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LIGHTENING STRIKE PROTECTION

- **Precautions are taken to ensure safe and continuous operation of an aircraft should it happen to be struck by lightening.**
- **A single lightening strike may contain 100 000 amperes of current.**
- **Aircraft use the predominantly aluminum structure as a ground path for operation of electrical devices.**
- **Most components are therefore mounted to structure or attached to the structure with bonding straps.**

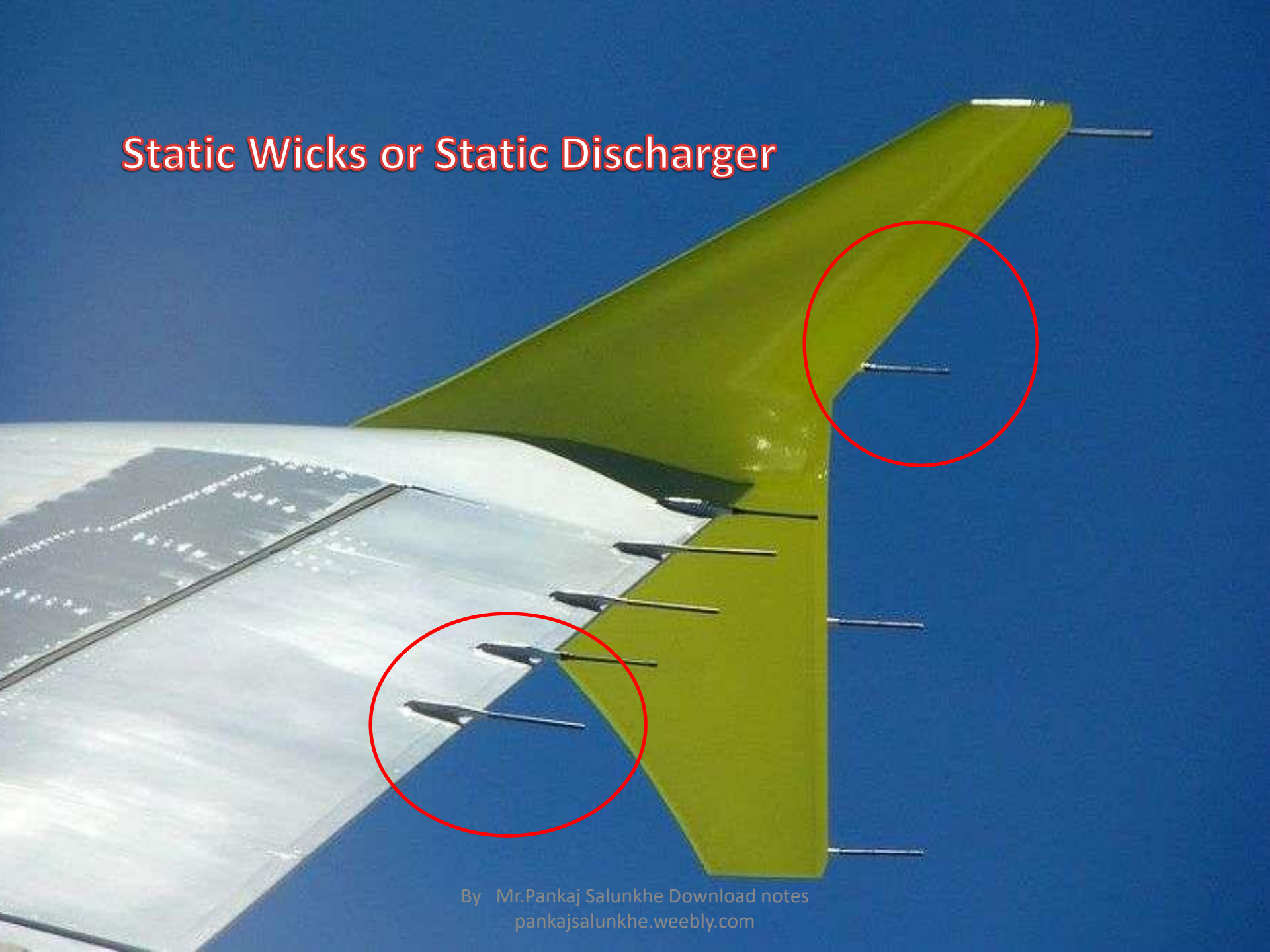
Bonding strap

- **This ensures that all components are at the same potential level electrically and that equal, low resistance paths for current flow exist.**
- **Not only are electrical components bonded to aircraft structure but different parts of the aircraft structure are bonded together as well.**

- **As an aircraft flies throughout the air, its surface can become highly charged with static electricity. Static dischargers, or wicks, are installed on aircraft to reduce radio receiver interference.**
- **Static dischargers are normally mounted on the trailing edges of the control surfaces, wing tips and the vertical stabilizer.**
- **They discharge precipitation static at points a critical distance away from avionics antennas where there is little or no coupling of the static to cause interference or noise.**

- **Flexible and semi flexible dischargers are attached to the aircraft structure by metal screws, rivets, or epoxy.**
- **The connections should be checked periodically for security. A resistance measurement from the mount to the airframe should not exceed 0.1 ohm.**

Static Wicks or Static Discharger



- **When lightning strikes an aircraft with all bonding devices in tact and working, there is no difference in potential from one part of the aircraft to another.**
- **The electrical energy dissipates over the entire surface of the aircraft and returns to the atmosphere through the static wicks.**
- **Note that all -bonding straps should be inspected periodically to ensure that no potential is allow to build so that lightning is dissipated in this manner.**

- **Composite materials used to construct modern aircraft are not naturally conductive.**
- **To achieve the same static and lightening protection as an aluminum aircraft, conductive wires or layering of conductive material into composite components**

Today's Amazing Fact

A lightning bolt is about 5 times more hot then the surface of the sun

धन्यवाद

Prepared By
Mr.Pankaj Salunkhe
M.Tech Design , B-tech Aerospace , DME