

King Air 300 | Limitations

TRAINING REFERENCE ONLY — NOT A SUBSTITUTE FOR THE AFM

This document is a training summary compiled from the aircraft's POH/AFM. In any conflict, the FAA Approved Airplane Flight Manual for the specific airplane, including all applicable Temporary Changes and Supplements, is the governing authority. Verify limitations against the AFM for the serial number being flown.

Source: Beechcraft Super King Air 300 Pilot's Operating Manual, P/N 101-590097-3B (FA-2 and after), reissued July, 2000 (constituent pages dated Feb, 1987 through July, 2000) — Section 2, Limitations (pages 2-1 through 2-28). Engine: PT6A-60A.

Contents

This table is interactive — click any entry to jump to that section. Use the [△ Contents](#) link in the page footer to return here.

1. Airspeed	2
2. Power Plant	4
3. Fuel	7
4. Oil	8
5. Instrument Markings	9
6. Weight and Balance	10
7. Flight and Operating Limits	10
8. Ice and Rain Protection	13
9. Windshield and Windows	14
10. Placards	15
11. Kinds of Operation	17
12. V-Speed Definitions (General Reference)	24

1. AIRSPEED

AIRSPEED LIMITATIONS

POH 2-3

The limitations included in this section have been approved by the Federal Aviation Administration, and they must be observed in the operation of the BEECHCRAFT Super King Air 300.

SPEED	KCAS	KIAS	REMARKS
Maneuvering Speed V_a (14,000 pounds)	182	181	Do not make full or abrupt control movements above this speed.
Maximum Flap Extension/Extended Speed V_{fe} — Approach	200	200	Do not extend flaps or operate with flaps in prescribed position above these speeds.
Maximum Flap Extension/Extended Speed V_{fe} — Full Down	155	157	Do not extend flaps or operate with flaps in prescribed position above these speeds.
Maximum Landing Gear Operating Speed V_{lo} — Extension	182	181	Do not extend or retract landing gear above the speeds given.
Maximum Landing Gear Operating Speed V_{lo} — Retraction	164	163	Do not extend or retract landing gear above the speeds given.
Maximum Landing Gear Extended Speed V_{le}	182	181	Do not exceed this speed with landing gear extended.
Air Minimum Control Speed V_{mca} — Flaps Up	96	92	This is the lowest airspeed at which the airplane is directionally controllable when one engine suddenly becomes inoperative and the other engine is at take-off power. (See definition in Section I.)

SPEED	KCAS	KIAS	REMARKS
Air Minimum Control Speed V_{mca} — Flaps Approach	91	86	This is the lowest airspeed at which the airplane is directionally controllable when one engine suddenly becomes inoperative and the other engine is at take-off power. (See definition in Section I.)
Maximum Operating Speed V_{mo} — Sea Level to 21,000 feet	260	259	These speeds may not be deliberately exceeded in any flight regime.
Maximum Operating Speed V_{mo} — 21,000 to 35,000 feet	260-192*	259-191*	Red pointer reflects V_{mo}/M_{mo} limits.

NOTE

*0.58 Mach

AIRSPEED INDICATOR MARKINGS

POH 2-4

MARKING OR RANGE	KIAS VALUE OR RANGE	SIGNIFICANCE
Red Line	92	Air Minimum Control Speed (V_{mca})
White Arc	81 to 157	Full-flap Operating Range
Wide White Arc	81 to 100	Lower Limit is the Stalling Speed (V_{so}) at maximum weight with Flaps Down and idle power.
Narrow White Arc	100 to 157	Lower Limit is the Stalling Speed (V_s) at maximum weight with Flaps Up and idle power. Upper Limit is the maximum speed permissible with flaps extended beyond Approach.
White Triangle	200	Maximum Speed with Approach Flaps.
Blue Line	122	One-Engine-Inoperative Best Rate-Of-Climb Speed
Red and White Hash-Marked Pointer — Sea Level-21,000 feet	259	Maximum Operating Speed (V_{mo}). These speeds may not be deliberately exceeded in any flight regime.
Red and White Hash-Marked Pointer — 21,000-35,000 feet	259-191*	Maximum Operating Speed (V_{mo}). These speeds may not be deliberately exceeded in any flight regime.

NOTE

*0.58 Mach

2. POWER PLANT

POWER PLANT LIMITATIONS

POH 2-4

NUMBER OF ENGINES	2
ENGINE MANUFACTURER	Pratt & Whitney Canada, Inc. (Longueuil, Quebec, Can.)
ENGINE MODEL NUMBER	PT6A-60A

POWER LEVERS

POH 2-5

Do not lift power levers in flight. Lifting the power levers in flight, or moving the power levers in flight below the flight idle position, could result in a nose-down pitch and a descent rate leading to aircraft damage and injury to personnel.

ENGINE OPERATING LIMITS

POH 2-5

The following limitations shall be observed. Each column presents limitations. The limits presented do not necessarily occur simultaneously. Refer to the Pratt & Whitney Engine Maintenance Manual for specific actions required if limits are exceeded.

