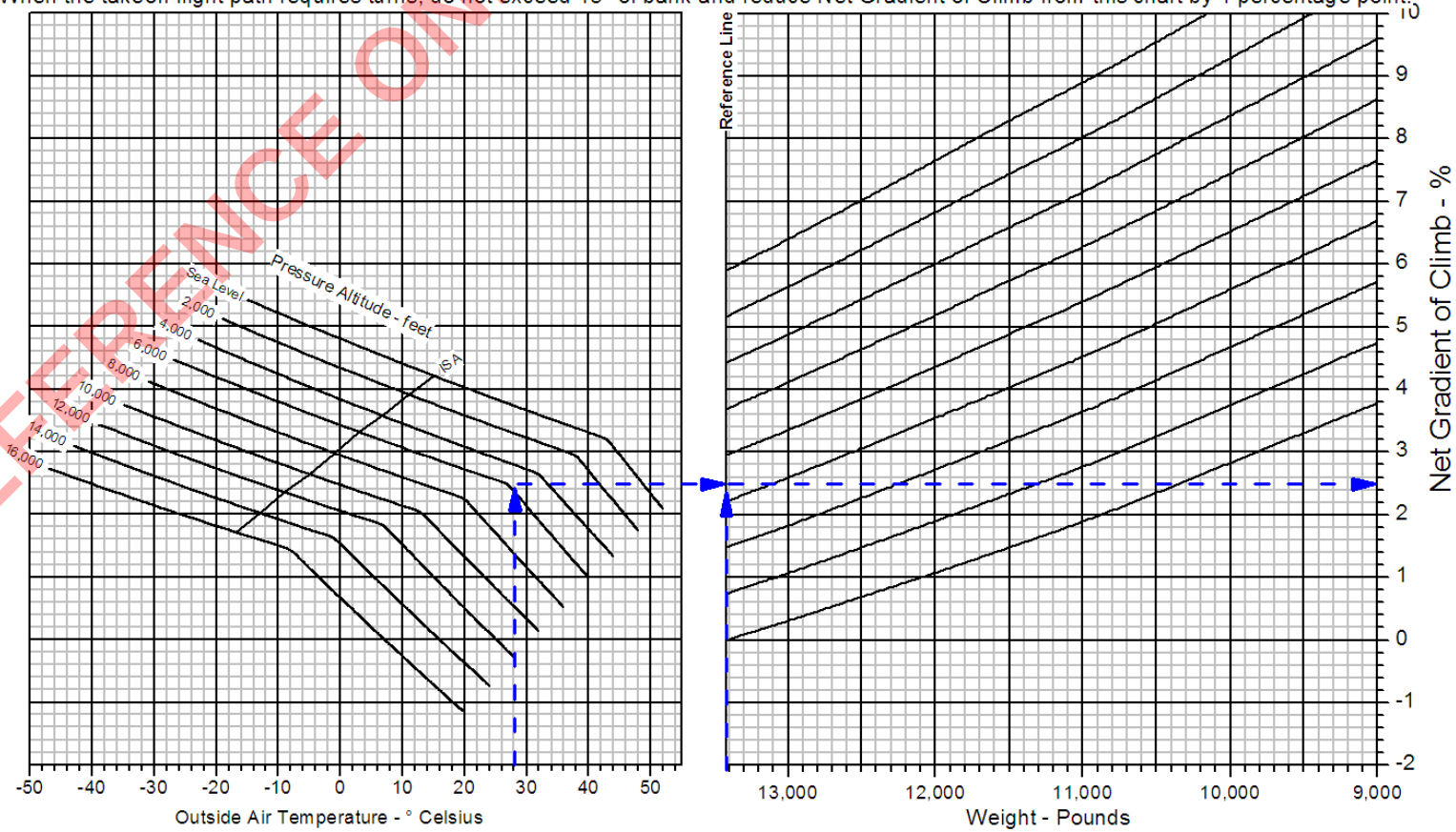
Weight - LBS	Speed - Kts
13,420	113
13,000	111
12,000	107
11,000	104
9,000	104

Example
OAT..... 28°C
Pressure Altitude..... 5,430 feet

Takeoff Weight - LBS	Net Gradient - %
13,420	2.48

Speed at 13,420 pounds..... 113 knots

Notes:
1. This chart is applicable to the second segment (when the takeoff is executed with flaps up) and final segment of the takeoff flight path. Use the pressure altitude of the top of the segment.
2. V_{ENR} is 145 when operating in icing conditions.
3. Reduce Net Gradient of Climb from this chart by 0.5 percentage points when V_{ENR} is 145 knots.
4. For operations with engine ice vanes extended reduce the Net Gradient of Climb from this chart by 0.9 percentage points.
5. When the takeoff flight path requires turns, do not exceed 15° of bank and reduce Net Gradient of Climb from this chart by 1 percentage point.



CLIMB - ONE ENGINE INOPERATIVE

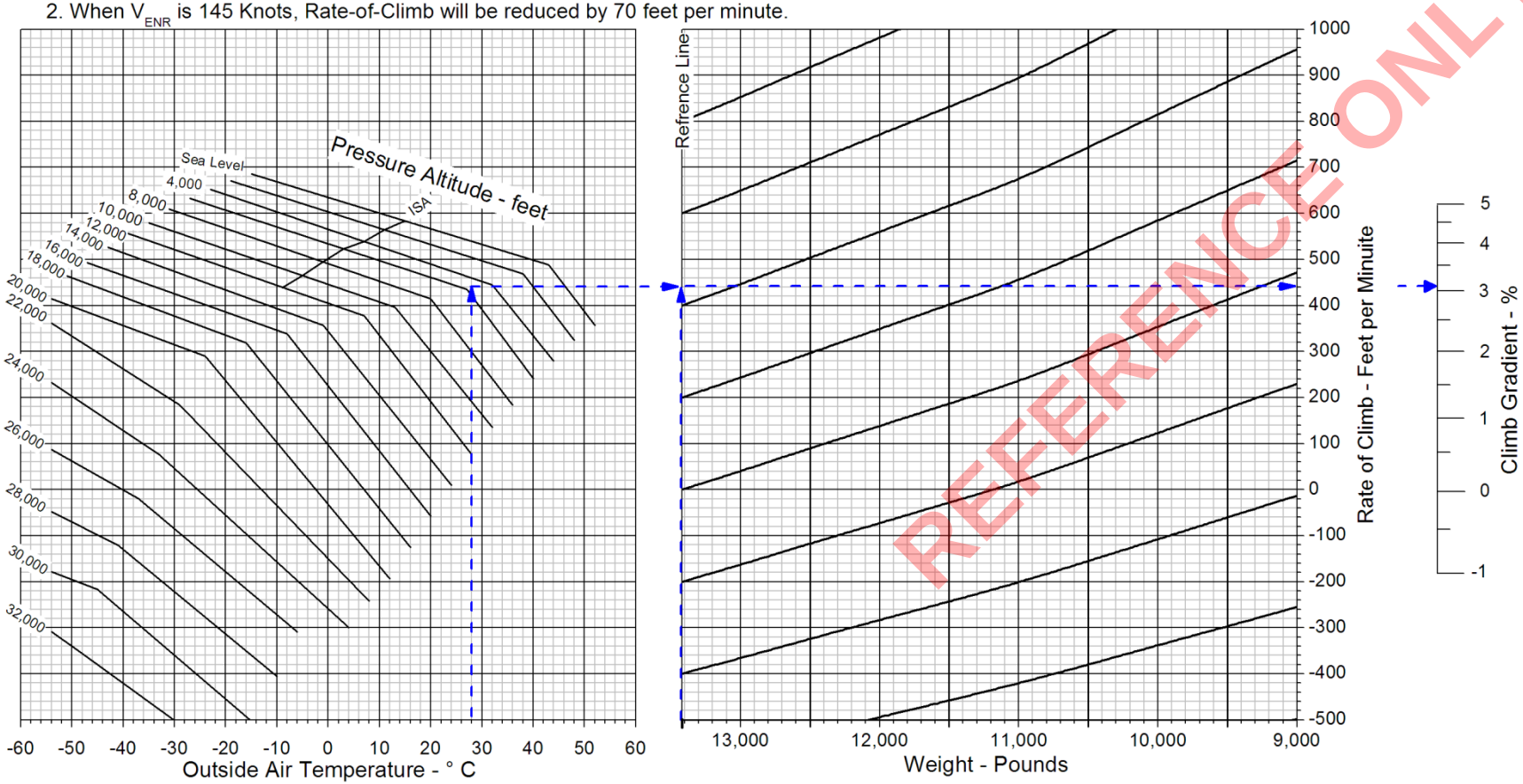
Associated conditions

Power..... Maximum Continuous
Flaps..... Up
Landing Gear..... Up
Inoperative Propeller... Feathered

Weight - Pounds	V_{ENR} Speed - Knots
13,420	113
13,000	111
12,000	107
11,000	104
9,000	104

Example
OAT..... 28 °C
Pressure Altitude..... 5,430 feet
Weight..... 13,420 pounds
Rate of Climb ..... 440 fpm
Climb Gradient..... 3.1%
V_{ENR} Speed..... 113 knots

Notes: 1. During operation with ice vane extended, Rate-of-Climb will be reduced by approx 100 feet per minute.
2. When V_{ENR} is 145 Knots, Rate-of-Climb will be reduced by 70 feet per minute.



CLIMB - TWO ENGINES - FLAPS UP

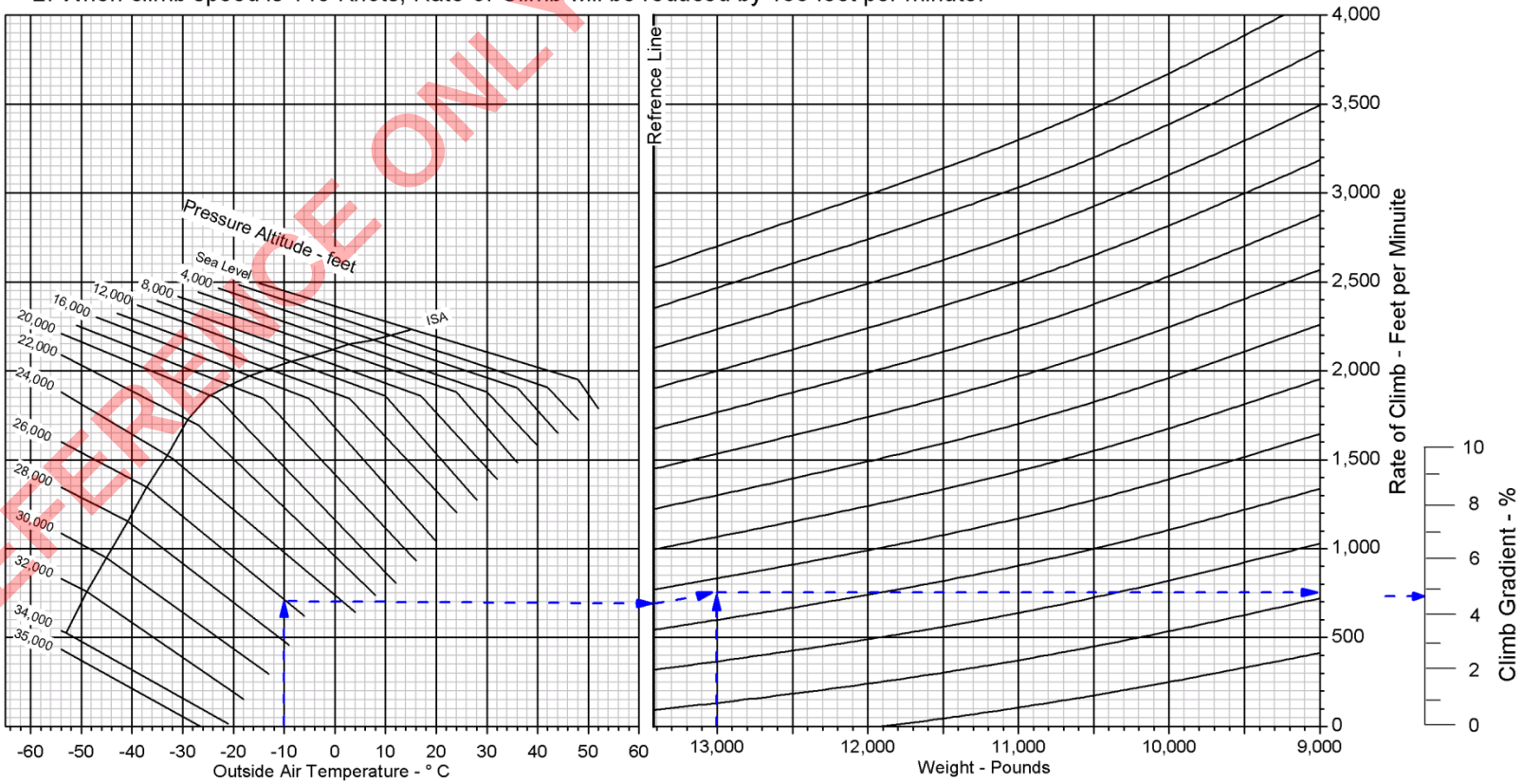
Associated conditions

Power..... Maximum Continuous
Flaps..... Up
Landing Gear..... Up

Weight - Pounds	Climb Speed - Knots
13,420	127
13,000	126
12,000	124
11,000	122
10,000	120
9,000	118

Example
OAT..... -10 °C
Pressure Altitude..... 26,000 feet
Weight..... 13,000 pounds
Rate of Climb ..... 750 fpm
Climb Gradient..... 4.8%
Climb Speed.....126 knots

Notes: 1. During operation with ice vane extended, Rate-of-Climb will be reduced approximately 250 feet per minute.
2. When climb speed is 145 Knots, Rate-of-Climb will be reduced by 100 feet per minute.



