ABSTRAK

Pesawat Airbus 330 pada tanggal 24 Februari 2020 harus mendarat darurat di bandara Kualanamu dikarenakan adanya gangguan. Setelah dilakukan pengecekan, penyebab gangguan tersebut adalah kebocoran hidraulik pada *Flexible Hose* dengan indikasi *low hydraulic pressure* pada *Electronic Centralized Aircraft Monitor* (ECAM) pada panel hidraulik di cockpit. Berdasarkan hasil inspeksi secara visual diketahui bahwa penyebab kebocoran pada *Flexible Hose* adalah adanya pengikisan atau erosi hingga menyebabkan *Flexible Hose* berlubang. Untuk membuktikan erosi sebagai penyebab kerusakan *Flexible Hose* hingga mengakibatkan kebocoran, penelitian dilakukan dengan mengaplikasikan metode Weibull untuk menganalisis reliabilitas *Flexible Hose* A330. Analisis weibull digunakan untuk memperkirakan keandalan suatu mesin peralatan berdasarkan suatu data. Analisis keandalan dapat dilakukan dengan menggunakan data umur kegagalan komponen *Flexible Hose* yang pernah terjadi berulang sehingga didapatkan keandalan komponen tersebut terhadap jam terbang pesawat. Simulasi kebocoran hidraulik pada *Flexible Hose* menggunakan Solidwork juga dilakukan untuk mendukung hasil analisis keandalan yang telah dilakukan. Dengan demikian, metode Weibull dan simulasi Solidwork yang telah dilakukan diharapkan dapat mengurangi tingkat resiko kebocoran hydraulic pressure line pada *Flexible Hose* A330 melalui penentuan jadwal penggantian komponen *Flexible Hose* berdasarkan data keandalannya.

Kata Kunci : Kebocoran, *Flexible Hose*, Keandalan

ANALISIS RELIABILITAS KOMPONEN FLEXIBLE HOSE AKIBAT KEBOCORAN HYDRAULIC PRESSURE LINE PADA AIRBUS 330 DENGAN METODE WEIBULL

ABSTRACT

The Airbus 330 aircraft on February 24, 2020 had to make an emergency landing at Kualanamu airport due to a disturbance. After checking, the cause of the disturbance was a hydraulic leak in the Flexible Hose with an indication of low hydraulic pressure on the Electronic Centralized Aircraft Monitor (ECAM) on the hydraulic panel in the cockpit. Based on the results of visual inspections, it is known that the cause of leaks in the Flexible Hose is erosion or erosion to cause the Flexible Hose to be perforated. To prove erosion as the cause of Flexible Hose damage to cause leakage, research was conducted by applying the Weibull method to analyze the reliability of Flexible Hose A330. Weibull analysis is used to estimate the reliability of an equipment machine based on a data. Reliability analysis can be performed using data on the lifespan of Flexible Hose component failures that have occurred repeatedly so that the reliability of these components is obtained against the aircraft's flying hours. Hydraulic leak simulation on the Flexible Hose using Solidwork is also carried out to support the results of the overhead analysis that has been carried out. Thus, the Weibull method and the Solidwork simulation that have been carried out are expected to reduce the risk of hydraulic pressure line leakage on the Flexible Hose A330 through determining the replacement schedule of Flexible Hose components based on reliability data.

***Keywords** : Leak, Flexible hose, Reliability*