iJRASET
International Journal For Research in Applied Science and Engineering Technology

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 13 **Issue:** X **Month of publication:** October 2025

DOI: https://doi.org/10.22214/ijraset.2025.74511

www.ijraset.com

Call: 08813907089 | E-mail ID: ijraset@gmail.com

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 13 Issue X Oct 2025- Available at www.ijraset.com

Wings of an Airplane with Front Ogive Bullet Shaped Aerodynamics

Joseph Kewin Nithin
Bachelor of Science Graduate | Inventor

Abstract: ***To reduce the flow of air currents directly on the tip of conventional airplane wings, the airplane wings is designed to direct the air currents flowing towards the airplane wings to deflect and flow towards the jet turbines, due to the curved structure of the airplane wings, the wing structure starts from the front part of the airplane, the airplane wing has inward curve structure. The bullet travels at high speed because of its ogive shape and improves air flow towards the beginning parts of the wings. The air currents flow towards the front part of the inward curve of the airplane wings and continues towards the sides and to the end of the inward curve of the airplane wings, the air currents flow deflect the air currents flowing directly towards the wings, and also exits the wings and displaces the denser air, and reduces the presence of denser air towards the end of the wings.***
Keywords: Airplane aerodynamics, Lighter air under wings, Airplane wings, Ogive Bullet

I. INTRODUCTION

To reduce the impact of air currents on wings, the airplane wings are curved in the front part of the plane to the sides, the curvature should begin from an elevated level respective to the airplane, [1] as wings alignment at an elevated level maximizes airplane efficiency as flow of air molecules with less density should flow under the wings to ensure a stable flight. The jet turbine generates air pressure directed opposite to the flight path, propelling the airplane forward. Lighter air molecules displace denser air particles, and flow beneath the wings.

Conventional airplanes have centrally positioned wings, which cause lighter air molecules to flow directly over them and cause turbulence. The ogive shaped body travels at high speed because air flows along the ogive shape and enhances uniform flow of air with speed of wind gradually decreasing as air moves along the ogive shape and airplane flies smoothly and at maximum speed as air matter presence does not resist much.

As air molecules strike the front body of the airplane, air becomes lighter at higher speeds, the interaction between the moving object and the air, reduces the density of air, making the air molecules lighter. The air pressure that is exerted on the opposite direction of flight, propels the airplane forward, lighter air displaces the air with more density and flow below the wings. The air currents entering the curved wings flow along the sides and towards the wings, deflect the air currents flowing directly at the airplane wings, and cause no damage to the airplane wings.

II. METHODOLOGY

The wings of an airplane are as shown in the Fig.1, the air currents entering the curved airplane wings flow through the curvature, when flowing, the air molecules flow along the curvature and side by side with the air currents flowing in close proximity to the air molecules along the curvature of the airplane wings, air molecules slow down after molecular contact. The ogive front part of the airplane reduces resistance of air.

The air molecules flowing along the curvature come into molecular contact with the air currents flowing past the air molecules flowing along the curvature and cause the air molecules flowing along the curvature to slow down. When air molecules flowing past the curvature get into molecular contact with the air molecules flowing along the curvature, part of the air molecules deflect and move in all directions and create slowly moving air currents on top of the airplane, and also slows down the air currents flowing above the airplane and the air molecules slow down when moving towards the airplane fin

ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 13 Issue X Oct 2025- Available at www.ijraset.com