TIME, FUEL, AND DISTANCE TO CLIMB

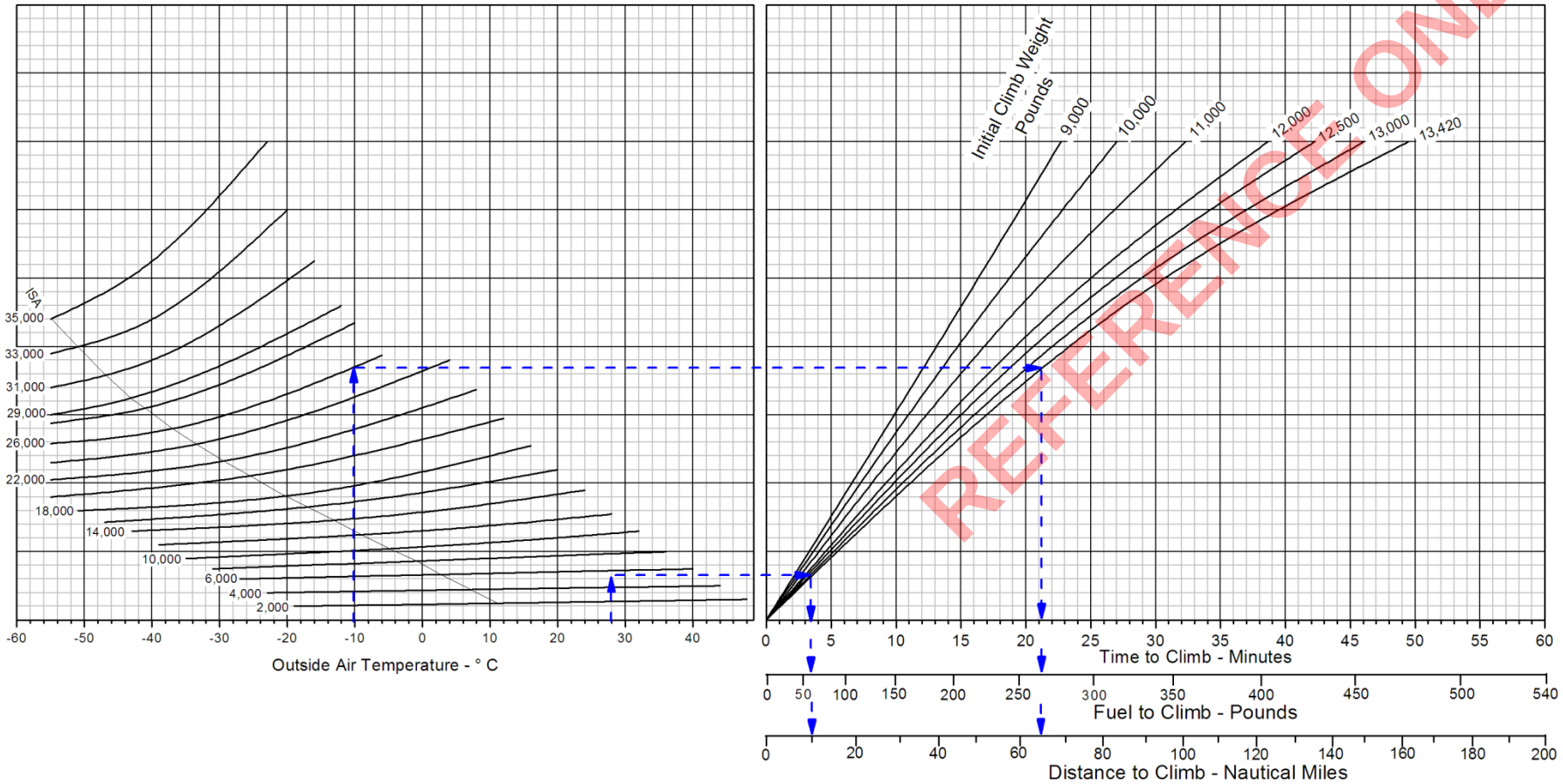
Associated conditions

Propeller speed..... 1,800 RPM
ITT..... 820 °C
or Torque..... 2230 FT-LB

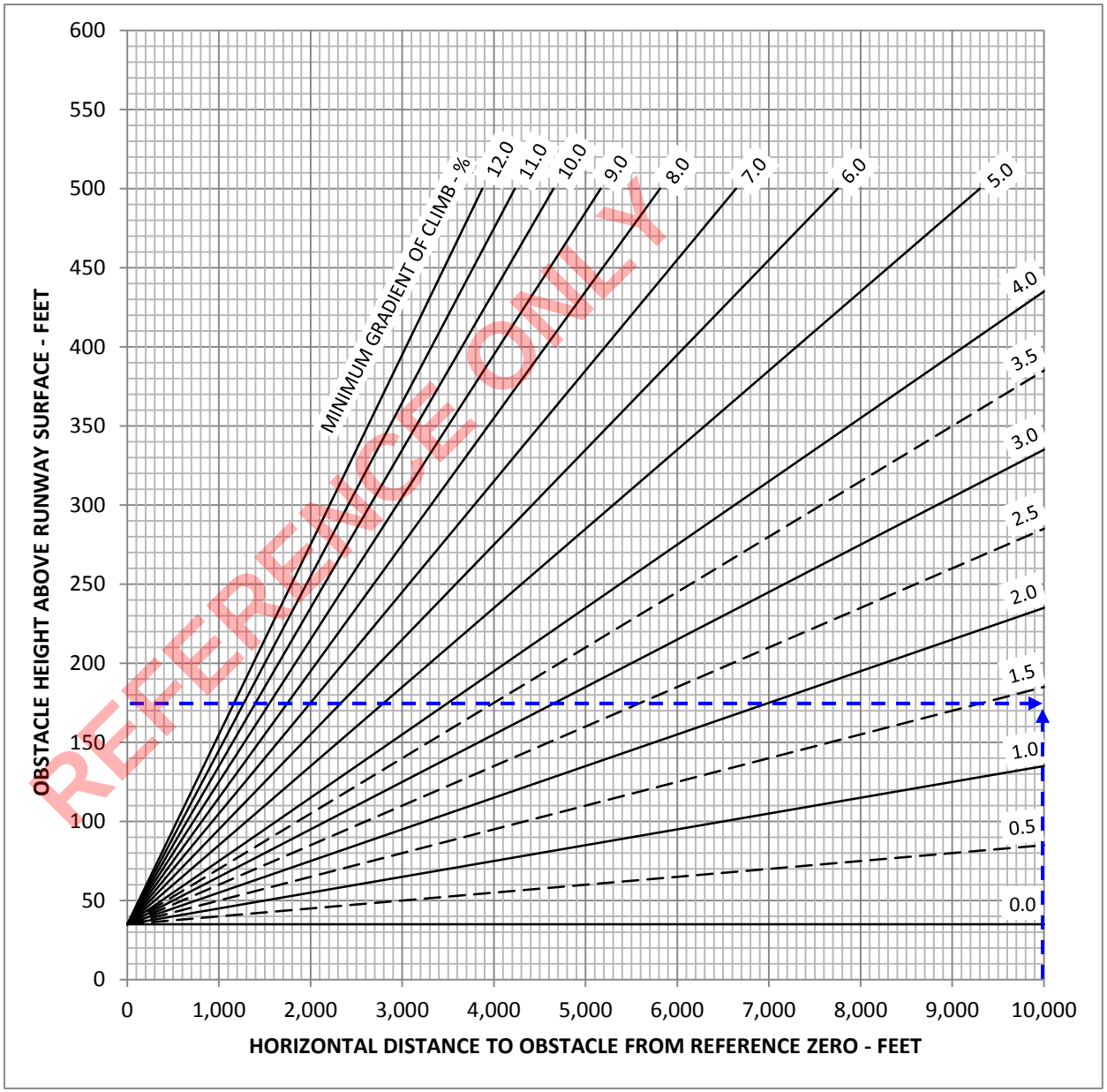
Altitude - Feet	Climb Speed - Knots
Sea Level to 10,000	160
10,000 to 20,000	140
20,000 to 25,000	130
25,000 to 35,000	120

Notes: 1. Add 90 pounds of fuel fo start, taxi, and takeoff.
2. For operation with ice vanes extended add 25°C to the actual OAT before entering the chart.

Example
OAT at takeoff..... 28 °C
OAT at cruise..... -10 °C
Airport altitude..... 5,333 feet
Cruise altitude..... 26,000 feet
Weight..... 13,420 pounds
Time to climb (21.2-3.5)..... 17.7 minutes
Fuel to climb (265-58)..... 207 pounds
Distance to Climb (64-9.5)..... 54.5 nautical miles



CLOSE-IN
TAKEOFF FLIGHT PATH

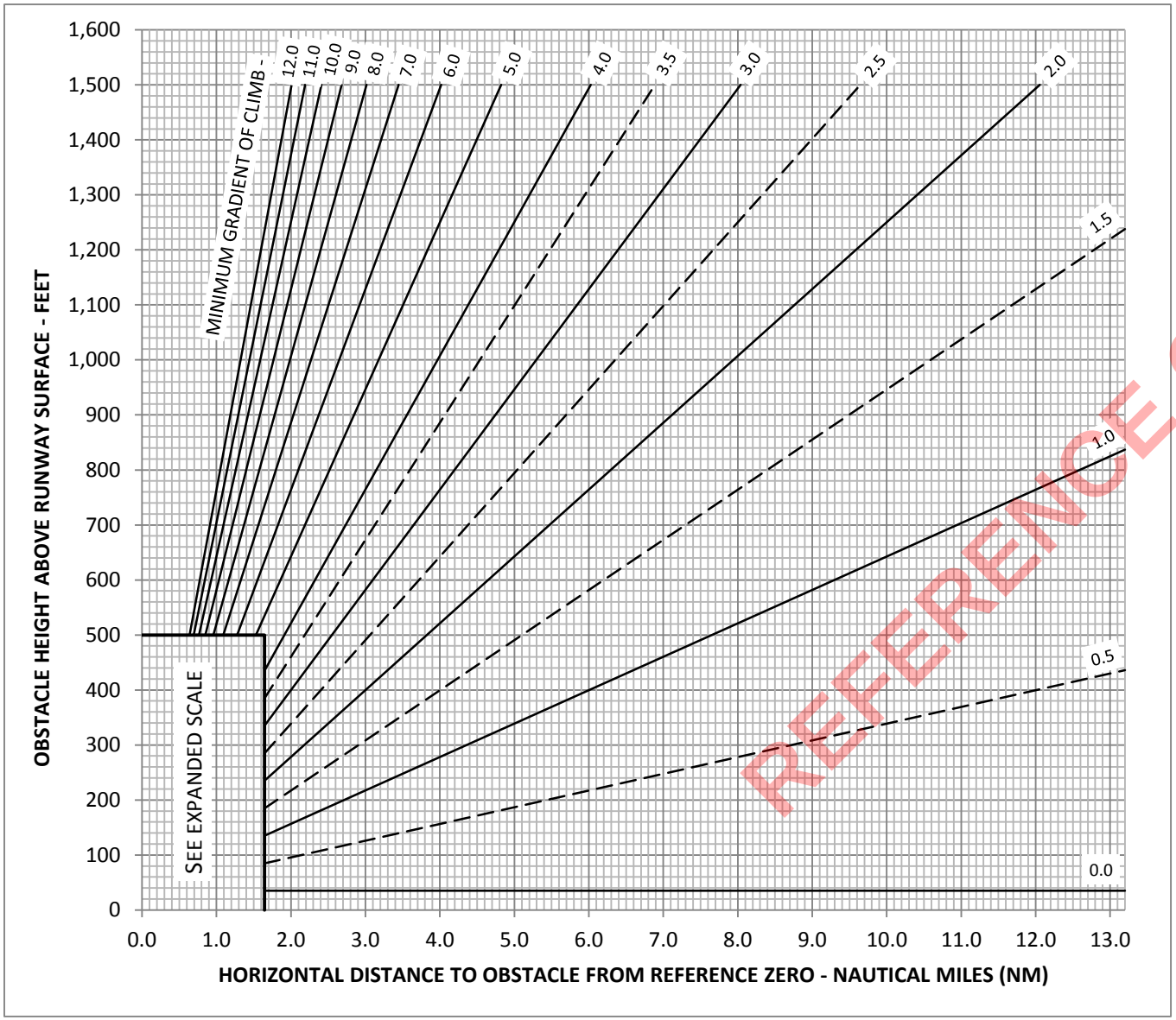


REFERENCE ZERO: THE POINT AT THE END OF THE TAKEOFF RUN AT WHICH THE AIRPLANE IS 35 FEET ABOVE THE RUNWAY SURFACE.

EXAMPLE:
OBSTACLE HEIGHT. . . . . 175 FEET

HORIZONTAL DISTANCE FROM REFERENCE ZERO FEET	MINIMUM GRADIENT OF CLIMB %
10,000	1.4

DISTANT
TAKEOFF FLIGHT PATH



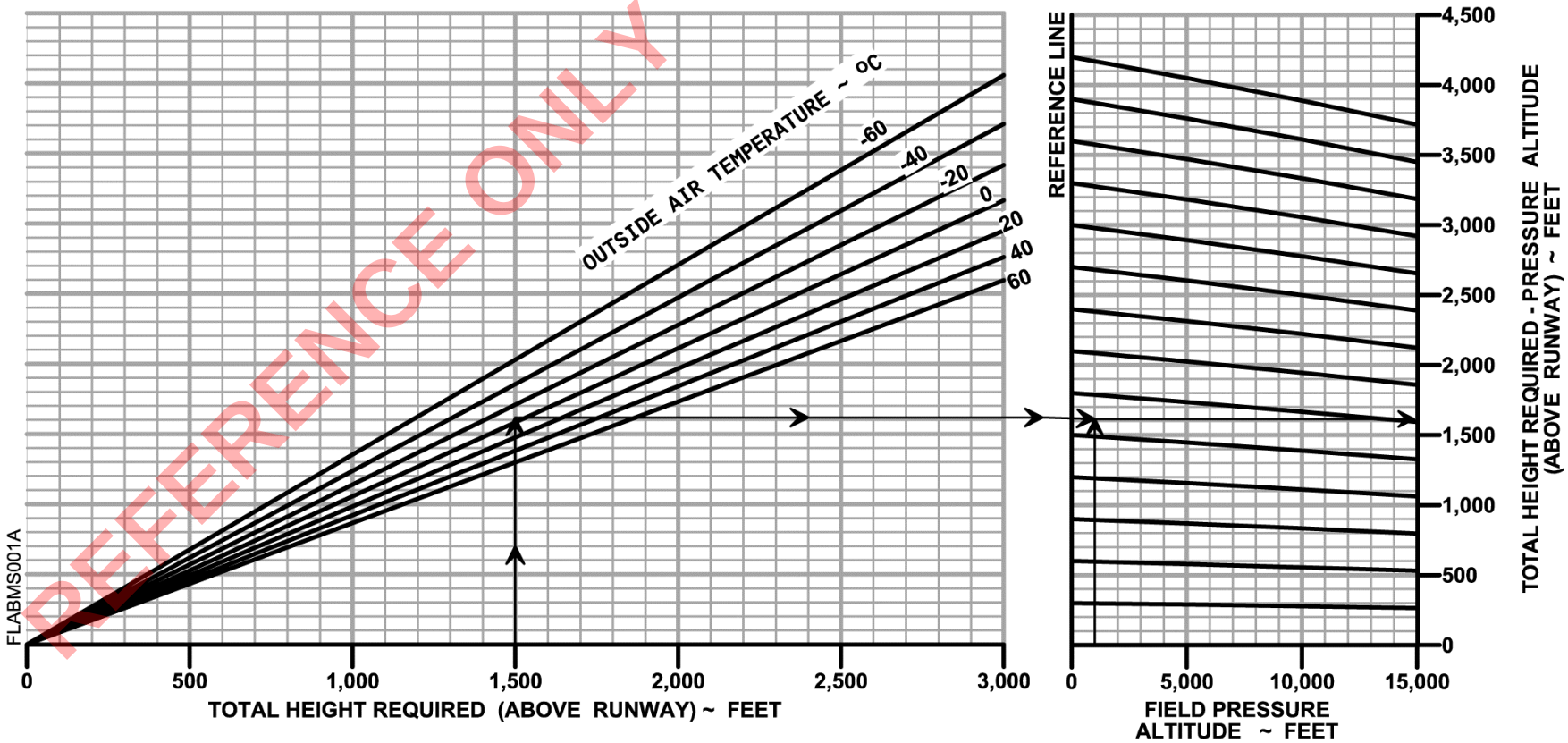
TOTAL HEIGHT REQUIRED - PRESSURE ALTITUDE CONVERSION

NOTES:

1. ASSUMES ZERO ALTIMETER ERROR (FOR PRESSURE ALTITUDE).
2. TO USE CHART, ENTER WITH TOTAL HEIGHT REQUIRED (ABOVE RUNWAY). USING FIELD CONDITIONS OF OUTSIDE AIR TEMPERATURE AND PRESSURE ALTITUDE, CONVERT THE TOTAL HEIGHT REQUIRED TO AN EQUIVALENT INCREMENT OF PRESSURE ALTITUDE (ABOVE RUNWAY).

