

THIS MANUAL MUST BE KEPT IN THE AIRPLANE AT ALL TIMES

**BEECH AIRCRAFT CORPORATION,
WICHITA, KANSAS 67201 U. S. A.**

Manufacturers Serial Number D-9163

FAA Registration Number N9400Q

Type Certificate 3A15

FAA Approved, based on CAR 3, Utility Category

**MODEL V35B BONANZA LANDPLANE
AIRPLANE FLIGHT MANUAL**

(Observance of the limitations listed in Section I is Mandatory.)

I. LIMITATIONS.

The following limitations are to be observed in the operation of this airplane equipped with a Continental IO-520-B engine.

A. Engine Limits:

Take-off and maximum continuous operation (sea level) - 2700 rpm, full throttle (285 hp).

B. Fuel:

Aviation gasoline 100/130 minimum grade. Usable fuel from standard system - 49 gallons; usable fuel from optional installation - 80 gallons.

C. Propeller:

Manufacturer	Hub	Blades
McCauley Industrial Corporation	2A36C23	Two 84B-O
Hartzell Propeller, Inc.	PHC-A3VF-4	Three V8433-2R or V8433-4R

D. Power Plant Instruments:

Oil Temperature: Green Line (normal operating range), 100° to 240°F; Yellow Mark (caution), 100°F; Red Mark (maximum), 240°F.

Oil Pressure: Green Line (normal operating range), 30 to 60 psi; Red Mark (maximum), 100 psi; Red Mark (minimum), 30 psi.

Fuel Flow: Green Arc (operating range), 6.9 to 24.3 gph; Red Radial (maximum), 17.5 psi; Red Radial (minimum), 1.5 psi.

Tachometer: Green Arc (normal operating range), 1800 to 2700 rpm; Red Radial (maximum), 2700 rpm.

Cylinder Head Temperature: Green Line (normal operating range), 200° to 460°F; Red Mark (maximum), 460°F.

Manifold Pressure: Green Arc (normal operating range), 15 to 29.6 in. Hg; Red Radial (maximum at sea level), 29.6 in. Hg.

E. Airspeed Limits: (Calibrated Airspeed, Utility Category)

Never Exceed (Red Radial)	225 mph (195 knots)
Caution Range (Yellow Arc)	190 to 225 mph (165 to 195 knots)
Normal Operating Range (Green Arc)	74 to 190 mph (64 to 165 knots)
Flap Extension Range (White Arc)	63 to 140 mph (55 to 122 knots)
Maximum Gear Operating Speed	175 mph (152 knots)
Maximum Gear Extended Speed	175 mph (152 knots)
Maximum Design Maneuvering Speed	152 mph (132 knots)
Maximum Structural Cruising Speed	190 mph (165 knots)

F. Approved Maneuvers:

Maneuvers	Entry Speed
Chandelle	152 mph (132 knots) CAS
Steep Turn	152 mph (132 knots) CAS
Lazy Eight	152 mph (132 knots) CAS
Stall (except whip)	152 mph (132 knots) CAS

Spins are prohibited. In the event of an inadvertent spin, apply opposite rudder and forward elevator control. Avoid abrupt pullout after rotation has been stopped.

G. Design Structural Load Factor: 4.4G positive. No inverted maneuvers are approved.

NOTE

Apply control pressures with caution at speeds above 152 mph (132 knots) and with extreme caution at speeds above 190 mph (165 knots). Reduce speed to 152 mph (132 knots) or less, in rough or turbulent air.

H. Maximum Gross Weight: 3400 pounds.

Datum is 83.1 inches forward of center line through forward jack points.

MAC leading edge is 66.7 inches aft of datum; 65.3 inches long.

CG Limitations (wheels down):

Forward - 77.0 inches aft of datum to weight of 2900 pounds with straight-line variation to 82.1 inches at 3400 pounds.

Rear - 85.7 inches aft of datum to weight of 3000 pounds with straight-line variation to 84.4 inches at 3400 pounds.

I. Placards:

On control console: "AUX FUEL PUMP OPERATION - TAKE-OFF AND LAND WITH AUX FUEL PUMP OFF EXCEPT IN CASE OF LOSS OF FUEL PRESS." "ALTERNATE AIR - PULL AND RELEASE."

On left side panel:

"AIRSPEED LIMITATION - MAXIMUM SPEED WITH LANDING GEAR EXTENDED (NORMAL) 175 MPH (152 KNOTS). MAXIMUM DESIGN MANEUVERING SPEED 152 MPH (132 KTS). UTILITY CATEGORY AIRPLANE - OPERATE IN ACCORDANCE WITH FAA APPROVED AIRPLANE FLIGHT MANUAL. INTENTIONAL SPINS PROHIBITED - NO ACROBATIC MANEUVERS APPROVED EXCEPT THOSE LISTED IN THE AIRPLANE FLIGHT MANUAL."

