

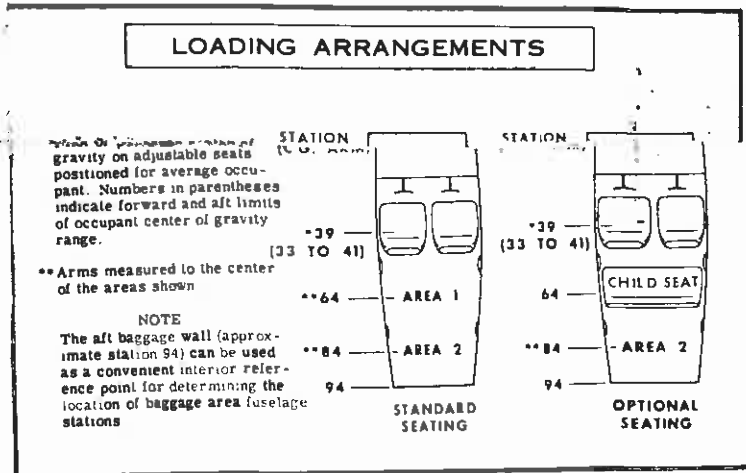
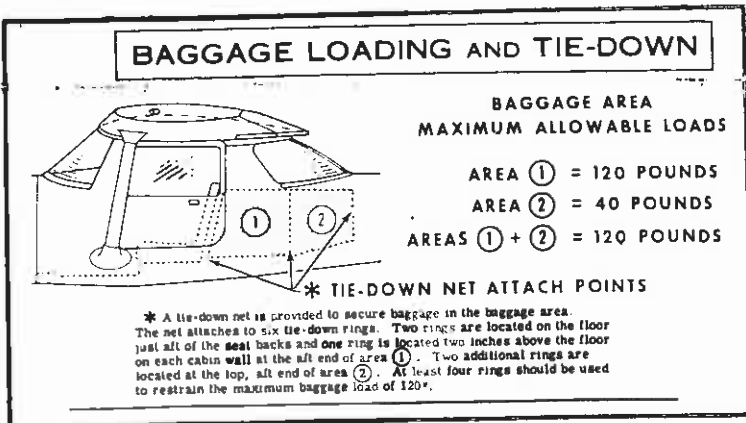
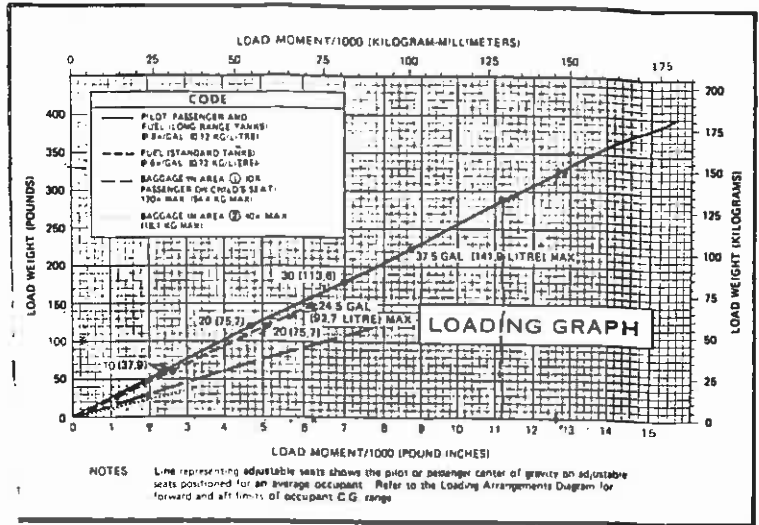
LOADING & CENTER OF GRAVITY CHARTS

IT IS THE RESPONSIBILITY OF THE OPERATOR TO ENSURE THAT THE AIRPLANE IS LOADED PROPERLY.

Using the empty weight, arm and moment of your airplane and the loading and center of gravity charts provided herein, proper loading of your airplane may be calculated.

The weight, arm and moment of your airplane as it left the factory may be found on the Weight and Balance and Installed Equipment Data sheet. (If alterations have been made to the airplane, refer to the airplane weight and balance records for the weight, arm and moment.)

