

ABSTRAK

System anti icing adalah sistem yang bertujuan agar tidak terjadinya pembentukan es ketika pesawat sedang berada diudara. Pembentukan es di pesawat sangat lah diperhatikan karena sebuah penerbangan pesawat akan melewati atmosfer yang mana pada ketinggian tertentu akan mengalami pembentukan es tersebut,hal ini perlu di hindari agar tidak menimbulkan permasalahan demi mencapai kenyamanan dalam penerbangan. Pembentukan es tersebut akan menyebabkan bahaya pada pesawat Seiring perkembangan zaman sudah banyak pesawat sekarang menggunakan *ice protection system* yaitu *system anti icing*. Permasalahan pada *system anti icing* terjadi ketika penulis melakukan *C-check* di Hanggar PT Merpati Maintenance Facility (MMF) pada *wing TAI shutoff valve* pesawat BOEING 737-500, yang mana permasalahan didapati bahwa indikator pada panel P5 ketika *switch ON wing anti icing L VALVE OPEN dan R VALVE OPEN* lampu lambat Dim dan hanya *Bright*. Dari *trouble* ini penulis tertarik untuk membahas dan mengidentifikasi sebab terjadinya permasalahan pada *wing anti ice*.

Dalam penelitian ini, metode observasi langsung digunakan untuk mengamati dan menganalisis penanganan perawatan pesawat Boeing 737-500 Sriwijaya air Selain itu dalam penelitian ini juga menggunakan metode *fault tree analysis* untuk mendapatkan penyebab kegagalan dari *wing anti ice system* Boeing 737-500 dan *TAI shutoff valve*.

Hasil dari penelitian tentang permasalahan *wing anti ice system* Boeing 737-500 adalah terjadi permasalahan pada *TAI shutoff valve*. Permasalahan tersebut diselesaikan dengan melakukan *troubleshooting* yang mengacu pada AMM 30-11-11. Untuk removal dan installation *TAI shutoff valve* berdasarkan dengan AMM 30-11-11 *page* 403. Dengan menggunakan metode *fault tree analysis*, dengan permasalahan *wing anti icing system* diperoleh *basic event*, yaitu: *Control Pressure Port Problem, Motor Fault, Spring Broken, Dirty Pin Connector, Loosen Connector, EICAM Module Trouble, No Source Electricity, Negative Electricity Source, Wiring Problem*.

kata Kunci : *ice and rain protection, Wing anti icing, TAI shutoff valve*

ABSTRACT

Anti-icing system is a system that aims to avoid ice formation when the aircraft is in the air. The formation of ice in the aircraft is very important because an aircraft flight will pass through the atmosphere which at a certain altitude will experience the formation of ice, this needs to be avoided so as not to cause problems in order to achieve comfort in flight. The formation of ice will cause harm to the aircraft along with the times many aircraft now use ice protection system that is anti icing system. Problems on the anti-icing system occurred when the author performed periodic C-check at the Hangar PT Merpati Maintenance Facility (MMF) on aircraft Boeing 737-500 which problem was found that the indicator on the P5 panel when switch ON Wing anti icing, L VALVE OPEN and R VALVE OPEN slow lights dim and only bright. From this problem the author is interested in discussing and identifying the cause of the problem in the anti-ice wing.

In this study, direct observation methods were used to observe and analyze the handling maintenance of Boeing 737-500 Sriwijaya Air in addition to this study also used fault tree analysis methods to obtain the cause of failure from the Boeing 737-500 wing anti ice system and TAI shutoff valve.

The result of research on the problem of Boeing 737-500 wing anti-ice system problem is a problem with the TAI shutoff valve. The problem is solved by troubleshooting which refers to AMM 30-11-11. For removal and installation of TAI shutoff valve based on AMM 30-11-11 page 403. Using the fault tree analysis method, with wing anti icing system problems obtained basic event, namely: Control Pressure Port Problem, Motor Fault, Spring Broken, Dirty Pin Connector, Loosen Connector, EICAM Module Trouble, No Source Electricity, Negative Electricity Source, Wiring Problem.

Keyword : *Ice and rain protection, Wing anti icing, TAI shutoff valve*