Drone Repair and Maintenance

Propulsion and Power System Maintenance

Aerial Vehicle: an unmanned aircraft that is remotely controlled or flies autonomously using a pre-programmed flight plan, often used for surveillance, inspection, and other applications, requiring regular propulsion system maintenance to ensure optimal performance. Related terms: drone, UAV, quadcopter.
Aerodynamics: the study of the interaction between air and solid objects, such as aircraft, in motion, playing a crucial role in drone design and performance. Related terms: air resistance, drag, lift.
Airworthiness: the certification that an aircraft is safe to fly, meeting regulatory requirements and industry standards, essential for commercial drone operations. Related terms: certification, safety, regulations.
Altitude: the height of an object or aircraft above a reference point, such as sea level or ground level, critical for navigation and control systems. Related terms: elevation, height, sea level.
Amperage: the measure of electric current, often used to describe the power consumption of a drone's motors and other components. Related terms: voltage, wattage, current.
Anemometer: a device used to measure wind speed and direction, essential for weather monitoring and flight planning. Related terms: wind speed, wind direction, weather.
Angular Velocity: the rate of change of an object's angular displacement, critical for stability and control systems. Related terms: rotation, gyroscopes, accelerometers.
Antenna: a device used to transmit and receive radio signals, such as those used for remote control and telemetry data transmission. Related terms: transmitter, receiver, radio frequency.
API: Application Programming Interface, a set of protocols and tools used for building software applications, often used for drone development and integration. Related terms: software development, integration, protocols.
Armature: the moving part of an electric motor, responsible for converting electrical energy into mechanical energy. Related terms: motor, stator, rotor.
ASAP: As Soon As Possible, a term used to indicate that a task or maintenance activity should be performed urgently. Related terms: urgent, priority, deadline.
Aerial Photography: the process of taking photographs from an aircraft, such as a drone, often used for surveillance, mapping, and inspection. Related terms: photography, videography, aerial imaging.
Auto-Pilot: a system that automates the control of an aircraft, such as a drone, using pre-programmed flight plans and sensors. Related terms: autonomous, automation, flight control.
Avionics: the electronic systems used in aircraft, such as drones, including navigation, communication, and control systems. Related terms: electronics, navigation, communication.
Battery Management System: a system that monitors and controls the charge and discharge of a drone's batteries, ensuring safe and efficient operation. Related terms: battery, charging, discharging.
Brushless Motor: a type of electric motor that uses electronic controllers to commutate the current, often used in drones due to their high efficiency and reliability. Related terms: motor, brushless, controller.
Cable Management: the process of organizing and securing cables and wires in a drone, ensuring safe and reliable operation. Related terms: cables, wires, organization.
Calibration: the process of configuring and adjusting a drone's sensors and systems to ensure accurate and