OPERATING CONDITION	TORQUE % (1)	MAXIMUM OBSERVED ITT °C	GAS GENERATOR N1 %	PROP RPM N2	OIL PRESS. PSI (2)	OIL TEMP °C (3)(4)
STARTING	---	1000 (5)	---	---	0 to 200	-40 (min)
IDLE	---	750 (6)	62 (min)	1050 (min)	60 (min)	-40 to +110
TAKEOFF	100	820	104	1700	90 to 135	0 to 110
MAX CONT	100	820	104	1700	90 to 135	0 to 110
CRUISE CLIMB	(7)	785	104	1700	90 to 135	0 to 110
MAX CRUISE	(7)	820	104	1700	90 to 135	0 to 110
MAX REVERSE	---	760	---	1650	90 to 135	0 to 99
TRANSIENT	156 (8)	850 (8)	104	1870 (5)	40 to 200	0 to 110

NOTE

1. Torque limit applies within range of 1000 - 1700 propeller rpm (N2).
2. Normal oil pressure is 90 to 135 psig at gas generator speeds above 72%. With engine torque below 62%, minimum oil pressure is 60 psig at normal oil temperature (60° to 70°C). Oil pressures under 90 psig are undesirable. Under emergency conditions, to complete a flight, a lower oil pressure limit of 60 psig is permissible at reduced power level not exceeding 62% torque. Oil pressures below 60 psig are unsafe and require that either the engine be shut down or a landing be made at the nearest suitable airport, using the minimum power required to sustain flight. Fluctuations of plus or minus 10 psi are acceptable.
3. A minimum oil temperature of 55°C is recommended for fuel heater operation at take-off power.
4. Oil temperature limits are -40°C and + 110°C. However, temperatures between 99°C and 110°C are limited to a maximum of 10 minutes.
5. These values are time limited to 5 seconds.
6. High ITT at ground idle may be corrected by reducing accessory load and/or increasing N1 rpm.
7. Cruise torque values vary with altitude and temperature.
8. These values are time limited to 20 seconds.

EXTERNAL POWER LIMITS

POH 2-6

External power carts will be set to 28.0-28.4 volts and be capable of generating a minimum of 1000 amps momentarily and 300 amps continuously.

GENERATOR LIMITS

POH 2-6

Maximum sustained generator load is limited as follows:

Sea Level to 34,000 feet altitude	100%
Above 34,000 feet altitude	95%

N1	MAXIMUM GENERATOR LOAD
62% to 70 %	75%
70% to 100%	100%

STARTER LIMITS

POH 2-6

Use of the starter is limited to 30 seconds ON, 5 minutes OFF, 30 seconds ON, 5 minutes OFF, 30 seconds ON, then 30 minutes OFF.

NUMBER OF PROPELLERS	2
PROPELLER MANUFACTURER	Hartzell Propeller, Inc. (Piqua, Ohio)
PROPELLER HUB AND BLADE MODEL NUMBERS	HUBS: HC-B4MP-3 BLADES: M10476K or M10476NK
PROPELLER DIAMETER	105.0 inches
PROPELLER BLADE ANGLES AT 42-INCH STATION	Feathered: +79.5° Reverse: -14°

PROPELLER ROTATIONAL SPEED LIMITS

POH 2-10

Transients not exceeding 5 seconds	1870 rpm
Reverse	1650 rpm
All other conditions	1700 rpm
Minimum idle speed	1050 rpm

PROPELLER ROTATIONAL OVERSPEED LIMITS

POH 2-10

The maximum propeller overspeed limit is time-limited to 5 seconds. Sustained propeller overspeeds faster than 1700 rpm indicate failure of the primary governor. Flight may be continued at propeller overspeeds up to 1768 rpm, provided torque is limited to 96%. Sustained propeller overspeeds faster than 1768 rpm indicate failure of both the primary governor and the secondary governor, and such overspeeds are unapproved.

POWER PLANT INSTRUMENT MARKINGS

POH 2-10

INSTRUMENT	RED LINE MINIMUM LIMIT	GREEN ARC NORMAL OPERATING - LIMIT	YELLOW ARC	RED LINE MAXIMUM LIMIT
INTERSTAGE TURBINE TEMPERATURE*	---	400° C to 820° C	---	820° C
TORQUE METER	---	0% to 100%	---	100%
PROPELLER TACHOMETER (N2)	---	1450 rpm to 1700 rpm	---	1700 rpm
GAS GENERATOR TACHOMETER (N1)	---	62% to 104%	---	104%
OIL TEMPERATURE	---	0° C to 99° C	99-110° C	110° C
OIL PRESSURE	60 psi	90 psi to 135 psi	60-90 psi	200 psi

NOTE

*Starting Limit (Solid White Line): 1000°C.

3. FUEL

APPROVED ENGINE FUELS

POH 2-6

COMMERCIAL GRADES	Jet A, Jet A-1, Jet B
MILITARY GRADES	JP-4, JP-5, JP-8

EMERGENCY ENGINE FUELS

POH 2-7

COMMERCIAL AVIATION GASOLINE GRADES	80 Red (Formerly 80/87); 100 Green (Formerly 100/130); 91/96; 115/145 Purple; 100LL Blue*
MILITARY AVIATION GASOLINE GRADES	80/87 Red; 100/130 Green; 115/145 Purple

NOTE

*In some countries, this fuel is colored Green and designated "100L".

LIMITATIONS ON THE USE OF AVIATION GASOLINE

POH 2-7

1. Operation is limited to 150 hours between engine overhauls.
2. Both standby fuel pumps must be capable of operation.
3. Crossfeed capability is required for flight above 20,000 feet pressure altitude (FL200).

