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The Passanger Cabin Safety Capsules

KEYWORDS: ESCAPE MECHANISUM, SEPARATE CABIN CAPSULE, EJECTING CAPSULE, INDIVIDUAL'S CAPSULES

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ABSTRACT *The main aim of this concept is to design and fabricate an escape mechanism is to create a capsule inside a fuselage and show the effective escape mechanism of these capsules which enables the passengers to rescue from the aircraft easily in case of an emergency like fire explosion or engine failure or during some other catastrophes. This can be installed in the aircraft and these capsules can be sent out by an opening at the rear end of the fuselage. if installed will ensure passengers safety in case of emergency like bird strike attack or engine failure or other accident in aircraft. It is involves the making of a cost effective model inside the aircraft analyze them and produce a working model of the same. We can save the people life by ejecting the capsules out of the aircraft.*

2.INTRODUCTION:

The passengers safety is the most import ants to the avionics fields. The human being life is live in only one time ;if it is go; they are not return life is again. So many of the aerospace industries is to research in passenger safety process like boing, airbus companies etc… the aircraft cabin is convenient to design safety of the passenger. In this journal we discuss about the modification of passenger cabin capsule of the aircraft. So We can save the people life by ejecting the capsules out of the aircraft.

3.Failures occurs on the a/c:

3.1 Engine failure:

In a multi-engine aircraft, failure of a single engine or damage of an engine, if there is no sudden landing is possible due to engine failure and result in the aircraft crashing. The only way to recover with a minimum loss of altitude, is to lower the nose (reduces the angle of attack of the wings, so that the boundary layer re-attaches to the wing).

3.2 FIRE:

One possible cause of fires in airplanes are wiring problems that involve intermittent faults, such as wires with breached insulation touching each other, having water dripping on them, or short circuits. These are difficult to detect once the plane is on the ground. However, there are methods, such as spread-spectrum time-domain reflectometry, that can feasibly test live wires on aircraft during flight.

3.3 Bird strike:

The highest risk of the bird strike is during the takeoff and landing, in low altitudes, which is in the vicinity of the airports. Some airports use active countermeasures, ranging from a person with a shotgun through recorded sounds of predators to employing falconers. Poisonous grass can be planted that is not palatable to birds, nor to insects that attract insectivorous birds. Passive countermeasures involve sensible land-use management, avoiding conditions attracting flocks of birds to the area (e.g. landfills). Another tactic found effective is to let the grass at the airfield grow taller (approximately 12 inches (30 cm)) as some species of birds won't land if they cannot see one another.

4.OBJECTIVE:

Rescue and supplying capsules joint system generally applicable on airplane.

4.1 Old Concept.

The old concepts is using to now a day to day life style of the airplains.it is used to single straight passenger cabin model of the airplane.

4.2 NEW CONCEPT.

This is the new concept in the world of aviation is oriented throughout the development of design which where used to reduce aviation disaster.

This new structure is divided into individual's capsules separately in depending compartment passengers, crews,loads

Each capsule is indepented and specialized, made from light weight disaster material.

the capsule will be placed on the moving belt (transport belt) and also provides the means of actuation from the aero plane.

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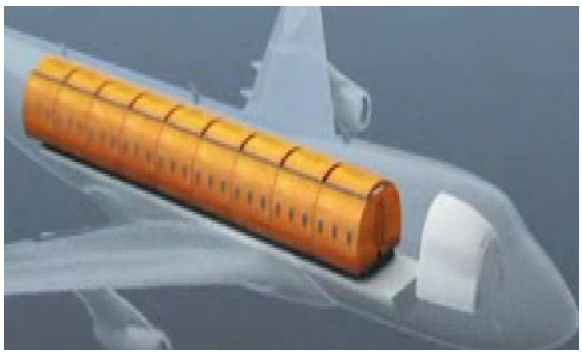
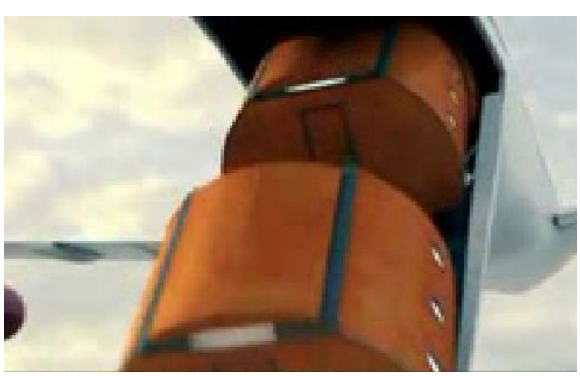


