

TURBO

310

SECTION IV OPERATING LIMITATIONS

OPERATIONS AUTHORIZED

Your Cessna with standard equipment, exceeds the requirements of airworthiness as set forth by the United States Government, and is certified under FAA Type Certificate No. 3A10.

With standard equipment, the aircraft is approved for day and night operation under VFR. Additional optional equipment is available to increase its utility and to make it authorized for use under IFR day and night operation. Your Cessna Dealer will be happy to assist you in selecting equipment best suited to your needs.

MANEUVERS-NORMAL CATEGORY

The aircraft exceeds the requirements of the Federal Aviation Regulations, set forth by the United States Government for airworthiness. Spins and aerobatic maneuvers are not permitted in normal category aircraft in compliance with these regulations. In connection with the foregoing, the following gross weight and flight load factors apply:

Maximum Takeoff Weight	5500 lbs.
Maximum Landing Weight	5400 lbs.
*Flight Load Factor (at design gross weight of 5500 lbs.)	
Flaps UP	+3.8G
Flaps DOWN	-1.52G
	+2.0G

*The design load factors are 150% of the above and in all cases the structure exceeds design loads.

Your aircraft must be operated in accordance with all FAA approved markings, placards, and checklists in the aircraft. If there is any information in this Owner's Manual that contradicts the FAA approved markings, placards, and checklists, it is to be disregarded.

AIRSPEED LIMITATIONS (CAS)

Maximum Structural Cruising Speed	
Level Flight or Climb	183 KCAS
Maximum Speed	
Flaps Down 15°	160 KCAS
Flaps Down 15° - 35°	140 KCAS
Gear Down	140 KCAS
Never Exceed (glide or dive, smooth air)	227 KCAS
*Maneuvering Speed	150 KCAS

*The maximum speed at which you can use abrupt control travel.

AIRSPEED INDICATOR INSTRUMENT MARKINGS

The following is a list of the calibrated airspeed limitations for the aircraft.

Never Exceed (glide or dive, smooth air)	227 KCAS (red line)
Caution Range	183-227 KCAS (yellow arc)
Normal Operating Range	76-183 KCAS (green arc)
Flap Operating Range	68-140 KCAS (white arc)
Minimum Control Speed	81 KCAS (red radial line)
Best Single-Engine Rate of Climb	107 KCAS (blue radial line)

ENGINE OPERATION LIMITATIONS

Maximum Power and Speed	285 BHP at 2700 RPM
(for all operations)	and 32 inches Hg.

ENGINE INSTRUMENT MARKINGS

OIL TEMPERATURE

Normal Operating Range	75° to 240° F (green arc)
Maximum Temperature	240° F (red line)

OIL PRESSURE

Idling Pressure	10 PSI (red line)
Normal Operating Range	30 to 60 PSI (green arc)
Maximum Pressure	100 PSI (red line)

CYLINDER HEAD TEMPERATURE

Normal Operating Range 200° to 460° F (green arc)
Maximum Temperature 460° F (red line)

MANIFOLD PRESSURE

Normal Operating Range . . . 15 to 29 inches Hg. (green arc)
Maximum Pressure 32 inches Hg. (red line)

MAXIMUM ALLOWABLE MANIFOLD PRESSURE			
ALTITUDE	MAX ALLOWABLE M. P.	ALTITUDE	MAX ALLOWABLE M. P.
Sea Level	32.0	24,000	24.3
16,000	32.0	26,000	22.2
18,000	30.7	28,000	20.2
20,000	29.0	30,000	18.5
22,000	26.4	32,000	17.0

TACHOMETER

Normal Operating Range . . . 2100 to 2350 RPM (green arc)
Above 10,000 Ft. - Hot Day . 2100 to 2500 RPM (inner green arc)
Maximum Engine Rated Speed 2700 RPM (red line)

FUEL FLOW

Normal Operating Range . . . 8.4 to 175 Lbs/Hr (green arc)
Minimum and Maximum Fuel Flows 0 and 178.8 Lbs/Hr (red line)
2.5 and 19.5 PSI (red line)

BAGGAGE COMPARTMENTS

Your aircraft has been designed for passenger carrying capability. As a result, no provisions have been made for the transportation of cargo. There are four baggage locations: two in the aft cabin area and one location in the aft portion of each engine nacelle.

These baggage areas are intended primarily for low density items such as luggage and brief cases. The floors of these areas are primary structure; therefore, care should be exercised during loading and unloading to

prevent damage. When loading high density objects, insure that adequate protection is available to prevent damage to any of the aircraft's primary structure. If baggage is carried, it is necessary to properly locate and secure this load before flight.

BAGGAGE TIE - DOWN

Two hundred pounds of baggage is allowed at Station 96 behind the standard seats without the use of tie-downs. Any baggage stored at Station 96, with the individual seats, require tie-downs. Tie-downs for Station 96 are directly forward and directly aft of the Station 96 area. In all seating arrangements, standard or optional, baggage at Station 124 is limited to 160 lbs. and must be secured by tie-downs. These tie-downs are directly aft of the Station 96 baggage area and directly aft of the Station 124 baggage area. It is not recommended that any of the baggage tie-downs extend from the aft side of Station 124 to the forward side of Station 96.