On fuel selector panel: "OFF", "LH TANK 25 GAL." "RH TANK 25 GAL." (Standard System);
"OFF", "LH TANK 40 GAL.", "RH TANK 40 GAL." (Optional System).

On storm window: "CAUTION - DO NOT OPEN ABOVE 145 MPH (126 KTS)."

On top of front spar carry-through structure between front seats: "EMERGENCY LANDING
GEAR INSTRUCTIONS TO EXTEND - ENGAGE HANDLE IN REAR OF FRONT SEAT
AND TURN COUNTERCLOCKWISE AS FAR AS POSSIBLE (50 TURNS)."

On middle windows: "LATCH WINDOW BEFORE TAKE-OFF." "DO NOT OPEN IN FLIGHT."

Above landing gear mechanical position indicator when winter baffles are installed: "NOTICE -
REMOVE WINTER BAFFLES WHEN OUTSIDE AIR TEMPERATURE EXCEEDS 70°F.

On upholstery panel below left-hand middle window near emergency release handle when the
folding fifth and sixth seats are installed: "EMERGENCY EXIT - PULL PIN - PUSH WINDOW
OUT."

On inner side of baggage compartment door: "BAGGAGE AND CARGO COMPARTMENT -
FLOOR STRUCTURAL CAPACITY 270 POUNDS MAXIMUM. CHECK AIRCRAFT
FLIGHT MANUAL FOR WEIGHT AND CENTER OF GRAVITY LIMITS WHEN LOADING
BAGGAGE, CARGO OR FAMILY SEATS."

Above inside door handle: "ROTATE HANDLE TO FULL LOCKED POSITION."

On left hand side panel near firewall air control: "IN CASE OF ENGINE FIRE PULL FIREWALL
AIR CONTROL TO CLOSE."

II. PROCEDURES

A. Normal Procedures.

1. CABIN DOOR LATCH: Turn inside handle counterclockwise to lock.
2. FUEL SYSTEM: Excess fuel from the engine is returned to the cell from which fuel is being drawn. Drain fuel sumps and fuel system low spot daily.
3. TO START ENGINE: Place mixture control in full rich position (pull control out 1/4 to 1/2 of its travel above 5000 feet), position propeller control for high rpm, and open throttle approximately 1/2 inch; turn auxiliary fuel pump ON until fuel flow peaks, then OFF; reduce throttle to idle of 1/4 inch and engage starter.
4. HOT ENGINE STARTING: Auxiliary fuel pump ON until fuel flow stabilizes, indicating system is purged of fuel vapor then OFF.

CAUTION

Do not over-prime engine. In event of overprime condition place mixture control in idle cut-off, open throttle, and engage starter; as engine starts, reduce throttle to idle rpm and place mixture control in full rich position.

5. AFTER STARTING: If necessary, turn auxiliary fuel pump ON to purge system of any remaining vapor, then turn pump OFF.

NOTE

Auxiliary fuel pump switch in ON position with engine-driven pump operating may produce over-rich mixture resulting in slight power loss.

CAUTION

When switching fuel cells, if the cell is allowed to run completely dry, or for other in-flight restarting, turn auxiliary pump to "ON" position and place mixture control to full rich to aid in restart. Close throttle as necessary to prevent engine overspeed on restarting; turn pump to "OFF" position after engine restarts. Lean for altitude after restart.

6. **WING FLAP SETTINGS:** Use 0° for normal take-off. Use 30° for landing, or as wind conditions dictate.
7. **CIRCUIT BREAKERS:** Located in the electrical control panel (alternator circuit breaker on left hand side of nose wheel well bulkhead). Circuit breakers are push-to-reset or pull off and push-to-reset.
8. **OCCUPIED SEATS:** Must be in upright position during take-off and landing.

B. Emergency Procedures.

1. **FUEL SYSTEM:** Turn auxiliary fuel pump switch to "ON" position in case of loss of fuel pressure.
2. **ENGINE FIRE:** Ignition switch - OFF; fuel selector - OFF; pull firewall air control on left hand lower subpanel.
3. **EMERGENCY LANDING GEAR EXTENSION:** Landing gear switch DOWN, circuit breaker OFF. Engage handle at rear of front seats, turn counterclockwise as far as possible (50 turns).

WARNING

Keep handle strapped in disengaged position when not in use.

4. **ALTERNATE AIR DOOR INOPERATIVE:** Open door manually with "PULL-AND-RELEASE" control until engine air induction system again functions automatically.

NOTE

Particularly at night, reflections from rotating anti-collision lights on clouds, dense haze or dust can produce optical illusions and intense vertigo. Such lights, when installed, should be turned off before entering an overcast; their use may not be advisable under any instrument or limited VFR condition.

