

WEIGHT AND BALANCE

Use the following practice questions to get your reps in! The more you practice, the easier this process becomes. Refer to the end of this document for answers. When it comes time to take the Practice Written Tests and FAA Written, this should feel natural.

1. Refer to Figure #34. What is the weight and CG?

Basic Empty Weight: 1535lbs
Starting Moment: 61,000lb-in
Pilot: 210lbs
Front Seat Pax: 155lbs
Rear Seat Pax: 130lbs
Bags: 45lbs
Fuel: 30 gallons
Oil: 8 quarts

2. Refer to Figure #34. What is the weight and CG?

Basic Empty Weight: 1535lbs
Starting Moment: 61,000lb-in
Pilot: 125lbs
Front Seat Pax: 115lbs
Rear Seat Pax: 0lbs
Bags: 0lbs
Fuel: 22 gallons
Oil: 8 quarts

3. Refer to Figure #34. What is the weight and CG?

Basic Empty Weight: 1535lbs
Starting Moment: 61,000lb-in
Pilot: 220lbs
Front Seat Pax: 190lbs
Rear Seat Pax: 135lbs
Bags: 0lbs
Fuel: 40 gallons
Oil: 8 quarts

4. Refer to Figure #34. What is the weight and CG?

Basic Empty Weight: 1535lbs
Starting Moment: 61,000lb-in
Pilot: 185lbs
Front Seat Pax: 145lbs
Rear Seat Pax: 50lbs
Bags: 25lbs
Fuel: 18 gallons
Oil: 8 quarts

5. Refer to Figures #32 and #33. What is the weight and CG?

Basic Empty Weight: 2015lbs
Starting Moment: 155,400lb-in
Pilot: 210lbs
Front Seat Pax: 155lbs
Rear Seat Pax: 130lbs
Bags: 45lbs
Fuel: 30 gallons (main tanks)

6. Refer to Figure #34. What is the weight and CG?

Basic Empty Weight: 1535lbs
Starting Moment: 61,000lb-in
Pilot: 140lbs
Front Seat Pax: 0lbs
Rear Seat Pax: 0lbs
Bags: 0lbs
Fuel: 35 gallons
Oil: 8 quarts

7. Refer to Figures #32 and #33. What is the weight and CG?

Basic Empty Weight: 2015lbs
Starting Moment: 155,400lb-in
Pilot: 160lbs
Front Seat Pax: 155lbs
Rear Seat Pax: 155lbs
Bags: 15lbs
Fuel: 44 gallons (main tanks)

8. Refer to Figures #32 and #33. What is the weight and CG?

Basic Empty Weight: 2015lbs
Starting Moment: 155,400lb-in
Pilot: 210lbs
Front Seat Pax: 0lbs
Rear Seat Pax: 0lbs
Bags: 55lbs
Fuel: 26 gallons (main tanks)

9. Refer to Figure #32 and #33. What is the weight and CG?

Basic Empty Weight: 2015lbs
Starting Moment: 155,400lb-in
Pilot: 105lbs
Front Seat Pax: 215lbs
Rear Seat Pax: 145lbs
Bags: 65lbs
Fuel: 44 gallons (main tanks) and 10 gallons (aux tanks)

10. Refer to Figure #34. What is the weight and CG?

Basic Empty Weight: 1535lbs
Starting Moment: 61,000lb-in
Pilot: 193lbs
Front Seat Pax: 155lbs
Rear Seat Pax: 0lbs
Bags: 0lbs
Fuel: 38 gallons
Oil: 8 quarts

11. Refer to Figure #34. What is the weight and CG?

Basic Empty Weight: 1535lbs
Starting Moment: 61,000lb-in
Pilot: 185lbs
Front Seat Pax: 85lbs
Rear Seat Pax: 0lbs
Bags: 0lbs
Fuel: 23 gallons
Oil: 8 quarts

12. Refer to Figures #32 and #33. What is the weight and CG?

Basic Empty Weight: 2015lbs
Starting Moment: 155,400lb-in
Pilot: 135lbs
Front Seat Pax: 145lbs
Rear Seat Pax: 0lbs
Bags: 45lbs
Fuel: 33 gallons (main tanks)

