

**Diverging duct.** A duct, or passage, whose cross-sectional area increases in the direction of fluid flow.

**DME.** Distance measuring equipment.

**Dope proofing.** The treatment of a structure to be covered with fabric to keep the solvents in the dope from softening the protective coating on the structure.

**Dope roping.** A condition of aircraft dope brushed onto a surface in such a way that it forms a stringy, uneven surface rather than flowing out smoothly.

**Double-acting actuator (hydraulic system component).** A linear actuator moved in both directions by fluid power.

**Double-acting hand pump (hydraulic system component).** A hand-operated fluid pump that moves fluid during both strokes of the pump handle.

**Doubler.** A piece of sheet metal used to strengthen and stiffen a repair in a sheet metal structure.

**Downtime.** Any time during which an aircraft is out of commission and unable to be operated.

**Downwash.** Air forced down by aerodynamic action below and behind the wing of an airplane or the rotor of a helicopter. Aerodynamic lift is produced when the air is deflected downward. The upward force on the aircraft is the same as the downward force on the air.

**Drag (helicopter rotor blade movement).** Fore-and-aft movement of the tip of a helicopter rotor blade in its plane of rotation.

**Dragging brakes.** Brakes that do not fully release when the brake pedal is released. The brakes are partially applied all the time, which causes excessive lining wear and heat.

**Drag wire.** A structural wire inside a Pratt truss airplane wing between the spars. Drag wires run from the front spar inboard, to the rear spar at the next bay outboard. Drag wires oppose the forces that try to drag the wing backward.

**Drill motor.** An electric or pneumatic motor that drives a chuck that holds a twist drill. The best drill motors produce high torque, and their speed can be controlled.

**Drip stick.** A fuel quantity indicator used to measure the fuel level in the tank when the aircraft is on the ground. The drip stick is pulled down from the bottom of the tank until fuel drips from its opened end. This indicates that the top of the gauge inside the tank is at the level of the fuel. Note the number of inches read on the outside of the gauge at the point it contacts the bottom of the tank, and use a drip stick table to convert this measurement into gallons of fuel in the tank.

**Dry air pump.** An engine-driven air pump which used carbon vanes. Dry pumps do not use any lubrication, and the vanes are extremely susceptible to damage from the solid airborne particles. These pumps must be operated with filters in their inlet so they will take in only filtered air.

**Dry ice.** Solidified carbon dioxide. Dry ice sublimates, or changes from a solid directly into a gas, at a temperature of  $-110^{\circ}\text{F}$  ( $-78.5^{\circ}\text{C}$ ).

**Dry rot.** Decomposition of wood fibers caused by fungi. Dry rot destroys all strength in the wood.

**Ductility.** The property of a material that allows it to be drawn into a thin section without breaking.

**Dummy load (electrical load).** A noninductive, high-power, 50-ohm resistor that can be connected to a transmission line in place of the antenna. The transmitter can be operated into the dummy load without transmitting any signal.

**Duralumin.** The name for the original alloy of aluminum, magnesium, manganese, and copper. Duralumin is the same as the modern 2017 aluminum alloy.

**Dutch roll.** An undesirable, low-amplitude coupled oscillation about both the yaw and roll axes that affects many swept wing airplanes. Dutch roll is minimized by the use of a yaw damper.

**Dutchman shears.** A common name for compound-action sheet metal shears.

**Dynamic pressure (q).** The pressure a moving fluid would have if it were stopped. Dynamic pressure is measured in pounds per square foot.