

Loading and Performance

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1. To ensure that the unmanned aircraft center of gravity (CG) limits are not exceeded, follow the aircraft loading instructions specified in the

a. Pilot's Operating Handbook or UAS Flight Manual.

b. Aeronautical Information Manual (AIM).

c. Aircraft Weight and Balance Handbook.

2. When operating an unmanned airplane, the remote pilot should consider that the load factor on the wings may be increased anytime

a. the CG is shifted rearward to the aft CG limit.

b. the airplane is subjected to maneuvers other than straight and level flight.

c. the gross weight is reduced.

3. A stall occurs when the smooth airflow over the unmanned airplane's wing is disrupted, and the lift degenerates rapidly. This is caused when the wing

- a. exceeds the maximum speed.
- b. exceeds maximum allowable operating weight.
- c. exceeds its critical angle of attack.

4. If an unmanned airplane weighs 33 pounds, what approximate weight would the airplane structure be required to support during a 30° banked turn while maintaining altitude?

a. 34 pounds.

b. 47 pounds.

c. 38 pounds.

5. The aerodynamic forces that affect all aircraft are:

a. Friction, Lift, Weight, Power

b. Thrust, Drag, Weight, Lift

c. Power, Thrust, Weight, Lift

6. The sUAS manufacturer's specifications:

- a. Provide suggested Loading and Balance information
- b. Are intended to for flying under extreme conditions to allow for safe flight under normal conditions.
- c. Are defined for normal flight conditions.

7. Gross Takeoff Weight (GTW) is

- a. not affected by Higher elevations, temperatures, or humidity
- b. has no impact on takeoffs and landings
- c. is determined and specified by the UAS manufacturer

8. While performing a 45° banked turn AND maintaining altitude, an aircraft weighing 25 lbs would need to support a greater load, in this case the wings would be supporting

a. 25.414 lbs

b. 26.414 lbs

c. 35.350 lbs

9. The Center of Gravity (CG)

- a. is determined and fixed by the manufacturer and will never move
- b. has minimal impact on UAS flight characteristics
- c. Can shift during flight as fuel is expended or payloads move

10. Increased weight

- a. increases performance allowing the aircraft to fly faster
- b. reduces performance by increasing takeoff speed**
- c. increasing maneuverability