The airplane weight and the moment divided by 1000 should be entered in the column titled YOUR AIRPLANE on the Sample Loading Problem. Use the Loading Arrangements and Loading Graph to determine the weight and moment of other items being loaded, and enter these on the Sample Problem. Complete the Sample Problem to determine the total weight and moment, then plot these values on the Center of Gravity Moment Envelope to confirm that the airplane CG can be computed from the total weight and moment, and the CG checked within limits on the Center of Gravity Limits chart.



SAMPLE LOADING PROBLEM		SAMPLE AIRPLANE		YOUR AIRPLANE	
		Weight (lbs)	Moment (lb.-ins /1000)	Weight (lbs)	Moment (lb.-ins /1000)
1	Basic Empty Weight (Use the data pertaining to your airplane as it is presently equipped. Includes unusable fuel and full oil)	1136	34.0	1171.2	34.94
2	Usable Fuel (At 6 Lbs./Gal.) Standard Tanks (24.5 Gal. Maximum) Long Range Tanks (37.5 Gal. Maximum) Reduced Fuel (As limited by maximum weight)	147	6.2		
3	Pilot and Passenger (Station 33 to 41)	340	13.3		
4	Baggage - Area 1 (Or passenger on child's seat) (Station 50 to 78, 120 Lbs. Max.)	47	3.0		
5	Baggage - Area 2 (Station 76 to 94, 40 Lbs. Max.)				
6	TOTAL WEIGHT AND MOMENT	1670	56.5		
7	Locate this point (1670 at 56.5) on the Center of Gravity Moment Envelope, and since this point falls within the envelope, the loading is acceptable.				

SAMPLE AIRPLANE	YOUR AIRPLANE	
	Weight (lbs.)	Moment (lb.-ins./1000)
1. Basic Empty Weight (Use the data pertaining to your airplane as it is presently equipped. Includes unusable fuel and full oil)	1136	34.0
	147	6.2
2. Usable Fuel (At 6 Lbs./Gal.) Standard Tanks (24.5 Gal. Maximum)		
Long Range Tanks (37.5 Gal. Maximum)		
Reduced Fuel (As limited by max. weight)		
3. Pilot and Passenger (Station 33 to 41)	340	13.3
4. *Baggage - Area 1 (Or passenger on child's seat) (Station 50 to 76, 120 Lbs. Max.)	52	3.3
5. *Baggage - Area 2 (Station 76 to 94, 40 Lbs. Max.)		
6. RAMP WEIGHT AND MOMENT	1675	56.8
7. Fuel allowance for engine start, taxi, and runup	- 5	-.2
8. TAKEOFF WEIGHT AND MOMENT (Subtract Step 7 from Step 6)	1670	56.6
9. Locate this point (1670 at 56.6) on the Center of Gravity Moment Envelope, and since this point falls within the envelope, the loading is acceptable. *The maximum allowable combined weight capacity for baggage areas 1 and 2 is 120 pounds.		

Figure 6-6. Sample Loading Problem (Sheet 1 of 2)

LOADING ARRANGEMENTS

*Pilot or passenger center of gravity on adjustable seats positioned for average occupant. Numbers in parenthesis indicate forward and aft limits of occupant center of gravity range.

- **Arms measured to the center of the areas shown.
1. The usable fuel C.G. arm for standard tanks is located at station 42.0; the C.G. arm for usable fuel in long range tanks is station 39.5.
 2. The aft baggage wall (approximate station 94) can be used as a convenient interior reference point for determining the location of baggage area fuselage stations.

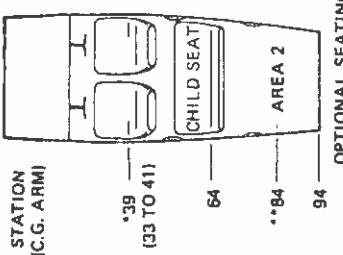
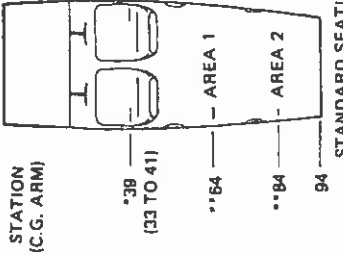


Figure 6-3. Loading Arrangements