



Performance and Weight Estimates for an Advanced Open Rotor Engine

By -

BiblioGov. Paperback. Book Condition: New. This item is printed on demand. Paperback. 24 pages. Dimensions: 9.7in. x 7.4in. x 0.1in. NASA's Environmentally Responsible Aviation Project and Subsonic Fixed Wing Project are focused on developing concepts and technologies which may enable dramatic reductions to the environmental impact of future generation subsonic aircraft.

The open rotor concept (also historically referred to as an unducted fan or advanced turboprop) may allow for the achievement of this objective by reducing engine fuel consumption. To evaluate the potential impact of open rotor engines, cycle modeling and engine weight estimation capabilities have been developed. The initial development of the cycle modeling capabilities in the Numerical Propulsion System Simulation (NPSS) tool was presented in a previous paper. Following that initial development, further advancements have been made to the cycle modeling and weight estimation capabilities for open rotor engines and are presented in this paper. The developed modeling capabilities are used to predict the performance of an advanced open rotor concept using modern counter-rotating propeller designs. Finally, performance and weight estimates for this engine are presented and compared to results from a previous NASA study of advanced geared and direct-drive turbofans. This item ships from La Vergne, TN. Paperback.



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