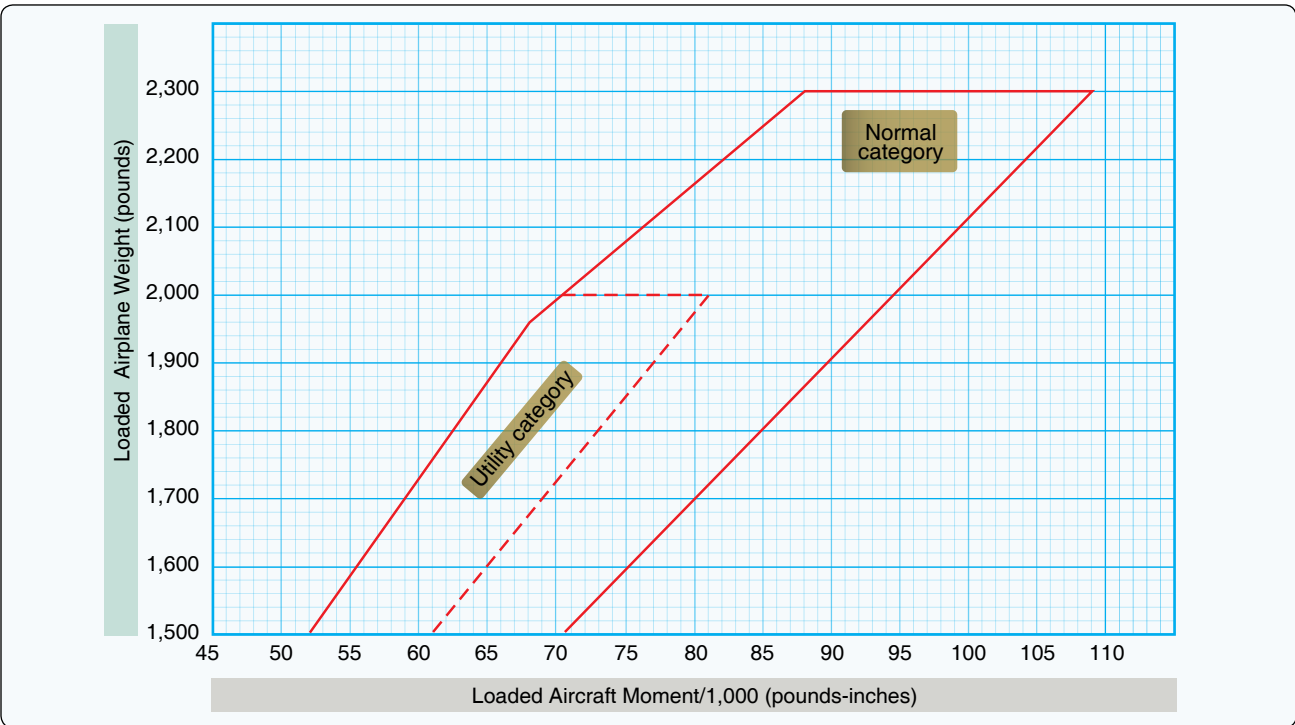
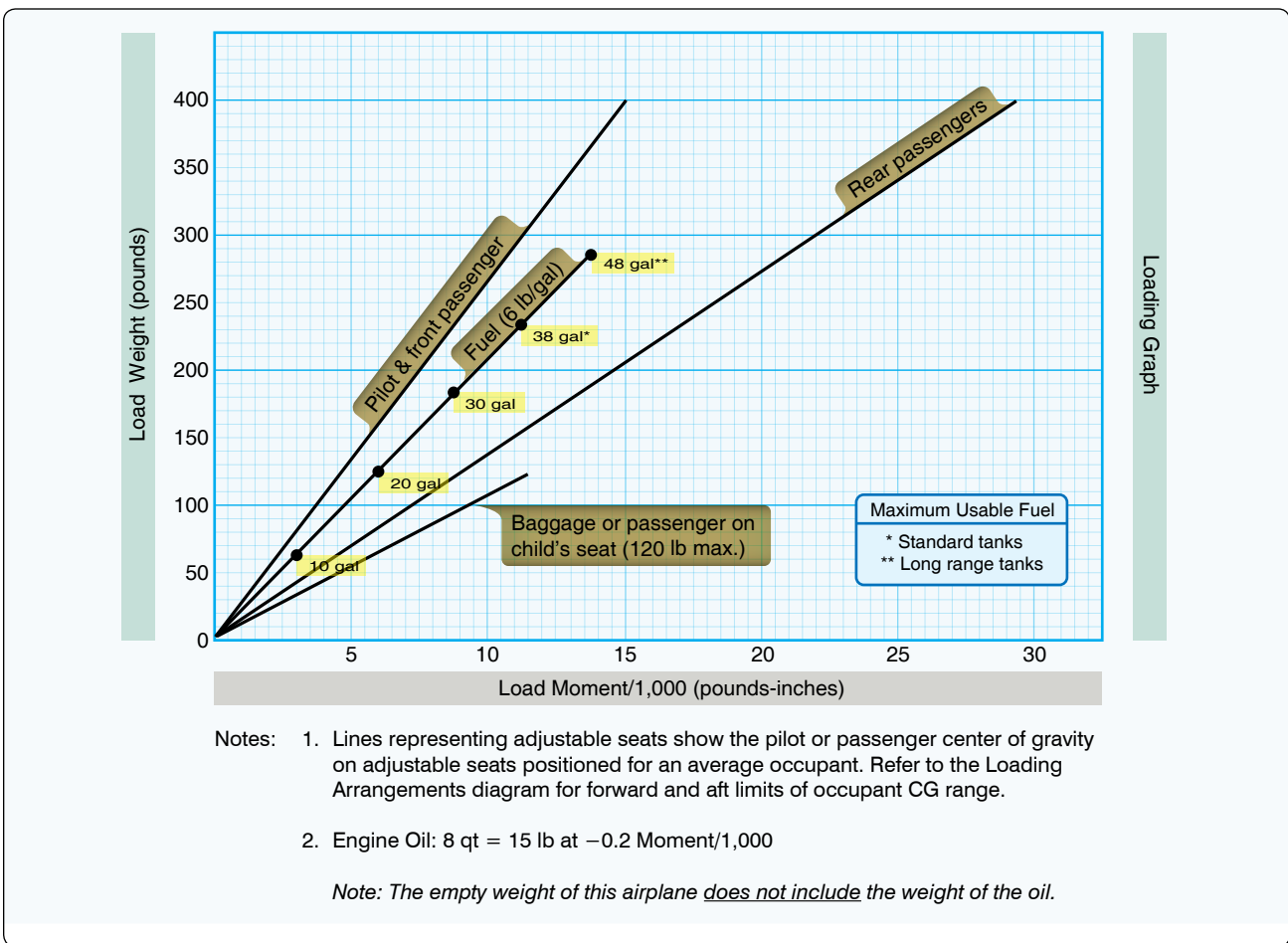