EXAMPLE:

TOTAL HEIGHT REQUIRED (ABOVE RUNWAY).....1,500 FT
OUTSIDE AIR TEMPERATURE (FIELD LEVEL).....-6°C
FIELD PRESSURE ALTITUDE.....1,000 FT
TOTAL HEIGHT REQUIRED IN PRESSURE ALTITUDE (ABOVE RUNWAY).....1,607 FT



MAXIMUM CRUISE POWER
1800 RPM
ISA

NOTES:
1. See BLR AFMS-B250-1 AFM Supplement for other weights and temperatures.
2. IOAT, Torque, and Fuel Flow based on 13,000 pounds.
3. During operation with ice vanes extended and with ice accumulations present, torque will decrease approx 14% if handbook power is not or cannot be reset, true airspeed will decrease approx 75 knots, and fuel flow will decrease approx 50 lb/hr/engine. If handbook power is reset true airspeed will decrease approx 55 knots and fuel flow will increase approx 25 lb/hr/engine.

Pressure Altitude	IOAT	OAT	Torque per Engine	Total Fuel Flow	Airspeed ~ Knots			
					@13,000 LBS		@12,000 LBS	
Feet	°C	°C	FT-LBS	LBS/HR	IAS	TAS	IAS	TAS
Sea Level	20	15	2230	973	239	239	240	240
2,000	16	11	2230	945	237	244	238	245
4,000	12	7	2230	918	234	248	235	249
6,000	9	3	2230	893	232	253	233	254
8,000	5	-1	2230	871	230	258	231	259
10,000	1	-5	2230	850	227	262	228	264
12,000	-2	-9	2230	832	225	268	226	269
14,000	-6	-13	2230	815	221	272	223	274
16,000	-10	-17	2230	799	219	278	221	280
18,000	-14	-21	2230	785	218	285	219	286
20,000	-17	-25	2230	774	215	290	216	292
22,000	-21	-29	2230	766	211	294	213	297
24,000	-25	-33	2230	761	208	300	210	303
26,000	-28	-37	2211	750	204	304	206	307
28,000	-32	-41	2069	703	196	302	198	305
29,000	-34	-43	1999	681	192	302	194	305
31,000	-39	-46	1837	629	181	295	184	300
33,000	-43	-50	1661	573	170	287	173	292
35,000	-47	-54	1494	521	160	281	163	286

MAXIMUM CRUISE POWER
1800 RPM
ISA+20°C

NOTES:
1. See BLR AFMS-B250-1 AFM Supplement for other weights and temperatures.
2. IOAT, Torque, and Fuel Flow based on 13,000 pounds.
3. During operation with ice vanes extended and with ice accumulations present, torque will decrease approx 14% if handbook power is not or cannot be reset, true airspeed will decrease approx 75 knots, and fuel flow will decrease approx 50 lb/hr/engine. If handbook power is reset true airspeed will decrease approx 55 knots and fuel flow will increase approx 25 lb/hr/engine.

Pressure Altitude	IOAT	OAT	Torque per Engine	Total Fuel Flow	Airspeed ~ Knots			
					@13,000 LBS		@12,000 LBS	
Feet	°C	°C	FT-LBS	LBS/HR	IAS	TAS	IAS	TAS
Sea Level	40	35	2230	996	236	244	237	245
2000	37	31	2230	966	234	249	235	250
4000	33	27	2230	939	231	253	232	254
6000	29	23	2230	912	229	258	230	260
8000	25	19	2230	888	226	263	227	264
10,000	22	15	2230	867	224	269	225	270
12,000	18	11	2230	848	220	272	222	274
14,000	14	7	2230	832	219	279	220	281
16,000	10	3	2230	816	215	283	217	286
18,000	7	-1	2230	800	213	290	215	292
20,000	3	-5	2144	765	207	291	209	294
22,000	-1	-9	2026	725	200	291	202	293
24,000	-5	-13	1908	685	192	289	194	292
26,000	-9	-17	1776	641	184	287	186	290
28,000	-14	-21	1635	593	174	281	177	286
29,000	-16	-23	1567	571	169	278	172	283
31,000	-20	-26	1440	528	160	273	163	278
33,000	-24	-30	1325	489	150	266	154	273
35,000	-28	-34	1215	452	141	260	145	267

MAXIMUM CRUISE POWER
1700 RPM
ISA

NOTES:
4. See BLR AFMS-B250-1 AFM Supplement for other weights and temperatures.
5. IOAT, Torque, and Fuel Flow based on 13,000 pounds.
6. During operation with ice vanes extended and with ice accumulations present, torque will decrease approx 14% if handbook power is not or cannot be reset, true airspeed will decrease approx 75 knots, and fuel flow will decrease approx 50 lb/hr/engine. If handbook power is reset true airspeed will decrease approx 55 knots and fuel flow will increase approx 25 lb/hr/engine.

Pressure Altitude	IOAT	OAT	Torque per Engine	Total Fuel Flow	Airspeed ~ Knots			
					@13,000 LBS		@12,000 LBS	
Feet	°C	°C	FT-LBS	LBS/HR	IAS	TAS	IAS	TAS
Sea Level	20	15	2230	941	234	234	235	235
2,000	16	11	2230	914	231	238	232	239
4,000	12	7	2230	888	229	242	230	243
6,000	8	3	2230	864	225	245	227	247
8,000	5	-1	2230	841	224	251	225	253
10,000	1	-5	2230	821	222	257	223	258
12,000	-3	-9	2230	803	218	260	220	262
14,000	-6	-13	2230	786	217	267	218	268
16,000	-10	-17	2230	770	215	273	216	274
18,000	-14	-21	2230	755	211	276	213	279
20,000	-18	-25	2230	745	208	281	210	284
22,000	-21	-29	2230	739	205	286	207	289
24,000	-25	-33	2230	734	202	291	204	294
26,000	-29	-37	2230	730	200	298	202	301
28,000	-33	-41	2162	706	193	298	196	302
29,000	-35	-43	2088	683	189	297	192	302
31,000	-39	-46	1919	631	180	293	183	298
33,000	-43	-50	1736	575	169	286	172	291
35,000	-48	-54	1562	522	158	278	161	283

MAXIMUM CRUISE POWER
1700 RPM
ISA+20°C

NOTES:
4. See BLR AFMS-B250-1 AFM Supplement for other weights and temperatures.
5. IOAT, Torque, and Fuel Flow based on 13,000 pounds.
6. During operation with ice vanes extended and with ice accumulations present, torque will decrease approx 14% if handbook power is not or cannot be reset, true airspeed will decrease approx 75 knots, and fuel flow will decrease approx 50 lb/hr/engine. If handbook power is reset true airspeed will decrease approx 55 knots and fuel flow will increase approx 25 lb/hr/engine.

Pressure Altitude	IOAT	OAT	Torque per Engine	Total Fuel Flow	Airspeed ~ Knots			
					@13,000 LBS		@12,000 LBS	
Feet	°C	°C	FT-LBS	LBS/HR	IAS	TAS	IAS	TAS
Sea Level	40	35	2230	963	230	238	231	239
2000	36	31	2230	934	228	243	229	244
4000	32	27	2230	908	226	248	227	249
6000	29	23	2230	882	222	251	224	253
8000	25	19	2230	858	221	257	222	258
10,000	21	15	2230	838	217	260	219	263
12,000	17	11	2230	821	215	266	217	268
14,000	14	7	2230	804	214	273	215	274
16,000	10	3	2230	789	210	277	212	279
18,000	6	-1	2230	774	207	282	209	284
20,000	3	-5	2230	763	204	287	206	289
22,000	-1	-9	2127	729	198	288	200	291
24,000	-5	-13	2003	689	190	286	192	289
26,000	-9	-17	1864	644	182	284	184	287
28,000	-14	-21	1717	597	172	278	175	283
29,000	-16	-23	1644	574	167	275	170	280
31,000	-20	-26	1511	531	158	270	161	275
33,000	-24	-30	1389	491	148	263	152	269
35,000	-29	-34	1273	454	138	255	142	262

MAXIMUM RANGE POWER
1700 RPM
ISA

NOTES:
1. See BLR AFMS-B250-1 AFM Supplement for other weights and temperatures.
2. During operation with ice vanes extended, torque will decrease. In order to maintain maximum range configuration, do not reset power to original setting. Fuel flow will remain about the same, but true airspeed will decrease approx 10 knots.

WEIGHT →			13,000 POUNDS				12,000 POUNDS			
Pressure Altitude	IOAT	OAT	Torque per Engine	Total Fuel Flow	IAS	TAS	Torque per Engine	Total Fuel Flow	IAS	TAS
Feet	°C	°C	FT-LBS	LBS/HR	KTS	KTS	FT-LBS	LBS/HR	KTS	KTS
Sea Level	18	15	1417	746	196	196	1378	734	195	195
2000	14	11	1376	707	192	198	1337	697	191	197
4000	11	7	1342	678	187	198	1301	664	186	197
6000	7	3	1316	645	183	200	1268	633	182	199
8000	3	-1	1263	614	178	200	1220	600	177	199
10,000	-1	-5	1249	587	175	203	1195	573	174	202
12,000	-5	-9	1240	565	171	204	1167	547	170	203
14,000	-9	-13	1235	549	169	208	1164	529	167	206
16,000	-13	-17	1232	529	167	213	1151	509	164	209
18,000	-17	-21	1204	507	163	214	1131	489	161	212
20,000	-21	-25	1182	490	159	216	1117	471	157	213
22,000	-24	-29	1176	473	156	219	1103	455	154	216
24,000	-28	-33	1149	456	152	221	1081	438	150	218
26,000	-32	-37	1106	434	146	220	1047	419	145	218
28,000	-36	-41	1105	425	143	223	1037	407	142	221
29,000	-38	-43	1104	421	142	225	1035	401	140	222
31,000	-42	-46	1108	415	139	228	1033	392	137	225
33,000	-46	-50	1147	414	138	235	1058	389	136	232
35,000	-49	-54	1152	410	136	240	1054	382	133	235

MAXIMUM RANGE POWER
1700 RPM
ISA+20°C

NOTES:
1. See BLR AFMS-B250-1 AFM Supplement for other weights and temperatures.
2. During operation with ice vanes extended, torque will decrease. In order to maintain maximum range configuration, do not reset power to original setting. Fuel flow will remain about the same, but true airspeed will decrease approx 10 knots.

WEIGHT →			13,000 POUNDS				12,000 POUNDS			
Pressure Altitude	IOAT	OAT	Torque per Engine	Total Fuel Flow	IAS	TAS	Torque per Engine	Total Fuel Flow	IAS	TAS
Feet	°C	°C	FT-LBS	LBS/HR	KTS	KTS	FT-LBS	LBS/HR	KTS	KTS
Sea Level	38	35	1398	760	192	199	1357	745	191	198
2000	35	31	1383	730	190	202	1333	712	188	200
4000	31	27	1359	694	186	204	1301	678	184	202
6000	27	23	1326	661	182	206	1271	647	180	203
8000	23	19	1303	632	178	207	1240	616	176	205
10,000	19	15	1275	606	174	209	1217	589	172	207
12,000	15	11	1260	582	170	211	1192	564	168	208
14,000	11	7	1249	561	167	214	1175	542	165	211
16,000	8	3	1247	546	166	219	1172	525	163	216
18,000	4	-1	1234	525	161	220	1157	505	159	217
20,000	0	-5	1202	502	157	222	1132	484	155	219
22,000	-4	-9	1174	484	152	222	1110	467	151	221
24,000	-8	-13	1163	470	150	227	1096	452	148	224
26,000	-12	-17	1144	458	145	227	1082	438	144	226
28,000	-16	-21	1149	448	143	232	1077	427	141	229
29,000	-18	-23	1160	445	142	235	1079	423	140	231
31,000	-22	-26	1153	438	137	235	1072	413	136	233
33,000	-25	-30	1171	431	136	242	1082	407	134	238
35,000	-29	-34	1172	429	133	246	1089	403	131	242

ONE ENGINE INOPERATIVE
MAXIMUM CRUISE POWER
1900 RPM
ISA

NOTES:
1. See BLR AFMS-B250-1 AFM Supplement for other weights and temperatures.
2. During operation with ice vanes extended and ice accumulations present, torque will decrease approx 10%. If original power is not or cannot be reset, true airspeed will decrease approximately 65 knots and fuel flow will decrease approximately 7%. If original power is reset, true airspeed will decrease approx 45 knots and fuel flow will increase approximately 30 pounds per hour per engine.

Pressure Altitude	IOAT	OAT	Operative Engine Torque	Fuel Flow	Airspeed ~ Knots			
					@13,000 LBS		@12,000 LBS	
Feet	°C	°C	FT-LBS	LBS/HR	IAS	TAS	IAS	TAS
Sea Level	18	15	2230	510	174	174	175	175
2000	14	11	2230	495	172	177	173	178
4000	10	7	2230	481	170	180	171	181
6000	6	3	2230	467	168	183	169	184
8000	2	-1	2230	456	166	187	167	188
10,000	-2	-5	2230	445	164	190	165	191
12,000	-6	-9	2230	435	160	191	162	194
14,000	-9	-13	2230	427	158	195	160	197
16,000	-13	-17	2230	421	156	199	158	201
18,000	-17	-21	2230	415	153	201	155	204
20,000	-21	-25	2230	409	149	203	152	207
22,000	-25	-29	2230	407	148	208	150	211
24,000	-29	-33	2106	385	138	201	142	207

ONE ENGINE INOPERATIVE
MAXIMUM CRUISE POWER
1900 RPM
ISA+20°C

NOTES:
1. See BLR AFMS-B250-1 AFM Supplement for other weights and temperatures.
2. During operation with ice vanes extended and ice accumulations present, torque will decrease approx 10%. If original power is not or cannot be reset, true airspeed will decrease approximately 65 knots and fuel flow will decrease approximately 7%. If original power is reset, true airspeed will decrease approx 45 knots and fuel flow will increase approximately 30 pounds per hour per engine.

