



Evaluation of an Active Clearance Control System Concept

By Bruce M. Steinetz

BiblioGov. Paperback. Book Condition: New. This item is printed on demand. Paperback. 24 pages. Dimensions: 9.7in. x 7.4in. x 0.1in. Reducing blade tip clearances through active tip clearance control in the high pressure turbine can lead to significant reductions in emissions and specific fuel consumption as well as dramatic improvements in operating efficiency and increased service life. Current engines employ scheduled cooling of the outer case flanges to reduce high pressure turbine tip clearances during cruise conditions. These systems have relatively slow response and do not use clearance measurement, thereby forcing cold build clearances to set the minimum clearances at extreme operating conditions (e. g. , takeoff, reburst) and not allowing cruise clearances to be minimized due to the possibility of throttle transients (e. g. , step change in altitude). In an effort to improve upon current thermal methods, a first generation mechanically-actuated active clearance control (ACC) system has been designed and fabricated. The system utilizes independent actuators, a segmented shroud structure, and clearance measurement feedback to provide fast and precise active clearance control throughout engine operation. Ambient temperature performance tests of this first generation ACC system assessed individual seal component leakage rates and both static and dynamic overall system leakage...



READ ONLINE
[3.31 MB]

Reviews

This publication may be really worth a go through, and a lot better than other. It really is written in simple terms and never difficult to understand. Once you begin to read the book, it is extremely difficult to leave it before concluding.

-- **Natalie Abbott**

This book will not be simple to get going on reading but extremely exciting to read through. Yes, it can be playful, still an interesting and amazing literature. I am very easily could possibly get a delight of reading a written book.

-- **Rene Olson**