APPROVED FUEL ADDITIVES — ANTI-ICING ADDITIVE

POH 2-7

Anti-icing additive conforming to Specification MIL-I-27686 may be used. Refer to Section IV, NORMAL PROCEDURES, for blending procedures.

CAUTION

Prior to refueling, check with the fuel supplier to determine whether or not anti-icing additive has already been added to the fuel. If anti-icing additive is used, it must be properly blended with the fuel to avoid deterioration of the fuel cell sealant. The additive concentration by volume shall be a minimum of 0.06% and a maximum of 0.15%. To assure proper concentration by volume of fuel on board, blend only enough additive for the unblended fuel.

FUEL BIOCIDAL ADDITIVE

POH 2-8

Fuel Biocide-fungicide "BIOBOR JF" in concentrations of 135 ppm or 270 ppm may be used in the fuel. BIOBOR JF may be used as the only fuel additive, or it may be used with the anti-icing additive conforming to MIL-I-27686 specification. Used together, the additives have no detrimental effect on the fuel system components.

Refer to the Super King Air 300 Maintenance Manual and to the latest revision of Pratt and Whitney Canada Engine Service Bulletin No. 13044 for concentrations to use and for procedures, recommendations, and limitations pertaining to the use of biocidal/fungicidal additives in turbine fuels.

FUEL MANAGEMENT — USABLE FUEL

POH 2-8

Total Usable Fuel Quantity	539 gallons (3611 pounds)
Each Main Fuel Tank System	190 gallons (1273 pounds)
Each Auxiliary Fuel Tank	79.5 gallons (533 pounds)

NOTE

(Gallons X 6.7 = Pounds)

FUEL IMBALANCE

POH 2-8

Maximum allowable fuel imbalance between wing fuel systems is 300 pounds.

FUEL CROSSFEED

POH 2-8

Crossfeeding of fuel is permitted only when one engine is inoperative.

WARNING

The airplane is approved for takeoff with one standby fuel pump inoperative, but in such a case, crossfeed of fuel will not be available from the side of the inoperative standby fuel pump.

FUEL GAGES IN THE YELLOW ARC

POH 2-9

Do not take off if fuel quantity gages indicate in yellow arc or indicate less than 265 pounds of fuel in each main fuel system.

AUXILIARY FUEL

POH 2-9

Do not put any fuel into the auxiliary tanks unless the main tanks are full.

OPERATING WITH LOW FUEL PRESSURE

POH 2-9

Operation of either engine with its corresponding fuel pressure annunciator (L FUEL PRESS or R FUEL PRESS) illuminated is limited to 10 hours before overhaul or replacement of the engine-driven fuel pump. Windmilling time need not be charged against this limit.

4. OIL

OIL SPECIFICATION

POH 2-9

Any oil specified by brand name in the latest revision of Pratt & Whitney Service Bulletin Number 13001 is approved for use in the PT6A-60A engine.

5. INSTRUMENT MARKINGS

MISCELLANEOUS INSTRUMENT MARKINGS

POH 2-10

FUEL QUANTITY INDICATORS — Yellow Arc (No-Takeoff Range)	0 to 265 pounds
CABIN DIFFERENTIAL PRESSURE GAGE — Green Arc (Normal Operating Range)	0 to 6.6 psi
CABIN DIFFERENTIAL PRESSURE GAGE — Red Arc (Unapproved Operating Range)	6.6 psi to end of scale
PNEUMATIC PRESSURE GAGE — Green Arc (Normal Operating Range)	12 to 20 psi
PNEUMATIC PRESSURE GAGE — Red Line (Maximum Operating Limit)	20 psi
GYRO SUCTION GAGE — Narrow Green Arc (Normal from 35,000 to 15,000 feet)	2.8 to 4.3 in.
GYRO SUCTION GAGE — Wide Green Arc (Normal from 15,000 feet to Sea Level)	4.3 to 5.9 in.
GYRO SUCTION GAGE — 35K marked on face of gage at	3.0 in.Hg
GYRO SUCTION GAGE — 15K marked on face of gage at	4.3 in.Hg

PROPELLER DEICE AMMETER

POH 2-11

Green Arc (Normal Operating Range)	26 to 32 amperes
---	------------------

6. WEIGHT AND BALANCE

WEIGHT LIMITS (NORMAL CATEGORY)

POH 2-11

Maximum Ramp Weight	14,100 pounds
Maximum Takeoff Weight	14,000 pounds
Maximum Landing Weight	14,000 pounds
Maximum Zero Fuel Weight	11,500 pounds
Maximum Weight in Baggage Compartment — When Equipped With Fold-up Seats	510 pounds
Maximum Weight in Baggage Compartment — When Not Equipped With Fold-up Seats	550 pounds

The maximum operating weights are limited by the following performance graphs, and compliance therewith is mandatory:

FOR FAR 91 OPERATIONS AT OR BELOW 12,500 POUNDS: — No additional performance limitations apply.

FOR FAR 91 OPERATIONS ABOVE 12,500 POUNDS, AND ALL FAR 135 OPERATIONS: 1. Maximum Take-off Weight To Achieve Take-off Climb Requirements. 2. Accelerate-Stop Distance. 3. Landing Distance.