Pressure Altitude	IOAT	OAT	Operative Engine Torque	Fuel Flow	Airspeed ~ Knots			
					@13,000 LBS		@12,000 LBS	
Feet	°C	°C	FT-LBS	LBS/HR	IAS	TAS	IAS	TAS
0	38	35	2230	522	171	177	172	178
2000	34	31	2230	507	168	179	170	181
4000	30	27	2230	492	166	182	168	184
6000	26	23	2230	479	164	185	166	188
8000	22	19	2230	467	162	189	164	191
10,000	18	15	2230	456	160	192	162	195
12,000	15	11	2230	446	157	195	159	197
14,000	11	7	2203	434	154	197	156	200
16,000	7	3	2127	414	148	196	151	200
18,000	3	-1	2021	392	140	192	144	197
20,000	-2	-5	1912	370	125	177	137	194

TIME, FUEL, AND DISTANCE TO DESCEND

ASSOCIATED CONDITIONS:

POWER.....AS REQUIRED TO DESCEND AT 1500 FPM

GEAR.....UP

FLAPS.....UP

NOTE: Descent speed - M_{MO} or 250 knots, whichever is less.

EXAMPLE:

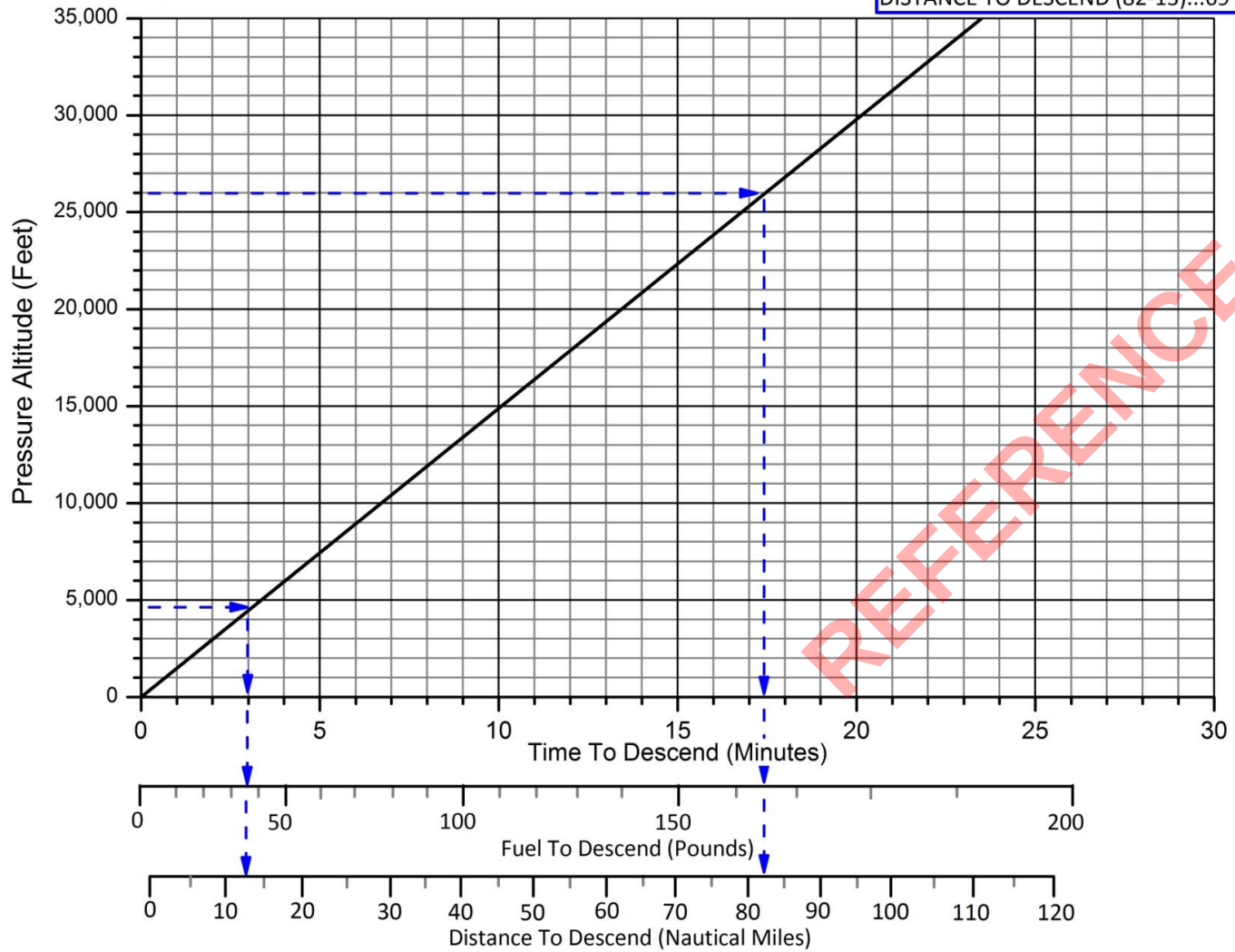
INITIAL ALTITUDE.....26,000 FT

FINAL ALTITUDE.....4732 FT

TIME TO DESCEND (17-3).....14 MINUTES

FUEL TO DESCEND (164-36).....128 LBS

DISTANCE TO DESCEND (82-13)...69 NM



MAXIMUM ALLOWED LANDING WEIGHT

TO ACHIEVE LANDING CLIMB REQUIREMENTS

NOTES:

Enter the table at the pressure altitude and temperature from which a go-around would be initiated at the destination. The predicted landing weight at the destination must not exceed the corresponding Maximum Allowed Landing Weight shown in this table.

EXAMPLE:
Destination OAT…32°C Pressure Altitude…4,732 feet
Maximum Allowed Landing Weight – 12,500 lbs

Pressure Altitude -Feet-	Outside Air Temperature Maximum Allowed Landing Weight - Pounds																		
16,000	-40°C 12,500	-30°C 12,349	-25°C 12,211	-20°C 12,078	-15°C 11,944	-10°C 11,812	-5°C 11,401	0°C 10,823	5°C 10,258	10°C 9,602	15°C 9,000								
15,000	-40°C 12,500	-30°C 12,500	-25°C 12,445	-20°C 12,319	-15°C 12,185	-10°C 12,052	-5°C 11,885	0°C 11,394	5°C 10,807	10°C 10,229	15°C 9,563	20°C 9,000							
14,000	-40°C 12,500	-30°C 12,500	-25°C 12,500	-20°C 12,500	-15°C 12,419	-10°C 12,302	-5°C 12,178	0°C 11,958	5°C 11,371	10°C 10,782	15°C 10,196	20°C 9,522	24°C 9,000						
13,000	-40°C 12,500	-30°C 12,500	-25°C 12,500	-20°C 12,500	-15°C 12,500	-10°C 12,500	-5°C 12,419	0°C 12,305	5°C 12,003	10°C 11,391	15°C 10,785	20°C 10,175	25°C 9,471	26°C 9,321					
12,000	-40°C 12,500	-30°C 12,500	-25°C 12,500	-20°C 12,500	-15°C 12,500	-10°C 12,500	-5°C 12,500	0°C 12,500	5°C 12,433	10°C 12,024	15°C 11,393	20°C 10,764	25°C 10,131	28°C 9,705					
11,000	-40°C 12,500	-30°C 12,500	-25°C 12,500	-20°C 12,500	-15°C 12,500	-10°C 12,500	-5°C 12,500	0°C 12,500	5°C 12,500	10°C 12,495	15°C 11,946	20°C 11,317	25°C 10,695	30°C 10,059					
10,000	-40°C 12,500	-30°C 12,500	-25°C 12,500	-20°C 12,500	-15°C 12,500	-10°C 12,500	-5°C 12,500	0°C 12,500	5°C 12,500	10°C 12,500	15°C 12,470	20°C 11,875	25°C 11,245	30°C 10,632	32°C 10,387				
9,000	-40°C 12,500	-30°C 12,500	-25°C 12,500	-20°C 12,500	-15°C 12,500	-10°C 12,500	-5°C 12,500	0°C 12,500	5°C 12,500	10°C 12,500	15°C 12,500	20°C 12,444	25°C 11,834	30°C 11,196	34°C 10,697				
8,000	-40°C 12,500	-30°C 12,500	-25°C 12,500	-20°C 12,500	-15°C 12,500	-10°C 12,500	-5°C 12,500	0°C 12,500	5°C 12,500	10°C 12,500	15°C 12,500	20°C 12,500	25°C 12,408	30°C 11,788	35°C 11,134	36°C 10,993			
7000	-40°C 12,500	-30°C 12,500	-25°C 12,500	-20°C 12,500	-15°C 12,500	-10°C 12,500	-5°C 12,500	0°C 12,500	5°C 12,500	10°C 12,500	15°C 12,500	20°C 12,500	25°C 12,500	30°C 12,343	35°C 11,707	38°C 11,310			
6,000	-40°C 12,500	-30°C 12,500	-25°C 12,500	-20°C 12,500	-15°C 12,500	-10°C 12,500	-5°C 12,500	0°C 12,500	5°C 12,500	10°C 12,500	15°C 12,500	20°C 12,500	25°C 12,500	30°C 12,500	35°C 12,261	40°C 11,612			
5000	-40°C 12,500	-30°C 12,500	-25°C 12,500	-20°C 12,500	-15°C 12,500	-10°C 12,500	-5°C 12,500	0°C 12,500	5°C 12,500	10°C 12,500	15°C 12,500	20°C 12,500	25°C 12,500	30°C 12,500	35°C 12,500	40°C 12,127	42°C 11,873		
4,000	-40°C 12,500	-30°C 12,500	-25°C 12,500	-20°C 12,500	-15°C 12,500	-10°C 12,500	-5°C 12,500	0°C 12,500	5°C 12,500	10°C 12,500	15°C 12,500	20°C 12,500	25°C 12,500	30°C 12,500	35°C 12,500	40°C 12,500	44°C 12,121		
3,000	-40°C 12,500	-30°C 12,500	-25°C 12,500	-20°C 12,500	-15°C 12,500	-10°C 12,500	-5°C 12,500	0°C 12,500	5°C 12,500	10°C 12,500	15°C 12,500	20°C 12,500	25°C 12,500	30°C 12,500	35°C 12,500	40°C 12,500	45°C 12,500	46°C 12,384	
2,000	-40°C 12,500	-30°C 12,500	-25°C 12,500	-20°C 12,500	-15°C 12,500	-10°C 12,500	-5°C 12,500	0°C 12,500	5°C 12,500	10°C 12,500	15°C 12,500	20°C 12,500	25°C 12,500	30°C 12,500	35°C 12,500	40°C 12,500	45°C 12,500	48°C 12,500	
1,000	-40°C 12,500	-30°C 12,500	-25°C 12,500	-20°C 12,500	-15°C 12,500	-10°C 12,500	-5°C 12,500	0°C 12,500	5°C 12,500	10°C 12,500	15°C 12,500	20°C 12,500	25°C 12,500	30°C 12,500	35°C 12,500	40°C 12,500	45°C 12,500	50°C 12,500	
Sea Level	-40°C 12,500	-30°C 12,500	-25°C 12,500	-20°C 12,500	-15°C 12,500	-10°C 12,500	-5°C 12,500	0°C 12,500	5°C 12,500	10°C 12,500	15°C 12,500	20°C 12,500	25°C 12,500	30°C 12,500	35°C 12,500	40°C 12,500	45°C 12,500	50°C 12,500	52°C 12,500

MAXIMUM ALLOWED LANDING WEIGHT

TO ACHIEVE LANDING CLIMB REQUIREMENTS WITH ICE ACCUMULATIONS PRESENT

NOTES

1. Use of this table is required when icing is expected during the landing approach at the destination airport.
2. Enter the table at the pressure altitude and temperature from which a go-around would be initiated at the destination. The predicted landing weight at the destination must not exceed the corresponding Maximum Allowed Landing Weight shown in this table.

Pressure Altitude -Feet-	Outside Air Temperature Maximum Allowed Landing Weight - Pounds									
16,000	-40°C 10,068	-35°C 9,934	-30°C 9,796	-25°C 9,654	-20°C 9,508	-15°C 9,367	-10°C 9,215	-5°C 9,000		
15,000	-40°C 10,270	-35°C 10,149	-30°C 10,028	-25°C 9,900	-20°C 9,764	-15°C 9,629	-10°C 9,491	-5°C 9,304	0°C 9,000	
14,000	-40°C 10,463	-35°C 10,351	-30°C 10,236	-25°C 10,123	-20°C 10,003	-15°C 9,875	-10°C 9,749	-5°C 9,619	0°C 9,397	5°C 9,000
13,000	-40°C 10,657	-35°C 10,544	-30°C 10,436	-25°C 10,329	-20°C 10,217	-15°C 10,106	-10°C 9,998	-5°C 9,877	0°C 9,754	5°C 9,455
12,000	-40°C 10,846	-35°C 10,739	-30°C 10,632	-25°C 10,522	-20°C 10,422	-15°C 10,319	-10°C 10,218	-5°C 10,113	0°C 10,001	5°C 9,889
11,000	-40°C 11,022	-35°C 10,922	-30°C 10,823	-25°C 10,720	-20°C 10,617	-15°C 10,514	-10°C 10,412	-5°C 10,314	0°C 10,214	5°C 10,112
10,000	-40°C 11,226	-35°C 11,119	-30°C 11,000	-25°C 10,905	-20°C 10,810	-15°C 10,712	-10°C 10,610	-5°C 10,509	0°C 10,413	5°C 10,318
9,000	-40°C 11,430	-35°C 11,319	-30°C 11,209	-25°C 11,099	-20°C 10,990	-15°C 10,898	-10°C 10,807	-5°C 10,712	0°C 10,613	5°C 10,518
8,000	-40°C 11,609	-35°C 11,507	-30°C 11,403	-25°C 11,302	-20°C 11,198	-15°C 11,096	-10°C 10,989	-5°C 10,903	0°C 10,810	5°C 10,721
7000	-40°C 11,795	-35°C 11,694	-30°C 11,591	-25°C 11,490	-20°C 11,391	-15°C 11,289	-10°C 11,189	-5°C 11,083	0°C 10,984	5°C 10,899
6,000	-40°C 12,001	-35°C 11,895	-30°C 11,790	-25°C 11,682	-20°C 11,577	-15°C 11,473	-10°C 11,375	-5°C 11,278	0°C 11,175	5°C 11,076
5000	-40°C 12,156	-35°C 12,057	-30°C 11,957	-25°C 11,858	-20°C 11,760	-15°C 11,656	-10°C 11,559	-5°C 11,458	0°C 11,368	5°C 11,276
4,000	-40°C 12,304	-35°C 12,210	-30°C 12,116	-25°C 12,021	-20°C 11,929	-15°C 11,834	-10°C 11,742	-5°C 11,646	0°C 11,551	5°C 11,458
3,000	-40°C 12,488	-35°C 12,395	-30°C 12,302	-25°C 12,208	-20°C 12,114	-15°C 12,020	-10°C 11,932	-5°C 11,843	0°C 11,748	5°C 11,661
2,000	-40°C 12,500	-35°C 12,500	-30°C 12,483	-25°C 12,392	-20°C 12,301	-15°C 12,210	-10°C 12,123	-5°C 12,032	0°C 11,944	5°C 11,857
1,000	-40°C 12,500	-35°C 12,500	-30°C 12,500	-25°C 12,500	-20°C 12,445	-15°C 12,361	-10°C 12,271	-5°C 12,188	0°C 12,098	5°C 12,008
Sea Level	-40°C 12,500	-35°C 12,500	-30°C 12,500	-25°C 12,500	-20°C 12,500	-15°C 12,499	-10°C 12,418	-5°C 12,335	0°C 12,253	5°C 12,171

