

Fuel control unit. The fuel-metering device used on a turbine engine that meters the proper quantity of fuel to be fed into the burners of the engine. It integrates the parameters of inlet air temperature, compressor speed, compressor discharge pressure, and exhaust gas temperature with the position of the cockpit power control lever.

Fuel efficiency. Defined as the amount of fuel used to produce a specific thrust or horsepower divided by the total potential power contained in the same amount of fuel.

Fuel heaters. A radiator-like device which has fuel passing through the core. A heat exchange occurs to keep the fuel temperature above the freezing point of water so that entrained water does not form ice crystals, which could block fuel flow.

Fuel injection. A fuel metering system used on some aircraft reciprocating engines in which a constant flow of fuel is fed to injection nozzles in the heads of all cylinders just outside of the intake valve. It differs from sequential fuel injection in which a timed charge of high-pressure fuel is sprayed directly into the combustion chamber of the cylinder.

Fuel load. The expendable part of the load of the airplane. It includes only usable fuel, not fuel required to fill the lines or that which remains trapped in the tank sumps.

Fuel tank sump. A sampling port in the lowest part of the fuel tank that the pilot can utilize to check for contaminants in the fuel.

Fuselage. The section of the airplane that consists of the cabin and/or cockpit, containing seats for the occupants and the controls for the airplane.

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Gas generator. The basic power producing portion of a gas turbine engine and excluding such sections as the inlet duct, the fan section, free power turbines, and tailpipe. Each manufacturer designates what is included as the gas generator, but generally consists of the compressor, diffuser, combustor, and turbine.

Gas turbine engine. A form of heat engine in which burning fuel adds energy to compressed air and accelerates the air through the remainder of the engine. Some of the energy is extracted to turn the air compressor, and the remainder accelerates the air to produce thrust. Some of this energy can be converted into torque to drive a propeller or a system of rotors for a helicopter.

Glide ratio. The ratio between distance traveled and altitude lost during non-powered flight.

Glidepath. The path of an aircraft relative to the ground while approaching a landing.

Global position system (GPS). A satellite-based radio positioning, navigation, and time-transfer system.

Go-around. Terminating a landing approach.

Governing range. The range of pitch a propeller governor can control during flight.

Governor. A control which limits the maximum rotational speed of a device.

Gross weight. The total weight of a fully loaded aircraft including the fuel, oil, crew, passengers, and cargo.

Ground adjustable trim tab. A metal trim tab on a control surface that is not adjustable in flight. Bent in one direction or another while on the ground to apply trim forces to the control surface.

Ground effect. A condition of improved performance encountered when an airplane is operating very close to the ground. When an airplane's wing is under the influence of ground effect, there is a reduction in upwash, downwash, and wingtip vortices. As a result of the reduced wingtip vortices, induced drag is reduced.

Ground idle. Gas turbine engine speed usually 60-70 percent of the maximum rpm range, used as a minimum thrust setting for ground operations.

Ground loop. A sharp, uncontrolled change of direction of an airplane on the ground.

Ground power unit (GPU). A type of small gas turbine whose purpose is to provide electrical power, and/or air pressure for starting aircraft engines. A ground unit is connected to the aircraft when needed. Similar to an aircraft-installed auxiliary power unit.

Groundspeed (GS). The actual speed of the airplane over the ground. It is true airspeed adjusted for wind. Groundspeed decreases with a headwind, and increases with a tailwind.

Ground track. The aircraft's path over the ground when in flight.