Figure 34. Airplane Weight and Balance Graphs.

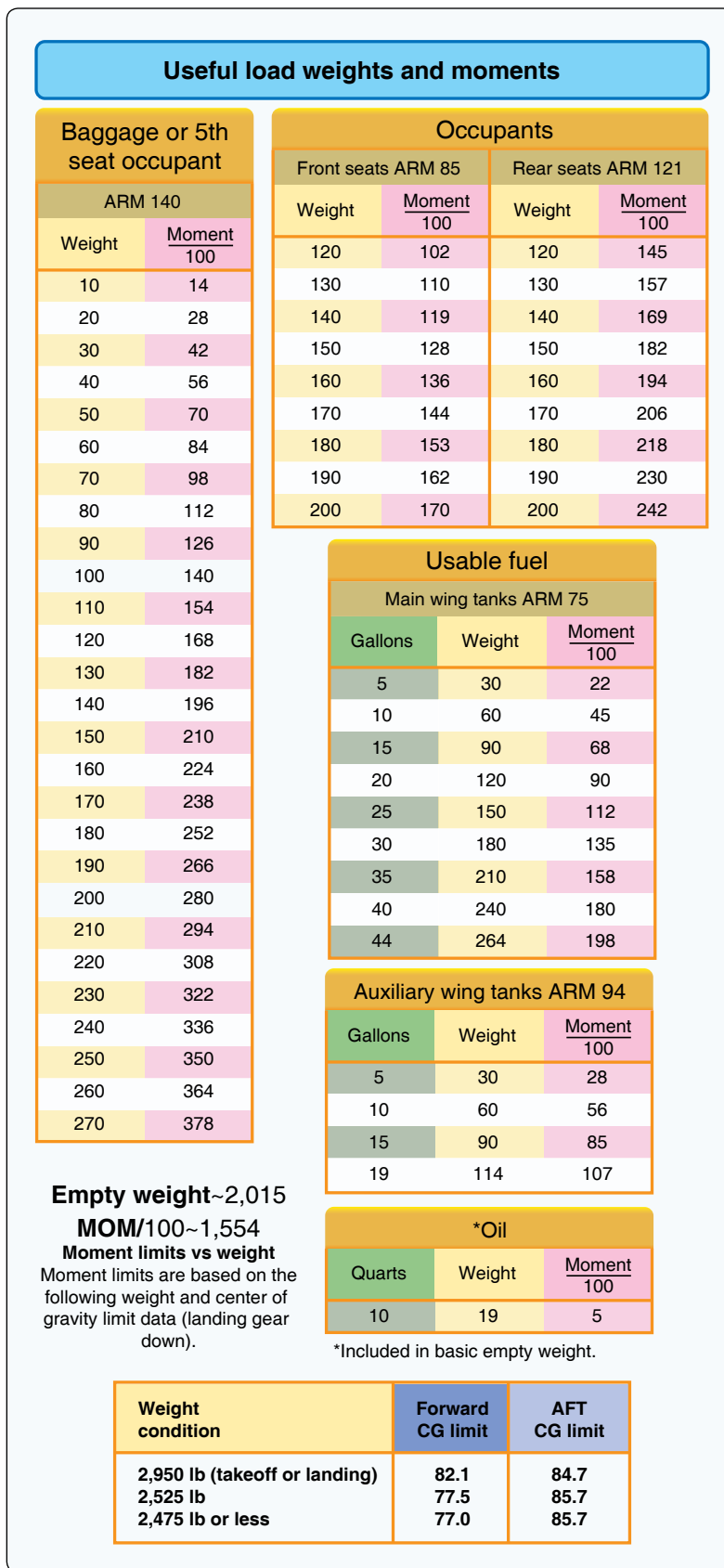


Figure 32. Airplane Weight and Balance Tables.

Moment limits vs weight (continued)					
Weight	Minimum Moment	Maximum Moment	Weight	Minimum Moment	Maximum Moment
	100	100		100	100
2,100	1,617	1,800	2,500	1,932	2,143
2,110	1,625	1,808	2,510	1,942	2,151
2,120	1,632	1,817	2,520	1,953	2,160
2,130	1,640	1,825	2,530	1,963	2,168
2,140	1,648	1,834	2,540	1,974	2,176
2,150	1,656	1,843	2,550	1,984	2,184
2,160	1,663	1,851	2,560	1,995	2,192
2,170	1,671	1,860	2,570	2,005	2,200
2,180	1,679	1,868	2,580	2,016	2,208
2,190	1,686	1,877	2,590	2,026	2,216
2,200	1,694	1,885	2,600	2,037	2,224
2,210	1,702	1,894	2,610	2,048	2,232
2,220	1,709	1,903	2,620	2,058	2,239
2,230	1,717	1,911	2,630	2,069	2,247
2,240	1,725	1,920	2,640	2,080	2,255
2,250	1,733	1,928	2,650	2,090	2,263
2,260	1,740	1,937	2,660	2,101	2,271
2,270	1,748	1,945	2,670	2,112	2,279
2,280	1,756	1,954	2,680	2,123	2,287
2,290	1,763	1,963	2,690	2,133	2,295
2,300	1,771	1,971	2,700	2,144	2,303
2,310	1,779	1,980	2,710	2,155	2,311
2,320	1,786	1,988	2,720	2,166	2,319
