

ground speed

speed of the aircraft relative to the Earth's surface

hydrostatic pressure

pressure produced by the weight of all the molecules in the air at a particular height

jet engine

an engine that develops thrust by ejecting an exhaust of gaseous combustion products

Kevlar

a synthetic aramid fibre of high tensile strength and heat resistance used as a reinforcing agent in many composites

lift

the upward force perpendicular to the aircraft's flight path

non-destructive testing

procedures that gather information remotely (such as thermography and vibration monitoring) or by surface-based examination techniques (such as radiography, ultrasonics, eddy current, dye penetrant and magnetic particle inspection)

pitot/total pressure

this consists of both static and dynamic pressure

precipitation hardening

increasing the hardness of a supersaturated solid solution by heat treating it to cause a second phase to precipitate out

ramjet

engine using the forward motion of the craft to compress incoming air before combustion

rocket

a projectile powered by onboard chemical fuels

rotary wing

a type of aircraft that is supported in the air wholly by wings or blades rotating about a central vertical axis

rudder

the primary control surface in yaw (sideways movement), usually hinged and attached to the trailing edge of the vertical stabiliser on the aircraft's tail

scramjet

a faster supersonic variant of the ramjet engine

simultaneous engineering

(also known as concurrent engineering) a team-based, collaborative approach to new product design and development aimed at reducing design cycle time

static pressure

measured through the use of static vent, static pressure is the pressure of the atmosphere without any relative movement

stress raiser

stress raisers can be scratches, grooves, machining marks, design faults or any structural discontinuity causing concentration of stress

superalloy

nickel-chromium-iron, nickel-chromium-molybdenum-iron and nickel-chromium-cobalt alloys selected for their high temperature strength, creep and corrosion resistance

thrust

the driving force propelling an aircraft forward

transition piece

transition pieces are three-dimensional objects required to connect two different sections of different shapes or varying sizes

turboprop

turboprop aircraft use a gas turbine engine to drive a propeller; reduction gearing is used to reduce the top speed of the propeller to improve efficiency and reduce noise