FOR FAR 135 OPERATIONS: 1. Maximum Take-off Weight To Achieve Take-off Climb Requirements. 2. Accelerate-Stop Distance. 3. Landing Distance. 4. Maximum Enroute Weight at Minimum Enroute Altitude.

CENTER OF GRAVITY LIMITS

POH 2-12

Aft Limit	192.1 inches aft of datum at all weights
Forward Limits	177.0 inches aft of datum at 11,800 pounds, with straight line variation to 182.5 inches aft of datum at 14,000 pounds. 177.0 inches aft of datum at 11,800 pounds or less.

DATUM

POH 2-12

The reference datum is located 83.5 inches forward of the center of the front jack point.

MEAN AERODYNAMIC CHORD (MAC)

POH 2-12

Leading edge of the MAC	171.23 inches aft of the datum
MAC length	70.41 inches

7. FLIGHT AND OPERATING LIMITS

MANEUVER LIMITS

POH 2-12

The BEECHCRAFT Super King Air 300 is a Normal Category Airplane. Acrobatic maneuvers, including spins, are prohibited.

FLIGHT LOAD FACTOR LIMITS

POH 2-12

FLAPS UP	FLAPS DOWN
3.10 positive g's	2.0 positive g's
1.24 negative g's	0.0 g

MINIMUM FLIGHT CREW

POH 2-12

The minimum crew is one pilot. See the Kinds of Operations Equipment List in this section for required equipment.

RUDDER BOOST

POH 2-13

Must be operational for all flights.

AUTOFEATHER

POH 2-13

Must be operational for all flights and armed for takeoff, climb, and approach.

MAXIMUM OPERATING PRESSURE-ALTITUDE LIMITS

POH 2-13

Normal Operation	35,000 feet
Operation with Aviation Gasoline — Both Standby Fuel Pumps Operative	35,000 feet
Operation with Aviation Gasoline — Either Standby Fuel Pump Inoperative	Flight Prohibited
Operation with Aviation Gasoline — Climbs without Crossfeed Capability	20,000 feet
Operation with Yaw Damp System Inoperative	11,000 feet

MAXIMUM OUTSIDE AIR TEMPERATURE LIMITS

POH 2-13

Sea Level to 25,000 feet pressure altitude	ISA + 37°C
Above 25,000 feet pressure altitude	ISA + 31°C

CABIN PRESSURIZATION LIMIT

POH 2-13

Maximum Cabin Pressure Differential	6.6 psi
-------------------------------------	---------

MAXIMUM OCCUPANCY LIMITS

POH 2-13

(Including Crew) Fifteen (15).

SYSTEMS AND EQUIPMENT LIMITS — LANDING GEAR CYCLE LIMITS

POH 2-13

Landing gear cycles (1 up and 1 down) are limited to one every 5 minutes for a total of 6 cycles followed by a 15 minute cool-down period.

AFT-FACING SEATS

POH 2-14

The seatback of each occupied aft-facing seat must be in the upright position and the headrest fully extended for takeoff and landing.

Refer to chapter four of the Beech Super King Air 300 Maintenance Manual.

CARGO LIMITATIONS

1. All cargo shall be properly secured by an FAA-approved cargo restraint system.
2. Cargo must be arranged to permit free access to all exits and emergency exits.

WARNING

Severe icing may result from environmental 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 capability 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.

1. During flight, 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.
 - a. Unusually extensive ice accumulation on the airframe and windshield in areas not normally observed to collect ice.
 - b. Accumulation of ice on the upper surface of the wing, aft of the protected area.
 - c. Accumulation of ice on the engine nacelles and propeller spinners farther aft than normally observed.
2. Since the autopilot, when installed and operating, may mask tactile cues that indicate adverse changes in handling characteristics, use of the autopilot is prohibited when any of the visual cues specified above exist, or when unusual lateral trim requirements or autopilot trim warnings are encountered while the airplane is in icing conditions.
3. All wing icing inspection lights must be operative prior to flight into known or forecast icing conditions at night. [NOTE: This supersedes any relief provided by the Master Minimum Equipment List (MMEL).]

8. ICE AND RAIN PROTECTION

ICING LIMITATIONS

POH 2-14

Minimum Ambient Temperature for Operation of Deicing Boots	-40°C
Minimum Airspeed for Sustained Icing Flight	140 knots

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

ENGINE ANTI-ICE, LEFT and RIGHT, shall be on for operation in ambient temperatures of + 5°C or below when flight free of visible moisture cannot be assured.

APPROVED AIRPLANE DEICING/ANTI-ICING FLUIDS

POH 2-14

SAE AMS 1424 Type I; ISO 11075 Type I; SAE AMS 1428 Type II; ISO 11078 Type II; SAE AMS 1428 Type IV. Only the following type IV fluids are approved: Clariant Safewing MP IV 1957; Clariant Safewing MP IV 2001; UCAR ULTRA+ (Approved for use down to -15° C); Octagon Max Flight Type IV.

9. WINDSHIELD AND WINDOWS

CRACKED OR SHATTERED WINDSHIELD

POH 2-14A

The following limitations apply when continued flight is required with a cracked outer or inner ply of the windshield.

