

ABSTRAK

Pada pesawat Boieng 737-300, *air conditioning system* merupakan system untuk mengatur *temperature* udara dan kelembapan di dalam kabin pesawat terbang. Selain itu juga sebagai udara bertekanan di dalam kabin untuk menjaga kondisi lingkungan tetap sama seperti di darat. Selain itu juga dapat menghangatkan ruangan cargo dan mendinginkan perlengkapan elektronik. Kegagalan terjadi Dimana berdasarkan laporan pilot bahwa adanya asap atau kabut di dalam kabin dan suara dentuman pada system distribusi serta indikasi *pack trip off* menyala pada *overhead* panel di dalam *cockpit*.

Dalam penelitian ini dengan menggunakan observasi langsung terhadap klarifikasi kegagalan pada *Air Conditioning System* pesawat Boieng 737-300 di hanggar PT.Mulya Sejahtera Teknologi Bandung. Penelitian ini juga menggunakan metode *Fault Tree Analysis* (FTA) untuk mendapatkan penyebab kegagalan pada komponen pada *Air Conditioning System*.

Kegagalan pada *air conditioning system* dengan indikasi adanya asap di dalam kabin pesawat dan suara dentuman yang terdengar pada system didtribusi di sebabkan terjadinya *ice* pada *water separator air conditioning system* pesawat Boieng 737-300. Setelah dilakukanya *troubleshooting* kegagalan *water separator* di sebabkan adanya kerusakan pada *electrical connector* pada 35° F *control valve* dan kerusakan pada *coalescerbag* akibat terjadinya pembekuan. Berdasarkan dengan menggunakan metode *Fault tree Analysis* dan perhitungan dengan *minimum cut set* penyebab terjadinya *ice* pada *water separator air conditioning system* yaitu *Flexible hose damage, Oil low quantity, Flexible duct leakage, Spacers broken, Duct leak, Stuck valve close, Fan crack, Loose clamp turbine inlet duct, Loose clamp, Duct dent, Clip broken, Loose locknuts, Froign object debris,, No electrical supplay, Disconnected electrical cable, Electrical conector damage, Sense line damage.*

Kata Kunci : *Air conditioning System, Water Separator, Troubleshooting, Fault Tree Analysis*

ABSTRACT

On the Boeing 737-300 aircraft, the air conditioning system is a system to regulate the air temperature and humidity in the aircraft cabin. In addition, it is also used as compressed air in the cabin to maintain the same environmental conditions as on land. Apart from that, it can also maintain cargo space and cool electronic equipment. The failure occurred based on the pilot's report that smoke or fog was in the cabin and a booming sound in the distribution system and an indication of a pack trip off was on the overhead panel in the cockpit.

In this study using direct observation of the clarification of failures in the Air Conditioning System of the Boeing 737-300 aircraft in the hangar of PT. Mulya Sejahtera Teknologi Bandung. This study also uses the Fault Tree Analysis (FTA) method to find the cause of failure in the components of the Air Conditioning System.

The failure of the air conditioning system with an indication of smoke in the aircraft cabin and the booming sound heard in the distribution system was caused by ice in the water separator air conditioning system of the Boeing 737-300 aircraft. After troubleshooting, the failure of the water separator was caused by damage to the electrical connector at 35° F control valve and damage to the coalescer bag due to freezing. Based on the Fault Tree Analysis method and calculations with a minimum cut set, the cause of ice in the water separator air conditioning system is Flexible hose damage, Oil low quantity, Flexible duct leakage, Spacers broken, Duct leak, Stuck valve close, Fan crack, Loose clamp turbine inlet duct, Loose clamp, Duct dent, Clip broken, Loose locknuts, Foreign object debris, No electrical supply, Disconnected electrical cable, Electrical connector damage, Sense line damage.

Keywords: *Air conditioning System, Water Separator, Troubleshooting, Fault Tree Analysis*