

ATPL Solutions – Flight Operations - Q30 - 33

| Description | Weight | Arm | Moment | CG (%MAC) |
|------------------------|--------------|---------------|----------------|-------------|
| OEW | 13000 | 281.2 | 3655600 | |
| Seat 1 | 140 | 257.8 | 36092 | |
| Seat 2 | 110 | 257.8 | 28358 | |
| Seat 3 | 0 | 257.8 | 0 | |
| Seat 4 | 200 | 204.8 | 40960 | |
| Seat 5 | 250 | 204.8 | 51200 | |
| Seat 6 | 0 | 172.8 | 0 | |
| Seat 7 | 0 | 172.8 | 0 | |
| Seat 8 | 190 | 152.8 | 29032 | |
| Baggage | 0 | 361.5 | 0 | |
| ZFW | 13890 | 276.55 | 3841242 | 25.0 |
| Fuel | 6246 | | 1793000 | |
| Ramp | 20136 | 279.81 | 5634242 | 28.7 |
| After taxi fuel | 5946 | | 1708000 | |
| TO Condition | 19836 | 279.76 | 5549242 | 28.6 |
| After trip fuel | 1262 | | 369833 | |
| Land. Condition | 15152 | 277.92 | 4211075 | 26.6 |

Ramp condition

$$\begin{aligned}
 \% \text{ MAC} &= \frac{\text{ARM} - 253.964}{90.197} \times 100 \\
 &= \frac{279.81 - 253.964}{90.197} \times 100 \\
 &= 28.7
 \end{aligned}$$

Zero fuel condition

Landing condition