DISCONTINUED APPROACH CLIMB GRADIENT

ONE ENGINE INOPERATIVE

Associated Conditions
Power..... Max Cont.
Flaps..... Approach
Landing Gear..... Up
Inoperative Propeller... Feathered

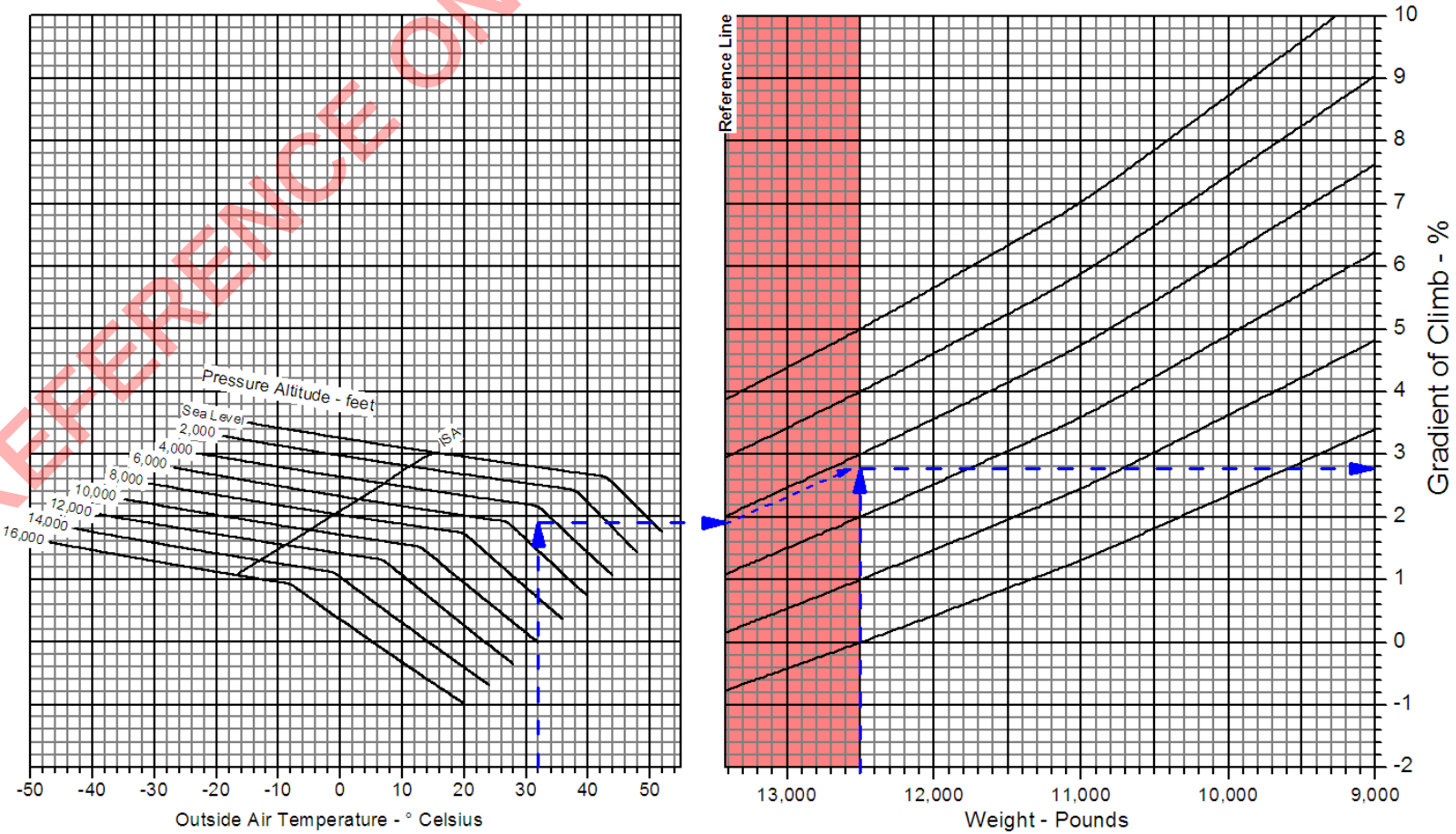
Weight - LBS	V_{REF}+10 (Knots)
13,420	115
13,000	114
12,000	112
11,000	109
10,000	106
9,000	103

Example
OAT..... 32°C
Pressure Altitude..... 4,730 feet

Weight - LBS	Gradient - %
12,500	2.78

Climb Speed at 12,500 pounds..... 113 knots

Notes:
1. Decrease the percent gradient from this chart by 0.9 points when engine ice vanes are extended.
2. Decrease the percent gradient from this chart by 5.0 points when icing conditions are present. 145 Knots is minimum airspeed in sustained icing conditions.
3. When the discontinued approach climb path requires turns, do not exceed 15° of bank and reduce Gradient of Climb from this chart by 1 percentage point.
4. Red shaded area is above maximum landing weight.



CLIMB - BALKED LANDING

Weight - Pounds	Climb Speed (V_{REF})-Knots
13,420	105
13,000	104
12,000	101
11,000	99
10,000	96
9,000	94

Example

OAT..... 32 °C
Pressure Altitude..... 4,732 feet
Weight..... 10,854 pounds

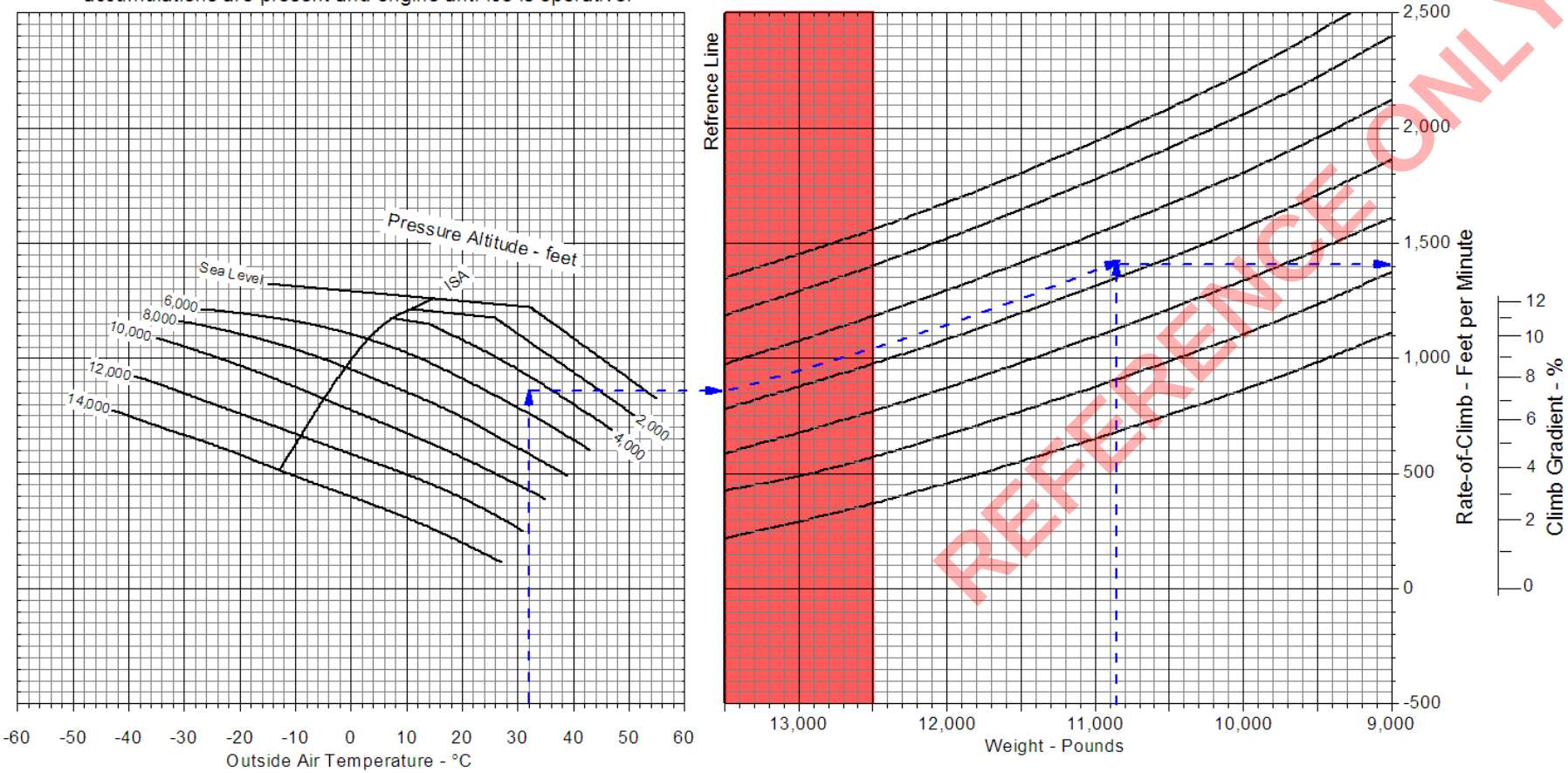
Rate-of-Climb..... 1,410 fpm
Climb Gradient..... > 12 %

Associated conditions

Power..... Take-Off
Flaps..... Down
Landing Gear..... Down

Notes

Reduce rate-of-climb by 400 feet per minute when ice accumulations are present and engine anti-ice is operative.



LANDING DISTANCE WITHOUT PROPELLER REVERSING

Associated conditions

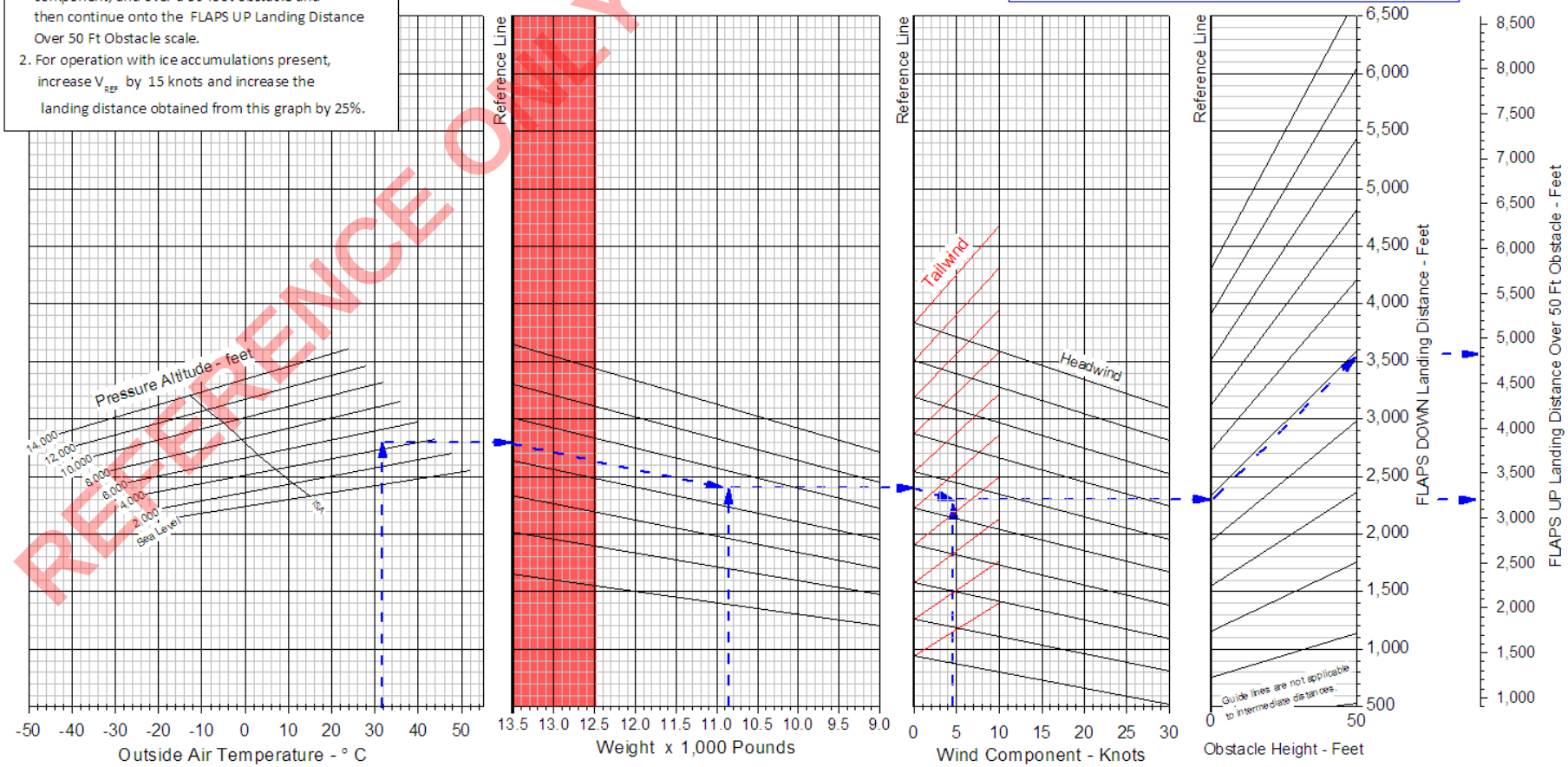
Power..... Retard for 500 to 680 fpm on final approach.
Flaps..... Down
Runway..... Paved, Dry, Level Surface
Braking..... Maximum

Weight	V_{REF} Speeds - Knots	
Pounds	Flaps Dwn	Flaps Up
13,420	105	124
13,000	104	121
12,000	102	115
11,000	99	111
10,000	96	106
9,000	93	101

Example
OAT..... 32 °C
Pressure Altitude..... 4,732 feet
Weight..... 10,854 pounds
Headwind Component..... 4.7 knots
Ground Roll ..... 2,300 feet
Distance over 50 ft Obstacle Flaps Down... 3,575 feet
Approach Speed Flaps Down..... 99 knots

Ground Roll (Flaps Up)..... 3,204 feet
Distance over 50 ft Obstacle Flaps Up..... 4,838 feet
Approach Speed Flaps Up..... 110 knots

NOTES:
1. Landing with flaps full down is the normal procedure, if it is necessary to land with flaps up, find the landing distance for the appropriate OAT, weight, wind component, and over a 50 foot obstacle and then continue onto the FLAPS UP Landing Distance Over 50 Ft Obstacle scale.
2. For operation with ice accumulations present, increase V_{REF} by 15 knots and increase the landing distance obtained from this graph by 25%.



