

ABSTRAK

Pada pesawat Boeing 737-800 NG terdapat *auxiliary power unit* yang berfungsi untuk menyuplai *pneumatic* dan *electrical* pada saat di darat maupaun saat di udara. Selain itu *auxiliary power unit* juga berguna untuk *starting engine* pesawat. *Auxiliary power unit* menghasilkan *pneumatic* untuk *air conditioning system* pada pesawat, serta menghasilkan listrik untuk kelistrikan pada pesawat seperti *lightning system* pada pesawat.

Penelitian ini bertujuan untuk mengetahui penyebab *auxiliary power unit* mengalami *automatic shutdown* pada hanggar 4 PT. GMF AeroAsia dengan menggunakan metode analisis *fault tree analysis*. Pada saat inspeksi permasalahan dilakukan BITE-test untuk mengidentifikasi penyebab permasalahan tersebut.

Kemudian ditemukan bahwa penyebab *automatic shutdown* pada *auxilliary power unit* adalah *high oil temperature*. Setelah ditemukan penyebabnya kemudian dilakukan inspeksi pada *oil cooler* sesuai dengan FIM. Pada saat inspeksi *oil cooler* ditemukan adanya korosi pada permukaan *air fins*. Sehingga membuat *oil cooler* bekerja dengan tidak maksimal dan harus diganti. Setelah dilakukan *replacement oil cooler* maka dilanjutkan dengan menganalisa penyebab-penyebab kegagalan yang mungkin muncul menggunakan metode *fault tree analysis*. Hasilnya 6 *basic event* yaitu *Clooged/Dirty, Oil Leak, Silver Particle, Large Metal Particle, Valve Stuck, Valve Leak*.

Kata Kunci: *auxiliary power unit, automatic shutdown, high oil temperature, oil cooler, fault tree analysis.*

ABSTRACT

On the Boeing 737-800 NG aircraft, there is an auxiliary power unit that functions to supply pneumatic and electrical equipment both on the ground and in the air. In addition, the auxiliary power unit is also useful for starting aircraft engines. Auxiliary power units produce pneumatics for the air conditioning system on aircraft, as well as generate electricity for electricity on aircraft such as the lightning system on aircraft.

This study aims to determine the cause of the auxiliary power unit experiencing automatic shutdown in hangar 4 PT. GMF AeroAsia using fault tree analysis method. During the inspection of the problem, a BITE-test is carried out to identify the cause of the problem.

Then it was found that the cause of the automatic shutdown of the auxiliary power unit was high oil temperature. After the cause is found, then an inspection of the oil cooler is carried out according to the FIM. During the inspection of the oil cooler, it was found that there was corrosion on the surface of the air fins. So that makes the oil cooler not work optimally and must be replaced. After replacing the oil cooler, it is continued by analyzing the causes of failure that may arise using the fault tree analysis method. The result is 6 basic events, namely Clogged/Dirty, Oil Leak, Silver Particle, Large Metal Particle, Valve Stuck, Valve Leak..

Keywords: *auxiliary power unit, automatic shutdown, high oil temperature, oil cooler, fault tree analysis.*