reliable operation. Related terms: configuration, adjustment, accuracy.
Carbon Fiber: a lightweight and strong material often used in drone frames and components due to its high strength-to-weight ratio. Related terms: material, frame, component.
Center of Gravity: the point where the weight of an object, such as a drone, can be considered to be concentrated, critical for stability and control. Related terms: weight, balance, stability.
Charging: the process of replenishing a drone's battery with electrical energy, essential for operation. Related terms: battery, power, energy.
Circuit Breaker: a device that interrupts an electrical circuit in case of an overload or short circuit, ensuring safety and protection. Related terms: electrical, overload, short circuit.
Component: a part or subsystem of a drone, such as a motor or sensor, that performs a specific function. Related terms: part, subsystem, function.
Configuration: the arrangement of a drone's components and systems, such as the placement of motors and sensors. Related terms: arrangement, components, systems.
Control System: a system that regulates and monitors a drone's flight and operation, including altitude, speed, and direction. Related terms: regulation, monitoring, flight.
Controller: a device that regulates and controls a drone's motors and systems, such as the speed and direction of the motors. Related terms: regulation, control, motor.
Cooling System: a system that regulates and manages a drone's temperature, ensuring safe and reliable operation. Related terms: temperature, management, safety.
Data Link: a communication system that transmits and receives data between a drone and a ground station, such as telemetry data. Related terms: communication, transmission, reception.
DC: Direct Current, a type of electrical current that flows in one direction, often used in drones due to its simplicity and reliability. Related terms: electrical, current, direction.
Digital Signal Processing: the process of using algorithms and software to analyze and interpret digital signals, such as those used in drone sensors and systems. Related terms: algorithms, software, signals.
Display: a device that shows visual information to the user, such as a screen or display on a drone's remote control. Related terms: visual, information, user.
Downlink: a communication link that transmits data from a drone to a ground station, such as telemetry data. Related terms: communication, transmission, ground station.
Downtime: a period of time when a drone is not operational, often due to maintenance or repair. Related terms: maintenance, repair, time.
Drag: the force that opposes an object's motion through a fluid, such as air or water, affecting a drone's performance and efficiency. Related terms: force, motion, fluid.
Electronic Speed Controller: a device that regulates and controls the speed of a drone's motors, ensuring safe and efficient operation. Related terms: regulation, control, motor.
Empennage: the rear section of a drone, including the tail and fin, which provides stability and control. Related terms: rear, tail, fin.
Encoder: a device that converts an analog signal into a digital signal, often used in drone sensors and systems. Related terms: conversion, analog, digital.
Endurance: the length of time a drone can operate before needing to recharge or refuel, depending on its power source and efficiency. Related terms: operation, recharge, refuel.
ESC: Electronic Speed Controller, a device that regulates and controls the speed of a drone's motors,

ensuring safe and efficient operation. Related terms: regulation, control, motor.
FAA: Federal Aviation Administration, a government agency responsible for regulating and overseeing aviation in the United States, including drone operations. Related terms: regulation, oversight, aviation.
Fail-Safe: a system or protocol that ensures a drone's safety in case of a failure or emergency, such as automatic landing or return to home. Related terms: safety, failure, emergency.
Flight Control Computer: a device that processes and executes flight control algorithms and commands, ensuring stable and controlled flight. Related terms: processing, execution, algorithms.
Flight Controller: a device that regulates and controls a drone's flight and operation, including altitude, speed, and direction. Related terms: regulation, control, flight.
Flight Planning: the process of planning and preparing a drone's flight and mission, including route planning and weather forecasting. Related terms: planning, preparation, mission.
FPV: First-Person View, a system that allows a pilot to see the view from the drone's camera in real-time, enhancing control and situational awareness. Related terms: view, camera, pilot.
Frequency: the number of oscillations or cycles per second of a signal or wave, such as the frequency of a drone's radio signal. Related terms: oscillations, cycles, signal.
Fuel Cell: a device that converts chemical energy into electrical energy, often used in drones as a power source due to their high energy density and efficiency. Related terms: conversion, chemical, electrical.
Gimbal: a stabilization system that isolates a drone's camera or sensor from vibrations and movements, ensuring smooth and stable footage. Related terms: stabilization, isolation, camera.
GPS: Global Positioning System, a network of satellites that provides location and time information to GPS receivers, often used in drones for navigation and tracking. Related terms: satellites, location, time.
Ground Control Station: a device or system that allows a pilot to control and monitor a drone's flight and operation, including telemetry data and video feed. Related terms: control, monitoring, pilot.
Gyroscope: a device that measures an object's orientation and rotation, often used in drones for stabilization and control. Related terms: measurement, orientation, rotation.
Heading: the direction a drone is facing or flying, often measured in degrees from north. Related terms: direction, facing, flying.
Hover: a state of flight where a drone maintains a steady position and altitude, often used for stationary operations such as inspection or surveillance. Related terms: state, flight, position.
IMU: Inertial Measurement Unit, a device that measures an object's acceleration, rotation, and orientation, often used in drones for stabilization and control. Related terms: measurement, acceleration, rotation.
Inspection: the process of visually examining a drone or its components to identify damage or wear, ensuring safety and airworthiness. Related terms: examination, damage, wear.
Integration: the process of combining components or systems to create a functional whole, such as integrating a drone's avionics and payload. Related terms: combination, components, systems.
Jitter: a type of noise or vibration that can affect a drone's stability and control, often caused by mechanical or electrical issues. Related terms: noise, vibration, stability.
Kevlar: a strong and lightweight material often used in drone frames and components due to its high strength-to-weight ratio. Related terms: material, frame, component.
Landing Gear: a system that allows a drone to land safely and smoothly, often consisting of wheels or skids. Related terms: landing, safety, smoothness.
Lithium-Polymer: a type of rechargeable battery often used in drones due to their high energy density and

