

THE AVIONICS SHOP, INC.

RS # CP3R431L
5045 E. ANDERSON
FRESNO, CA 93727

WEIGHT AND BALANCE REVISION

DATE: 05/07/92
AIRCRAFT: CESSNA A150
REG #: N6029J
HOURS:
THIS FORM SUPERSEDES WEIGHT AND BALANCE DATED: 09/30/91

ITEM	WEIGHT	ARM	MOMENT
PREVIOUS WEIGHT AND BALANCE:	1114.0	34.2	38049.00

REMOVED:

CESSNA RT-313A	-7.0	15.0	-105.00
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INSTALLED:

KING KT-78 RACK AND WIRING	4.2	33.0	138.60
ACK A-30 AND RACK	0.8	10.0	8.00
MX-300	6.0	15.0	90.00

TOTALS	1118.0	34.15	38180.60
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NEW EMPTY WEIGHT: 1118.0 lb.

NEW EMPTY WEIGHT C.G.: 34.15 in.

MAX GROSS WEIGHT: 1600.0 lb.

USEFUL LOAD: 482.0 lb.

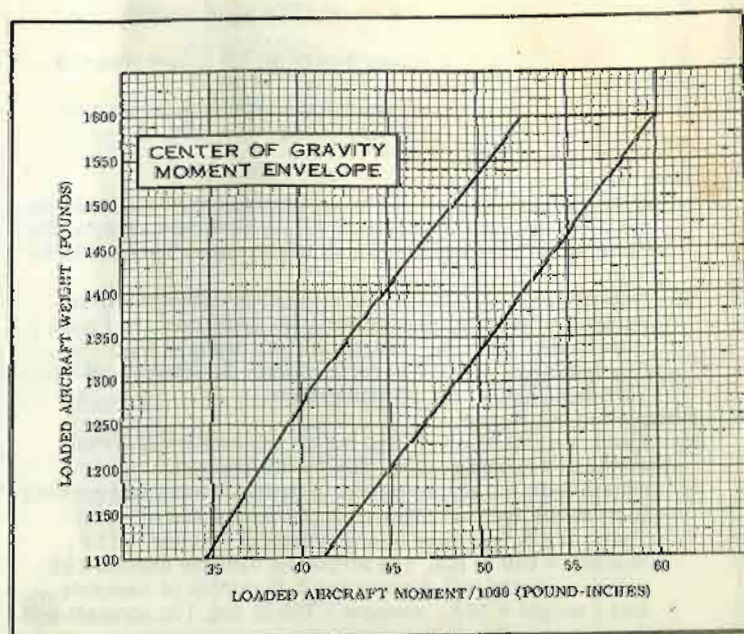
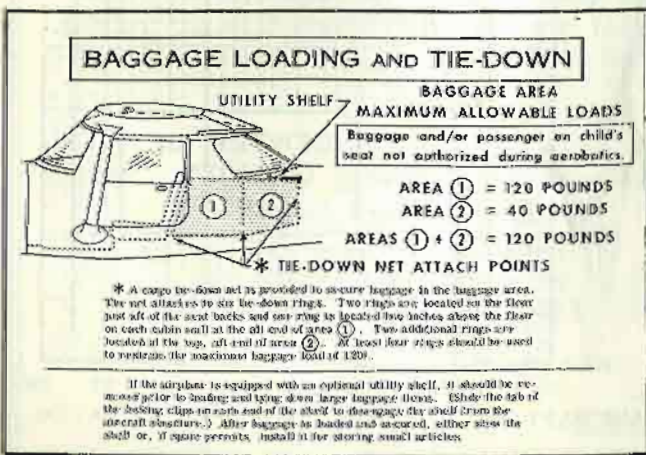
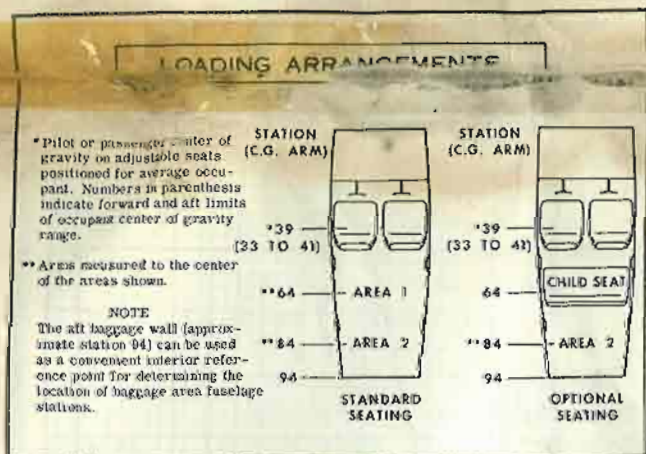
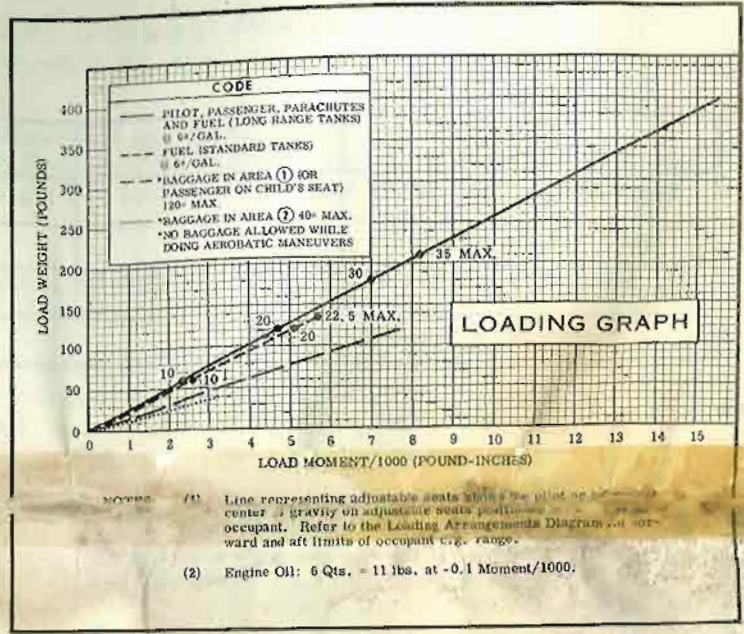
Loading and Center of Gravity Charts

