



# IJRASET

International Journal For Research in  
Applied Science and Engineering Technology



---

# INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

---

**Volume:** 13    **Issue:** IV    **Month of publication:** April 2025

**DOI:** <https://doi.org/10.22214/ijraset.2025.69059>

[www.ijraset.com](http://www.ijraset.com)

Call:  08813907089

E-mail ID: [ijraset@gmail.com](mailto:ijraset@gmail.com)

# Wings Alignment of Airplane at an Elevated Level

Joseph Kewin Nithin

*Bachelor of Science Graduate | Independent Researcher in Aeronautics*

**Abstract:** *To maximize airplane efficiency, lighter airflow should pass beneath the wings to ensure a stable flight. With the jet turbines positioned beneath the wings, lighter air flows and fills the space under the wings. The jet turbine generates air pressure directed opposite to the flight path, propelling the airplane forward. Lighter air particles push denser air particles, filling the area beneath the wings. Conventional airplanes have centrally positioned wings, which cause lighter air to flow directly over them. As air strikes the front of the plane, it becomes lighter. At higher speeds, the interaction between the moving object and the air reduces the air's density slightly, making it lighter.*

**Keywords:** *Airplane aerodynamics, Lighter air under wings, Airplane wing placement, Air flow efficiency*

## I. INTRODUCTION

To maximise efficiency of airplanes, the lighter air flow should be under the wings for a steady flight. As the jet turbines are under the wings, the lighter air flows and covers the space under the wings. The air pressure that is exerted on the opposite direction of flight, propels the airplane forward, lighter air pushes the air with more density and covers the area below the wings.

Conventional airplanes have centrally positioned wings, which allow lighter air to flow directly over them. As air interacts with the front of the plane, its density slightly decreases, resulting in lighter air. This phenomenon occurs when an object moves at high speed through space, the interaction between the object and the air reduces the air's density, making it lighter.

## II. METHODOLOGY

As the jet turbines draw in the air currents ahead of the airplane, they initiate a chain reaction, when the wind strikes the front of the plane, the lighter air separates and flows toward the jet turbines, further reducing the density of the air particles. The denser air facilitates the formation of a chain reaction, drawing the air toward the jet turbines. Ideally, as the airplane moves and the wind flows in the same direction, the denser air encounters difficulty in displacing the lighter air beneath the wings, propelled by the jet turbines, resulting in a slower progression of the chain reaction.

As lighter air contains gaps between its molecules, wind flowing in the same direction as the airplane alters the airflow dynamics, slightly hindering the progression of the chain reaction. The lighter air exiting the jet turbines exerts pressure on the air particles along its path, creating a chain reaction. Over time, the wind moving in the same direction as the plane interferes with the lighter air along the wings, gradually weakening the continuous chain reaction.

Positioning the airplane wings at an elevated level reduces the strain exerted on them. As the wings lift the airplane, strain is exerted on them when the airplane turns in either direction. Certain parts of the airplane experience greater strain, particularly the front, which has maximum contact with the air molecules and redirects them toward the jet turbines. Ideally, the gaps between air molecules should be wider beneath the airplane wings, while the jet turbines intake the denser air molecules flowing toward them.

### A. Induction of horizontal tornado - Jet turbine

Horizontal tornadoes can be created by arranging a set of jet turbines in a circular configuration. When powered on, the turbines should rotate in a circular motion to induce this effect. Ideally, the gaps between air molecules will be larger near the airplane wings, while the airflow from the front of the plane will move toward the jet turbines arranged in a circular configuration. The horizontal tornado induced by the jet turbine expands the gaps between air molecules. In an ideal environment, the wind is partially or entirely redirected toward the jet turbine due to a chain reaction triggered by slightly denser air. Multiple jet turbines lower the likelihood of a crash, as the chances of simultaneous engine failure are lower compared to conventional airplanes. Conventional airplanes may struggle to maintain stability when less dense, lighter air flows above their wings.

Smaller jet turbines exert greater influence on atoms and particles while also reducing the risk of dual failures from bird collisions. Ideally, bird collisions would have a reduced impact on multiple jet turbines rotating in a circular motion.



### III. RESULTS AND DISCUSSIONS

According to the thermodynamic and atomic behavior of air molecules, the movement of lighter air molecules beneath the airplane wings generates lift, propelling the aircraft forward.

Horizontal tornadoes can be generated by positioning a pair of jet turbines in a circular arrangement. When activated, these turbines rotate in a circular motion to create the desired tornado effect.

Air currents guide airflow from the front section of the plane toward the circularly arranged jet turbines, helping to create a larger air gap near the airplane wings.

### IV. CONCLUSIONS

Horizontal tornadoes can be generated by positioning two jet turbines in a circular arrangement. When powered on, the turbines spin in a circular motion, creating the intended tornado effect.

The thermodynamic and atomic behavior of air molecules causes lighter molecules beneath the airplane wings to move, creating lift that raises the wings and propels the airplane forward.

### REFERENCES

- [1] Science Direct. Thermodynamics. <https://www.sciencedirect.com/topics/chemistry/thermodynamics>



10.22214/IJRASET



45.98



IMPACT FACTOR:  
7.129



IMPACT FACTOR:  
7.429



# INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089  (24\*7 Support on Whatsapp)