

trapped in the sump is used up, oil pressure will decrease. The oil separator on the firewall prevents oil from escaping through the engine breather when inverted. The engine crankcase is vented from the bottom of the oil sump through the separator during inverted operation.

A-23. AIR FILTER. A carburetor air filter, located in a recess in the front of the cowling, filters all air entering the engine unless the carburetor heat is on.

A-24. TIRES. Your Citabria is equipped with conventional aircraft type 7.00x6 6-ply tires. For off-runway use, larger tires may be used by removing the wheel fairings.

A-25. EXHAUST SYSTEM. A low back pressure stainless steel exhaust system is standard equipment on all Citabrias. The cross-over manifold system routes the cylinder exhaust thru heat exchangers on each side of the engine—left side is front cabin heat, right side is carburetor heat and rear cabin heat.

A-26. FUEL SYSTEM. Since all models except the Model 7KCAB use essentially the same fuel system, the description below applies to all models except as noted in paragraph i—"Inverted Fuel System—Model 7KCAB."

a. FUEL TANKS. Welded aluminum fuel tanks are in the in-board section of each wing. 150-hp airplanes have two 19.5-gal. tanks as standard, and 115-hp airplanes have two 13-gal. tanks as standard or two 19.5-gal. tanks as optional. Tank quantity is shown on the fuel caps.

b. FUEL DRAINS. The entire fuel system can be drained as follows: 1. Wing tank sumps are drained by removing a 1/4-in. pipe plug from the tank bottom; 2. Fuel lines between the tanks and the gascolator are drained from a quick-drain on the belly of the aircraft; 3. The gascolator is drained with a quick-drain on the gascolator bowl.

c. GASCOLATOR. A drainable gascolator is on the firewall in the engine compartment. The sediment bowl is removable for cleaning and replacement of the fuel filter.

d. FUEL SHUT-OFF VALVE. The fuel shut-off valve, which prevents fuel from entering the engine compartment, is on the lower left cabin side of the firewall. The valve is conveniently controlled by a handle under the left-hand corner of the instrument panel. To turn fuel on, turn handle clockwise until definite resistance is felt.

e. FUEL GAUGE. Fuel quantity, expressed as a fraction of the total fuel, is read from a mechanical float-type gauge located on the right side of the cabin over the door. The gauge indicates correctly only in level flight attitude. Since the fuel tanks are interconnected,

both tanks will always contain the same amount of fuel (except immediately after adding fuel to one side), and thus only one tank gauge is necessary. A separate, similar gauge for the left wing tank is optional.

f. ENGINE PRIMER. (Except Model 7KCAB). The direct-pump engine primer is on the right side of the lower instrument panel. The primer injects raw fuel directly into the intake manifold adjacent to two cylinders for easier starting. To operate, first unlock the plunger by rotating the knob in either direction while pulling slightly until knob pops out. To provide one stroke of prime, move knob slowly all the way out, then all the way in. Lock the primer all the way in after use.

g. VENT SYSTEM—19.5-GAL. TANKS. Fuel tank air spaces are interconnected, and positive venting is provided through a tube which protrudes from the bottom of the left wing just outboard of the tank. A one-way check valve is provided at the vent outlet of each tank to minimize inverted fuel loss.

VENT SYSTEM—13-GAL. TANKS. The vent system for the 13-gal. tanks is similar to the above except that the vent protrudes from the top of the left wing inboard of the tank and check valves are not used.

h. SYSTEM OPERATION. (Except Model 7KCAB) Fuel drains from the tanks to the engine only due to gravity, and thus any inverted operation will cause fuel starvation.

i. INVERTED FUEL SYSTEM—MODEL 7KCAB. The Model 7KCAB inverted fuel system differs from the system described above in the following ways:

1. FUEL PUMPS. Since the Model 7KCAB is fuel-injected, two fuel pumps are required: 1. an engine-driven, cam-operated pump, which operates whenever the engine is running to supply fuel at proper pressure to the fuel injector; and 2. an emergency electric pump, on the firewall in the engine compartment.

