

Analisis reliabilitas sistem primary airflow mesin turbofan CFM56-7B = Reliability analysis of primary airflow system turbofan engine CFM56-7B

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Abstrak

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Mesin turbofan CFM56-7B diproduksi oleh CFM-international. Pada dasarnya mesin turbofan menggunakan prinsip kerja turbin gas yang menggunakan prinsip siklus Bryton. Turbofan CFM56-7B terdiri dari 2 jalur aliran udara yaitu Primary Airflow (proses pembakaran) dan Secondary Airflow (Bypass). Sistem primary airflow sangat berperan penting terhadap kinerja dari mesin, jika sistem ini mengalami masalah maka mesin akan mengalami penurunan daya hisap udara. Untuk itu pemantauan kondisi kehandalan sistem ini perlu diperhatikan. Pada penelitian ini akan dilakukan analisis nilai reliabilitas atau kehandalan dari sistem primary airflow pada mesin CFM56-7B dengan melihat kegagalan yang terjadi pada sistem seperti fan, kompresor, combustion chamber dan turbin.

ABSTRACT

The CFM56-7B turbofan engines manufactured by CFM International. Basically, turbofan engines using the working principle of gas turbine which use the principle of Bryton Cycles. The CFM56-7B turbofan consist of 2 airflow paths namely Primary Airflow (combustion process) and Secondary Airflow (Bypass). Primary Airflow system plays a major role on the engine performance, if the system has problems then the engine will decrease the air suction power. Therefore, monitoring the condition of system reliability needs to be considered. This research will discuss the analysis of the reliability or the realibility value of Primary Airflow system on CFM56-7B engine by seeing the failure that occur in the system such as fan, compressor, combustion chamber, and turbine.