long cycle life. Related terms: rechargeable, battery, energy.
Load: the weight or force that a drone is carrying or experiencing, such as the weight of a payload or wind resistance. Related terms: weight, force, payload.
LOI: Loss of Signal, a condition where a drone's communication link with its ground station is lost or interrupted. Related terms: loss, signal, communication.
Loop: a type of aerobatic maneuver where a drone flies in a circular path, often used for entertainment or demonstration purposes. Related terms: aerobatic, maneuver, circular.
Magnetometer: a device that measures the magnetic field around a drone, often used for navigation and orientation. Related terms: measurement, magnetic, navigation.
Maintenance: the process of performing repairs and upkeep on a drone to ensure its safety and airworthiness, including inspections and testing. Related terms: repair, upkeep, safety.
Mission: a specific task or operation that a drone is designed to perform, such as surveillance or inspection. Related terms: task, operation, performance.
Motor: a device that converts electrical energy into mechanical energy, often used in drones to power the rotors or propellers. Related terms: conversion, electrical, mechanical.
Navigation: the process of planning and controlling a drone's flight and movement, including route planning and waypoint navigation. Related terms: planning, control, movement.
Noise: an unwanted or undesired sound or vibration that can affect a drone's stability and control, often caused by mechanical or electrical issues. Related terms: unwanted, undesired, vibration.
Obstacle Avoidance: a system or protocol that allows a drone to detect and avoid obstacles, such as trees or buildings, ensuring safety and avoidance. Related terms: detection, avoidance, safety.
Payload: the weight or cargo that a drone is carrying or transporting, such as cameras or sensors. Related terms: weight, cargo, transportation.
Pilot: the person who operates and controls a drone, often using a remote control or ground station. Related terms: operation, control, remote.
Pitch: the rotation of a drone around its lateral axis, often controlled by the elevator or pitch control. Related terms: rotation, lateral, elevator.
Power System: a system that generates and distributes electrical power to a drone's components and systems, including the battery and motor. Related terms: generation, distribution, electrical.
Pre-Flight Check: a procedure that a pilot performs before flying a drone to ensure its safety and airworthiness, including inspections and testing. Related terms: procedure, safety, airworthiness.
Propeller: a device that converts mechanical energy into thrust, often used in drones to generate lift and propulsion. Related terms: conversion, mechanical, thrust.
Propulsion System: a system that generates thrust and propels a drone through the air, including the motor, propeller, and control systems. Related terms: generation, thrust, propulsion.
Radio Frequency: a type of electromagnetic wave used for communication and control of drones, including remote control and telemetry data transmission. Related terms: electromagnetic, communication, control.
RC: Remote Control, a device or system used to control and operate a drone from a distance, often using radio frequencies or wireless communication. Related terms: control, operation, distance.
Receiver: a device that receives and decodes radio signals or commands, often used in drones for remote control and telemetry data reception. Related terms: reception, decoding, signals.
Redundancy: the duplication of critical systems or components to ensure safety and reliability in case of