LANDING DISTANCE WITH PROPELLER REVERSING

Associated conditions

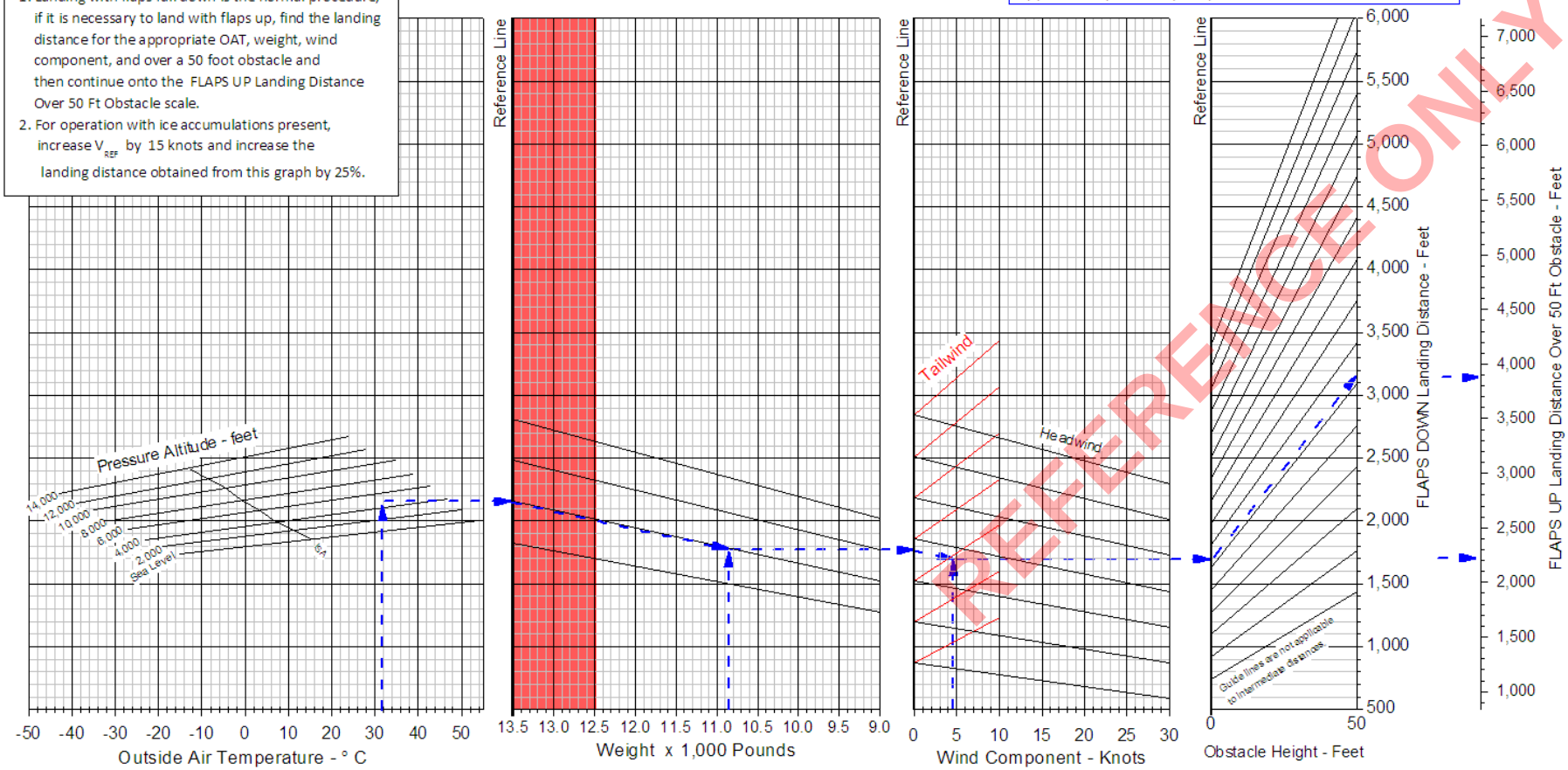
Power..... Retard for 500 to 680 fpm on final approach.
Flaps..... Down
Runway..... Paved, Dry, Level Surface
Braking..... Maximum
Condition Levers..... High Idle
Propeller Controls..... Full Forward
Power Levers..... Maximum reverse after touchdown.

Weight	V_{REF} Speeds - Knots	
Pounds	Flaps Dwn	Flaps Up
13,420	105	124
13,000	104	121
12,000	102	115
11,000	99	111
10,000	96	106
9,000	93	101

Example
OAT..... 32 °C
Pressure Altitude..... 4,732 feet
Weight..... 10,854 pounds
Headwind Component..... 4.7 knots
Ground Roll ..... 1,695 feet
Distance over 50 ft Obstacle Flaps Down... 3,150 feet
Approach Speed Flaps Down..... 99 knots

Ground Roll (Flaps Up)..... 2,211 feet
Distance over 50 ft Obstacle Flaps Up..... 3,886 feet
Approach Speed Flaps Up..... 110 knots

NOTES:
1. Landing with flaps full down is the normal procedure, if it is necessary to land with flaps up, find the landing distance for the appropriate OAT, weight, wind component, and over a 50 foot obstacle and then continue onto the FLAPS UP Landing Distance Over 50 Ft Obstacle scale.
2. For operation with ice accumulations present, increase V_{REF} by 15 knots and increase the landing distance obtained from this graph by 25%.



SECTION 6
WEIGHT AND BALANCE

TABLE OF CONTENTS

INTRODUCTION

The CenTex Aerospace Halo 250 Commuter Category STC approves operating the King Air B200GT airplanes at a new, increased maximum takeoff weight of 13,420 pounds. This is an increase of 920 pounds over the original maximum takeoff weight of 12,500 pounds. Also, the maximum zero fuel weight limitation is increased from 11,000 pounds to 11,500 pounds. The forward and aft center-of-gravity limits change above 12,500 pounds, but, at 12,500 pounds and below, the center-of-gravity limits are unchanged.

Other changes include a move from Normal category to Commuter category and the addition of several safety systems, which are required by 14 CFR Part 23 requirements for Commuter category airplanes. Another change is a new limitation that restricts each airplane modified by this STC to have no more than nine passenger seats. The restriction in the number of passenger seats is applicable to all airplanes certificated in the Commuter category that have a single emergency exit (such as the King Air 200 series airplanes).

There are no changes to weighing instructions, computing basic empty weight and balance, dimensional and loading data, cabin arrangements (other than a limitation of nine passenger seats), and the procedure for computing weight and balance. See BLR Aerospace AFMS-B250-1 AFM Supplement and the basic Airplane Flight Manual / Pilot Operating Handbook for weight and balance information and procedures not contained in this section.

Two new weight and balance diagrams are in this section that incorporates the new maximum takeoff weight and center-of-gravity limitations. 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 and center-of-gravity limits are taken from Section 2 Limitations of this AFM Supplement and repeated here for convenience to the airplane operator. Values that are underline have been changed by the CenTex Aerospace Halo 250 Commuter Category STC.

WEIGHT LIMITS

Maximum Ramp Weight .....13,510 pounds
Maximum Take-off Weight: .....13,420 pounds
Maximum Landing Weight.....12,500 pounds
Maximum Zero Fuel Weight .....11,500 pounds

CENTER OF GRAVITY LIMITS

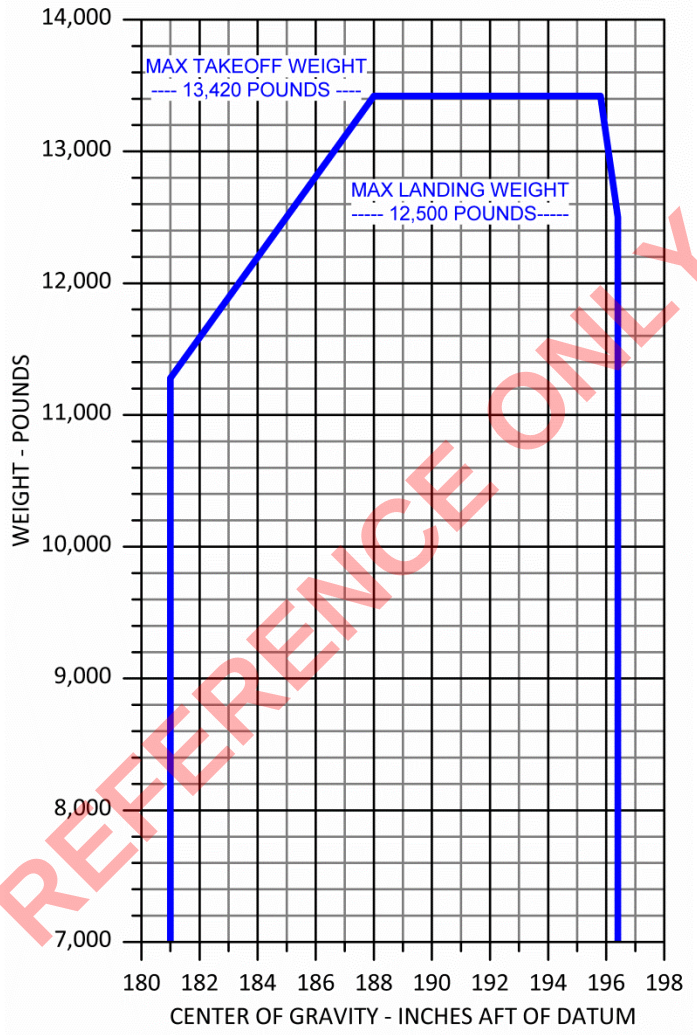
AFT LIMITS

195.8 inches aft of datum at 13,420 pounds gross weight with straight line variation to 196.4 inches aft of datum at 12,500 pounds gross weight.
196.4 inches aft of datum at gross weights less than 12,500 pounds.

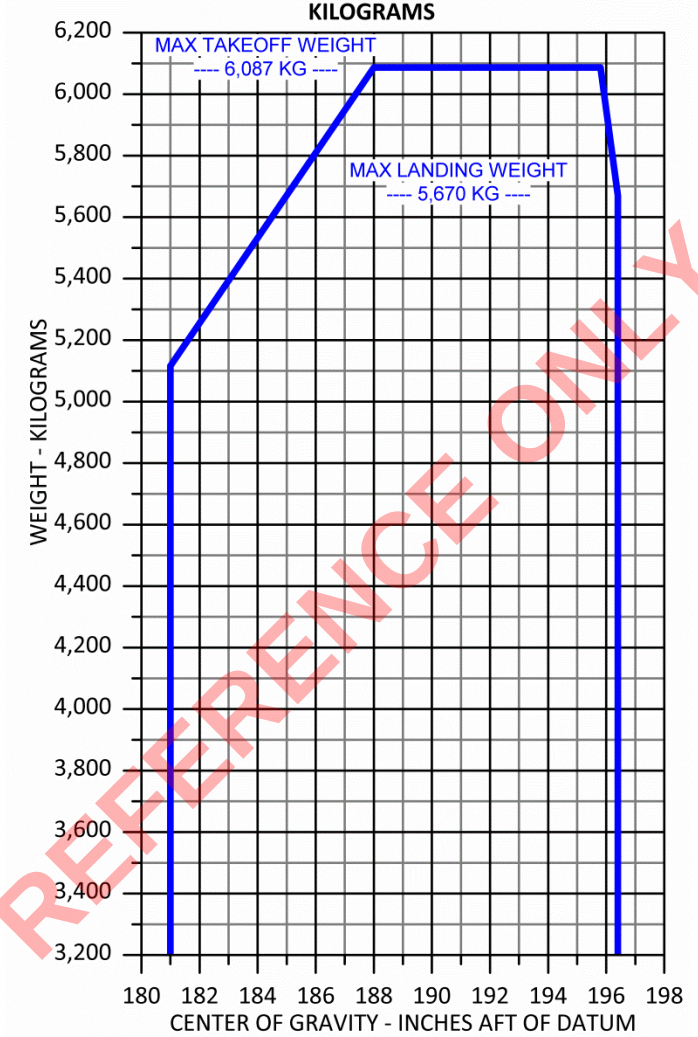
FORWARD LIMITS

188.0 inches aft of datum at 13,420 pounds gross weight with straight line variation to 181.0 inches aft of datum at 11,279 pounds gross weight.
181.0 inches aft of datum at gross weights less than 11,279 pounds.

HALO 250 COMMUTER CATEGORY STC
WEIGHT AND BALANCE DIAGRAM



HALO 250 COMMUTER CATEGORY STC
WEIGHT AND BALANCE DIAGRAM
KILOGRAMS



THIS PAGE IS INTENTIONALLY BLANK

SECTION 7
SYSTEMS DESCRIPTION
TABLE OF CONTENTS

INTRODUCTION

New safety systems are installed under the Halo 250 conversion. These systems provide safety functions that are required for airplanes certificated in the Commuter category. Also, the stall warning system has been modified and will now provide accurate and reliable warning when the airplane is operated in icing conditions. The result 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 BLR Aerospace AFMS-B250-1 AFM Supplement and the basic Pilot Operating Handbook.

* *Only airplanes with Garmin G1000 integrated avionics suite. Airplanes with Rockwell Collins Proline 21/Fusion avionics suite are already equipped with an over-speed warning system.*

TAKEOFF TRIM WARNING

The Halo 250 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.

The Autofeather/takeoff trim warning system is powered from Dual Fed Bus No. 2 (See FIGURE 7-6 and FIGURE 7-8). 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 advance to the 90% N_1, or higher, 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 STC 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.

OVER-SPEED WARNING

The Rockwell Collins Pro Line 21 or Rockwell Collins Pro Line Fusion integrated avionics provides an aural over-speed warning, which is required for commuter category airplanes. 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 airspeed tape on the Primary Flight Displays. The pilot should respond to a warning by immediately taking the necessary action to reduce airspeed.

If the airplane is equipped with Garmin G1000 integrated avionics, an aural over-speed warning system is installed as part of the Halo 250 conversion. The warning automatically alerts the pilot whenever airspeed is greater than V_{MO} or Mach number is greater than M_{MO}. This system provides an aural backup to the function provided by the airspeed tape on each Primary Flight Display. The pilot should respond to a warning by immediately taking the necessary action to reduce airspeed.

The warning sound is a pulsing, high-frequency tone emitted by a Sonalert device 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 copilot circuit breaker panel.

The system should be tested when conducting the BEFORE ENGINE STARTING procedure by selecting TEST on the OVERSPEED WARN TEST switch. This switch is located in the lower, left area of the pilot's instrument panel near the engine start switches.

SEATING ARRANGEMENTS

Various configurations of passenger chairs and one-place couch installations may be installed on the continuous tracks mounted to the cabin floor. Seating for up to nine (9) persons, excluding crew, may be installed. This is a new limitation imposed by the Commuter category requirements.

EMERGENCY ESCAPE PATH MARKINGS

The Halo 250 conversion adds photoluminescent markings that highlight the escape path along the floor to the emergency exit door and cabin door. The photoluminescent markings must be visible (not covered by floor mats or any other coverings) and adequately charged before conducting any part of a flight in darkness. Charging can be accomplished with sunlight or with the interior lights or with the emergency flood lamps. See Section 4 Normal Procedures for the required charging time.

