

# UNIT-V JET PROPULSION

## Introduction to Jet Propulsion

**Definition:** Jet propulsion is the force generated in the opposite direction to the flow of fluid under pressure escaping through an opening

A jet engine is a type of **reaction engine** discharging a fast-moving jet that generates thrust

# Working Principle

- **Air Intake:** Sucks in air from the front with fan
- **Compression:** Compressor raises air pressure
- **Combustion:** Compressed air is ignited with fuel
- **Expansion:** Gas expands and comes out nozzle
- **Thrust:** Engine/aircraft thrusts forward
- **Operational Cycle:** Brayton Cycle
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# Key Components of Jet Engine

- Jet propulsion works on **Newton's Third Law**
- Operates on **Brayton Cycle** principle
- Two main categories: **Air-breathing** and **Non-air-breathing**
- **Turbofan engines** dominate commercial aviation
- Continuous innovation for **better efficiency** and **lower emissions**
- **Jet propulsion remains the foundation of modern aviation and space exploration!**
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