1. Continued flight with a cracked windshield is limited to 25 hours.
2. Windshields which have a shattered inner ply will have numerous cracks which will obstruct forward vision and produce small particles or flakes of glass that can break free of the windshield and interfere with the crew's vision. These windshields must be replaced prior to the next flight unless a special flight permit is obtained from the local FAA Flight Standards District Office.
3. Crack(s) must not impair visibility.
4. Crack(s) must not interfere with the use of windshield wipers for flights requiring the use of the wipers.
5. Windshield anti-ice must be operational for flights in icing conditions.
6. The following placard must be installed in plain view of the pilot:

MAXIMUM AIRPLANE ALTITUDE IS LIMITED TO 25,000 FEET. CABIN ΔP MUST BE MAINTAINED BETWEEN 2.0 AND 4.6 PSI DURING FLIGHT

Windshields that have cracks in both the inner and outer plies must be replaced prior to the next flight unless a special flight permit is obtained from the local FAA Flight Standards District Office.

CRACKS IN ANY SIDE WINDOW (COCKPIT OR CABIN)

POH 2-14B

The following limitations apply when continued flight is required with a cracked outer or inner ply in any side window. These limitations do not apply to minor compression-type chips (Clamshell) which may occur on the milled edge of the cockpit side windows. Refer to the maintenance manual for the disposition of such chips.

1. Continued flight is limited to 25 hours.
2. Flights must be conducted with the cabin depressurized. The following placard must be in clear view of the pilot:

PRESSURIZED FLIGHT IS PROHIBITED DUE TO A CRACKED SIDE WINDOW. CONDUCT FLIGHT WITH THE CABIN PRESSURE SWITCH IN THE DUMP POSITION.

10. PLACARDS

PLACARDS

POH 2-15

On Overhead Panel in Pilot's Compartment:

OPERATION LIMITATIONS — THIS AIRPLANE MUST BE OPERATED AS A NORMAL 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 CONDITIONER IS ON.

On Overhead Panel in Pilot's Compartment (MAXIMUM IAS KNOTS):

MAXIMUM IAS KNOTS	
GR EXTENSION	181
GR RETRACT	163
GR EXTENDED	181
APPROACH FLAP	200
FULL DN FLAP	157
MANEUVERING	181

On Pilot's Window Sill: TURN OFF STROBE LIGHTS WHEN TAXIING IN VICINITY OF OTHER AIRCRAFT OR DURING FLIGHT THROUGH FOG OR CLOUDS. STD POSITION LIGHTS TO BE TURNED ON FOR ALL NIGHT OPERATIONS.

On Pilot's and Copilot's Window Sills:

WARNING

DO NOT SMOKE WHILE OXYGEN IS IN USE WITH DILUTER-DEMAND CREW MASK FLOW STOPS WHEN BREATHING STOPS

On Curved Pedestal Adjacent to Power Levers:

CAUTION

REVERSE ONLY WITH ENGINES RUNNING

On Pedestal Near Cabin Pressurization Controller:

WARNING

DE-PRESSURIZE CABIN BEFORE LANDING

PLACARDS (continued)

POH 2-17

Below Right Circuit Breaker Panel: PILOT'S STATIC AIR SOURCE — NORMAL / ALTERNATE. SEE FLIGHT MANUAL PERFORMANCE SECTION FOR INSTR CAL ERROR.

Below Latch on Forward Side of Forward and Aft Partitions: KICK HERE FOR EMERGENCY EVACUATION.

On Cabin Side of Forward and Aft Partitions: [No-smoking symbol and fasten-seat-belt symbol].

PLACARDS (continued)

POH 2-18

On Emergency Exit Handles: EXIT-PULL.

Below Emergency Exit Handles on Exit Lock Lever (Visible only when Lever is in Locked Position): MUST BE UNLOCKED BEFORE TAKEOFF / LOCKED / EXIT LOCK.

On Couch Drawer (Inside Bottom): COUCH LIMITATIONS MAX WT OF DRAWER CONTENTS 30 LBS PER DRAWER.

On Window Frame Above Aft End of Couch (FA-112 and After, and Earlier Airplanes in Compliance with S.B. 2331, Part II): AFT COUCH LOCATION NOT TO BE OCCUPIED DURING TAKEOFF OR LANDING.

PLACARDS (continued)

POH 2-19

On Window Frame Adjacent to Lateral-Tracking Seats When Installed: SEAT MUST BE LOCATED IN OUTBOARD POSITION FOR TAKEOFF AND LANDING.

On Shoulder Harness Assembly For All Chairs: SHOULDER HARNESS MUST BE WORN DURING TAKE-OFF AND LANDING WITH SEAT IN OUTBD POSITION, SEAT BACK UPRIGHT AND HEADREST FULLY EXTENDED.

On Cupholders and Tables When Installed: STOW BEFORE TAKEOFF AND LANDING.

On Outside Surface of First Aid Oxygen Access Door: FIRST AID OXYGEN — PULL.

On Center of Aft Bulkhead (When Not Equipped with Fold-up Seats): COMPARTMENT CAPACITY 550 LBS. THIS INCLUDES BAGGAGE AND/OR EQUIPMENT AND/OR OPTIONAL FURNISHINGS. SEE WEIGHT AND BALANCE SECTION OF FLIGHT MANUAL FOR LOADING INSTRUCTIONS.