2. PRIMER. Since the engine in the Model 7KCAB is fuel-injected, a regular primer is unnecessary. To prime the engine, turn on the master switch and the electric fuel pump with throttle closed and mixture in idle cut-off. To provide one stroke of prime, move mixture control to full rich and back to idle cut-off. This injects fuel directly into the cylinders.

3. FUEL PRESSURE GAUGE. The fuel pressure gauge on the right side of the instrument panel, indicates the fuel pressure at the injector inlet.

4. HEADER TANK. To provide limited fuel in the inverted position, a 1.5-gal. header tank is located in the forward cabin

5. Obtain the sum of all weights and moments. Since the oil moment is negative, it must be subtracted from the sum of all other moments.

6. Using the center-of-gravity envelope of figure 2, draw a horizontal line through the total airplane weight and a vertical line through the total airplane moment. The intersection of these lines represents the loading point. Since this point is within the envelope and is not in the "aerobatics prohibited" area, the loading is satisfactory.

7. If the actual c. g. location is desired, divide the total moment by the total weight. This gives the c. g. location in inches aft of datum. The datum is an imaginary vertical line drawn on a side view of the airplane through the wing leading edge.

Sample Weight and Balance Calculation

ITEM	WEIGHT	MOMENT
Airplane (empty)	1200	+15000
Pilot	160	+ 1800
Passenger	200	+ 8200
Oil	15	- 500
Fuel	60	+ 1500
TOTALS	1635	+26000

c. g. location = $26000 / 1635 = 15.9$ in. aft datum

5096X WT
Empty weight 1155.0
Useful Load 495.0
C.G. Range
Fwd +10.5
Rear +18.2

Em. Wt 1155.0
ARM 12.0
Moment + 13856

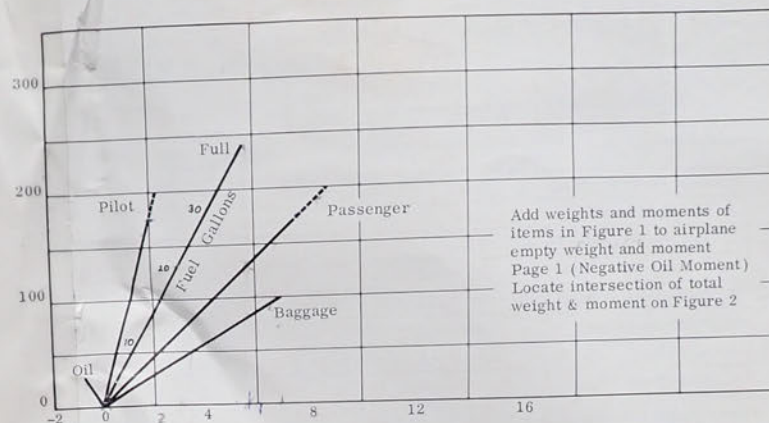


Figure 1.

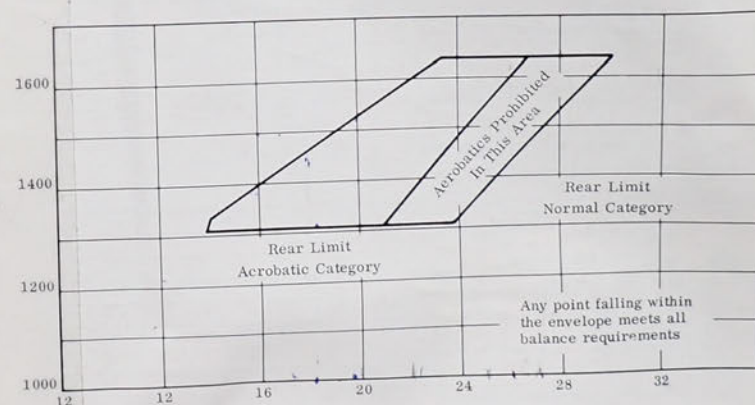


Figure 2.

