

# **ANALISIS PENINGKATAN KAPASITAS MUATAN PESAWAT PADA PESAWAT BOEING 737-800NG DI BANDAR UDARA YOGYAKARTA INTERNATIONAL AIRPORT**

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## **ABSTRAK**

Dari segi jumlah muatan sangat dimungkinkan volume angkutan penerbangan akan meningkat karena bandar udara ini juga diperuntukkan bagi penerbangan langsung ke luar negeri. Kebutuhan akan meningkatnya kapasitas muat pesawat tentunya harus tetap memperhatikan aspek-aspek kemampuan pesawat dalam meningkatkan muatan yang tidak boleh melebihi dari kapasitas yang ditetapkan, karena hal ini sangat berkaitan dengan keselamatan penerbangan. Untuk pesawat B737-800NG, terdapat metode untuk meningkatkan kapasitas muat pesawat, berupa *improve climb*.

Analisis dilakukan dengan menentukan *Maximum Take Off Weight* (MTOW) berdasarkan grafik FPPM dengan menggunakan kategori MTOW *Limited by Field Length*, MTOW *Limited by Climb Segment*, dan MTOW *Limited by Obstacle*. Menghitung kapasitas muat pesawat berdasarkan pada MTOW pada periode waktu (DAY dan AFTERNOON) dan *destination*.

Dari hasil penghitungan dan menggunakan metode FPPM diketahui daya muat pesawat B737-800NG berbeda-beda tergantung dari periode waktu atau operational pesawat yaitu dalam kategori DAY atau AFTERNOON, posisi *flaps take off* yaitu *flaps 1* atau *flaps 5*, dan tujuan penerbangan. Penambahan kapasitas muat pesawat B737-800NG dengan mengambil contoh penerbangan BTK-7927 dari Yogyakarta menuju Manado dengan *flaps 5* periode waktu AFTERNOON, pesawat sebelum *improve climb* kapasitas muatnya sebesar 12.390 kg, setelah *improve climb* kapasitas muatnya bertambah 3.714 kg sehingga pesawat bisa melakukan penambahan muatan sebanyak 16.104 kg.

Kata kunci: *Maximum Take Off Weight* (MTOW), *improve climb*, kapasitas muat.

**ANALYSIS OF AIRCRAFT LOAD CAPACITY INCREASES ON  
BOEING 737-800NG AT YOGYAKARTA INTERNATIONAL AIRPORT**

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**ABSTRACT**

*In terms of the number of loads, it is very possible that the volume of flight transportation will increase because this airport is also intended for direct flights abroad. The need for increased aircraft load capacity must certainly still pay attention to aspects of the aircraft's ability to increase payloads that must not exceed the specified capacity, because this is very related to flight safety. For B737-800NG aircraft, there is a method to increase the aircraft's load capacity, in the form of improv climb.*

*The analysis was carried out by determining the Maximum Take Off Weight (MTOW) based on the FPPM graph using the categories MTOW Limited by Field Length, MTOW Limited by Climb Segment, and MTOW Limited by Obstacle categories. Calculate the load capacity of the aircraft based on MTOW in the time period (DAY and AFTERNOON) and destination.*

*From the results of the calculation and using the FPPM method, it is known that the load capacity of the B737-800NG aircraft varies depending on the time period or operational of the aircraft, namely in the DAY or AFTERNOON category, the position of the take off flaps, namely flaps 1 or flaps 5, and the purpose of flight. The addition of the load capacity of the B737-800NG aircraft by taking the example of flight BTK-7927 from Yogyakarta to Manado with flaps 5 afternoon time period, the aircraft before improving the load capacity climb by 12,390 kg, after improving climb the load capacity increased by 3,714 kg so that the aircraft could increase its load by 16,104 kg.*

*Keywords: Maximum Take Off Weight (MTOW), improve climb, load capacity*