PLACARDS (continued)

POH 2-20

On Center of Aft Bulkhead (When Equipped with Fold-up Seats): COMPARTMENT CAPACITY — TOTAL COMPARTMENT CAPACITY (INCLUDING BAGGAGE AND/OR PASSENGER) NOT TO EXCEED 510 POUNDS. SEE WEIGHT AND BALANCE SECTION OF FLIGHT MANUAL FOR LOADING INSTRUCTIONS.

Center on Pull Handle Top Edge of Escutcheon, Also Centered Between Coat Hooks in Vestibule: CLOTHING ONLY.

Inside Airstair Door Behind Handle: CAUTION - DO NOT OPEN DOOR WHEN CABIN IS PRESSURIZED. CAUTION - DO NOT ATTEMPT TO CHECK SECURITY OF CABIN DOOR BY MOVING DOOR HANDLE UNLESS CABIN IS DEPRESSURIZED AND AIRCRAFT IS ON THE GROUND. PUSH BUTTON & TURN HANDLE TO OPEN DOOR.

Inside Airstair Door on Folding Step: LIFT STEP TO INSPECT DOOR LOCK.

PLACARDS (continued)

POH 2-21

Inside Airstair Door Between Folding Steps: WHEN HANDLE IS IN LOCKED POSITION - ARM SHOULD BE AROUND PLUNGER AS SHOWN.

Center on Lip of Lid on Trash Container in Cabinet: NO CIGARETTE DISPOSAL.

On Floor, Pilot's Side of Pedestal: LANDING GEAR ALTERNATE EXTENSION — 1. REMOVE HANDLE FROM SECURING CLIP AND PUMP. 2. AFTER ALL THREE GREEN INDICATOR LIGHTS ARE ILLUMINATED AND FURTHER RESISTANCE IS FELT, SECURE HANDLE IN STOWED POSITION.

PLACARDS (continued)

POH 2-22

Aft Side of Baggage Partition or Vanity: NO SMOKING AND FASTEN SHOULDER HARNESS AND SEAT BELT WHEN CURTAIN IS CLOSED.

Aft Side of Aft Partition Door: NO SMOKING.

Over Airstair Door: PRESS TO INSPECT DOOR LATCHES.

Below Trim Controls on Pedestal: OXYGEN — PULL ON / SYSTEM READY — PASSENGER — MANUAL DROP OUT.

On Window Frame Behind Toilet (Airplanes in Compliance with S.B. 2331, Part I): TOILET COMPARTMENT NOT TO BE OCCUPIED DURING TAKEOFF AND LANDING.

11. KINDS OF OPERATION

KINDS OF OPERATIONS

POH 2-23

The BEECHCRAFT Model 300 is approved for the following types of operations when the required equipment, as shown in the KINDS OF OPERATIONS EQUIPMENT LIST, is installed and operable: 1. VFR Day; 2. VFR Night; 3. IFR Day; 4. IFR Night; 5. Icing Conditions.

This airplane may be operated in day or night VFR, day or night IFR, and icing conditions when the required systems and equipment are 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 equipment listed must be installed and operable for the particular kind of operation indicated unless: 1. The airplane is approved to be operated in accordance with a current Minimum Equipment List (MEL) issued by the FAA; or, 2. An alternate procedure is provided in the Pilot's Operating Handbook and FAA Approved Airplane Flight Manual for the inoperative state of the listed system or equipment and all limitations are complied with.

NOTE

Numbers in the Kinds of Operations Equipment List refer to quantities required to be operative for the specified condition. The list does not include all equipment required by the FAR Parts 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.

ELECTRICAL POWER

POH 2-24

SYSTEM and/or COMPONENT	VFR DAY	VFR NIGHT	IFR DAY	IFR NIGHT	ICING CONDITIONS
Battery	1	1	1	1	1
Battery Monitor System Including Annunciator	1	1	1	1	1
BAT TIE OPEN Annunciator	1	1	1	1	1
DC Generator	2	2	2	2	2
DC GEN Annunciator	2	2	2	2	2
DC Load Meter	2	2	2	2	2
DC Voltmeter and Select Switch (FA-1 thru FA-9)	1	1	1	1	1
DC Voltmeter/Battery Ammeter and Select Switch (FA-10 and After)	1	1	1	1	1
GEN TIE OPEN Annunciator	2	2	2	2	2
Inverter	2	2	2	2	2
INVERTER Annunciator	1	1	1	1	1

ENGINE INDICATIONS

POH 2-24

SYSTEM and/or COMPONENT	VFR DAY	VFR NIGHT	IFR DAY	IFR NIGHT	ICING CONDITIONS
ITT Indicator	2	2	2	2	2
Tachometer (Gas Generator)	2	2	2	2	2
Tachometer (Propeller)	2	2	2	2	2
Torque Indicator	2	2	2	2	2

ENGINE OIL

POH 2-24

SYSTEM and/or COMPONENT	VFR DAY	VFR NIGHT	IFR DAY	IFR NIGHT	ICING CONDITIONS
Chip Detector System Including Annunciator	2	2	2	2	2
Oil Pressure Indicator	2	2	2	2	2
Oil Temperature Indicator	2	2	2	2	2
OIL PRESS Annunciator	2	2	2	2	2

