

THIS MANUAL MUST BE KEPT IN THE AIRPLANE AT ALL TIMES
BEECH AIRCRAFT CORPORATION, WICHITA 1, KANSAS

FAA Identification
FAA Approved, based on CAR 3, Utility Category

Airplane Serial

Type Certificate 5A3

MODEL D45 LANDPLANE (T-34B)
SERIAL NO. BG-1 AND AFTER
AIRPLANE FLIGHT MANUAL

I. LIMITATIONS:

The following limitations must be observed in the operation of this airplane equipped with Continental 0-470-4 engine.

NOTE: This airplane may be flown solo from the front seat only.

A. Engine Limits:

Maximum continuous operation (sea level) 225 hp at 2600 rpm at full throttle. Maximum take-off 225 hp at 2600 rpm at full throttle.

B. Fuel:

80 minimum octane aviation gasoline (capacity, two tanks 25 gallons each - 50 total).

C. Propeller:

Beech Propeller Model 278; Hub Assembly 278-100-1; Blade Assembly 278-208-88 or 278-208-84 blades. Pitch settings: high, not over 30°; low 11-1/2° for 278-207-88 blades or 12-1/2° for 278-208-84 blades.

D. Power Plant Instruments:

Oil Temperature: Green Arc (normal operating range) 24°C to 107°C (75°F to 225°F); Red Radial at 107°C (225°F) for flight.

Oil Pressure: Green Arc (normal operating range) 30 to 60 psi; Yellow arc (cautionary operating range) 60 to 80 psi; Red Radial at 30 psi; Red Radial at 80 psi for flight.

Fuel Pressure: Green Arc (normal operating range) 9 to 15 psi; Red Radial at 9 psi; Red Radial at 15 psi for flight.

Cylinder Head Temperature: Green Arc (normal operating range) 107°C to 196°C (225°F to 385°F); Yellow Arc (cautionary operating range) 196°C to 232°C (385°F to 450°F); Red Radial at 232°C (450°F).

Tachometer: Green Arc (normal operating range) 1500 to 2600 rpm; Red Radial at 2600 rpm.

Manifold Pressure: Green Arc (normal operating range) 15 to 30 in. Hg; Red Radial at 29.6 in. Hg.

E. Airspeed Limits: (True Indicated Air Speed)

Never Exceed	219 knots (252 mph) (Red Line)
Caution Range	152 to 219 knots (175 to 252 mph) (Yellow Arc)
Normal Operating Range	62 to 152 knots (71 to 175 mph) (Green Arc)
Flap Operating	50 to 109 knots (58 to 125 mph) (White Arc)
Maximum Design Maneuvering Speed	148 knots (171 mph)
Maximum Structural Cruising Speed	152 knots (175 mph)
Maximum Gear Extension Speed	109 knots (125 mph) (Yellow Radial)

F. Maneuvers:

(1) Stalls (except whip stalls)	Use slow deceleration
(2) Steep Turns	Maximum - 150 knots
(3) Lazy Eights	115 knots
(4) Chandelle	130 knots

G. Wing Flap Settings:

Take-Off 0° Landing 30° Down

H. Design Structural Limit Load Factor: Positive 6.00 G Negative 3.00 G

NOTE: Use controls with caution above 150 knots (171 mph) TIAS. Avoid higher speeds in turbulent air.

I. Maximum Weight: 2985 pounds.

Datum is 88.1 inches forward on centerline through wing jack points.

MAC leading edge is 71.8 inches aft of datum; 64.6 inches long.

C.G. limitations (wheels down) are:

Forward: 84.1 inches (19.0 MAC) to a weight of 2775 pounds with a straight line variation to 87.8 inches. (24.8% MAC) at 2985 pounds.

Rear: 90.3 inches (28.6% MAC) to a weight of 2675 pounds with a straight line variation to 89.5 inches (27.4% MAC) at 2985 pounds.

J. Placards:

On deck above rear instrument panel: "Solo from front seat only."

On instrument panel, front and rear: "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 control lock: "CONTROL SURFACE LOCK

To lock - 1. Rudder - Neutral. Unlatch hook. Raise lock frame. 2. Shorten pedal adjustment to allow for clearance. 3. Engage frame on pin in front of control stick. 4. Adjust pedals forward to full stop position.

