

Weight and Balance

S2-1. What is weight and balance?

- A. How the aircraft behaves at different weights and balances.
- B. Total weight of the airplane and balancing where the weight is front to back.
- C. Total weight of the aircraft and the balance from wingtip to wingtip.

S2-2. The total weight of the aircraft for flight used in computing the weight and balance includes?

- A. Dry weight, people, fuel, oil, cargo and baggage; the total weight ready to takeoff.
- B. Total weight of the aircraft before you load it with people including fuel.
- C. Dry weight plus fuel and oil.

S2-3. What is the most important factor about total weight of the aircraft?

- A. It must be equal to or greater than the maximum gross weight in the Pilot Operating Handbook (POH).
- B. Never exceed the maximum gross weight of aircraft.
- C. You want it be as light as possible.

S2-4. What does higher weight mean for takeoff and landing speeds of the aircraft?

- A. Longer takeoff roll, higher landing speeds, and longer takeoff/ landing distance.
- B. Shorter takeoff roll, higher landing speeds, and longer takeoff/ landing distance.
- C. It does not matter as long as you have a long runway.

S2-5. How does added weight affect climb rate?

- A. Similar climb rates with higher density altitude.
- B. Lower climb rates.
- C. Higher climb rates.

S2-6. How does added weight affect stall speed, ceiling, and range?

- A. Lower, faster, and more.
- B. Faster, lower, and less.
- C. More for all three.

Thrust

S2-7. Higher thrust provides what performance improvements?

- A. Shorter takeoff roll and greater climb rate.
- B. Quicker turns with less torque.
- C. Better landing in strong winds.

S2-8. Thrust is defined as?

- A. Parasitic drag during a climb.
- B. Horsepower of the engine under ideal conditions.
- C. Engine brake horsepower and propeller system efficiency.

S2-9. Lower propeller speeds from reduction gearboxes provide what performance advantage?

- A. Higher thrust.
- B. Lower propeller speed decreases thrust.
- C. More drag in the system because of the gearbox friction.

S2-10. Lower propeller speeds from reduction gearboxes have what effect on the propulsion system noise?

- A. Same noise.
- B. Lower noise.
- C. More noise.