SYSTEM and/or COMPONENT	VFR DAY	VFR NIGHT	IFR DAY	IFR NIGHT	ICING CONDITIONS
BL AIR FAIL Annunciator	2	2	2	2	2
Bleed Air Shutoff Valve	2	2	2	2	2
ALT WARN Annunciator	1	1	1	1	1
Cabin Rate of Climb Indicator	1	1	1	1	1
Outflow Valve/Safety Valve	2	2	2	2	2
Pressurization Controller	1	1	1	1	1
Differential Pressure/Cabin Altitude Indicator	1	1	1	1	1
DUCT OVERTEMP Annunciator	1	1	1	1	1

EQUIPMENT/FURNISHINGS

POH 2-25

SYSTEM and/or COMPONENT	VFR DAY	VFR NIGHT	IFR DAY	IFR NIGHT	ICING CONDITIONS
Exit Signs Self-Illuminating	2	2	2	2	2

FIRE PROTECTION

POH 2-25

SYSTEM and/or COMPONENT	VFR DAY	VFR NIGHT	IFR DAY	IFR NIGHT	ICING CONDITIONS
Engine Fire Detector System	2	2	2	2	2
Engine Fire Extinguisher	2	2	2	2	2
Portable Fire Extinguisher	2	2	2	2	2

FLIGHT CONTROLS

POH 2-25

SYSTEM and/or COMPONENT	VFR DAY	VFR NIGHT	IFR DAY	IFR NIGHT	ICING CONDITIONS
Flap Position Indicator	1	1	1	1	1
Flap System	1	1	1	1	1
Trim Tab Position Indicator (Rudder, Aileron, Elevator)	3	3	3	3	3
Stall Warning Tone	1	1	1	1	1
Yaw Damp/Rudder Boost System	1	1	1	1	1

SYSTEM and/or COMPONENT	VFR DAY	VFR NIGHT	IFR DAY	IFR NIGHT	ICING CONDITIONS
Fuel Transfer System Including Annunciator	2	2	2	2	2
Standby Electric Fuel Pump	2	2	2	2	2
Fuel Flow Indicator	2	2	2	2	2
FUEL PRESS Annunciator	2	2	2	2	2
Fuel Quantity Indicating System Including Annunciator	2	2	2	2	2
Firewall Fuel Shutoff System Including Annunciator	2	2	2	2	2
Engine Driven Boost Pump	2	2	2	2	2
Fuel Crossfeed System Including Annunciator	1	1	1	1	1

ICE AND RAIN PROTECTION

POH 2-26

SYSTEM and/or COMPONENT	VFR DAY	VFR NIGHT	IFR DAY	IFR NIGHT	ICING CONDITIONS
Alternate Static Air System	1	1	1	1	1
Engine Auto-Ignition System Including Annunciator	2	2	2	2	2
Engine Anti-Ice System Including Annunciator	2	2	2	2	2
Heated Fuel Vent	0	0	2	2	2
Heated Windshield	0	0	0	0	2
Pitot Heat	0	0	2	2	2
Pneumatic Pressure Indicator	0	0	1	1	1
Stall Warning Heat (Lift Transducer and Mounting Plate)	0	0	0	0	1
Surface Deicer System	0	0	0	0	1
Propeller Deicer System	0	0	0	0	1
Wing Ice Light (Left)	0	0	0	0	1

LANDING GEAR

POH 2-26

SYSTEM and/or COMPONENT	VFR DAY	VFR NIGHT	IFR DAY	IFR NIGHT	ICING CONDITIONS
Landing Gear Position Indicator Light	3	3	3	3	3
Landing Gear Handle Light	1	1	1	1	1
Landing Gear Aural Warning	1	1	1	1	1
Landing Gear Hydraulic Power Pack	1	1	1	1	1
HYD FLUID LOW Annunciator	1	1	1	1	1
Emergency Extension Hand Pump	1	1	1	1	1

SYSTEM and/or COMPONENT	VFR DAY	VFR NIGHT	IFR DAY	IFR NIGHT	ICING CONDITIONS
Cockpit and Instrument Lighting System	0	1	0	1	0
CABIN DOOR Annunciator	1	1	1	1	1
Landing Light	0	2	0	2	0
Position Light	0	3	0	3	0
Anti-Collision Light	0	2	0	2	0
Passenger Notice System (NO SMK FSB)	1	1	1	1	1

MISCELLANEOUS EQUIPMENT (Single Pilot Operation Only)

SYSTEM and/or COMPONENT	VFR DAY	VFR NIGHT	IFR DAY	IFR NIGHT	ICING CONDITIONS
Headset	1	1	1	1	1
Boom-mounted Microphone	1	1	1	1	1
Emergency, Abnormal and Normal Procedures Checklist	1	1	1	1	1

NAVIGATION INSTRUMENTS

SYSTEM and/or COMPONENT	VFR DAY	VFR NIGHT	IFR DAY	IFR NIGHT	ICING CONDITIONS
Airspeed Indicator	2	2	2	2	2
Sensitive Altimeter	2	2	2	2	2
Magnetic Compass	1	1	1	1	1
Gyroscopic Rate of Turn Indicator with Slip-Skid Indicator	2	2	2	2	2
Gyroscopic Bank & Pitch Indicator	2	2	2	2	2
Gyroscopic Direction Indicator (or equivalent)	2	2	2	2	2
Vertical Speed Indicator	0	0	2	2	2
Outside Air Temperature Indicator	1	1	1	1	1

NOTE

Where a servoed altimeter and airspeed indicator are installed, functioning pneumatic indicators are also required.