Note: If the aircraft has been converted to a different power plant, see the Supplemental Flight Manual

To unlock - 1. Disengage frame from control stick. 2. Release to floor. **WARNING** -- When not in use lock frame must be secured in stowed position on floor."
 On emergency canopy release guard: "Check release if guard is deformed."
 Above emergency canopy release handle: "Emergency canopy open."
 On emergency canopy release handle: "Pull".
 On RH Outside fuselage: "Canopy release emergency pull."
 On RH side panel: "Emergency landing gear crank. Push knob to detent to engage. **CAUTION:** Disengage when not in use. **WARNING:** Pull landing gear circuit breaker button out before engaging hand crank."
 On fuel selector: "ON. 50 Gal. OFF."
 Below directional gyro: "**CAUTION.** Cage directional gyro for aerobatics."
 On inside baggage door: "Baggage compartment capacity 100 pounds.
 See loading schedule for baggage allowance. Remove baggage for acrobatics."

II. PROCEDURES:

Bail-Out: Pull canopy emergency release, right side of front and rear cockpits. Either release will open both front and rear canopies.
Fire: Fuel selector valve off. Ignition switch off.
Emergency Landing Gear Extension: Landing gear switch "DOWN"; circuit breaker "OFF", engage handle on right hand front side wall, turn counterclockwise as far as possible (approximately 29 turns).
NOTE: With circuit breaker off, red light in handle is inoperative.
WARNING: Keep handle in disengaged position when not in use. The emergency system has been designed for extension only.
Circuit Breakers: Located on right hand console. Push to reset.
Fuel System: Use auxiliary boost pump for starting, take-off, acrobatics, and emergency only. Leave auxiliary pump "OFF" for normal operation.
Shoulder Harness: Harness should be used in all acrobatic maneuvers. Lock located left side - push forward to lock.
Canopy Operation: Due to discomfort of occupants, it is recommended both canopies be closed during acrobatic maneuvers and not more than one canopy be open in normal flight.

NOTE: NEVER OPERATE AIRPLANE WITH DEFLATED LANDING GEAR SHOCK STRUTS.

III. PERFORMANCE:

The following performance figures may be realized under the conditions indicated with the airplane and engine in good condition and with average piloting technique.
 All performance is given for a gross weight of 2985 pounds. Take-off and landing distance is given for zero wind and paved level runway conditions. In using the following data, allowance for actual conditions must be made.

ITEM	ALTITUDE FEET	OUTSIDE AIR TEMPERATURE				
		0° F	25° F	50° F	75° F	100° F
Take-off distance (ft). Distance required to to take-off and climb to 50 feet, flaps up, full throttle, 2600 rpm. Take-off speed: 80 mph (69 kts) TIAS	SEA LEVEL	1128	1249	1371	1522	1658
	2000	1363	1510	1670	1846	2026
	4000	1672	1862	2086	2307	2560
	6000	2047	2333	2630	2974	3382
	8000	2652	3043	3534	4149	5061
Landing distance (ft). Distance required to land over a 50-foot obstacle and stop. Flaps 30 degrees down. Approach at 75 mph (65 kts) TIAS.	SEA LEVEL	1147	1185	1226	1283	1302
	2000	1200	1242	1284	1324	1359
	4000	1259	1302	1344	1384	1422
	6000	1321	1363	1405	1449	1487
	8000	1384	1427	1468	1506	1546
Normal rate of climb (FPM) full throttle, 2600 rpm, flaps up. Best rate-of-climb speed: 100 mph (81 kts) TIAS at sea level. Reduce 1.0 mph per 4000-foot increase in altitude.	SEA LEVEL	1031	1010	980	958	933
	2000	935	912	885	863	836
	4000	837	815	790	767	740
	6000	740	713	694	669	644
	8000	644	618	600	576	546

ITEM	ALTITUDE FEET	OUTSIDE AIR TEMPERATURE				
		0° F	25° F	50° F	75° F	100° F
Balked landing climb (FPM) full throttle, 2600 rpm, gear and flaps down. Best rate-of- climb speed: 73 mph (63.5 kts) TIAS. Reduce 1.0 mph per 2000-foot increase in altitude.	SEA LEVEL	535	511	486	466	443
	2000	447	424	400	378	356
	4000	361	337	313	293	270
	6000	274	250	227	207	186
	8000	187	163	140	120	96
Stalling speeds (MPH, TIAS), power off.	Angle of Bank	0°	20°	40°	60°	
	Gear & Flaps	71 mph	73 mph	81 mph	100 mph	
	UP	(61.5 kts)	(63.5 kts)	(70.5 kts)	(87.0 kts)	
	Gear & Flaps DOWN	58 mph	60 mph	66 mph	82 mph	
		(50.5 kts)	(52.0 kts)	(57.5 kts)	(71.0 kts)	

NOTE

Maximum altitude lost during a stall is 250 feet.

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Approved

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