failure or malfunction. Related terms: duplication, critical, safety.
Regulation: a rule or standard that governs the use and operation of drones, often established by government agencies or industry organizations. Related terms: rule, standard, governance.
Reliability: the ability of a drone to perform its intended function or mission without failure or malfunction, often measured by mean time between failures. Related terms: ability, performance, function.
Return to Home: a feature that allows a drone to automatically return to its home or launch location in case of emergency or loss of signal. Related terms: feature, automatic, emergency.
RF: Radio Frequency, a type of electromagnetic wave used for communication and control of drones, including remote control and telemetry data transmission. Related terms: electromagnetic, communication, control.
Roll: the rotation of a drone around its longitudinal axis, often controlled by the ailerons or roll control. Related terms: rotation, longitudinal, ailerons.
Rotor: a rotating part of a drone's propulsion system, often consisting of blades or propellers that generate thrust and lift. Related terms: rotation, propulsion, blades.
Route Planning: the process of planning and preparing a drone's flight and mission, including waypoint navigation and obstacle avoidance. Related terms: planning, preparation, mission.
Safety Protocol: a set of procedures or guidelines that ensure the safety of people and property during drone operation and maintenance. Related terms: procedure, guideline, safety.
Sensor: a device that detects and measures physical parameters or conditions, such as temperature, humidity, or pressure, often used in drones for navigation and control. Related terms: detection, measurement, parameter.
Servo: a type of actuator that controls and regulates a drone's movements and actions, often used for ailerons, elevators, and rudders. Related terms: actuator, control, regulation.
Signal Strength: the measure of a radio signal or transmission power, often used to evaluate the quality of a drone's communication link. Related terms: measurement, transmission, power.
Software: a set of instructions or programs that control and operate a drone's systems and components, including flight control and navigation. Related terms: instruction, program, control.
Speed: the rate at which a drone travels or moves, often measured in units of distance per time, such as meters per second. Related terms: rate, travel, movement.
Stability: the ability of a drone to maintain its orientation and position in the air, often achieved through control systems and stabilization algorithms. Related terms: ability, maintenance, orientation.
Stabilizer: a device or system that helps to stabilize a drone's flight and movement, often used for smooth and steady operation. Related terms: stabilization, flight, movement.
Standard Operating Procedure: a set of procedures or guidelines that outline the steps and actions required to operate and maintain a drone, ensuring safety and efficiency. Related terms: procedure, guideline, operation.
System: a set of components or subsystems that work together to perform a specific function or task, such as a drone's propulsion or control system. Related terms: component, subsystem, function.
Tail: the rear section of a drone, often consisting of a fin or rudder that provides stability and control. Related terms: rear, fin, rudder.
Telemetry: the process of transmitting and receiving data between a drone and a ground station, often used for monitoring and control. Related terms: transmission, reception, monitoring.

Thrust: the force that propels a drone through the air, often generated by the rotors or propellers. Related terms: force, propulsion, rotors.
Thruster: a device that generates thrust and propulsion for a drone, often consisting of a motor and propeller. Related terms: generation, thrust, propulsion.
Training: the process of teaching and educating a pilot or operator on the use and operation of a drone, including safety procedures and emergency protocols. Related terms: teaching, education, operation.
Transmitter: a device that transmits radio signals or commands to a drone, often used for remote control and telemetry data transmission. Related terms: transmission, signal, command.
UAV: Unmanned Aerial Vehicle, a type of aircraft that operates without a human pilot on board, often used for reconnaissance, surveillance, and inspection. Related terms: aircraft, operation, reconnaissance.
Velocity: the rate of change of an object's position or displacement, often measured in units of distance per time, such as meters per second. Related terms: rate, position, displacement.
Vibration: a type of oscillation or motion that can affect a drone's stability and control, often caused by mechanical or electrical issues. Related terms: oscillation, motion, stability.
Voltage: the measure of electric potential difference, often used to describe the power consumption of a drone's motors and other components. Related terms: measurement, potential, power.
Waypoint: a specific location or coordinate that a drone is programmed to fly to or pass through, often used for navigation and route planning. Related terms: location, coordinate, navigation.
Weight: the measure of a drone's mass or heaviness, often affecting its performance and efficiency. Related terms: measurement, mass, heaviness.
Wing: a structure that produces lift and stability for a drone, often consisting of a fixed or rotating surface. Related terms: structure, lift, stability.
Wireless: a type of communication or connection that does not use wires or cables, often used for remote control and telemetry data transmission. Related terms: communication, connection, wireless.
Yaw: the rotation of a drone around its vertical axis, often controlled by the rudder or yaw control. Related terms: rotation, vertical, rudder.