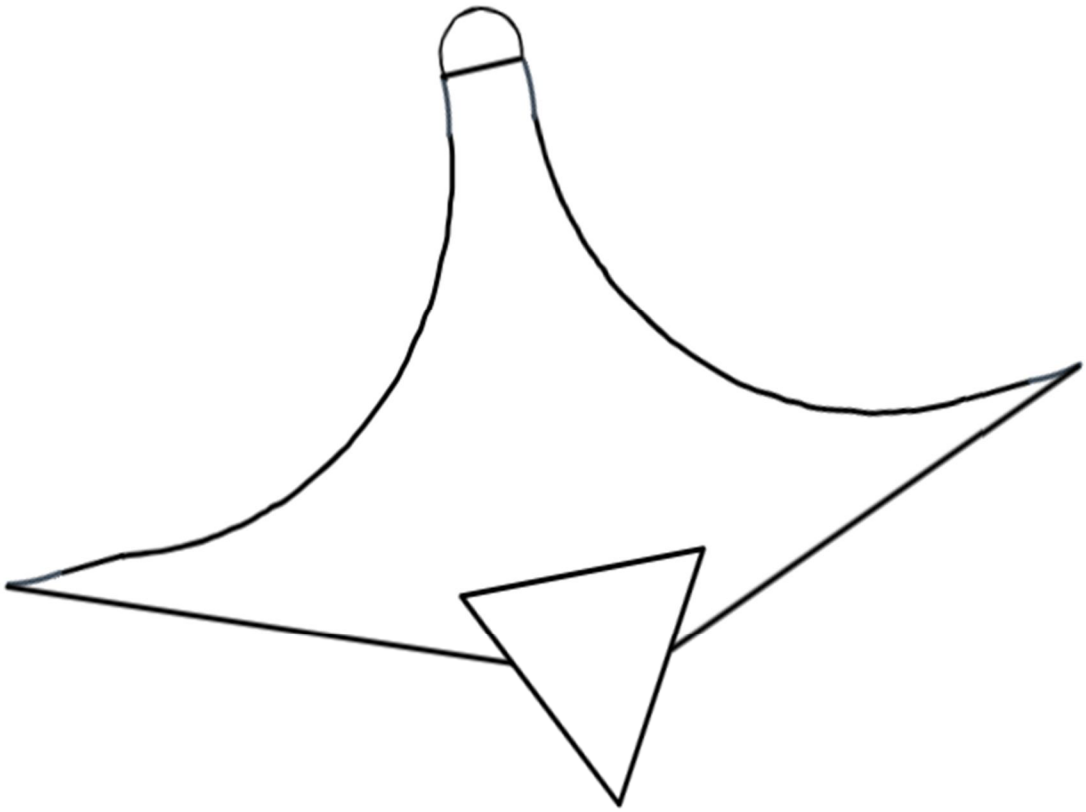


Fig. 1 Wings of airplane

III. RESULTS AND DISCUSSIONS

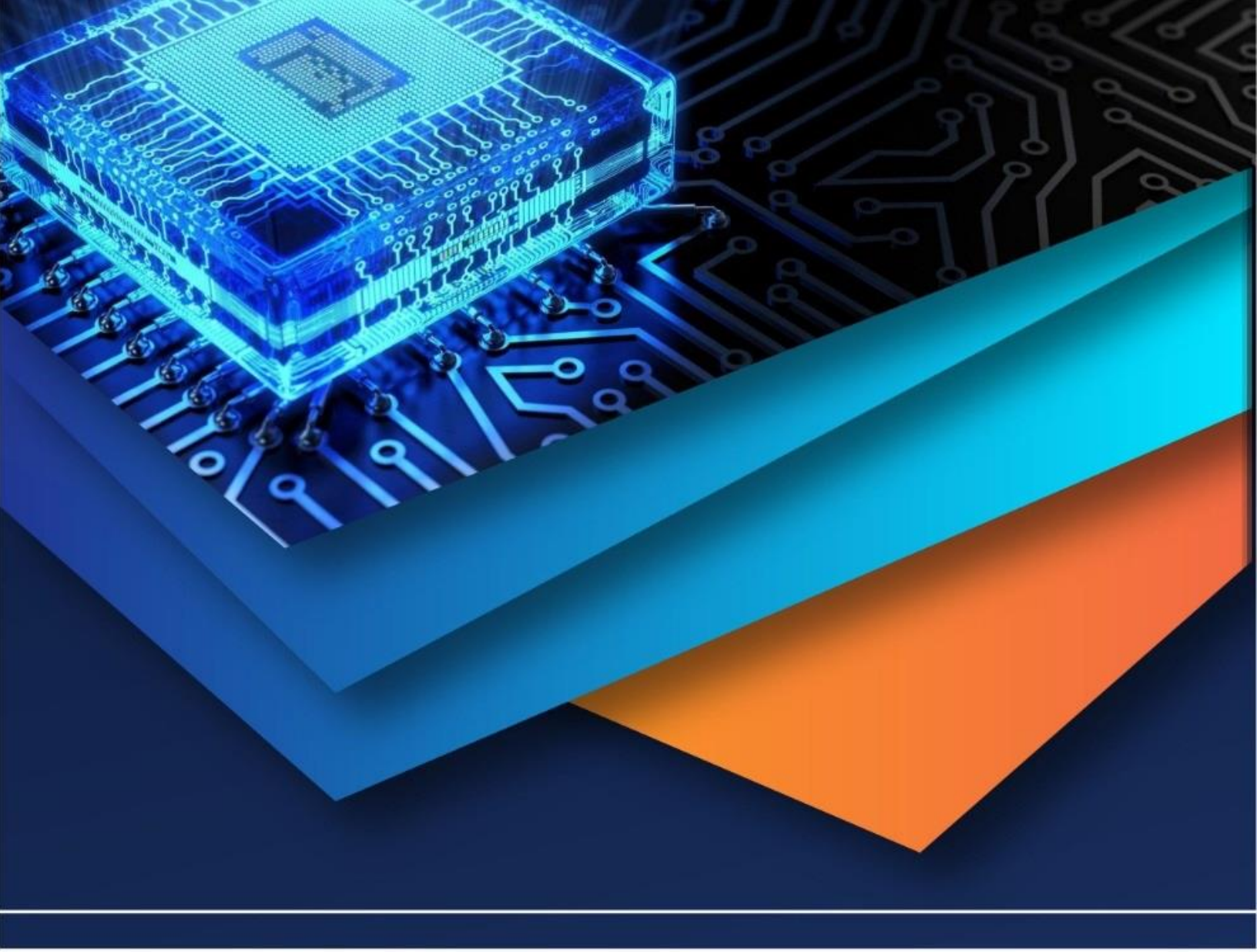
To minimize the impact of air currents on the wings, the curved structure of the wings deflects the incoming airflow towards the jet turbines.The jet turbine generates air pressure directed opposite to the flight path, propelling the airplane forward.The ogive front of the airplane decreases the velocity of air. The air currents entering the curved wings flow along the sides and towards the wings and deflect the air currents flowing directly at the airplane wings to avoid damage.

IV. CONCLUSIONS

The airflow is directed toward the leading edge of the inward curvature, subsequently airflows along the lateral surfaces toward the wing structures. Ogive shaped front part of the airplane drastically directs the airflow towards the wings with loss of air velocity. This aerodynamic pathway induces deflection of the incident flow across the wing span, promotes efficient outflow from the wing surfaces, and facilitates the displacement of higher-density air masses. As a result, denser air near the wing tips is less, contributing to improved flow uniformity.

REFERENCES

[1] Joseph Kewin Nithin., “Wings Alignment of Airplane at an Elevated Level”, URL: https://www.ijraset.com/best-journal/wings-alignment-of-airplane-at-an-elevated-level [retrieved 05 October 2025]. DOI:10.22214/ijraset.2025.69059



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY