

# Turbofan Engine In Matlab

## Chapter 1 : Turbofan Engine In Matlab

The turbofan engine system block computes the thrust and the weight of fuel flow of a turbofan engine and controller at a specific throttle position, mach number, and altitude. this system is represented by a first-order system with unitless heuristic lookup tables for thrust, thrust specific fuel consumption (tsfc), and engine time constant. To understand the gas turbine engine performance and to analyze the performance with varying operating condition. Turbofan engine using matlab/simulink. a dynamic, high-bypass turbofan engine has been developed in the modeling and simulation environment of matlab/simulink. The application conducts cycle analysis on a turbojet engine. the user is able to choose the type of nozzle and whether to include afterburner or not. the user has to first run a matlab file menu and follow the instructions. the application was made in a final year's project at emirates aviation university. Modern turbofan engines can deliver high thrust without the high fuel consumption as compared to a turbojet engine. by trading the energy in the high velocity exhaust stream for power to drive a fan, the turbofan engine can process large amounts of air which yields a higher thrust per amount of fuel used. Study, the combustion efficiency of a turbofan engine combustor is analyzed by matlab. in the program codes, the basic combustion equilibrium is analyzed for carbon, hydrogen, oxygen, nitrogen, sulfur, carbon dioxide, carbon monoxide, hydrocarbon, nitrogen oxide, nitric oxide and water a conclusion, researchers examine the relationship between combustion efficiency and exhaust gas emissions. Pdf | a dynamic, high-bypass turbofan engine model is being developed in the modeling and simulation environment of matlab/simulink.

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