

ANALISIS PERBANDINGAN PERFORMA TAKE-OFF ENGINE CFM56- 7B DENGAN KONFIGURASI THRUST RATING 26300 LB DAN 24200 LB

ABSTRAK

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CFM sebagai salah satu manufaktur engine, memproduksi CFM56-7B dengan beberapa versi thrust rating untuk memenuhi kebutuhan pasar. Karena itu, operator memiliki beberapa pertimbangan dalam memilih engine yang sesuai kebutuhan. Selain itu performa dari engine juga menjadi pertimbangan penting, terutama bagaimana kemampuan engine ketika dipacu secara maksimal pada fase take-off.

Penelitian ini membahas perbandingan performa take-off engine CFM56-7B dengan konfigurasi thrust rating 26300 lb dan 24200 lb. Perhitungan performa dilakukan dengan pengolahan data Test Cell Result menggunakan formula pada Engine Shop Manual – 003 untuk mengetahui bagaimana perbandingan kedua konfigurasi thrust rating tersebut.

Dari hasil analisa, ditemukann beberapa perbedaan pada nilai thrust, SFC, EGT, dan EGT margin. Perbedaan pada nilai thrust disebabkan oleh kecepatan rotasi N2 pada rating 26300 lb lebih cepat dibandingkan rating 24200 lb. Pada nilai SFC, perbedaan nilai pada kedua konfigurasi tidak signifikan. EGT yang dihasilkan rating 26300 lb lebih tinggi dari rating 24200lb. Namun, EGT margin dari thrust rating 24200 lb lebih besar. Hal tersebut memungkinkan engine thrust rating 24200 memiliki masa pakai lebih panjang daripada engine thrust rating 26.

Kata kunci: Engine, Performa, CFM56-7B, Thrust Rating.

COMPARATIVE ANALYSIS OF TAKE-OFF PERFORMANCE CFM56-7B ENGINE WITH THRUST RATING CONFIGURATION 26300 LB AND 24200 LB

ABSTRACT

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As an one of engine manufacturers, CFM produces CFM56-7B with some thrust rating versions to fulfill market demand. In this case, operator has some considerations in choosing engine which is appropriate with the demand. The engine performance is very important to be considered, especially the engine capabilities when it is being maximally operated in takeoff phase.

This research discusses about the CFM56-7B engine takeoff performance comparison between 26300 lbs and 24200 lbs thrust rating configuration. By processing Test Cell Result data using formula in Engine Shop Manual - 003, author did a performance calculation to know how much the difference that happened to both of those thrust rating configuration.

Based on the analysis done by author, there are some differences on thrust, SFC, EGT, and EGT Margin value. The differences on thrust value were caused by N2 rotational speed at rating of 26300 lbs is faster than 24200 lbs. At SFC value, the value differences at both configuration were not significant. EGT produced by 26300 lbs rating was higher than 24200 lbs, but EGT Margin of 24200 lbs thrust rating is bigger. It can make 24200 lbs thrust rating has longer lifetime than 26300 lbs thrust rating

Keywords: *Engine, Performance, CFM-567B, Thrust Ratin*