



Air Intakes Design of Aircraft

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Abstract: In recent years, due to the needs of the air inlet interior of the aircraft, this paper initially sets an improvement plan to carry out the internal design of the aircraft inlet in this paper. First, the method of the air intake of the aircraft or the material required for the interior was analyzed. Secondly, based on the different types of air intakes, another way to design the air intakes of the aircraft was carried out. Finally, a model of the internal structure is realized using 3D modeling software. The design results show that the air intake design of the aircraft we designed is suitable for the aircraft.

Keywords: aircraft intake; Interior design

1 DESIGN OF THE INTERIOR OF THE AIR INTAKES OF THE AIRCRAFT

In view of the current air intake is generally inefficient, we have made the following design to make the air intake of the aircraft more efficient. Overall, we analyzed the air intakes of the aircraft, initially set up his general model, and finally made the design of the interior of the aircraft. Specifically:

Step 1: through the investigation on the Internet, search for the air intakes of the aircraft to understand and understand, in the investigation of the content of the analysis and discussion, and then summarize the conclusions of the investigation.

Step 2: Analyze the conclusions of the survey and then roughly conceive the design we need.

The third step: through the analysis of the team members, the analysis of the required parts, as well as the discussion and division of labor, the size of each part is carefully obtained, so that each person's work can be perfected and enriched.

Step 4: Each team member draws the parts according to their assigned parts, and when problems are encountered, they are discussed in groups, and the problems are analyzed and answered.

Step 5: Assemble all the parts together and assemble the parts.

We discussed our design, but also did a simulation conjecture, through the design of the drawing, let us have a better understanding of the interior of the machine, but also have a certain understanding of the design of the product, in the production process of this design, there is no major problem

We designed air intakes that were more successful. This method can be tried later on the air intakes of the aircraft.

2 INLET PORT DESIGN METHOD

After we have investigated the air intakes that exist now, analyzed and discussed the mouth types of some air intakes to a certain extent, and concluded that they have an impact on the aircraft, as well as the troubles they bring to high-altitude flight, and remove the impact on the force generated by the airflow that cannot be good when the aircraft is flying at high speed, and then we summarize that the air intake port type is designed as streamlined, and by calculating within a certain range, the airflow received by the aircraft can be released to the outside of the aircraft. No harm or minor injury to the aircraft, saving the cost of the aircraft manufactured and further improving the safety of the personnel inside the aircraft, the future development direction of the aircraft is also more clear.

3 DESIGN RESULTS AND DISCUSSION

In this design, let us understand that these things are not easy, there will be difficulties in each design and drawing, but everyone discusses and summarizes and solves problems with each other, and there will be new discoveries in each discussion, so as to reach a conclusion. In the design of this time also have a certain understanding of the area, after everyone's discussion, our design is more practical for the aircraft, in the aircraft mounting will make the air flow better to the outside of the aircraft flow out of the aircraft to minimize the damage to the aircraft.

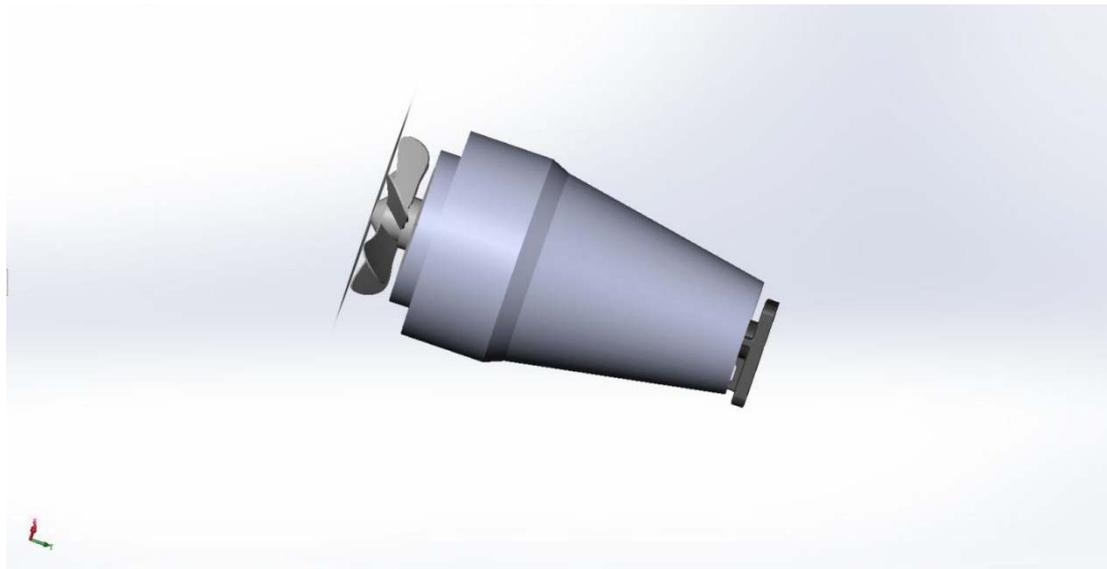


Fig. 1 Mechanical structure of the aircraft interior

3.1 OVERALL DESIGN

For the overall design, the use of this shape can make the airflow of the aircraft flow out of the aircraft as much as possible, and also allow the appearance to be improved while using.

3.2 KEY COMPONENT DESIGN

Reflected in the design of the blade, by measuring the blade and consulting various materials, the angle is discussed to arrive; When designing the shell, taking into account the influence of wind and airflow and the unexpected situation encountered during flight, the angle presented at the inner and outer ends of the shell is a little different, so that the side close to the fuselage of the aircraft can better reduce the impact of wind and air flow, so that the airflow and wind flow out of the outward side, the side of the outer angle away from the fuselage of the aircraft will be slightly thickened, the angle is appropriately out, so that the airflow and wind can be removed and do not affect the fuselage of the aircraft, so that the safety of the aircraft can be improved, and the utilization rate is improved. Reduced wear.

4 CONCLUSION

Through the discussion of our group, the discussion of the wind force and the impact of the air flow of the thing accounted for the vast majority of the discussion, through our discussion the angle of the shell was calculated again and again to obtain a relatively good value, and also a certain discussion of the thickness inside and outside, which did not affect the normal flight of the aircraft, and could better maintain the prototype when it was subjected to major natural disasters, and the degree of de-ringing The reduction makes the aircraft better ensure the safety of the people in the aircraft when it encounters unexpected situations during the flight. In the blade using 6 blades, in the power of the aircraft consumption becomes greater,

in the power of the aircraft performance will become better to make passengers safer, for the safety of passengers, we chose 6 blades.

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