

Discussion: Drone Weight and Balance

What to Do

Use the owner's manual, Pilot's Operating Handbook, or the internet to research information of any drone you own. If you do not own a drone, choose the model you will likely operate in the future. Share with us the drone's intended use (aerial images, lidar, construction management, etc.), the aircraft's weight, and the max payload.

Finally, if you have experience flying please share an instance where the weight, balance, or payload affected the flight. How was the flight impacted and how was the situation handled (hopefully not by crashing)?

Example

DJI Inspire: 6.74 lbs. (3060g) This includes the battery, propellers, camera, and gimble. Max weight: 3400g, an additional 340g can be attached to the aircraft.

The DJI Inspire is primarily used at Palomar College for various cameras by the geography and media department. I have used infrared and thermal cameras with the Inspire. The thermal was extremely interesting as it showed the heat efficiency of the various buildings on campus.

During one flight, one of the retractable legs malfunctioned. It would not raise into the flying position. This through the balance of the aircraft off. I was not the Remote PIC at the time, but he described it as "a difficult struggle to maintain balance." The operation was quickly aborted. However, upon trying to land, the opposite leg did not want to descend. A crew member eventually caught the Inspire by the malfunctioning legs as the pilot slowly lowered the drone, cutting power immediately.

Requirements

Posts must be at least one paragraph 3-5 sentences long and no longer than three paragraphs.

Discussion Directions

After you type your initial post by Wednesday evening at 11:59 pm Pacific Time, then read through the other entries and reply directly to at least two classmates by Friday evening at 11:59 pm Pacific Time. When you reply, ALWAYS type the name of the classmate you are responding to and your name at the bottom of the message. Make

sure to use **proper grammar and punctuation** in this college-level course in all correspondence. Please avoid “text” or “twitter speak” when corresponding.

Summary

Post by **Wednesday** evening at 11:59 pm Pacific Time

Respond to at least 2 classmates by **Friday** evening at 11:59 pm Pacific Time

Grading

To view the grading rubric for this discussion, click the gear icon (upper right) and then click **Show Rubric**.

Assignment: Load Bank

You are flying a sUAS that weighs 45 pounds, what approximate weight would the airplane structure be required to support if you made a 30° banked turn while maintaining altitude?

Provide a detailed explanation on how you arrived at your conclusions.

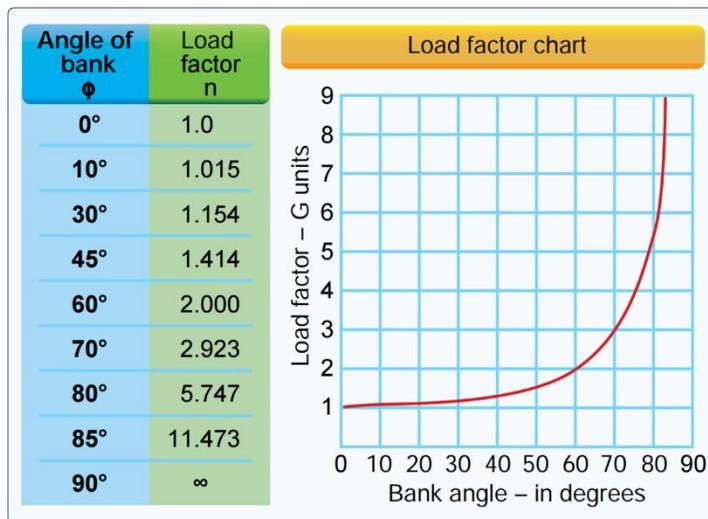


FIGURE 2.—Load Factor Chart.



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