WEIGHT AND BALANCE

The following information will enable you to operate your Cessna within the prescribed weight and center of gravity limitations. To figure the weight and balance for your particular aircraft, use Figures 4-1, 4-2 and 4-3 as follows:

Take the licensed Empty Weight and Moment/1000 from the Weight and Balance Data sheet, plus any changes noted on forms FAA-337, carried in your aircraft, and write them down in the proper columns of Figure 4-1. Using Figure 4-2, determine the moment/1000 of each item to be carried. Total the weights and moments/1000 and use Figure 4-3 to determine whether the point falls within the envelope and if the loading is acceptable.

LOADING CHART

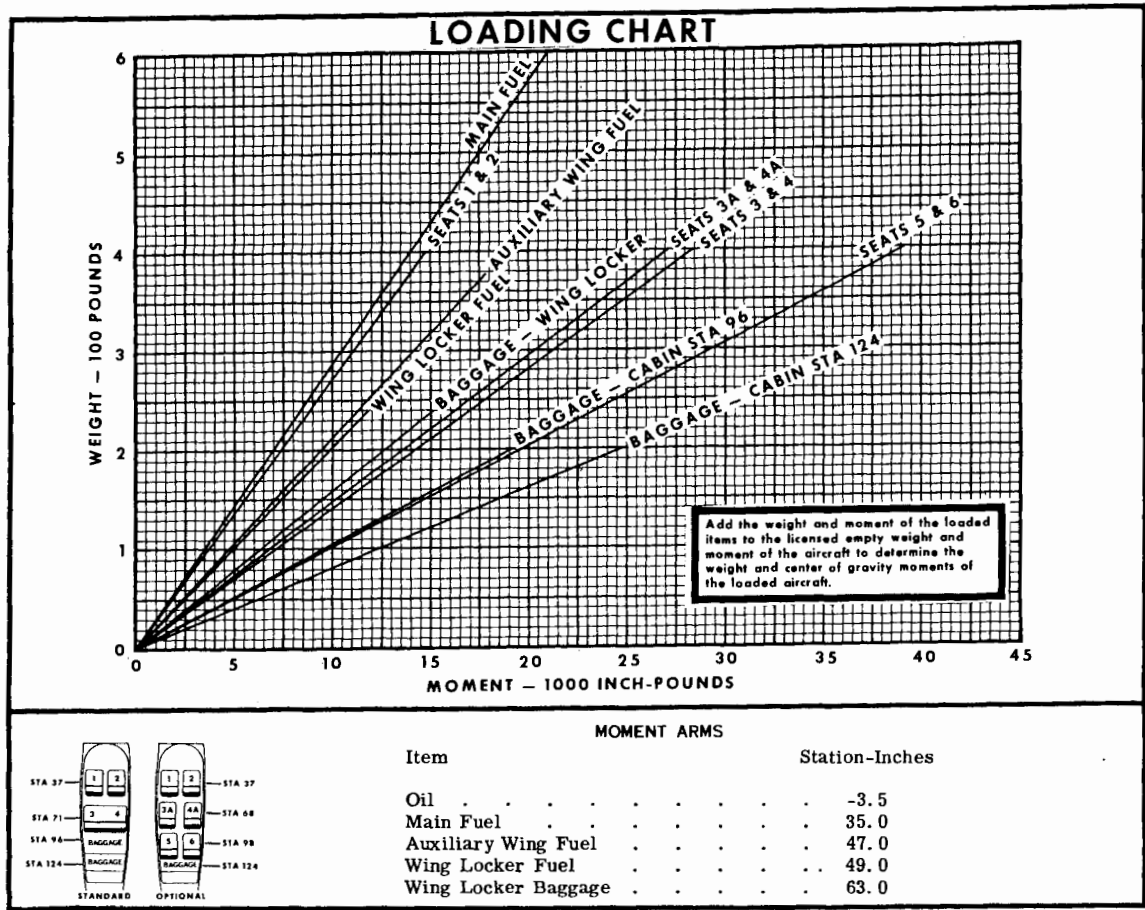
The loading chart, see Figure 4-2, is provided as a convenient method of determining the moment in inch-pounds of items to be loaded in the aircraft. This chart applies only when the CG of the occupant is at the location specified under Moment Arms in Figure 4-2. If the seat is in any other position, the moment must be computed by multiplying occupant weight times the arm in inches. A point midway between the fore and aft seat rollers can be assumed to be the occupant and seat CG.

The forward face of the cabin doorway structure is Station 20.00.

