

# **ANALISIS KELAYAKAN OPERASIONAL PENERBANGAN PESAWAT BOEING 737-500 DI BANDAR UDARA SULTAN MUHAMMAD SALAHUDDIN BIMA**

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## **ABSTRAK**

Pesawat Boeing 737-500 merupakan jenis pesawat *narrow-body* dengan *engine turbofan* perdana yang beroperasi di Bandar Udara Sultan Muhammad Salahuddin, karena sebelumnya penerbangan di Bandar Udara Sultan Muhammad Salahuddin hanya di akomodir oleh pesawat jenis ATR-72. Pesawat Boeing 737-500 dapat mengangkut penumpang lebih banyak daripada pesawat ATR-72 sehingga dapat meningkatkan efisiensi waktu dan jumlah penumpang yang dapat diangkut.

Analisis dilakukan secara bertahap dimulai dari analisis *runway length requirement* dengan grafik *Flight Planning and Performance Manual* (FPPM) Boeing 737-500, dilanjutkan dengan analisis perhitungan berat maksimal operasional pesawat Boeing 737-500 yang dibatasi nilai perkerasan *runway* PCN 39/F/D/Y/T yang tersedia dalam pengoperasian penerbangan di Bandar Udara Sultan Muhammad Salahuddin Bima serta analisis fasilitas pendukung operasional pesawat Boeing 737-500, dan analisis daya muat pesawat Boeing 737-500 untuk penerbangan rute Bima-Denpasar di Bandar Udara Sultan Muhammad Salahuddin.

Pada analisis *runway length requirement* dengan grafik *Flight Performance and Manual* Boeing 737-500, panjang landasan yang dibutuhkan untuk penerbangan waktu pagi (WP) yaitu 2.236 meter. Panjang landasan yang dibutuhkan untuk penerbangan waktu siang (WS) yaitu 2.276 meter. Pada analisis perhitungan berat maksimal operasional pesawat Boeing 737-500 yang dibatasi nilai perkerasan *runway* PCN 39/F/D/Y/T yang tersedia dalam pengoperasian penerbangan di Bandar Udara Sultan Muhammad Salahuddin Bima, didapat nilai *actual mass* yang dapat di dukung perkerasan *runway* sebesar 58.102 Kg yaitu 96% dari *MTOW aircraft manual*. Pada analisis daya muat pesawat Boeing 737-500 di Bandar Udara Sultan Muhammad Salahuddin Bima untuk penerbangan rute Bima-Denpasar dengan bandara Lombok sebagai alternatif pesawat Boeing 737-500 didapatkan kapasitas muat penerbangan yaitu 13.874 Kg dengan *pax passenger* 136, untuk 120 *pax allowed cargo for flight* yaitu 1.634 Kg.

**Kata Kunci:** Boeing 737-500, FPPM, PCN, MTOW, *pax passenger*

**THE FEASIBILITY ANALYSIS OF BOEING 737-500 AIRCRAFT  
FLIGHTS OPERATIONS AT SULTAN MUHAMMAD  
SALAHUDDIN AIRPORT BIMA**

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**ABSTRACT**

*Boeing 737-500 aircraft is the first narrow-body aircraft with turbofan engine operating at Sultan Muhammad Salahuddin Airport, because previously flights at Sultan Muhammad Salahuddin Airport were only accommodated by ATR-72 type aircraft. Boeing 737-500 aircraft can carry more passengers than the ATR-72 aircraft, then can increasing time efficiency and the number of passengers that can be transported.*

*The analysis is gradually starting with an analysis of the runway length requirements with the Flight Performance and Manual (FPPM) chart Boeing 737-500, followed by an analysis of the calculation of the maximum operational weight of the Boeing 737-500 aircraft are limited by the runway pavement classification number PCN 39/F/D /Y/T available in flight operations at Sultan Muhammad Salahuddin Airport Bima and analysis of operational support facilities for Boeing 737-500 aircraft, and analysis of the loading capacity of Boeing 737-500 aircraft on the Bima-Denpasar route at Sultan Muhammad Salahuddin Airport.*

*In the analysis of runway length requirements using the Flight Planning and Performance Manual chart Boeing 737-500, the runway length required for a morning flight (WP) is 2,236 meters. The runway length required for daytime flights (WS) is 2,276 meters. In the analysis of the maximum operational weight of the Boeing 737-500 aircraft which is limited by the value of the 39/F/D/Y/T runway pavement available in flight operations at Sultan Muhammad Salahuddin Airport, the actual mass value that can be supported by the runway pavement is 58,102 Kg which is 96% of MTOW of manual aircraft. In the analysis of the carrying capacity of the Boeing 737-500 at Sultan Muhammad Salahuddin Airport for the route Bima-Denpasar with Lombok airport as an alternative for Boeing 737-500 aircraft, the flight carrying capacity is 13.874 kg with a capacity of 136 pax, for 120 pax passengers allowed cargo for flights is 1.634.*

**Keywords:** *Boeing 737-500, FPPM, PCN, MTOW, pax passenger*