

DEVELOPMENT OF THE **JET ENGINE**

## HOW A JET ENGINE WORKS

**Background**

Air enters the engine at the intake through suction created by the engine itself. This air then passes through a compressor. The compressor section is made up of several stages, each with a set of blades rotating at very high speed. Each stage of the compressor increases the pressure of the air. Compressing, or increasing the pressure of the air, increases the amount of energy contained in the volume of air passed to the combustor. Inside the combustor, the air is injected with fuel and ignited, creating a contained explosion. Due to the energy released at ignition, the air is pushed through a turbine component and then through the exhaust. The turbine component is a series of stages with rotating blades, not dissimilar to the compressor section. The high-energy air forces the turbine blades to rotate. A shaft connects the turbine and compressor sections, allowing the turbine to drive the compressor section. Next, the high-energy air leaves the engine through the exhaust at high speed. The air moving rearward at high speed propels the engine (and attached aircraft) forward due to Newton's Third Law.

