BOEING

Service above and beyond

Onboard Performance Tool

The most configurable solution for capacity optimization

Boeing Onboard Performance Tool (OPT) enables flight crew and ground personnel to perform real-time weight & balance, takeoff and landing calculations for Boeing airframes. Using current passenger, cargo, weather and runway conditions, it reduces maintenance costs by preventing engine wear and tear and increases revenue by optimizing passenger and cargo capacity.

Benefits

- Reduce engine maintenance costs by calculating optimal thrust settings during takeoff and landing, to prevent engine wear and tear
- Increase payload capacity by using the most accurate computations for takeoff and climb-out performance
- Reduce delay costs by enabling pilots to adjust takeoff speeds immediately as conditions change instead of having to wait for a new computation by dispatch
- Improve flight record management by automatically recording calculations used in post-flight analysis

Boeing OPT is the most configurable solution available on the market. It is the only solution spanning three platforms, including a PC tool for ground performance calculations, a mobile application and an embedded onboard application.

Self-Planning Capability

Boeing OPT provides self-planning capability through fast and precise calculations. It allows flight crew to calculate the takeoff analysis, landing analysis and weight & balance information. Instant and accurate calculations save time by correcting for pressure variation, runway conditions, engine bleeds and Minimum Equipment List (MEL) items. Reduced thrust takeoff power settings can be optimized with no requirement for interpolation, and changes to runway conditions can instantly be re-calculated even after push-back. These capabilities provide flight crews the ability and flexibility to make highly-informed decisions in order to maximize mission effectiveness.

Takeoff and Landing Performance

- Calculate limit weights, V speeds, stab trim settings for applicable models, and engine power settings based on user input of airport conditions and airplane configuration
- Calculate best combination of fixed derates and assumed temperature thrust reductions for operations below limit weight
- Account for Minimum Equipment List (MEL) and Configuration Deviation List (CDL) items affecting aircraft performance using actual aircraft flight manual data
- Consider input variables like temporary NOTAMs which alter the airport definition (i.e. runway shortening, temporary obstacles)
- Utilize a customizable user interface

Weight & Balance Calculations

The Boeing OPT weight & balance module provides the ability to divide weight entries into five different types: setup, passengers, cargo, last minute changes corrections and/or fixed items, and fuel.

Based on the airplane's weight & balance manual, pertinent weighing data for each airplane and the allowable CG envelope as curtailed for in-flight movement of items such as gear, flaps, fuel, passengers, etc., Boeing OPT allows crews and dispatch to:

- Receive visual verification that aircraft is within operating weight & balance envelope
- Reconfigure CG envelope "on the fly" when dealing the CG limits affected by loading

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Data Requirements

The following data is required to perform calculations:

- Airplane data - Standardized Computerized Aircraft Performance (SCAP) database from the airplane manufacturer
- Airport obstacle data
- Performance chapters of the Boeing Dispatch Deviation Guide (DDG) related to OPT (provided by the Boeing OPT group and then configured by the user, if required, using the admin tool)

Systems Supported

Boeing OPT is available on three platforms:

- Mobile version for use on iOS® or Windows® applications
- Installed EFB version (formerly called Class 3) for 787 or 777 aircraft
- Windows standalone, hosted on a PC or tablet

The mobile and installed EFB platforms are supported by a Windows-based administration tool to create databases for the airborne app.

Systems Requirements

While most operators manually enter Boeing OPT computed values in the Flight Management Function (FMF), computation results can be sent directly from the EFB to the FMF on 787 and 777X airframes.

Other airframes with an installed EFB solution (formerly called Class 3) require that the airline supports BEGSS for transferring Boeing OPT computations to the FMF using AOC ACARS datalink from the ground.

Learn more about Boeing Onboard Performance Tool at services.boeing.com/onboard-performance-tool

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