SAMPLE—Page 1 of equipment list and loading schedule

Section E

SPECIFICATIONS

and

PERFORMANCE

TAS
75
Range 124

Gph at 75% 2450

60% 2350

MAX CYL Temp 500 F
450 F

E-1. AIRCRAFT SPECIFICATIONS—ALL MODELS

MODEL	7ECA	7GCAA Package A	7GBCB Package C	7GBCB 115hp	7GBCB EDO 2000 Floats	7KCAB Package B
Number of Seats	2	2	2	2	2	2
Lycoming Engine, Make, Model	0-235-C1	0-320-A2B	0-320-A2B	0-235-C1	0-320-A2B	10-320-E2A
Hp @ rpm	115-2800	150-2700	150-2700	115-2800	150-2700	150-2700
Propeller (McCaughey)	1C90CLM	1C172AGM	1C172AGM	1C90CLM	1C172AGM	1C172AGM
Gross Weight, lbs.	1650	1650	1650	1650	1800	1650
Empty Weight, lbs.*	1034	1107	1136	1063	1290	1128
Useful Load, lbs.	616	543	514	587	510	522
Useful % of Gross Weight	37.3	32.9	31.2	35.6	28.3	31.6
Standard Fuel Capacity, gals.	39	39	39	39	39	39
Optional Fuel Capacity, gals.	6	8	8	6	8	8
Oil Capacity, qts.	51	51	50	50	53	51
Stall Speed, mph	117	130	128	116	112	130
Top Speed, mph	112-7500	125-8000	125-8000	112-7500	103-7500	125-8000
Cruise Speed @ 75% hp, mph-Alt.	39-728-6.5	39-537-4.3	39-537-4.3	39-728-6.5	39-450-4.3	39-537-4.3
Range @ 75% hp, gals.-miles.-hrs.	6	9	9	6	9	9
Fuel Consumption @ 75% hp, gph	73-725	73-1120	70-1145	73-775	70-800	73-1120
Rate of Climb, mph-fpm	12,000	17,000	17,000	12,000	16,000	17,000
Service Ceiling, feet	450	375	296	425	12 (Sec.)	375
Take-off Run, ft. (Seconds)	890	630	525	860	630	630
Take-off Over 50 ft. Obstacle, ft.	400	400	310	310	400	400
Landing Roll, ft.	775	755	690	690	755	755
Landing Dist. over 50 ft. Obst., ft.	165	165	170.2	170.2	170.2	165
Wing Area, sq. ft.	165	10.0	9.7	9.69	10.6	10.0
Wing Loading, lbs. per sq. ft.	14.3	11.0	11.0	14.3	12.0	11.0
Power Loading, lbs. per hp	100	100	100	100	100	100
Baggage Capacity, lbs.						

NOTE: Performance is for gross weight at sea level unless noted.

* Average With Standard Equipment.

July 26, 2022

WEIGHT AND BALANCE REVISION

TACH TIME 1252.74 ACTT 1921.57

N3464D American Champion 7GCBC Serial Number 168
ENGINE Lycoming O-320-B2B/C2B S/N L-5013-39

Supersedes computations made on August 30, 2001

Removed the following equipment per STC SA33CE:

1. Cabin door

	Weight	Arm	Moment
Door removed	-10.00	21.06	-210.60
Previous Empty Weight and Moment	1204.0 lbs		12315.00
REVISED LICENSED EMPTY WEIGHT	1194.0 lbs		12104.40
NEW USEFUL LOAD	456 lbs		
NEW EMPTY C.G.	10.1"		

In accordance with STC SA33CE "subsequent installations and removals of door on that airplane are preventive maintenance." Each reinstallation and removal of door shall be logged in the aircraft airframe logbook.