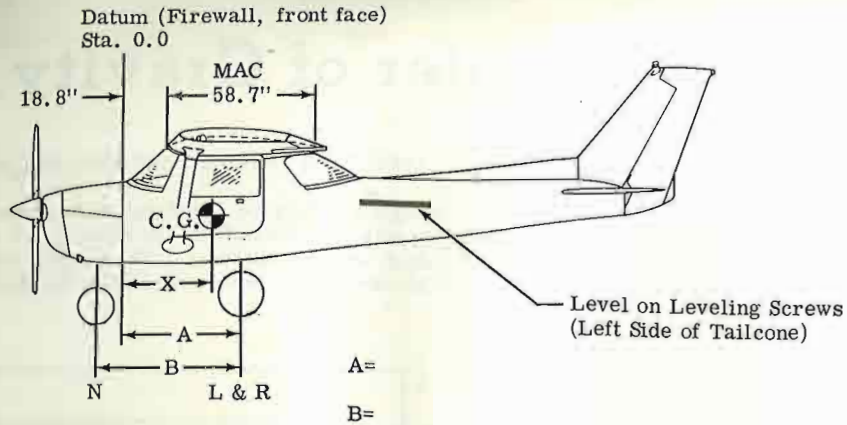
IT IS THE RESPONSIBILITY OF THE PILOT AND AIRCRAFT OWNER TO ENSURE THAT THE AIRCRAFT IS LOADED PROPERLY

When computing aircraft loading requirements, refer to the Weight and Balance and Installed Equipment Data sheet in the aircraft file for the licensed empty weight, arm and moment of the aircraft as delivered from the factory. (If alterations have been made to the aircraft, refer to form FAA 337 for the latest empty weight, arm and moment.) The aircraft weight and balance may then be determined using the Loading Graph and Center of Gravity Moment Envelope as indicated in the Sample Loading Problem below.

SAMPLE LOADING PROBLEM	SAMPLE AIRPLANE		YOUR AIRPLANE	
	Weight (lbs.)	Moment (1000) (1000)	Weight (lbs.)	Moment (1000) (1000)
1. Licensed Empty Weight (Sample Airplane)	1082	35.8		
2. Oil (6 qts. - Full oil may be assumed for all flights)	11	-6.1		
3. Fuel (Standard - 22.5 gal. at 6 lbs./gallon)	135	5.7		
Fuel (Long Range - 35 gal. at 6 lbs./gallon)				
4. Pilot and Passenger (Sta. 35 to 41)	340	13.2		
5. Parachutes (Average weight 20 lbs. each) (Sta. 46 to 52)				
6. *Baggage - Area 1 (for passenger on child's seat) (Sta. 30 to 76)	33	1.8		
7. *Baggage - Area 2 (Sta. 76 to 94)				
8. TOTAL WEIGHT AND MOMENT	1600	56.1		

9. Locate this point (1600 at 56.1) on the center of gravity moment envelope, and since this point falls within the envelope, the loading is acceptable.
 * Baggage and/or passengers on child's seat not authorized during aerobatic maneuvers.





Scale Position	Scale Reading	Tare	Symbol	Net Weight
Left Wheel			L	
Right Wheel			R	
Nose Wheel			N	
Aircraft Empty Weight (As Weighed)			W	

$$X = \text{ARM} = \frac{(A) - (N) \times (B)}{W}; X = (\quad) - \frac{(\quad) \times (\quad)}{(\quad)} = (\quad) \text{ IN.}$$

1. Preparation:
 - a. Inflate tires to recommended operating pressures.
 - b. Remove each wing tank drain plug to remove all fuel.
 - c. Remove oil sump drain plug to drain all oil.
 - d. When individual front seats are installed, place seats in most forward position with seat backs in most nearly vertical position.
 - e. Put flaps in fully retracted position.
 - f. Place all control surfaces in neutral position.
2. Leveling:
 - a. Place scales under each wheel (500# min. capacity for scales).
 - b. Deflate nose tire to center bubble on level (see Diagram).
3. Weighing:
 - a. With the airplane level and brakes released, record the weight shown on each scale. Deduct the tare, if any, from each reading.
4. Measuring:
 - a. Obtain measurement "A" by measuring horizontally (along the airplane center line) from a line stretched between the main wheel centers to a plumb bob dropped from the firewall.
 - b. Obtain measurement "B" by measuring horizontally and parallel to the airplane center line, from center of nose wheel axle, left side, to a plumb bob dropped from the line between the main wheel centers. Repeat on right side and average the measurements.
5. Completing the Form:
 - a. Using weights from (3) and measurements from (4) the airplane weight and C.G. can be determined.
 - b. Obtain licensed empty weight by adding weight and moment of unusable fuel to airplane empty weight and moment. There are 3.5 gallons of unusable fuel (weight = 21#, moment = 840 lb ins.) in airplanes with the standard 26 gallon capacity fuel system and 3.0 gallons of unusable fuel (weight = 18#, moment = 720 lb ins.) in aircraft with the optional 38 gallon capacity fuel system.