ENGINE FIRE EXTINGUISHER

The Halo 250 conversion requires that an engine fire extinguisher system be installed. The Halo 250 conversion kit includes a fire extinguisher system if the optional Beechcraft fire extinguisher system is not onboard the airplane at the time of conversion. Both systems function and operate in the same manner. Information regarding the 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 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 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 pilot should respond to the 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

CABIN EMERGENCY LIGHTING

The Halo 250 conversion adds a cabin emergency 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 the pilot's sub-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 copilot circuit breaker panel (See FIGURE 7-5 thru FIGURE 7-8).

Two amber indicator lights located adjacent to the control switch (See FIGURE 7-4) 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.

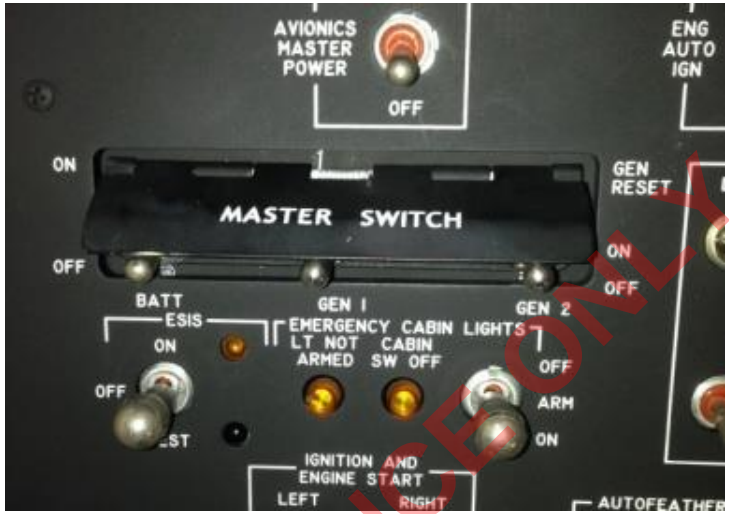
When exiting the airplane both the control switch and the cabin switch should be placed in the OFF position. If left on, a timer prevents the battery from becoming totally discharged by disconnecting the battery pack from the system after 10 minutes. Selecting OFF on the cabin switch reconnects the battery pack and resets the timer. Note recharging of the battery pack 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 pack should be checked before the first flight of each day as described in Section 4 NORMAL PROCEDURES. The system must be operational when carrying passengers. If the lamps do not illuminate, the emergency lighting system batteries have been discharged or there is a malfunction in the system. A discharged battery pack must be removed and the batteries recharged or replaced. The Halo 250 Instructions for Continued Airworthiness, Manual no. 006-30 describes the proper procedures for removing and recharging or replacing the cabin emergency lighting system battery pack.

The battery pack and relays are located beneath the cabin floor at either Fuselage Station 207 or Fuselage Station 270. Also, the battery pack should be inspected at each maintenance Phase Inspection interval 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 and WARNING LIGHTS



CREW ALERTING SYSTEM (CAS)
Only For Aircraft with Rockwell Collins Pro Line Fusion:

CAUTION (AMBER) CAS MESSAGES

CAS Message	Description
Stall Fail	The stall computer has failed.

NOTE
Halo 250 equipped aircraft have two stall computer modes, Normal Mode and Icing Mode. The Stall Fail CAS message applies to the mode in use at the time of failure.

FIGURE 7-5
RIGHT CIRCUIT BREAKER PANEL (PRO LINE 21)

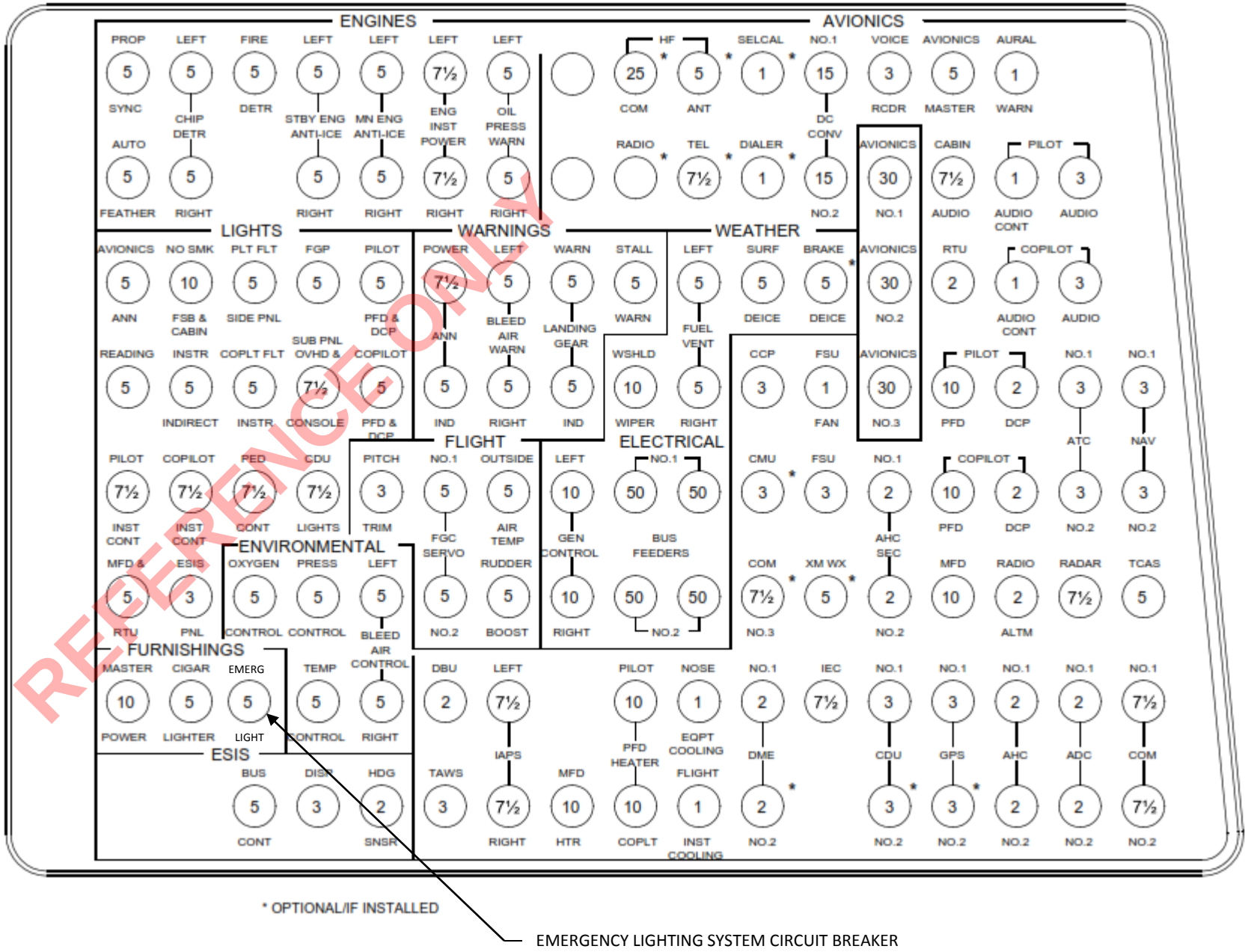


FIGURE 7-6
AVIONICS/ELECTRICAL EQUIPMENT BUS CONNECTION (PRO LINE 21)

System	No. 1 Dual-Fed Bus	No. 2 Dual-Fed Bus	No. 3 Dual-Fed Bus	No. 4 Dual-Fed Bus	Avionics Bus No. 1 (L Gen Bus)	Avionics Bus No. 2 (R Gen Bus)	Avionics Bus No. 3 (L Gen Bus)	No. 1 Subpanel Bus (L Gen Bus)	No. 2 Subpanel Bus (R Gen Bus)	ESIS Battery Bus (No. 3 Dual-Fed Bus)	Hot Bat Bus (Battery) (RW)
ESIS											
										ESIS BUS CONT	
										ESIS HDG SNSR	
										ESIS DISP	
Electrical	GEN CONTROL, L	GEN CONTROL, R	R CB PANEL NO. 3 (FP) (2)	R CB PANEL NO. 4 (FP) (2)							BATTERY RELAY
	BUS FEEDERS NO. 1 (2 ea.)	BUS FEEDERS NO. 2 (2 ea.)	BUS FEEDERS NO. 3 (2 ea.) (FP)	BUS FEEDERS NO. 4 (2 ea.) (FP)							
Engines (including Engine Instruments and Propellers)	CHIP DTR, L	CHIP DTR, R	START CONTROL, L (FP)	START CONTROL, R (FP)							ENG FIRE EXTINGUISHER, L
	1 (FP)	DCU SEC, NO. 2 (FP)	EDC NO. 1 (FP)	EDC NO. 2 (FP)							ENG FIRE EXTINGUISHER, R
	ENG INST POWER, L	ENG INST POWER, R	DCU NO. 1 (FP)	DCU NO. 2 (FP)							
	FIRE DETR		IGNITER POWER, L (FP)	IGNITER POWER, R (FP)							
	MN ENG ANTI ICE, L	MN ENG ANTI ICE, R									
	OIL PRESS, L (FP)	OIL PRESS, R (FP)									
	OIL PRESS WARN, L	OIL PRESS WARN, R									
	PROP SYNC	AUTOFEATHER & TRIM WARN		PROP GOV (FP)							
	STBY ENG ANTI ICE, L	STBY ENG ANTI ICE, R									
	TORQUE, L (FP)	TORQUE, R (FP)									
Furnishings		CIGAR LIGHTER									
		MASTER POWER									
		EMERG LIGHT									

EMERG LIGHTING SYSTEM

TRIM WARN SYSTEM

FIGURE 7-7
RIGHT CIRCUIT BREAKER PANEL (PRO LINE FUSION)

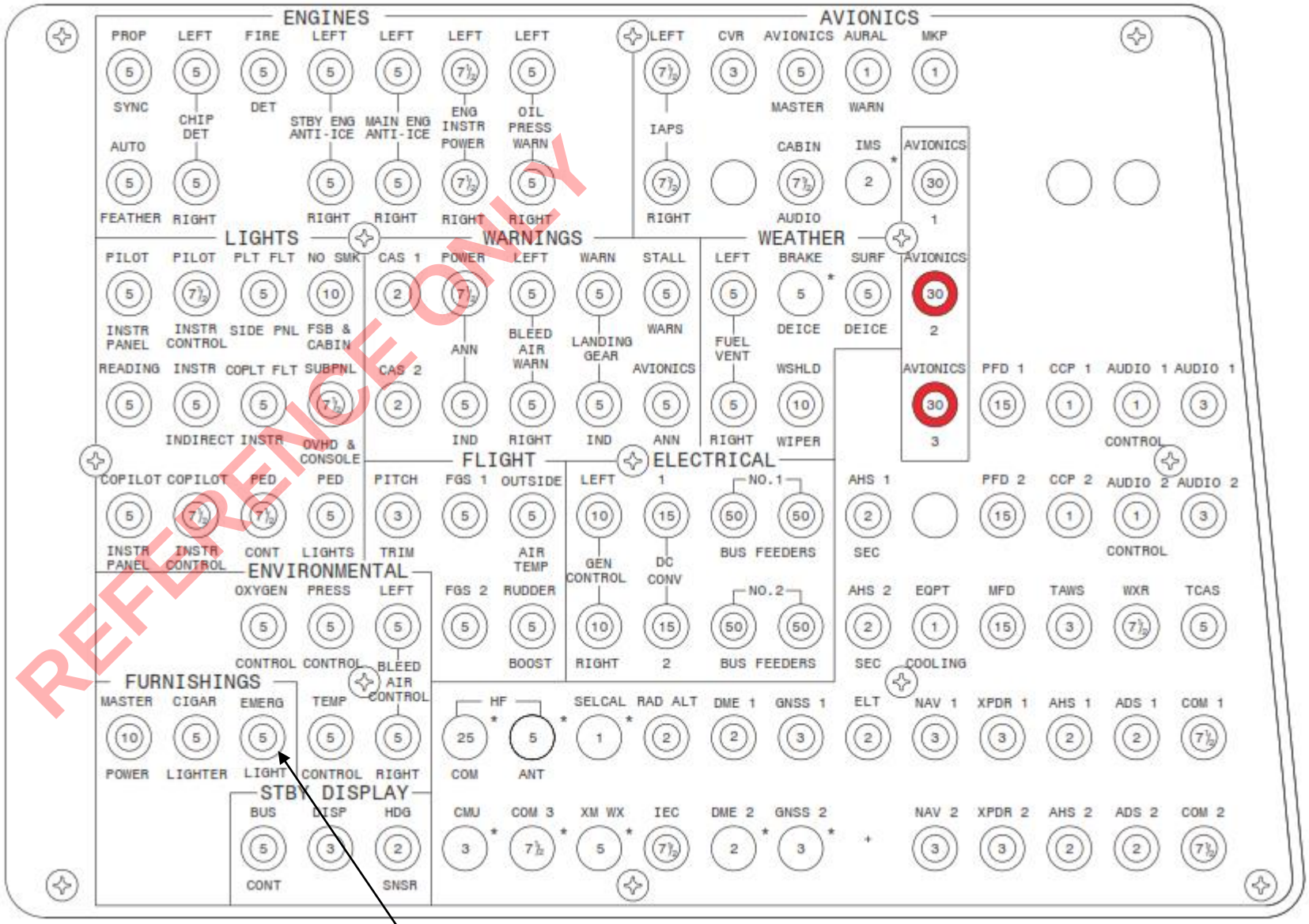


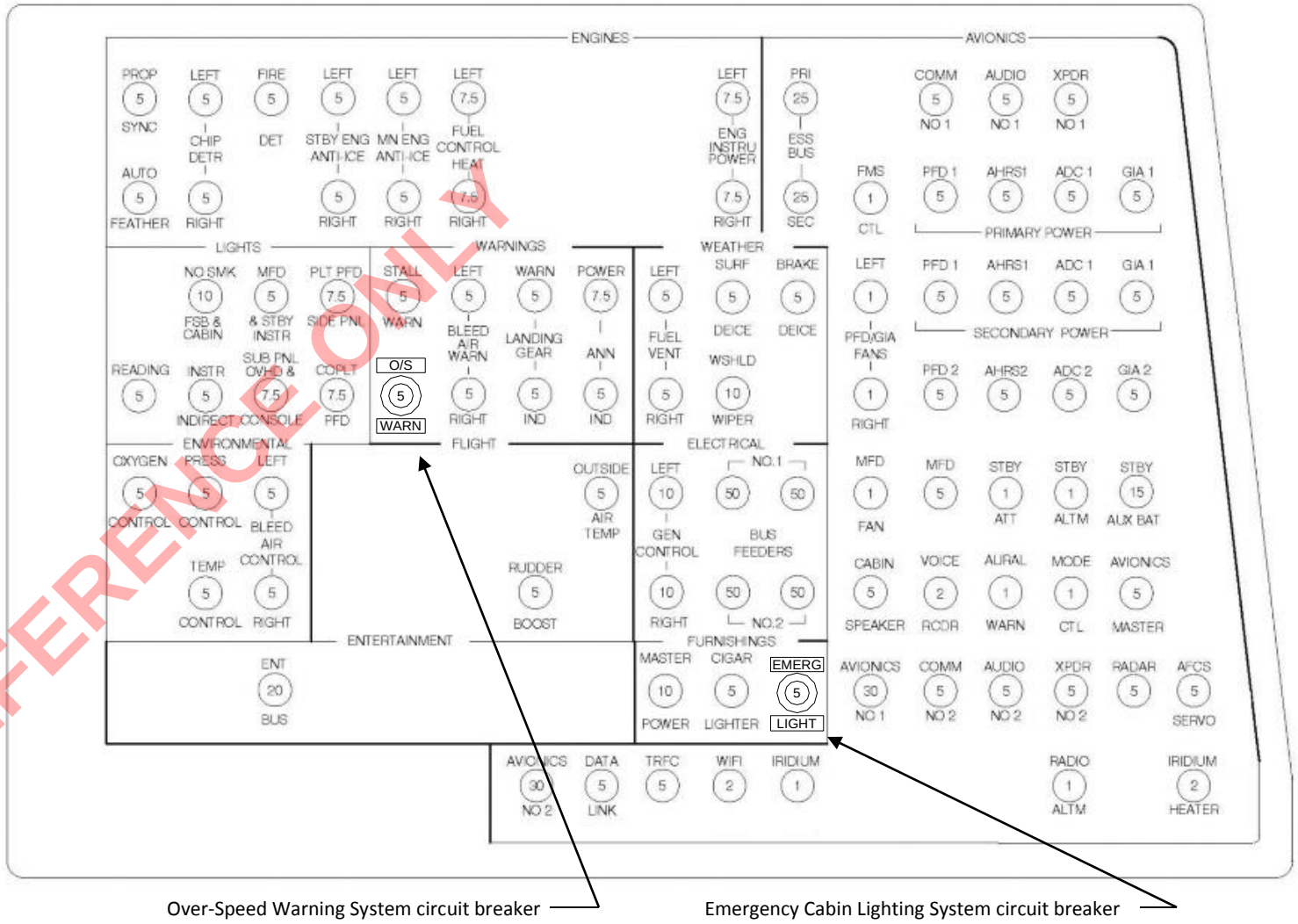
FIGURE 7-8
AVIONICS/ELECTRICAL EQUIPMENT BUS CONNECTION (PRO LINE FUSION)

