

THIS DOCUMENT MUST BE KEPT IN AIRPLANE
AT ALL TIMES

CESSNA AIRCRAFT COMPANY

CAA Identification

WICHITA, KANSAS

C. A. A. Approved
Approval Basis CAR Part 3
26 June 1950
Normal & Utility Category

N 4560C (STANDARD)

A

MODEL 170B LANDPLANE

AIRPLANE FLIGHT MANUAL

LIMITATIONS

The following limitations are to be observed in the operation of this airplane as equipped with the six cylinder Continental C-145-2 engine.

ENGINE LIMITS

2700 RPM, 145 Brake HP for all operations.

FUEL SYSTEM

Use 80 minimum octane aviation gasoline (usable capacity one right tank - 18.5 gallons, one left tank - 18.5 gallons. Total capacity - 37 gallons).

PROPELLER

1. Sensenich Model 73BR50. Static RPM at maximum permissible throttle setting not more than 2320 RPM, not less than 2220 RPM. Diameter 73 inches. Minimum 71 1/2 inches.
2. McCauley Model 1A170. Static RPM at maximum permissible throttle setting not more than 2330 RPM, not less than 2230 RPM. Diameter 76 inches. Minimum 74 1/2 inches.

ENGINE INSTRUMENTS

1. Oil Temperature - normal operating range 100° - 225° (Green Arc). Unsafe above 225° F. (Red Line).
2. Tachometer - Do not exceed rated engine speed 2700 RPM (Red Line).
Normal operating range 2200-2450 RPM (Green Arc).
3. Oil Pressure - Normal range 30-43 PSI (Green Arc). Idling pressure 5 PSI minimum. Maximum pressure 50 PSI (Red Line).
4. Fuel Quantity Gauge - Approximately 2 1/2 gallons of fuel unusable in normal flight maneuvers remains in each tank when the gauge reads

AIRSPEED LIMITS

(True Indicated Airspeed)

Never Exceed
Caution Range
Normal Operation
Flap Operating
Maneuvering
Max. Structural Cruising Speed
Max. Speed Flaps Extended

NORMAL CATEGORY

160 MPH (Red Line)
140-160 (Yellow Arc)
59-140 (Green Arc)
55-100 (White Arc)
115 MPH
140 MPH
100 MPH
No inverted maneuvers permitted.

UTILITY CATEGORY

160 MPH (Red Line)
140-160 (Yellow Arc)
59-140 (Green Arc)
55-100 (White Arc)
115 MPH
140 MPH
100 MPH
No inverted maneuvers permitted.

FLIGHT LOAD FACTORS

Flaps Up
Flaps Down

3.8 - 1.52
3.5

4.4 - 1.76
3.5

MAXIMUM WEIGHT

2200 Pounds

1900 Pounds

CENTER OF GRAVITY RANGE

NOTE: Datum is forward face of firewall; MAC 58.4"
L. E. MAC 25.8"
Leveling means - Upper door sill.

+ 40.8" to 46.4" at 2200 lbs. & 36.4" to + 46.4" to 1733 lbs. or less. Straight line variation of forward limits between above.

+ 38.0" to 40.3" at 1900 lbs. & 36.4" to + 40.3" at 1733 lbs. or less. Straight line variation of forward limits between above.

NOTES

1. The following maneuvers are approved for operation in the Utility Category only, with recommended entry speeds shown:
Chandelle - 115 MPH. Steep Turn - 115 MPH. Lazy Eight - 115 MPH. All Stalls (except Whip Stalls) - Slow Deceleration. Spins - Slow Deceleration.
2. It is the responsibility of the pilot and operator to see that the weight and balance are within limitations.
3. Maneuvers involving full application of flight controls should be confined to speeds below maneuvering speed. Abrupt maneuvers should be avoided in speeds exceeding the maneuvering speed.
4. To insure maximum fuel flow, take-off and land with fuel valve on both tanks.
5. When using 20° take-off flap, do not retract flaps until all obstacles are cleared and a safe altitude and airspeed are obtained.
6. Avoid sideslips with full flap (40°) extension.
7. Lean mixture as required to obtain smooth engine operation when using carburetor heat in cruise and climb.

PLACARDS:

1. THIS AIRPLANE MUST BE OPERATED AS A NORMAL OR UTILITY CATEGORY AIRPLANE IN COMPLIANCE WITH THE FLIGHT MANUAL.

- NORMAL -
NO ACROBATIC MANEUVERS INCLUDING SPINS APPROVED.

- UTILITY -
NO ACROBATIC MANEUVERS APPROVED EXCEPT THOSE LISTED IN THE FLIGHT MANUAL. BAGGAGE COMPARTMENT AND REAR SEAT MUST NOT BE OCCUPIED.

