

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, Acrobatic Category

Airplane Serial
Type Certificate 5A3

Manufactured

MODEL A45 LANDPLANE (T-34A) (B-45)
SERIAL NO. G-7 AND AFTER, CG-1 AND AFTER
AIRPLANE FLIGHT MANUAL

I. LIMITATIONS:

The following limitations must be observed in the operation of this airplane equipped with Continental 0-470-13 or 0-470-13A 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 278-208-88 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 24°C (75°F); Red Radial at 107°C (225°F) for flight.

Oil Pressure: Green Arc (normal operating range) 30 to 60 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 240°C (225°F to 465°F); Red Radial at 240°C (465°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 | 57 to 152 knots (66 to 175 mph) (Green Arc) |
| Flap Operating | 49 to 109 knots (56 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) |

F. Maneuvers:

| | |
|---------------------------------------|---------------------------------|
| | <u>Recommended Entry Speeds</u> |
| (1) Stalls (except whip stalls) | Use slow deceleration |
| (2) Steep Turns | Maximum - 150 knots |
| (3) Spins | Use slow deceleration |
| (4) Lazy Eights | 115 knots |
| (5) Chandelle | 130 knots |
| (6) Snap Rolls | 95 knots |
| (7) Vertical Reverses | 95 knots |
| (8) Loops, Cuban Eights and Immelmans | 150 knots |
| (9) Slow Rolls | 115 knots |
| (10) Inverted Snap Maneuvers | 95 knots |
| (11) Inverted Stalls | Use slow deceleration |
| (12) Inverted Spins | Use slow deceleration |

NOTE: Inverted spins tend to recover in high speed spirals. Avoid speeds in excess of 150 knots TIAS. Propeller control should be put in high pitch (low rpm) to prevent overspeeding. Keep both canopies closed.

(13) Inverted Flight Engine not designed for inverted operation

NOTE: Operation of engine in inverted position not approved due to lack of fuel and lubrication. Fuel and oil pressure minimums should be observed during all flight maneuvers.

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:

2950 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 2750 pounds with a straight line variation to 87.6 inches. (24.5% MAC) at 2950 pounds.

Rear: 90.3 inches (28.6% MAC) to a weight of 2600 pounds with a straight line variation to 89.0 inches (26.5% MAC) at 2950 pounds.

J. Placards:

On deck above rear instrument panel: "Solo From Front Seat Only."

On instrument panel, front and rear: "ACROBATIC CATEGORY AIRPLANE, OPERATE IN ACCORDANCE WITH CAA APPROVED FLIGHT MANUAL. Do not lower landing gear or flaps above 109 knots TIAS. For recommended entry speeds see Approved Acrobatic Maneuvering Placard and Airplane Flight Manual."

On right side panel, front and rear cockpit: "APPROVED ACROBATIC MANEUVERS" (1) Stalls (except whip stalls) Use Slow Deceleration (2) Steep Turns - Maximum 150 knots (3) Spins - Use Slow Deceleration (4) Lazy Eights - 115 knots (5) Chandelle - 130 knots (6) Snap Rolls - 95 knots (7) Vertical Reverses - 95 knots (8) Loops, Cuban Eights and Immelmans - 150 knots (9) Slow Rolls - 115 knots (10) Inverted Snap Maneuvers - 95 knots (11) Inverted Stalls - Use Slow Deceleration (12) Inverted Spins - Use Slow Deceleration (13) Inverted Flight - Engine not designed for inverted operation.

On control lock: "Control Surface Lock, to lock - unlatch hook, raise lock frame and engage on pin in front side of control stick. To unlock - disengage lock must be hooked to floor."

On emergency hatch release: "Check release if guard is deformed."
On R. H. Panel above release handle: "Unlock canopy before pulling emergency release."
On canopy above handle: "Caution do not open canopy above 152 knots TIAS."
On R. H. outside fuselage: "Canopy release emergency pull."
On R. H. side panel: "Emergency landing gear crank, push knob to engage. CAUTION: Disengage when not in use. WARNING: Pull landing gear circuit breaker out before engaging hand crank."
On fuel selector: "25 gal. L. H. - 25 gal. R. H."
On R. F. side panel:
 "BATT ON ON
 OFF GEN OFF"
On inside baggage door: "Capacity 100 pounds. See loading schedule for baggage allowance. Remove baggage for acrobatics."
On R. H. console: "Circuit Breakers."

II. PROCEDURES:

Ball-Out: Unlock canopy before jettisoning. Pull canopy emergency release, right side of front and rear cockpits. Either release will jettison 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 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.

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Approved



Chester A. Rembleske
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