SAMPLE PROBLEM	Sample Aircraft		Your Aircraft	
	Weight (lbs)	Moment (lb-ins.) /1000	Weight (lbs)	Moment (lb-ins.) /1000
1. Licensed Empty Weight (Sample Problem)	3515.0	122.3		
2. Oil *(26 Qts. x 1.875 lb/qt.)	49.0	-0.2	49.0	-0.2
3. Pilot and Passengers				
Seats 1 and 2	340.0	12.6		
Seats 3 and 4				
Seats 3A and 4A	340.0	23.1		
Seats 5 and 6	340.0	33.3		
4. Fuel (gals. x 6 lbs./gal.).....				
Main Tanks (100 gals.).....	600.0	21.0		
Auxiliary Tanks (40 gals.)...	136.0	6.4		
Auxiliary Tanks (63 gals.)...				
Wing Locker Tanks (40 gals.)				
5. Baggage				
(Sta. 96.0).....				
(124.0).....				
(Wing Lockers).....	180.0	11.3		
6. Total Aircraft Weight (loaded)	5500.0	229.8		
7. Locate this point (5500 at 229.8) on Figure 4-3 and since this point falls within the envelope, the loading is acceptable.				
*Note: Normally full oil may be assumed for all flights.				

Figure 4-1

Figure 4-2



CENTER OF GRAVITY MOMENT ENVELOPE

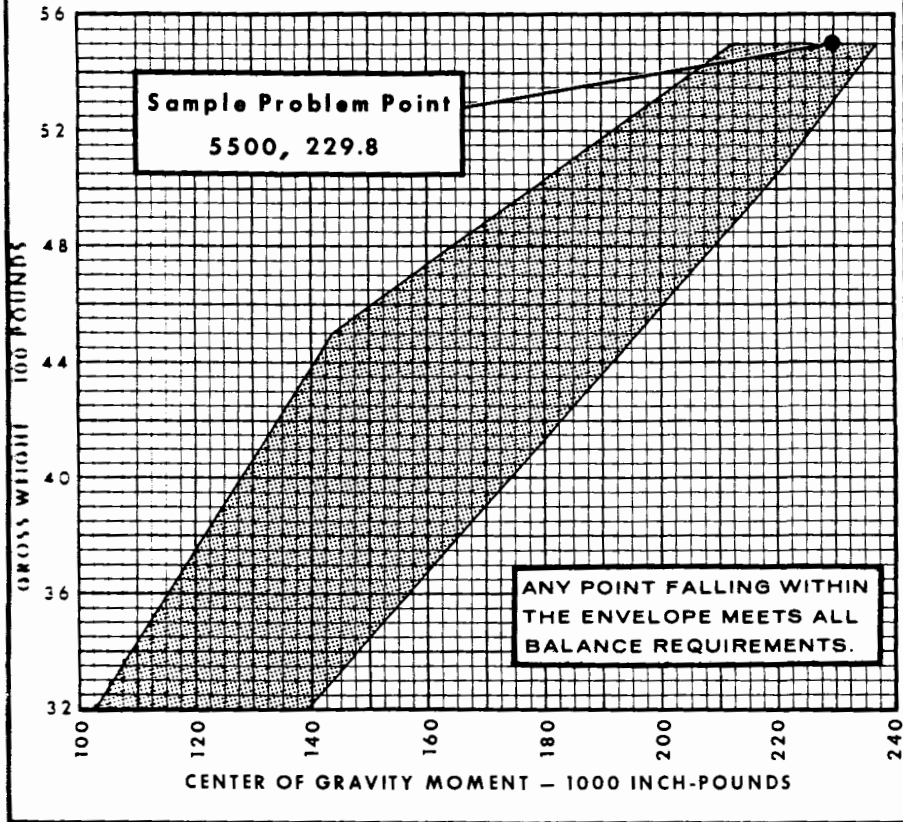


Figure 4-3

AIRSPEED CORRECTION TABLE					
FLAPS 0°		FLAPS 15° •		FLAPS 35° **	
KIAS	KCAS	KIAS	KCAS	KIAS	KCAS
70	71	70	72	60	60
80	81	80	82	70	70
100	101	90	92	80	80
120	121	100	101	90	90
140	141	110	111	100	100
160	160	120	121	110	110
180	180	130	130	120	120
200	200	140	140	130	130
220	220	150	150	140	140
240	239	160	160		

*Maximum Flap Speed 160 KCAS **Maximum Flap Speed 140 KCAS

NOTE: The above calibrations are valid for pilots' and copilots' airspeed indicators when using normal static source and the standard pitot static system only. Refer to Pilot's Checklist if alternate static source is used or a dual pitot system is installed.

Figure 6-1

STALL SPEED CHART								
KNOTS (IAS IS APPROXIMATE)								
5500 POUNDS GROSS WEIGHT								
CONFIGURATION	ANGLE OF BANK							
	0°		20°		40°		60°	
	KIAS	KCAS	KIAS	KCAS	KIAS	KCAS	KIAS	KCAS
Gear and Flaps Up	75	76	78	79	86	87	107	108
Gear Down and Flaps 15°	72	74	75	77	83	85	104	105
Gear Down and Flaps 35°	67	68	70	71	78	78	97	97

Figure 6-2