The moving belt is placed laterally on the flow of the fuselage; the belt is powered by a motor placed near the C.G of the aircraft for the stability of the aircraft.

These allow the capsule to exit in the quickest time possible even in event of free flow.

Once the accident along has been actuated a hatch will be open in the rear part of the aircraft, at this time the capsule will be ejected through this hatch and separate's the capsule from the plane.



Once ejected, parachute and flotation mechanism will be automatically works; each capsule will opens its parachute; slowing down its decent to a safe speed.

5.mechanisms.
Capsule is based on the following three stages mechanisms

- Transport belt mechanism,
- Parachute mechanism,
- Flotation mechanism

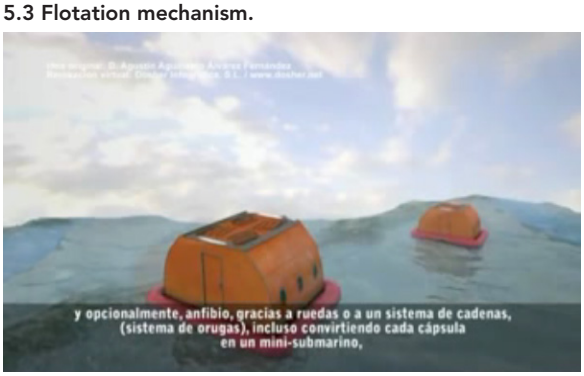
5.1Transport belt mechanism.

The first stage of this process .The capsules bellow side which is used to the belt mechanism process. so belt is continuous moving on the capsule cabin .the rear side of the fuselage is eject one by one cabin capsule

5.2 Parachute mechanism.

The second stage of this process.The capsule upper side is attached to the parachute. The rear side of the fuselage is out coming the capsule .the parachute is open on the cabin capsule then it is safely flying downwards on the land or sea.

5.3 Flotation mechanism.



The third stage of this process .Lower position of the Capsule is covered with Airbag for floating process.

In event of sea landing the flotation mechanism will help the capsule to float on the sea, and by using navigation system (GPS) it is easy to identify.

6.THE ANOTHER METHOD:
The another method is used above same principle. It should be followed three mechanism. the each cabin capsule is fixed with the small engines. if the a/c is any defect ejected the cabin capsule they are automatically works in engine due to the autopilot in each capsule. It is flying with automatically landing to safe place. it should be monitoring the gps system

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7.MATERIAL USED IN CAPSUL:

The materials are used to high strength of weight ratio, high heat resistance material, corrosion resistance. Then the material is flexible withstand in sea and landscape areas. So we can used bellow materials to construct the cabin.

- Titanium
- Aluminium
- Grafeno
- Keebler
- Fibres ,etc…….

8.USING GPS:

using GPS system is that used identifying the range, altitude, direction, or speeds of both moving and fixed object such as aircraft, ships, motor vehicles, weather formation, and obstacles(mountain, trees, etc….). the capsule can be identified anywhere on the earth. The gps equipment should be attached the each capsule ; the signal transmitting the satellite then the receiver should be indicated the accurate point of the object.so easily bring out the capsule in any types of flexible air vehicles or sea transportation.

9.conclusion:

this is the new concept in the world of aviation is oriented throughout the development of design which where used to reduce aviation disaster. It is involves the making of a cost effective model inside the aircraft analyze them and produce a working model of the same. We can save the people life by ejecting the capsules out of the aircraft.

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