2. FLAPS - PULL TO EXTEND.

TAKE-OFF - RETRACTED 0°
 1st NOTCH 20°
LANDING - 2nd NOTCH 30°
 3rd NOTCH 40°

3. MAXIMUM BAGGAGE 120 LBS. FOR ADDITIONAL LOADING INSTRUCTIONS SEE WEIGHT AND BALANCE DATA.

4. BOTH TANKS ON FOR TAKE-OFF & LANDING.

PERFORMANCE INFORMATION - Model 170B Landplane

The following operational data are compiled from actual tests with airplane and engine in good condition and using average piloting technique. Data are based upon a gross weight of 2200 pounds and full throttle for take-off and climb. Performance figures are for zero wind velocity and hard surface level runway. Speeds are true indicated airspeeds.

STALLING SPEED	CONDITION	ANGLE OF BANK DEGREES			
		0°	20°	40°	60°
MPH T.I.A.S.					
Stall warning provided by indicator.	Power Off; Flaps Up	58	60	68	82
	Power Off; Flaps 20°	54	55	61	75
	Power Off; Flaps 40°	52	54	59	73

ITEM	ALTITUDE	OUTSIDE AIR TEMPERATURE					
		0°F	20°F	40°F	60°F	80°F	100°F
Landing Distance* (Feet) to land over 50 Ft. obstacle at 67 mph TIAS approach (Roll 40% distance shown.) Flaps 40°	Sea Level	1035	1070	1110	1145	1180	1215
	2000 Ft.	1100	1140	1175	1210	1245	1280
	4000 Ft.	1165	1205	1240	1280	1315	1350
	6000 Ft.	1235	1270	1310	1345	1380	1415
	7000 Ft.	1270	1305	1345	1380	1415	1450

FOR McC. P. SELLER

Take-Off Distance* (Feet) to clear 50 Ft. Obstacle at 76 mph TIAS (Ground run approx. 40% distance shown.) Flaps Up	Sea Level	1460	1580	1700	1820	1930	2050	
	2000 Ft.	1780	1910	2050	2190	2340	2500	
	4000 Ft.	2140	2290	2450	2610	2790	3000	
	6000 Ft.	2550	2740	2930	3140	3360	3620	
	7000 Ft.	2820	3040	3280	3500	3750	4040	
Take-Off Distance* (Feet) to clear 50 Ft. Obstacle at approx. 67 mph TIAS (Ground run approx. 38% distance shown.) Flaps 20°	Sea Level	1230	1350	1480	1625	1795	1995	
	2000 Ft.	1540	1690	1860	2050	2250	2450	
	4000 Ft.	1920	2110	2340	2580	2855	3140	
	6000 Ft.	2450	2720	3000	3300	3620	3990	
	7000 Ft.	2780	3100	3420	3735	4080	4455	
Normal Rate Of Climb	Best 89	Sea Level	760	740	715	690	670	645
	Climb 86	2000 Ft.	670	645	625	600	580	555
Feet per min.	Speed 84	4000 Ft.	580	555	535	510	485	465
Flaps Up	TIAS 81	6000 Ft.	490	465	440	420	395	370
	79	7000 Ft.	445	420	395	370	345	325

FOR SENSENICH PROPELLER

Take-Off Distance* (Feet) to clear 50 Ft. obstacle at 76 mph TIAS (Ground run approx. 45% distance shown.) Flaps Up	Sea Level	1610	1750	1890	2020	2160	2300	
	2000 Ft.	1940	2100	2260	2420	2580	2760	
	4000 Ft.	2360	2550	2750	2960	3180	3410	
	6000 Ft.	2900	3150	3425	3715	4035	4380	
	7000 Ft.	3220	3520	3840	4200	4580	5030	
Take-Off Distance* (Feet) to clear 50 Ft. obstacle at approx. 67 mph TIAS (Ground run approx. 43% distance shown.) Flaps 20°	Sea Level	1357	1495	1645	1800	2010	2240	
	2000 Ft.	1660	1860	2050	2275	2490	2700	
	4000 Ft.	2120	2350	2625	2925	3255	3640	
	6000 Ft.	2785	3125	3510	3960	4345	4825	
	7000 Ft.	3180	3590	4030	4480	4985	5550	
Normal Rate of Climb	Best 88	Sea Level	755	725	695	660	630	600
	Climb 86	2000 Ft.	650	620	590	560	530	495
Feet per min.	Speed 84	4000 Ft.	550	520	485	455	425	395
Flaps Up	TIAS 82	6000 Ft.	445	415	385	355	320	290
	81	7000 Ft.	395	365	330	300	270	240

*Landing and take-off correction: Reduce distances approximately 10% for each .6 MPH wind velocity.

DATE Sept. 28, 1950.

Approved W. H. Walker
Chief, Aircraft Division

DATE Nov. 26, 1951