III. PERFORMANCE.

The following performance figures were obtained during the official FAA Flight Tests, and may be realized under conditions indicated with the airplane and engine in good condition and with average piloting technique. All performance is given for a gross weight of 3400 pounds. Take-off and landing distances are given for no wind and level, paved runways with IO-520-B engine. In using the following data, allowance for actual conditions must be made.

	ALTITUDE FEET	OUTSIDE AIR TEMPERATURE				
		0°F	25°F	50°F	75°	100°F
TAKE-OFF DISTANCE (Feet)	Sea Level	1474	1636	1808	1988	2177
Distance required to take-off and climb to 50 feet, flaps up, 2700 rpm, full throttle. Take-off speed: 80 mph (70 knots) CAS.	2000	1763	1958	2163	2379	2605
	4000	2130	2366	2615	2876	3150
	6000	2561	2845	3144	3459	3788
	8000	3099	3443	3806	4186	4586
LANDING DISTANCE (Feet)	Sea Level	1356	1418	1479	1539	1599
Distance required to land over 50-foot obstacle and stop, flaps full down. Approach at 86 mph (75 knots) CAS.	2000	1442	1507	1571	1634	1696
	4000	1533	1602	1669	1735	1800
	6000	1631	1703	1773	1842	1910
	8000	1735	1810	1884	1956	2027
NORMAL RATE OF CLIMB (Feet per minute).	Sea Level	1229	1190	1150	1110	1071
Flaps up, 2700 rpm, full throttle. Best rate-of-climb speed: 113 mph (98.2 knots) CAS at sea level. Reduce 1.0 mph per 1300-foot increase in altitude.	2000	1104	1063	1021	980	938
	4000	977	934	891	848	806
	6000	850	805	761	716	673
	8000	721	675	629	584	539
BALKED LANDING CLIMB (Feet per minute).	Sea Level	630	605	579	552	526
Gear and Flaps down, 2700 rpm, full throttle. Best rate-of-climb speed: 79 mph (68.6 knots) CAS. Reduce 1.0 mph per 2500 foot increase in altitude.	2000	536	509	482	454	426
	4000	441	413	384	355	327
	6000	345	316	286	256	226
	8000	249	218	187	156	126
STALL SPEEDS (CAS), Power Off.	Angle of Bank	0°	20°	40°	60°	
Gross Weight 3400 Pounds.	Gear and Flaps DOWN	63 mph (54.7 kts)	65 mph (56.5 kts)	72 mph (62.6 kts)	89 mph (77.3 kts)	
	Gear and Flaps UP	74 mph (64.3 kts)	76 mph (66.0 kts)	85 mph (73.8 kts)	105 mph (91.2 kts)	

Altitude loss during a stall is approximately 250 feet.

Approved:



Chester A. Rembleske
Beech Aircraft Corporation
DOA CE-2

BEECHCRAFT MODEL 35-33 AND 35 SERIES LANDPLANES

AIRPLANE FLIGHT MANUAL SUPPLEMENT

This document is to be attached to the FAA Approved Flight Manual when the airplane is equipped with an emergency static air source.

PROCEDURES

Emergency Procedures:

Emergency Static Air Source - Emergency static air valve "ON EMERGENCY". Correct airspeed and altimeter indications per the following charts. Be sure that the emergency static air valve is fully closed when the source is not needed.

EMERGENCY STATIC AIR SOURCE CALIBRATIONS

IAS (MPH)	STORM WINDOW CLOSED		STORM WINDOW OPEN	
	GEAR AND FLAPS UP IAS (MPH)	GEAR AND FLAPS DOWN IAS (MPH)	GEAR AND FLAPS UP IAS (MPH)	GEAR AND FLAPS DOWN IAS (MPH)
80	81	77	88	84
100	103	98	109	106
120	125	120	130	108
140	146		152	
160	167			
180	189			
200	210			
225	236			

When using the emergency static air source, the altimeter indication will be high except as noted below. The approximate errors are as follows:

IAS (MPH)	STORM WINDOW CLOSED		STORM WINDOW OPEN	
	GEAR AND FLAPS UP (FEET)	GEAR AND FLAPS DOWN (FEET)	GEAR AND FLAPS UP (FEET)	GEAR AND FLAPS DOWN (FEET)
80	5	-20*	60	20
100	20	-15*	75	50
120	35	0	100	60
140	60		130	
160	80			
180	115			
200	130			

*Altimeter reads low at this airspeed.

NOTE: The calibrations noted above are not affected by the selection of heater or fresh air.

Approved:

Chester A. Rembleske
 Chester A. Rembleske
 Beech Aircraft Corporation
 DOA CE-2