System	Dual Fed Bus No. 1	Dual Fed Bus No. 2	Dual Fed Bus No. 3	Dual Fed Bus No. 4	Avionics Bus No. 1 (L Gen Bus)	Avionics Bus No. 2 (R Gen Bus)	Avionics Bus No. 3 (L Gen Bus)	Subpanel Feeder No. 1 (L Gen Bus)	Subpanel Feeder No. 2 (R Gen Bus)	Hot Bat Bus (Battery) (RW)
Engines (including Engine Instruments and Propellers)	L-Chip Detector	R-Chip Detector	L-Start Control (FP)	R-Start Control (FP)						L-Engine Fire Extinguisher
	L-Engine Instrument	R-Engine Instrument	EDC 1 (FP)	EDC 2 (FP)						R-Engine Fire Extinguisher
	Fire Detector		DCU 1 (FP)	DCU 2 (FP)						
	L-Main Engine Anti Ice	R-Main Engine Anti Ice	L-Ignitor Power (FP)	R-Ignitor Power (FP)						
	L-Oil Press Warn	R-Oil Press Warn								
	Prop Sync	Auto Feather and Trim Warn		Propeller Governor (FP)						
	L-Standby Engine Anti Ice	R-Standby Engine Anti Ice								
Environmental	L-Bleed Air Control	R-Bleed Air Control								Ground Heat
	Auto Oxygen Control	Cabin Temp Control								
	Cabin Pressure Control									
Flight	Pitch Trim	Rudder Boost Control	Flap Motor (FP)							
	OAT		Flap Control and Indicator (FP)							
	FGS 1	FGS 2								
Furnishings		Cigar Lighter								Window Shades
		Furnishings Master Power								
		Emerg Light								

EMERG LIGHTING SYSTEM

TRIM WARN SYSTEM

FIGURE 7-9
RIGHT CIRCUIT BREAKER PANEL (GARMIN G1000)



THIS PAGE IS INTENTIONALLY BLANK

SECTION 8
HANDLING, SERVICING, & MAINTENANCE

TABLE OF CONTENTS

NOTE

See BLR Aerospace AFMS-B250-1 AFM Supplement and basic Pilot Operating Handbook for Handling, Servicing. And Maintenance items not contained in this section.

TIRE PRESSURES

The tire inflation pressures have increased slightly as a result of the increase in maximum takeoff weight. Keep the tires inflated at the following pressures:

Nose Wheel Tires

Tire Size	Inflation Pressure
22 X 6.75-10, 8-ply	55 to 60 psi
22 X 6.50-10, 6-ply (Type III)	55 to 60 psi

Main Wheel Tires

Tire Size	Inflation Pressure
18 X 5.5, 10-ply (Type VII)	107 ± 2 psi
19.5 X 6.75, 10-ply	95 ± 2 psi

Note: All tires on main and nose wheels must have a speed rating of 160 mph (139 knots) or greater. Replace any tire not meeting this speed rating.

CABIN EMERGENCY LIGHTING SYSTEM

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

SECTION 9
SUPPLEMENTS

TABLE OF CONTENTS

TAKEOFF DISTANCE FOR SPECIAL AND CANADIAN OPERATORS

The takeoff distance charts shown on pages 9-3 and 9-4 are provided as supplemental performance planning data for special mission operators with approved regulatory exemptions and Canadian operations under Transport Canada Civil Aviation Operating and Flight Rules. These two charts show the takeoff ground roll distance and the takeoff distance to clear a 50-foot obstacle with two engines operating.

TAKEOFF DISTANCE - FLAPS UP

ASSOCIATED CONDITIONS

POWER.....Takeoff power set before brake release
FLAPS.....Up
LANDING GEAR...Retract after lift-off
RUNWAY.....Paved, dry surface

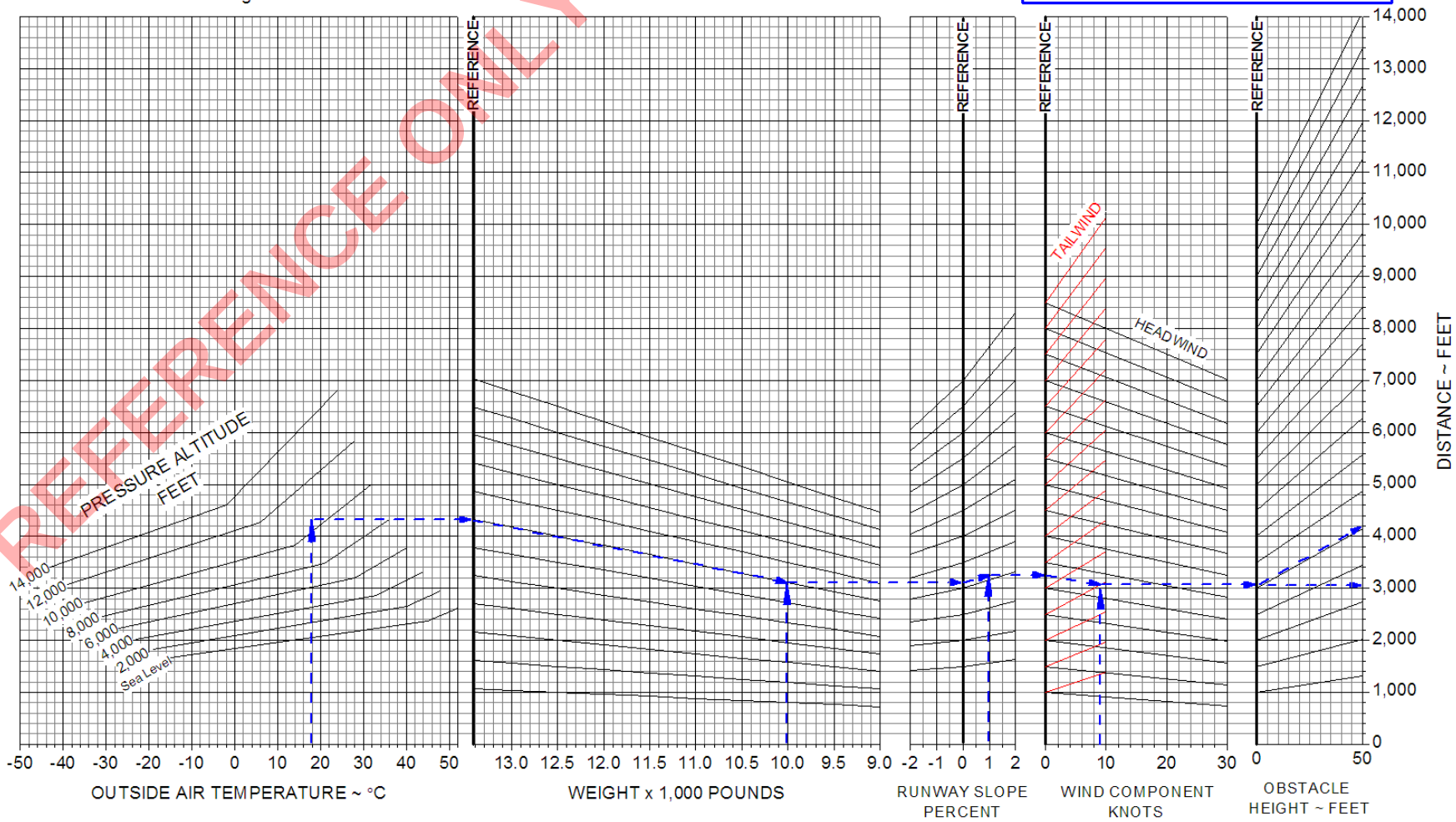
NOTES

1. For operation with ice vanes extended, add 9°C to OAT before entering graph.
2. Obstacle height guide lines not applicable for intermediate obstacle heights.

Weight Pounds	Takeoff Speed - Knots V_R	V_2
13,420	104	113
13,000	103	111
12,500	103	109
12,000	103	107
11,500	103	105
11,000	103	104
9,000	103	104

EXAMPLE

OAT.....18°C
Pressure Altitude.....10,500 FT
Weight.....10,000 LB
Headwind Component.....9.5 KTS
Runway Slope.....1.0%
Ground Roll.....3,050 FT
Distance Over 50 FT Obstacle.....4,180 FT
Takeoff Speeds, V_R.....103 KTS
V_2.....104 KTS



TAKEOFF DISTANCE - FLAPS APPROACH

ASSOCIATED CONDITIONS

POWER.....Takeoff power set before brake release
FLAPS.....Approach
LANDING GEAR...Retract after lift-off
RUNWAY.....Paved, dry surface

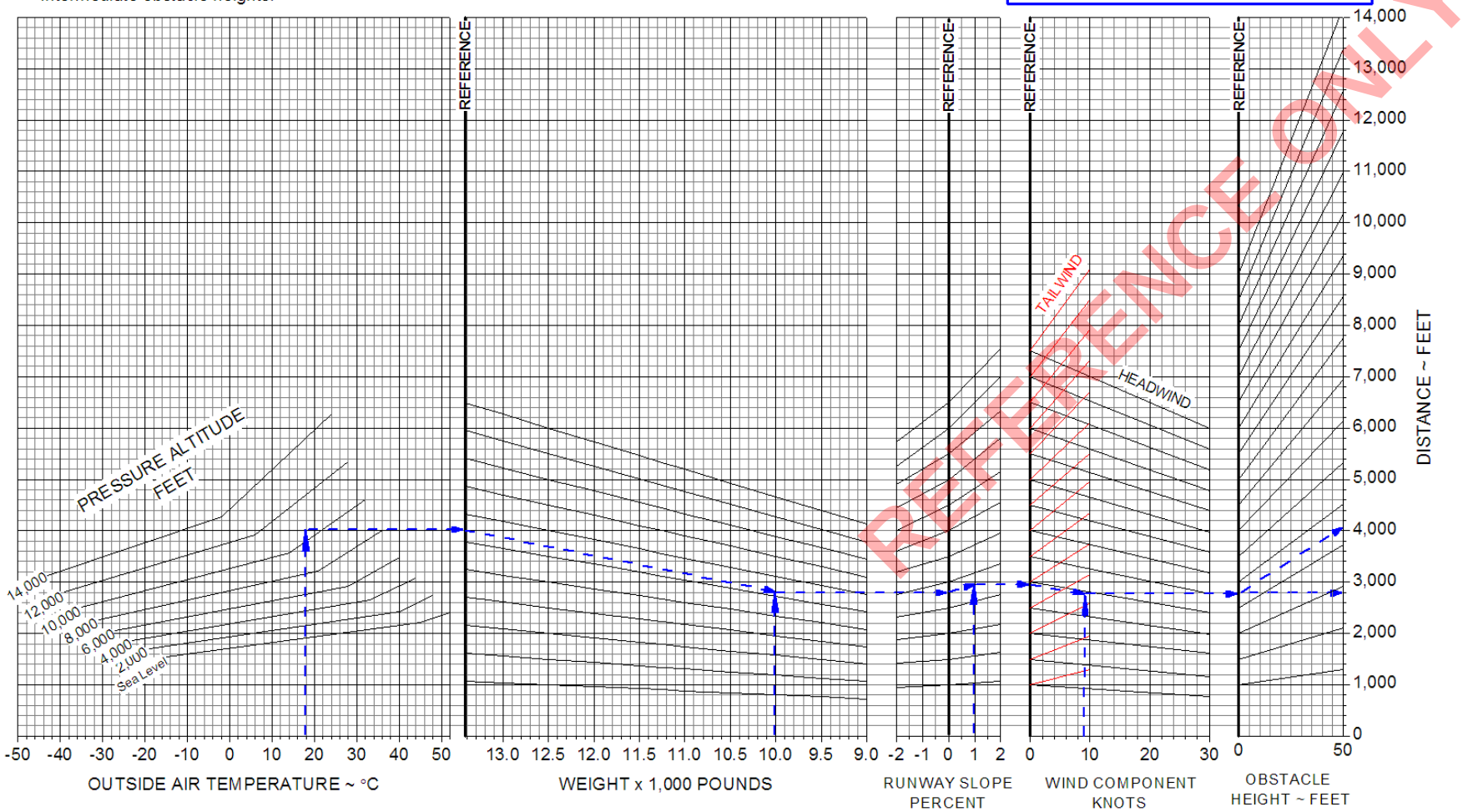
NOTES

1. For operation with ice vanes extended, add 9°C to OAT before entering graph.
2. Obstacle height guide lines not applicable for intermediate obstacle heights.

Weight Pounds	Takeoff Speed - Knots V_R	V_2
13,420	98	101
13,000	98	100
12,500	98	99
9,000	98	99

EXAMPLE

OAT.....18°C
Pressure Altitude.....10,500 FT
Weight.....10,000 LB
Headwind Component.....9.5 KTS
Runway Slope.....1.0%
Ground Roll.....2,775 FT
Distance Over 50 FT Obstacle.....4,050 FT
Takeoff Speeds, V_R.....98 KTS
V_2.....99 KTS



THIS PAGE IS INTENTIONALLY BLANK