2,330	1,794	1,997	2,730	2,177	2,326
2,340	1,802	2,005	2,740	2,188	2,334
2,350	1,810	2,014	2,750	2,199	2,342
2,360	1,817	2,023	2,760	2,210	2,350
2,370	1,825	2,031	2,770	2,221	2,358
2,380	1,833	2,040	2,780	2,232	2,366
2,390	1,840	2,048	2,790	2,243	2,374
2,400	1,848	2,057	2,800	2,254	2,381
2,410	1,856	2,065	2,810	2,265	2,389
2,420	1,863	2,074	2,820	2,276	2,397
2,430	1,871	2,083	2,830	2,287	2,405
2,440	1,879	2,091	2,840	2,298	2,413
2,450	1,887	2,100	2,850	2,309	2,421
2,460	1,894	2,108	2,860	2,320	2,428
2,470	1,902	2,117	2,870	2,332	2,436
2,480	1,911	2,125	2,880	2,343	2,444
2,490	1,921	2,134	2,890	2,354	2,452
			2,900	2,365	2,460
			2,910	2,377	2,468
			2,920	2,388	2,475
			2,930	2,399	2,483
			2,940	2,411	2,491
			2,950	2,422	2,499

Figure 33. Airplane Weight and Balance Tables.

ANSWER KEY

1. 2270lbs at 42.85in
2. 1922lbs at 41.39in
3. 2335lbs at 41.78in
4. 2063lbs at 41.49in
5. 2735lbs at 81.15in
6. 1900lbs at 41.55in
7. 2764lbs at 80.61in
8. 2436lbs at 79.08in
9. 2869lbs at 81.80in
10. 2126lbs at 40.32in
11. 1958lbs at 40.19in
12. 2538lbs at 78.94in