## Glider 3



## Glider 3 – Paper Example

Glider 3 Glider fuselage The fuselage has bulkhead, former and skin as some of the typical structural components. It forms the foremost body entailed structure from which every other part is attached. This fuselage has elongation containing cockpit otherwise called flight deck, passenger section and cargo section and other relevant parts.

Fig a: glider fuselage design

The structural segments are excellently placed to facilitate extreme resilience and strength of the body structure. Since fuselage has drag effect on the glider it is well streamlined thus decreasing the drag force and thus presenting a contrasting a lighter object when it comes to penetrating wind. The glider fuselage has a rounded nose and sleek thus allowing easy flow of air can flow efficiently around it. The feature is also enhanced by the presence of the tapered body of the fuselage (Yechout & Morris, 2003). Glider wing

The wing design for the glider represents intrinsic part of the glider. It has various arrangements of braces, ribs, edges and many other parts designed to strengthen the wing part of the glider. The glider wing has planform exhibiting high aspect ratio, variable and tapered aerofoil shape. The wing allows for straight model of sweeping by entailing wing motion through the right angles to anticipated line of flight.

Fig b: glider wing design

The selection of the type of the glider wing focuses on allowing of low-speed design. The wings provide essential lift force, and therefore is most imperative lift-producing element of the glider (Yechout & Morris, 2003). The four spars mainly provide the lateral strength for the wing. Ribs are attached to the spars to complete the structural parts. There is a rising angle is called the dihedral which aids in keeping the airplane from rolling suddenly while on flight. AOI or the angle at which the wing is linked to the fuselage is mainly 50. The wings have variable b and c features on it.

## Glider empennage

The empennage has rudder, vertical stabilizer, engine pylon, elevator and horizontal adjustable stabilizer as the main typical parts. There is well designed to provide stability and enhanced control for the glider. The main two parts entailing the empennage includes vertical stabilizer otherwise called fin on which the rudder is normally attached. There is another segment called horizontal stabilizer on which the elevators are conventionally attached.

Fig c: glider empennage design

The typical stabilizers facilitate proper pointing of the glider to the wind as normally, when the tail section of the glider swing to any side, the wind thrust against the tail sides and surfaces. This action maintains the proper place of the glider. The attached rudder and elevators permit the pilot to amply manage and control the yawing and pitching motions of glider (Yechout & Morris, 2003). The provided wings have further attached rear sections adjacent to the fuselage commonly called flaps. The entailing of the flaps facilitates the deployment of downward while takeoff and landing thus increasing the quantity of force derived. At some point, front segment of the wing will deflect.

## Reference

Yechout, T. R., & Morris, S. L. (2003). Introduction to aircraft flight mechanics: Performance, static stability, dynamic stability, and classical

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