SYSTEM and/or COMPONENT	VFR DAY	VFR NIGHT	IFR DAY	IFR NIGHT	ICING CONDITIONS
Oxygen System	1	1	1	1	1

PROPELLER

SYSTEM and/or COMPONENT	VFR DAY	VFR NIGHT	IFR DAY	IFR NIGHT	ICING CONDITIONS
Autofeather System Including Annunciators	1	1	1	1	1
Propeller Reversing System Including Annunciator	2	2	2	2	2
Propeller Governor Test Switch	1	1	1	1	1
Propeller Overspeed Governor	2	2	2	2	2
Propeller Electric Ground Idle Stop	2	2	2	2	2
PROP PITCH Annunciator	2	2	2	2	2

VACUUM SYSTEM

SYSTEM and/or COMPONENT	VFR DAY	VFR NIGHT	IFR DAY	IFR NIGHT	ICING CONDITIONS
Instrument Air System	1	1	1	1	1
Gyro Suction Gage	1	1	1	1	1

12. V-SPEED DEFINITIONS (GENERAL REFERENCE)

Takeoff and Initial Climb

V-Speed	Name	Meaning
V1	Takeoff decision speed	Maximum speed at which a reject may be initiated; at or above it the takeoff must be continued.
Vr	Rotation speed	Speed at which the pilot rotates to raise the nose.
Vlof	Lift-off speed	Speed at which the aircraft first becomes airborne.
V2	Takeoff safety speed	Target climb speed with the critical engine inoperative.
V2min	Minimum takeoff safety speed	Lowest allowable V2 .
Vef	Engine-failure speed	Speed at which the critical engine is assumed to fail (certification).
Vmu	Minimum unstick speed	Slowest speed at which the aircraft can safely lift off.
Vfto	Final takeoff speed	Speed in the final takeoff / climb segment.

Climb Performance

V-Speed	Name	Meaning
V_x	Best angle of climb	Most altitude gained per distance over the ground.
V_y	Best rate of climb	Most altitude gained per unit of time.
V_{xse}	Best angle, single-engine	V_x with one engine inoperative (multiengine).
V_{yse}	Best rate, single-engine	V_y with one engine inoperative — the blue line .

Stall Speeds

V-Speed	Name	Meaning
V_s	Stall speed	Minimum steady flight speed at which the aircraft is controllable.
V_{s0}	Stall speed, landing configuration	Stall with full flaps and gear down — bottom of the white arc.
V_{s1}	Stall speed, clean configuration	Stall in a specified (usually clean) configuration — bottom of the green arc.
V_{sr}	Reference stall speed	Certification reference stall speed.
V_{sse}	Safe single-engine speed	Minimum speed for intentionally cutting one engine.
V_{sw}	Stall warning speed	Speed at which the stall warning activates.

Airspeed Indicator Limit Speeds

V-Speed	Name	Meaning
V_a	Design maneuvering speed	Maximum speed for full or abrupt control inputs without overstress.
V_{no}	Maximum structural cruising speed	Normal operating limit — top of the green arc, start of the yellow arc.
V_{ne}	Never-exceed speed	The red line — never exceed.
V_{fe}	Maximum flap-extended speed	Top of the white arc.
V_{le}	Maximum landing-gear-extended speed	Maximum speed flying with the gear down.
V_{lo}	Maximum landing-gear-operating speed	Maximum speed to extend or retract the gear.
V_{mo} / M_{mo}	Maximum operating limit speed / Mach	Maximum operating airspeed and Mach number.

Approach and Landing

V-Speed	Name	Meaning
V_{ref}	Landing reference speed	Threshold-crossing speed, typically 1.3 x V_{s0} .
V_{app}	Approach speed	Target speed on final approach.
V_{bg}	Best glide speed	Speed for maximum glide distance (best lift-to-drag ratio).

Multiengine Control

V-Speed	Name	Meaning
Vmc / Vmca	Minimum control speed (airborne)	Minimum speed to maintain control with the critical engine inoperative — red radial line.
Vmcg	Minimum control speed (ground)	Minimum control speed on the takeoff roll.
Vmcl	Minimum control speed (landing)	Minimum control speed in the landing configuration.
Vmbe	Maximum brake energy speed	Maximum speed from which the brakes can absorb a rejected takeoff.

Design and Certification Speeds

V-Speed	Name	Meaning
Vb	Design gust-intensity speed	Turbulence-penetration design speed.
Vc	Design cruising speed	Certification design cruising speed.
Vd / Vdf	Design / demonstrated diving speed	Certification dive speed.
Vf	Design flap speed	Certification design flap speed.
Vh	Maximum level-flight speed	Maximum speed in level flight at maximum continuous power.

NOTE

These are certification design speeds. They are rarely referenced in day-to-day operations.

Airspeed Indicator Colour Markings

V-Speed	Name	Meaning
White arc	Flap operating range	Vs0 to Vfe .
Green arc	Normal operating range	Vs1 to Vno .
Yellow arc	Caution range	Vno to Vne — smooth air only.
Red line	Never exceed	Vne .
Blue line	Best rate, single-engine	Vyse (multiengine).
Red radial	Minimum control speed	Vmc (multiengine).

NOTE

The colour markings are defined by the V-speeds above, so a change to a limitation speed changes the arc.